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SUMMARY

An airborne geophysical survey program was completed on the Curie Property Areas, which are located in the Yukon Territory, Canada and situated approximately 100 kilometers north of Mayo, Canada, under contract to Signet Minerals Inc., signed March 2006. This project consisted of a Helicopter-borne Electromagnetic and Magnetic survey.

The McPhar crew was arrived in Mayo; Yukon on 11 May 2006 assembled the bird and setup base station. First tests and calibrations flights were completed on 12 May 2006 and second were completed on 25 & 26 May 2006. The crew was mobilized in the survey area, Copper Point Camp on 13 May 2006 and QA/QC Geophysicist stayed at Mayo. The survey area consisted of five blocks named as Beta, Curie, Gamma, Geiger and Pike. The data acquisition initiated on 14 May 2006. The final survey flight was completed on 26 May 2006. A total of 1,530 line-kilometres of data was acquired, covering five blocks of approximately 203 square kilometres, with a nominal mean terrain clearance of 30 metres. The flight lines oriented north-east and tie lines oriented north-west.

Figure 1: Aerial photograph of survey area

1. INTRODUCTION

This report describes a helicopter-borne geophysical survey carried out during May 2006 on behalf of Signet Minerals Inc. by McPhar Geosurveys Ltd. over an area known as the Curie Property, which is located in the Yukon Territory, Canada.

The purpose of this survey was to acquire electromagnetic (EM) and magnetic data to possibly map and delineate the rock formations.

The principal geophysical sensors included a 5-frequency, lightweight, digital electromagnetic system, and a high sensitivity cesium vapour magnetometer. Ancillary equipment included a GPS navigation system with GPS base station; a radar altimeter, a base station magnetometer and a GPS base station.

This report describes the survey, the data processing and the data presentation.

Figure 2: Copper Point Camp used as base operations

2. SURVEY AREA

The survey areas are shown in Figure 3. The topography of the area consists of steep mountain slopes with incised river valleys and steep cliffs.

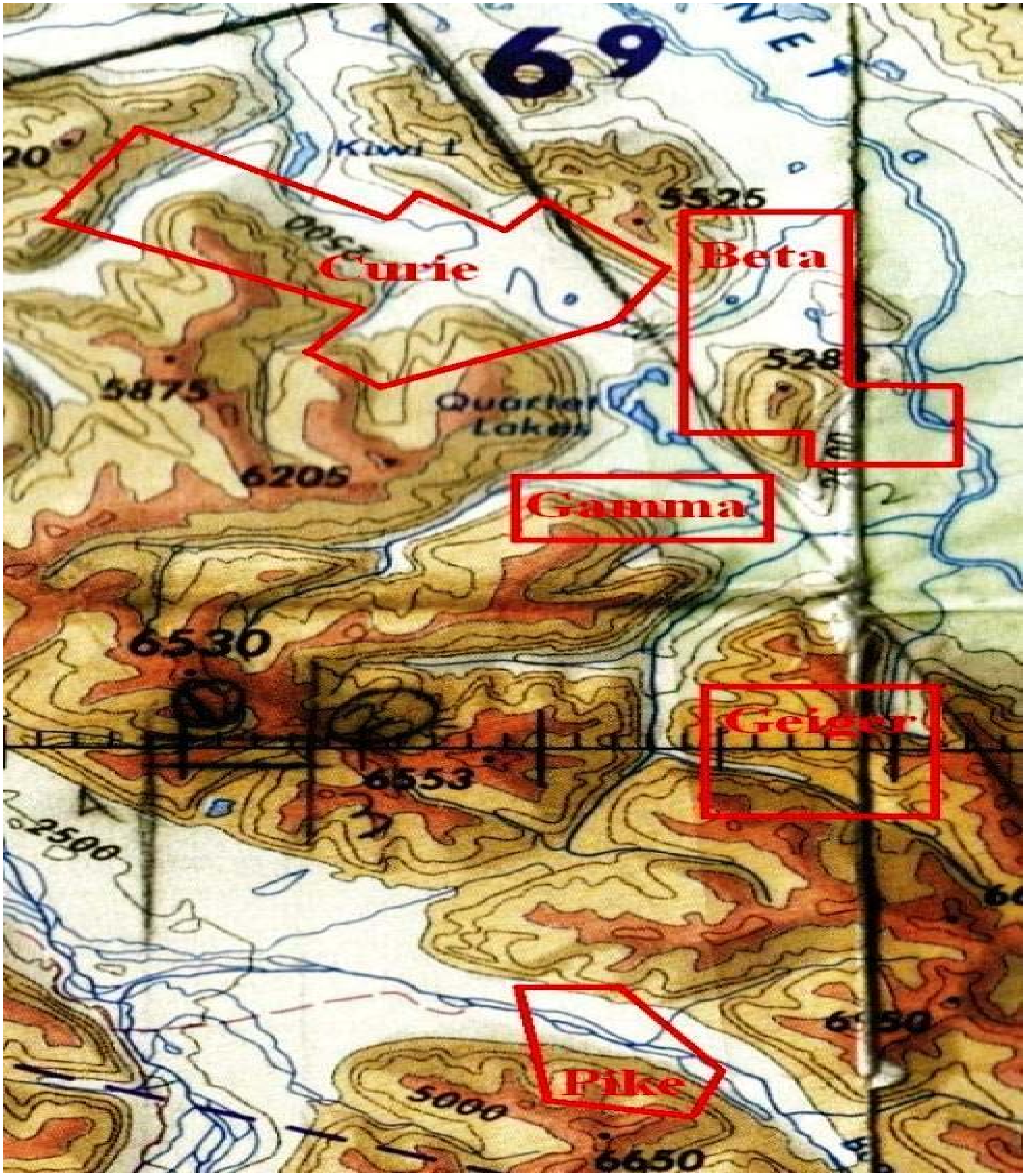


Figure 3: Location map of the proposed survey areas

The following UTM zone 8 coordinates, in NAD83 coordinate system, define the survey areas:

Table 1: Coordinates of Survey Areas

Beta Block		
Corners	Easting	Northing
1	521790	7233246
2	528346	7233255
3	528287	7225926
4	531469	7225935
5	531494	7224541
6	531452	7220243
7	526424	7220243
8	526449	7222274
9	521865	7222274

Curie Block		
Corners	Easting	Northing
1	505252	7233120
2	508476	7236369
3	511724	7233137
4	513009	7234447
5	515939	7231559
6	517769	7233884
7	521362	7231072
8	517970	7226757
9	512732	7222501
10	510113	7225070
11	511750	7226690

Gamma Block		
Corners	Easting	Northing
1	520433	7219361
2	524557	7219339
3	524549	7217518
4	520425	7217540

Geiger Block		
Corners	Easting	Northing
1	525565	7215869
2	527424	7215869
3	527409	7214041
4	525580	7214041

Pike Block		
Corners	Easting	Northing
1	526000	7210590
2	526910	7210630
3	527750	7209260
4	526770	7208220
5	526040	7208760

The traverse lines were flown in an NE direction and tie-lines were flown perpendicular to the traverse lines, as detailed in Table 2 below. .

The survey areas are 203 square kilometers in extent. A total of 1,530 line-kilometres were flown (including tie-lines).

Table 2: Survey Area Details

AREA NAME	APPROX AREA KM²	LINE /T.L. SPACING	FLIGHT LINE-KM	TIE-LINE KM	TOTAL LINE-KM	FLIGHT DIRECTION
Beta Block	87	150m x 1,500m	620	62	682	60°/150°
Curie Block	101	150m x 1,500m	674	68	742	60°/150°
Gamma Block	8	150m x 1,500m	50	6	56	60°/150°
Geiger Block	3	150m x 900ft	22	4	26	60°/150°
Pike Block	4	150m x 700m	19	5	24	60°/150°
Totals:	203		1385	145	1530	

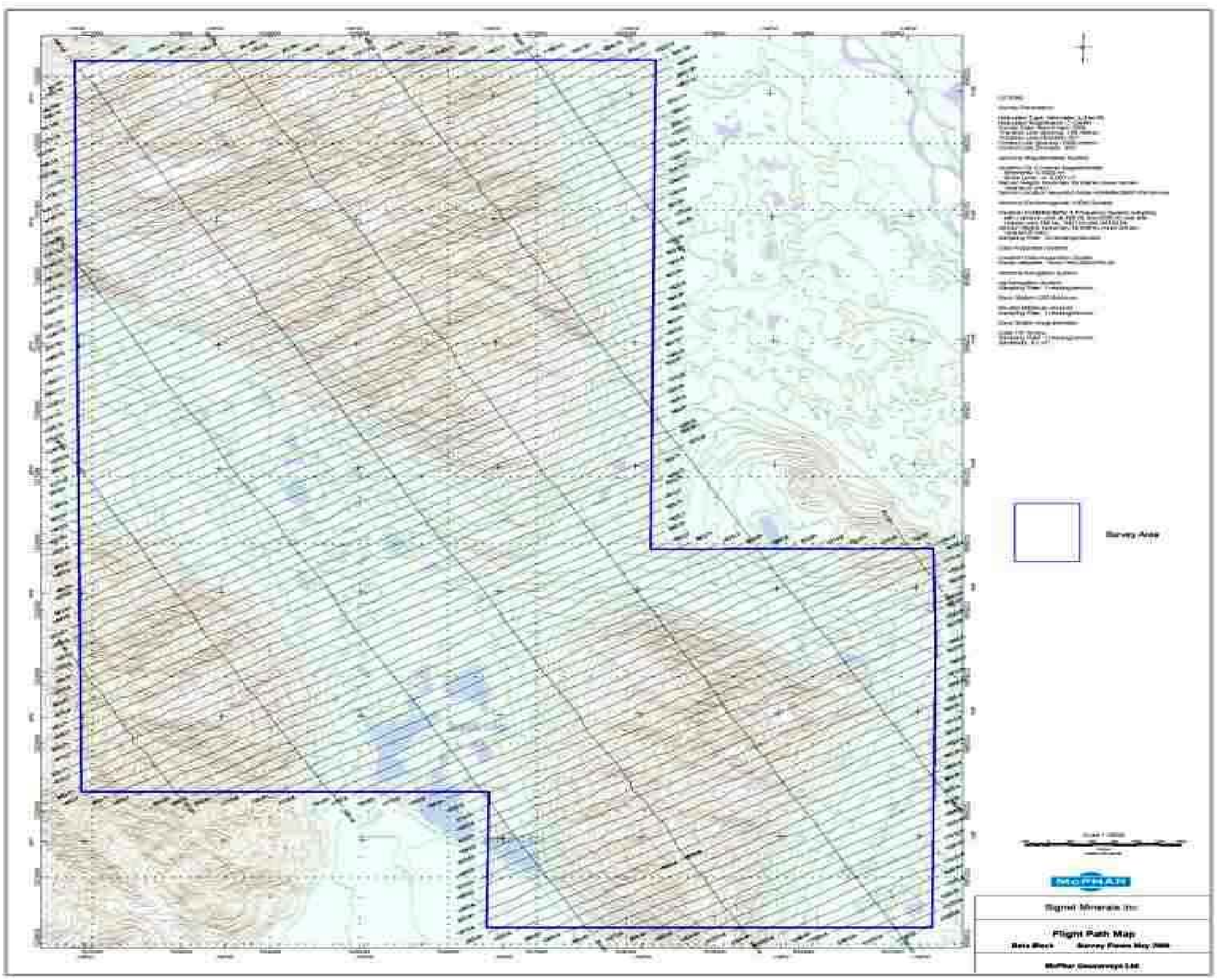


Figure 4: Flight path map of Beta Block

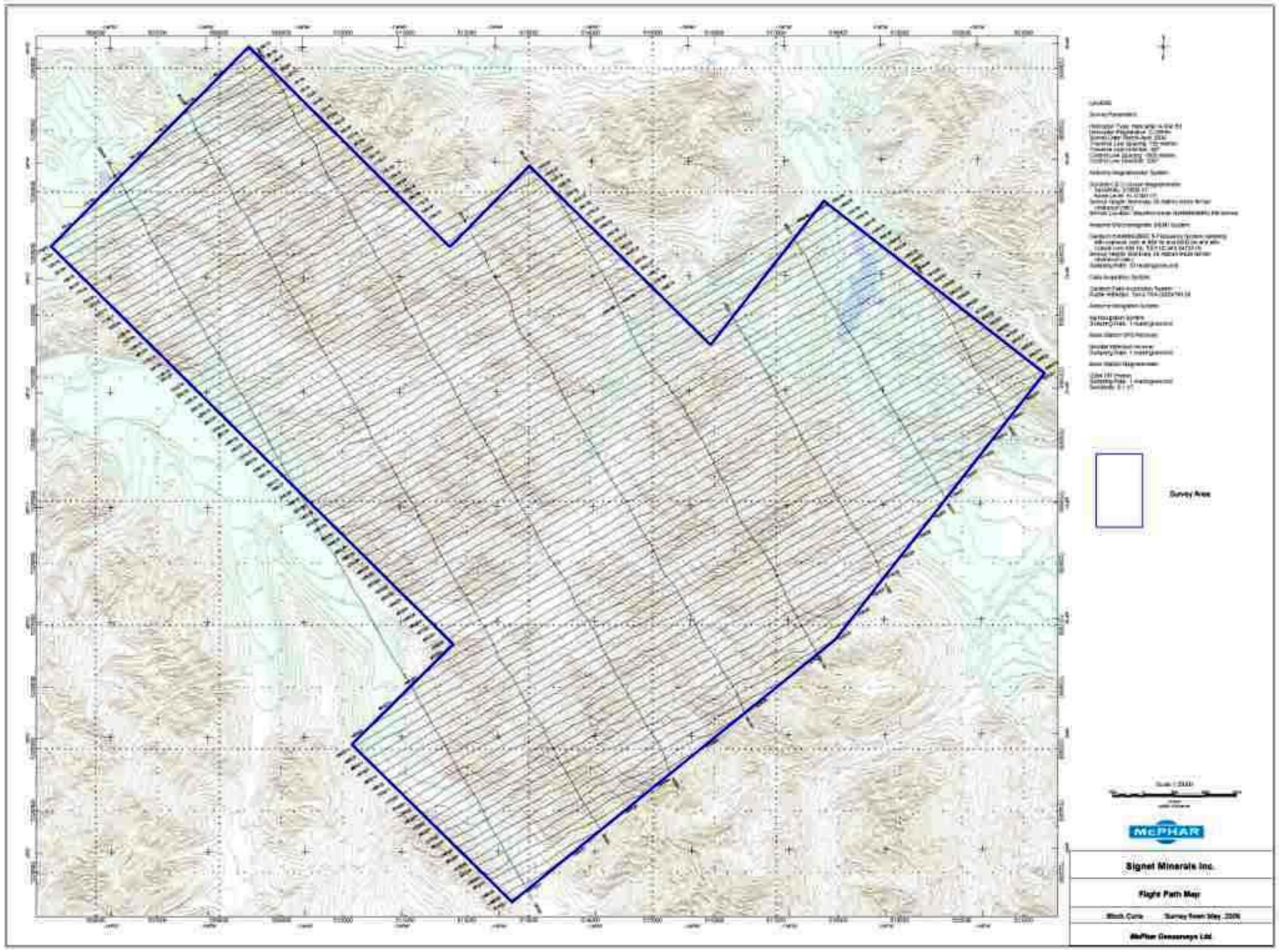


Figure 5: Flight path map of Curie Block

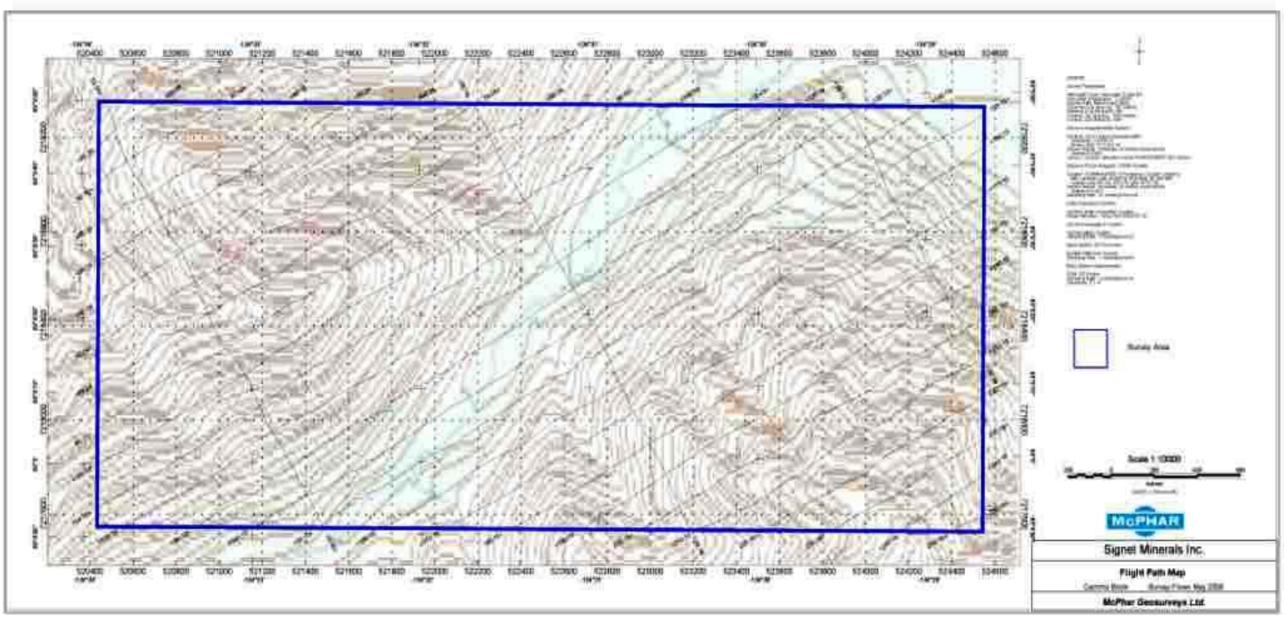


Figure 6: Flight path map of Gamma Block

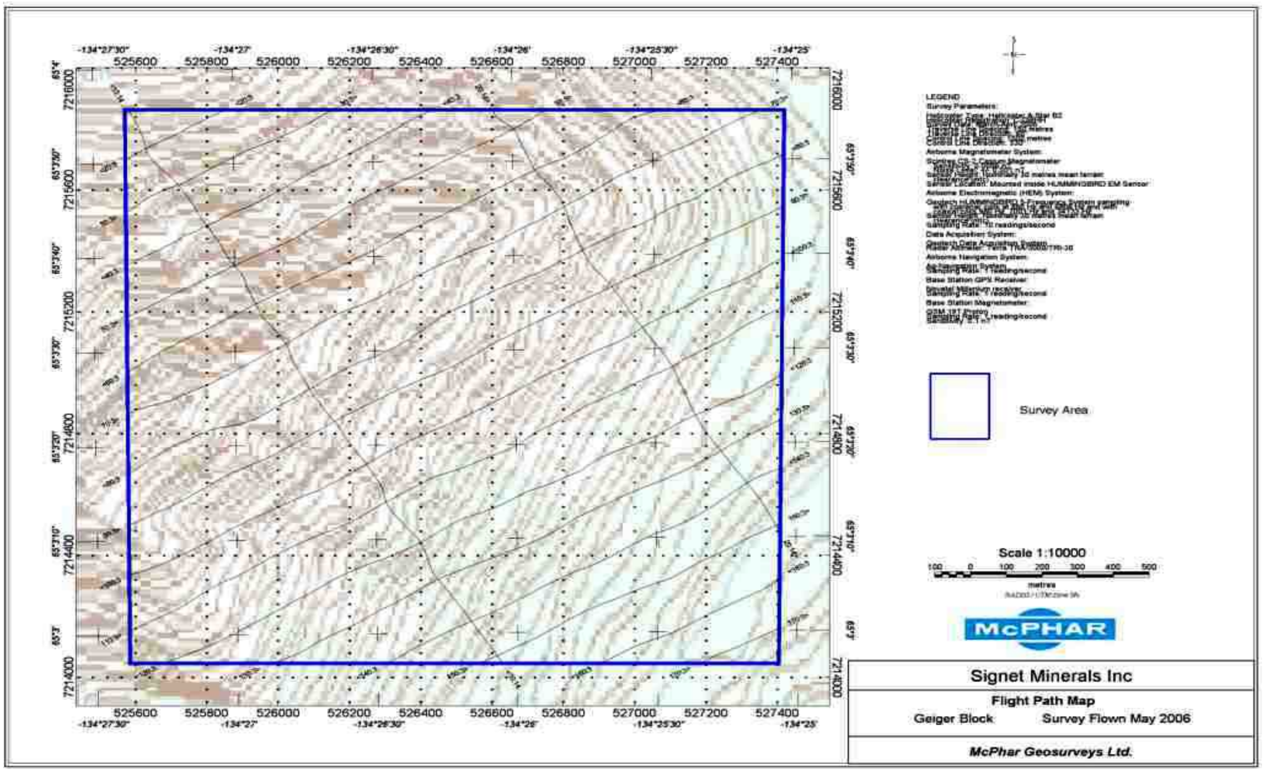


Figure 7: Flight path map of Geiger Block

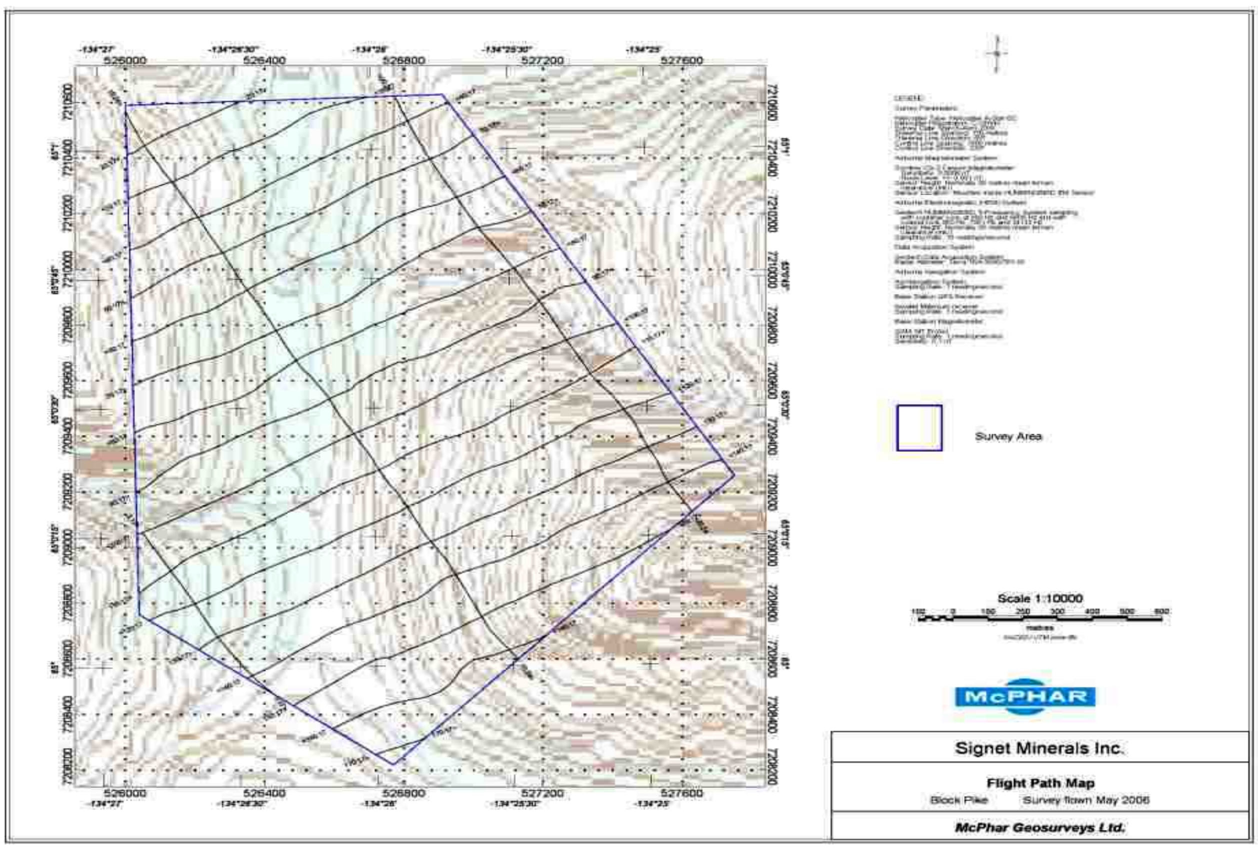


Figure 8: Flight path map of Pike Block

3. Survey Operations

3.1 Operations Base

The Copper Point Camp in the Yukon was the base of operations.

Figure 9: Survey helicopter and Hummingbird™ EM sensor at Copper Point Camp

3.2 Survey Conditions

Weather conditions during the survey were moderate with clear skies, cloud cover, rain showers, snow showers and strong variable winds.

Sunspot activity, and hence diurnal geomagnetic activity, was moderate during the entire data acquisition period. No data were lost due to the geomagnetic activity being out of contract specification.

Figure 10: Typical survey conditions for the project

3.3 Navigation

The nominal data acquisition speed was approximately 110 kilometres per hour. Scan rates for magnetic and electromagnetic data acquisition was 0.1 second and 1.0 second, radar altimeters, and for the GPS navigation/positioning system. Therefore, a magnetic/electromagnetic value was recorded approximately every 3.0 meters, and a position fixes each 30 meters, along the flight track. The actual data acquisition speed was 67 km/h.

Navigation was assisted by a GPS receiver system that reports GPS co-ordinates as WGS84 latitude and longitude and directs the pilot over the pre-programmed two-dimensional (2-D) survey grid. The x-y position of the helicopter as reported by the DGPS system is recorded together with the terrain clearance as reported by the radar altimeter. For surveying purposes, the coordinates of the survey area were transformed from WGS84 (World) coordinates system to NAD83.

Navigation along flight lines was established using the radar altimeter. The optimum terrain clearance during normal survey flying was 60 metres for the helicopter 30 metres for the towed-bird EM system and magnetometer. However, due to the rugged terrain throughout the survey area, and the pilot's judgment of safe flying conditions in these areas, these terrain clearances were not possible 100% of the time. The actual mean terrain clearance during survey flying was 82 metres.

The final vertical and horizontal survey positions were differentially corrected post flight, computed using the data from a base station GPS receiver, to a precision of approximately +/- 2 metres.

3.4 Field Processing & Quality Control

The survey data was transferred to portable magnetic media on a flight-by-flight basis, and then copied to the field data processing workstation. In-field data processing included reduction of the data to GEOSOFT GDB database format and inspection of the magnetometer and EM data for adherence to contract specifications. Survey lines that exhibited excessive deviation after differential correction, or that were considered to be of inferior quality, were marked to be reflown.

3.5 Survey Statistics and Project Diary

The survey entailed a total of 25 flights; which were flown from 12 May 2006 to 26 May 2006. The first production flight was Flt# 03 on 14 May 2006, and the last production flight was Flt# 24 on 26 May 2006.

Tests and calibrations flights were completed before commencing production flying. The first tests and calibrations flights were Flt# 01 & Flt#02 on 12 May 2005, and the last tests and calibrations flight was Flt# 25 on 26 May 2006.

Table 3: Project Diary

Date 2006	Flt #	Hours Flown	Line-Km Accepted	Comments
11-May				Crew reached at Mayo, Yukon and installation of the equipments in Helicopter and assembled the bird
12-May	1 2	0:49 0:33		Preliminary test flight to commission equipment installation and performed Radar Altimeter & Lag Tests Heading Test
13-May				Mobilization of crew from Mayo to Copper point camp
14-May	3 4 5 6	1:38 1:24 1:53 1:43	226.04	Flown at Beta and Geiger Blocks Diurnal quite all day
15-May	7 8	2:03 2:14	163.36	Flown at Beta Block Low ceiling at AM Diurnal quite all day
16-May	9 10	2:42 1:27	112.42	Flown at Beta Block Low ceiling at AM Diurnal quite all day
17-May				Low ceiling, less visibility, snow showers and gusty wind, Standby Day
18-May	11	1:29	30	Low ceiling, less visibility and gusty wind at AM and early PM, Short flight flown at Beta Block Standby Day
19-May				Problem in survey equipment at AM Fixed at PM, but bad weather so cancelled flights
20-May	12 13 14	2:28 2:22 1:57	176.18	Completed Beta and Geiger Blocks Diurnal quite all day
21-May	15	2:05	44	Low ceiling, less visibility and gusty wind at AM and early PM, Flown at Gamma Block Standby Day
22-May				Low ceiling, less visibility, snow showers and gusty wind, Standby Day
23-May	16 17	2:52 2:15	158	Flown at Curie and Pike Blocks Diurnal quite all day
24-May	18 19 20	2:36 2:18 2:28	356	Low ceiling, less visibility and gusty wind at AM Flown at Curie Block Diurnal quite all day
25-May	21 22 23	2:42 2:30 2:05	252	Completed Curie Block Diurnal quite all day Flt# 23 contains Heading Test as well
26-May	24 25	1:26 0:25	12	Compeleted all blocks, including reflwn lines Flt# 25 (Tests and Calibrations)
	Totals:	**48:24**	**1,530**	

4. HELICOPTER AND SURVEY INSTRUMENTS

4.1 The Helicopter

An Eurocopter AS-350B2 A-Star helicopter; registration number C-GRHH, owned and operated by Highland Helicopters Ltd. from Richmond, B.C. Canada was used for the survey. McPhar's personnel at Mayo, Yukon assembled and installed of the geophysical and ancillary equipment.

Figure 11: Assembling of the Bird and Installation of Equipment at Mayo, Yukon

The survey helicopter was flown at a nominal terrain clearance of 60 m (200ft). Normal helicopter airspeed was approximately 110 km/hr. The magnetometer and Hummingbird^{TM} EM system were sampled at a rate of ten times per second (10 Hz) and the radar altimeter and GPS were sampled at a rate of once per second.

Table 4: Survey Speeds

SURVEY SPEED (km/hour)	SURVEY SPEED (metres/sec)	SAMPLING INTERVAL (0.1 second)	SAMPLING INTERVAL (1 second)
110	30	3 meters	30 metres

Figure 12: Survey helicopter at survey area with Hummingbird™ EM sensor

Table5: Survey Helicopter Specifications

Helicopter Model	Eurocopter AS-350 B2
Registration	C-GRHH
Engine	Turbomeca Arriel 1D1 - 732 shp
Gross Weight	4,991 lb
Empty Weight	2,561 lb
Useful Load	3,530 lb
Useful Fuel Capacity	143 gal /540 liters
Cargo-swing Load	2,557 lb / 1.160 kg
Typical Survey Speeds	45 – 60 knots/ 80 – 120 kph
Survey Fuel Consumption	47 gal/hour / 180 litres/hour
Flight Duration (no reserves)	3 hours
Cruise Speed - Ferry	122 knots
Cruise Range	371 nm / 688 km
Maximum Operating Altitude	18,700 ft / 5,700 m
H.I.G.E. (ISA)	13,450 ft / 4,100 m
H.O.G.E. (ISA)	11,300 ft / 3,450 m
Climb Performance	1,950 ft min / 594 m / min
Power Available for Equipment (28 VDC)	150 amps

4.2 Terrain Clearances

Optimum terrain clearances for the helicopter and instrumentation during this survey were:

Helicopter	-	60 metres
Hummingbird^{TM} EM sensor & Magnetometer	-	30 metres

However, it was not possible to maintain the optimum terrain clearance throughout the survey due to the steep mountainous terrain throughout the survey area.

4.3 Survey Instruments

A HUMMINGBIRD^{TM} Multi-Sensor System complete with the following instruments was utilized:

- HUMMINGBIRD^{TM}-EM 5-frequency system, 880Hz, 980 Hz, 6.6 kHz, 7 kHz and 34 kHz frequencies
- A Scintrex CS-2 high-resolution cesium magnetometer mounted in towed bird airfoil, 0.0006 nT/10 Hz rms sensitivity
- A DGPS Max Navigation System, comprising a CSI-wireless DGPMAX 12-channel GPS system
- A Geotech GDAS data acquisition system
- A Terra TRA-3000 radar altimeter

Ground support equipment and base stations comprised:

- GEM proton procession magnetometer base station
- NovAtel Millennium dual frequency GPS Base Station
- A complement of spare parts and test equipment were maintained at survey site

4.3.1 The Helicopter-borne HUMMINGBIRD^{TM} Digital Electromagnetic System

The Geotech *HUMMINGBIRD*^{TM} sensor is a multi-frequency, multi-coil electromagnetic system, measuring the in-phase and quadrature responses from a number of coil-pairs installed in a tubular bird, towed beneath a helicopter. The *HUMMINGBIRD*^{TM} features horizontal coplanar coil sets operating at frequencies of 880 Hz, 6.6 kHz, and 34 kHz and vertical coaxial coil sets operating at frequencies of 980 Hz and 7 kHz. In-phase and quadrature signals were measured simultaneously for the five (5) frequencies with a time constant of 0.1 seconds. The HEM bird was towed at a nominal mean terrain clearance of 30 metres below the helicopter when terrain and weather conditions permitted.

The system noise of the EM sensor is less than 2 ppm of the transmitted field, under ideal conditions. A total of ten (10) EM channels of information are sampled at 0.025-second intervals (40 Hz) or approximately every 0.75 metres along the survey line (at survey airspeed of approximately 110 kph), with a time constant of 0.1 second.

The EM system was calibrated with an external coil at the start and end of each day and with an internal coil approximately three times per hour during survey flights. The phasing of the EM system was checked with an external ferrite rod before each survey flight.

Sferic activity can be reduced by post-survey processing to less than 2.0 ppm.

The electromagnetic system and ancillary equipment were operated for a sufficient time period prior to survey flying to allow for warm-up and thermal stabilization of the equipment. Nulling, ferrite and external Q-coil calibration for the EM system were performed after the system had stabilized following the-warm-up period. All of these ground calibrations were completed before commencement of each flight. Internal calibrations were performed frequently throughout the survey flight.

The table below lists the arrangement of the coils inside the bird:

The 5-frequency HUMMINGBIRD^{TM} system features the following frequencies and coil configurations:

Table 6: HUMMINGBIRDTM EM system details

COIL FREQUENCY	COIL ORIENTATION	COIL SEPARATION	CHANNELS
880 Hz	Coplanar	6.0 meters (19.5ft)	I, Q
980 Hz	Coaxial	6.0 meters (19.5ft)	I, Q
6.6 kHz	Coplanar	6.3meters (20.5ft)	I, Q
7 kHz	Coaxial	6.3meters (20.5ft)	I, Q
34 kHz	Coplanar	4.9 meters (16ft)	I, Q

I = In-Phase Q = Quadrature

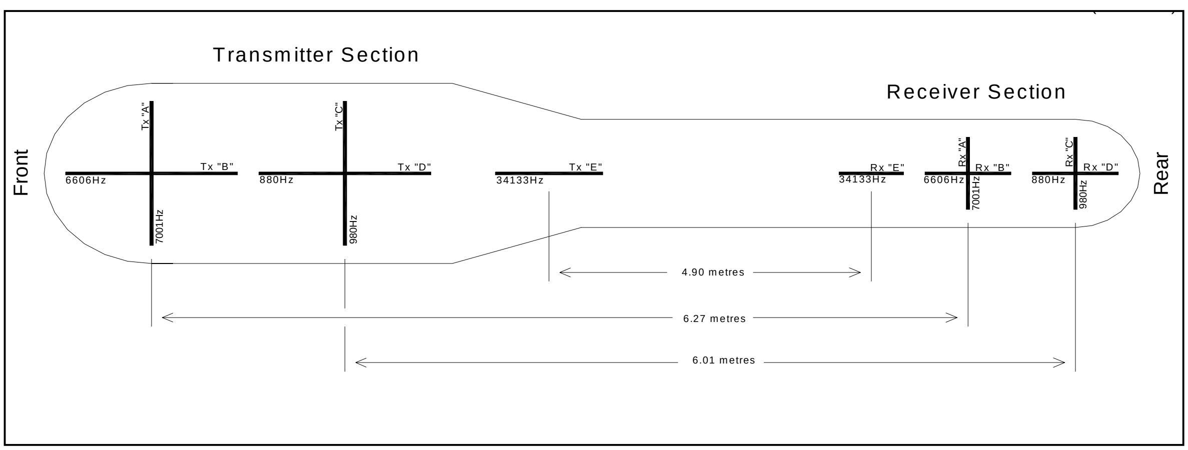


Figure 13: HUMMINGBIRD^{TM} Electromagnetic Sensor

The HUMMINGBIRD^{TM} EM System is described in more detail in Appendix 2.

4.3.2 Airborne Magnetometer

A Scintrex CS-2 high-resolution cesium magnetometer was used on this survey, and was installed inside the *HUMMINGBIRD*™ airfoil. Sampling rate was ten times per second (10Hz) with an in-flight sensitivity of 0.01 nT. Aerodynamic magnetometer noise did not exceed 0.25 nT. The resolution of the magnetometer is 0.001nT at a 0.1 second sampling rate.

4.3.3 The Towed-Bird Airfoil and Tow-Cable

The towed-bird airfoil is essentially a hollow Kevlar tube, 6.6 meters long, with a bulbous nose into which the electromagnetic system components and electronics are installed along with the cesium magnetometer sensor mounted in a 3D hand-aligned gimbal. A skirt is used at the tail of the airfoil to stabilize the bird in flight.

The tow cable is constructed of coaxial cables complete with a strain member. The length of the tow cable is nominally 30 metres. The tow cable was attached to the helicopter by means of a weak link assembly. The on-board section of the tow cable consists of coaxial cable, the length customized to suit the helicopter.

4.3.4 Altimeters

A Terra TRA-3000 / TRI-30 radar altimeter was used to record terrain clearance to an accuracy of about 1 ft (30 cm), over a range of 40ft to 2,500ft. The antenna was mounted beneath the helicopter cockpit. The recorded value of terrain clearance was adjusted to give bird height above ground.

The altimeter was interfaced to the data acquisition system with an output repetition rate of 1 second, and was digitally recorded.

4.3.5 GPS Navigation System

A CSI-wireless DGPMAX 12-channel GPS system with navigation computer and pilot steering indicator (PSI) provided in-flight navigation control was used. This navigation system operated on 12-channels. A pilot steering indicator (PSI) installed on the top of the cockpit dashboard, in front of the pilot provided steering and cross-track guidance to the pilot. The pilot there provided with GPS, and altimeter data to aid in the flying of the helicopter.

Figure 14: Pilot steering indicator (PSI) installed on the top of the cockpit dashboard

This navigation system, in any event, yielded a real-time positional accuracy of better than +/-2 metres.

Survey co-ordinates were set-up prior to survey and the information was fed into the airborne navigation system. The co-ordinate system employed in the survey design and digital recording was WGS-84 projected X, Y coordinates. The GPS positional data was recorded at one-second intervals and used with the base station data to calculate differentially corrected locations.

4.3.6 Digital Data Acquisition System

A Geotech HUMMINGBIRD^{TM} GDAS digital data acquisition system recorded the digital survey data on an internal hard disk drive. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The DAS provides for the:

- System control and monitoring
- Data acquisition recording
- Real-time data processing
- Navigation processing, and
- Post flight data playback and analysis

All data collection routines, checking and verification, buffering, and recording are software controlled for maximum flexibility both during and after the survey flight.

Figure 15: Geotech Hummingbird™ GDAS digital data acquisition system

Table 7: Sampling rates of digital data

SYSTEM/No. of CHANNELS	SAMPLING RATES/SEC.
Total Field Magnetometer (1 channel)	0.1 sec
E.M. - 880 Hz (2 channels) Coplanar	0.1 sec
E.M. – 980 Hz (2 channels) Coaxial	0.1 sec
E.M. – 6.6kHz (2 channels) Coplanar	0.1 sec
E.M. – 7 kHz (2 channels) Coaxial	0.1 sec
E.M. – 34 kHz (2 channels) Coplanar	0.1 sec
Barometric Altimeter (1 channel)	1.0 sec
Radar Altimeter (1 channel)	1.0 sec
DGPS Navigation	1.0 sec

4.3.7 Base Station Magnetometer

To monitor and record diurnal variations of the earth's magnetic field a GEM proton procession magnetometer base station was utilized. It was set up in Mayo, every effort was made to ensure that the magnetometer sensor was placed in a location with a low magnetic gradient and sited away from electric transmission lines and moving ferrous objects.

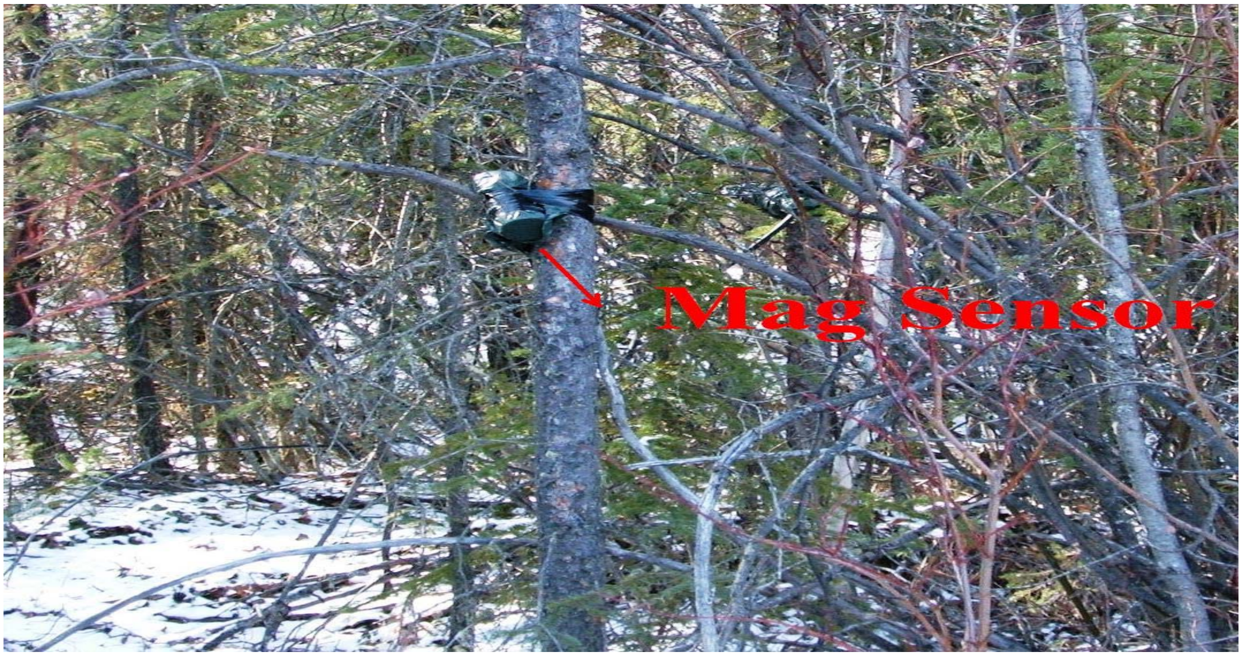


Figure 16: Base station Magnetic Sensor

4.3.8 GPS Base Station

A NovAtel Millennium 12-channel dual-frequency GPS Base Station was set-up in Mayo to provide post-survey differential corrections for the airborne system. Data from a known geodetic point close to operation base was not available; therefore the GPS system itself was used, over a period of several hours, to calculate the average coordinates of the base station.

Figure17: Base station GPS System

4.3.9 Field Computer Workstations

A Data Processing Field Workstation (FWS) comprised of a dedicated PC-based notebook computer for use at the technical base in the field, was used on this project. The FWS is designed for use with Geosoft OASIS/Montaj Data Processing Software. The FWS has a data replot capability, and may be used to produce pseudo-analogue charts from the recorded digital data within less than 12 hours after the completion of a survey flight, if this is necessary. It is also capable of processing and imaging all the geophysical and navigation data acquired during the survey, producing semi-final, preliminary-levelled maps.

The FWS was used to accomplish the following:

Quality Control/Digital Data Verification - flight data quality and completeness were assured by both statistical and graphical means on a daily basis
Flight Path Plots - flight path plots were generated from the GPS satellite data to verify the completeness and accuracy of each day's flying
Preliminary Maps - the Geosoft software system permitted preliminary maps to be quickly and efficiently created for noise and coherency checks.

The FWS is fully described in Appendix 2.

The Montaj software is designed for airborne data editing, compilation, processing and plotting. The software reads the portable data media from the airborne system checks them for gaps, spikes or other defects and permits the data to be edited where necessary. The base station GPS/magnetometer data is checked, edited, processed and then merged with the airborne data. GPS flight path plots are created and plotted for both flight planning and flight path verification.

4.3.10 Spares

A normal compliment of spare parts, tools, back-up software, and necessary test instrumentation was available in the office at the airport.

5. DATA ACQUISITION & DATA QUALITY CONTROL

5.1 Instrument Checks, Tests and Calibrations

5.1.1 HEM Tests and Calibrations

The ***HUMMINGBIRD***^{TM} EM system was:

- Calibrated at the start of survey on the ground, using a ferrite rod and calibration coil
- An internal Q-coil calibrations was performed by the onboard technician at the beginning of each flight
- At the beginning and end of each flight, and periodically during a flight, the helicopter climbed to high-altitude to allow the onboard technician to perform background and drift checks.

5.1.2 Magnetic Heading Effect

The magnetic heading effect was determined by flying a portion of a survey line and a tie line in both (nominal and reverse) directions periodically throughout the survey. The above-mentioned procedures enabled sufficient statistical information to be obtained to estimate the heading error. No modifications or additions to the helicopter or the installed equipment were made during the survey.

5.1.3 Lag Tests

Lag tests were performed to ascertain the time difference between the instrument readings and the operation of the GPS System. To determine the lag a test lines were flown in two directions at survey altitude, at start and end of the survey.

5.1.4 GPS Tests

The GPS system itself was used, over a period of time, to calculate the coordinates of the landing pad where the helicopter landed every day. The measured and averaged coordinates were compared on daily basis. Care was also taken to ensure that the base station GPS had a maximum field-of-view to the GPS satellites.

5.1.5 Altimeter Calibration Checks

Daily verification of the radar altimeter calibration was completed over the course of the survey. The calibration was determined by comparing the radar altitude with a suitable reading from the GPS system during radar “stack” over the landing spot of the helicopter where the ellipsoidal height of the ground is accurately known. At the start and end of the survey vertical flights over a flat area were carried out.

5.1.6 Overall Data Acquisition and QC Procedures

A GPS receiver and a data acquisition system that reports GPS co-ordinates as WGS-84 latitude/longitude and directs the pilot over a pre-programmed survey grid assisted navigation. The x-y-z position of the helicopter, as reported by the GPS, was recorded along with terrain clearance, as reported by the radar altimeter, at one-second intervals.

High-level calibration flights, were flown outside of ground effects, i.e. above 300 m, to record electromagnetic zero levels periodically during a survey flight and at the start and end of each flight.

A test line was flown in both directions to determine and check the heading and lag effect; and to check the data quality of all the airborne geophysical sensors and the navigation equipment. The radar altimeter calibration was checked on a daily basis during vertical test flights carried out during landing and taking off.

A GPS base station was set up at Mayo. Care was taken to ensure that the base station GPS had a maximum field-of-view to the GPS satellites. The GPS base station recorded static GPS positions for later differential correction of the airborne GPS data.

A magnetometer base station was also set up at Mayo. The magnetometer base station was used to monitor and record the diurnal magnetic variation (maximum allowed gradient of 25 nT per 5 minutes chord).

The operator was responsible for ensuring that all instruments were properly warmed up prior to departure for survey. He also maintained a detailed flight log during the survey, noting the times of the flight as well as any unusual geophysical or topographic features.

On return of the operator to the base the survey data was transferred to a portable hard drive (PCMCIA).

All data collected in the air and on the ground were controlled and pre-processed by the QA/QC Geophysicist on a daily basis, he uploaded the acquired survey data by Internet to a McPhar FTP site. Each evening following a survey flight(s) geophysicist performed the following QC activities:

- Heading and lag effect were checked
- EM system and radar calibration were checked
- All data collected on the test line were checked
- Magnetometer and EM system noise were checked
- EM system drift was checked and calculated
- GPS and magnetic base station data were checked and processed
- GPS data were differentially corrected using Waypoint GrafNAV software
- GPS and radar altimetry data were processed to obtain the DTM (DEM) grid of the surveyed areas, which was compared to the topographic maps received from the client
- Magnetic data were corrected for diurnal variations of the total magnetic field as recorded by the magnetometer base station
- EM data were noise filtered and drift corrected
- Grids/Maps of all EM drift corrected channels were produced and compiled

6. PERSONNEL

The following personnel were involved in the project:

Field Operations:	
Kevin Lindsay	Project Manager
Mark Andrews	Technician/Operator
Asif M. Mirza	QA/QC Geophysicist
Ola V.	Pilot
Newmarket Office:	
Henrik T. Andersen, M.Sc.	General Manager Operations
Thomas Grand, Ph.D	Chief Geophysicist
Tonia Bojkova, M.Sc.	Senior Geophysicist
Asif Mirza, M.Sc.	Data Processor/Geophysicist

Timothy R. Bodger, President, carried out overall management of the survey from the Newmarket office of McPhar Geosurveys Inc.

7. DATA QUALITY CONTROL & PROCESSING

7.1 Flight Path/GPS Data Processing

The flight path was derived from differentially corrected GPS positions using the airborne/rover and static GPS data collected at the GPS base station discussed previously. Differential GPS data processing was accomplished using the GrafNAV GPS processing system as developed by WayPoint Navigation, Inc. A position was calculated each 1.0 second to an accuracy of better than +/- 1 meter. The differentially corrected GPS data were then merged into the GDB database.

The GPS GDB files include the following channels:

GPStmH	-	GPS time in hours/min/sec of day
GPStmsec	-	GPS time in seconds of day
x,y	-	differentially corrected position - NAD83/ UTM zone 8N projection
Hell	-	WGS84 Ellipsoidal height
SDHoriz	-	position SD in the east and north axes calculated by GrafNAV
SDHeigh	-	vertical SD of ellipsoidal height calculated by GrafNAV
NS	-	number of satellites incorporated for differential processing of GravNAV
PDOP	-	position dilution of precision

From the GPS database the flight path was merged into a master GPS_Flight_Path.MAP file on a daily basis.

The following GPS parameters were checked:

- Number of satellites
- PDOP (position dilution of precision)
- Flight Path Deviation – evaluated by Geosoft Airborne QC software package

7.2 Base Station Magnetic Data

The base station magnetometer data was edited and merged into the GDB database.

From the database, a TMI chart was created and stored.

The data QC procedure to verify the TMI recorded on the magnetic base station included the following parameters:

- maximum noise of the TMI record
- Average noise defined by SD of the noise channel
- Maximum magnetic gradient in a straight line chord over 5 minutes

7.3 Corrections to the Magnetic Data

The processing of the data involved correcting for diurnal variations by using the digitally recorded ground base station magnetic values. Network adjustments were made using the flight-line and tie-line information to level the survey data set. Finally microlevelling was applied in order to remove the remaining level errors. This corrected data set was used for further processing and analysis.

The following grids then were calculated using this leveled Total Magnetic Intensity grid; Analytic Signal, Reduction to the Pole, Calculated 1st and 2nd Vertical Derivatives.

7.4 Electromagnetic Data

A two stage digital filtering process was used to reject major sferic events and to reduce 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. The filter used was a non-linear filter. The signal-to-noise ratio was further improved by the application of a low-pass linear 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 0.3 seconds or approximately 30 metres.

EM channels were filtered with the following specification:

Table 8: EM Filtering Specifications

EM CHANNEL	APPLIED FILTERS
Ip1, Q1 (7 kHz coaxial)	Non-linear 0.3 s Low-pass 4.0 s
Ip2, Q2 (6 kHz coplanar)	Non-linear 0.3 s Low-pass 4.0 s
Ip3, Q3 (980 Hz coaxial)	Non-linear 0.3 s Low-pass 4.0 s
Ip4, Q4 (880 Hz coplanar)	Non-linear 0.3 s Low-pass 4.0 s
Ip5, Q5 (34 kHz coaxial)	Non-linear 0.3 s Low-pass 4.0 s

Following the filtering process, a base level correction was made using EM zero levels determined during the high altitude calibration sequences. The correction applied is a linear function of time that ensures the corrected amplitude of the various in-phase and quadrature components is zero when no conductive or permeable source is present. The filtered and leveled data were used in the determination of apparent resistivity and anomaly picking. Manually picked zero-levels were used during the intervening period between high-level calibrations.

As part of the processing step the digital elevation model (DEM) is calculated via the subtraction of the radar altimeter from the barometric altimeter. The barometric altimeter is leveled using the GPS altimeter. The DEM is calculated as a check on the barometers and to provide information on the topography for interpretation of the radiometric data.

7.5 Gridding

The corrected line data was interpolated between survey lines using a random point gridding method to yield x-y grid values for a standard grid cell size of $1/5^{th}$ of the nominal line spacing. A smaller grid cell size would yield to increased aliasing in the grid. Generally the Minimum Curvature algorithm (MINC) is used to interpolate values onto a regular spaced grid.

7.6 Magnetic Filter Derivatives

The total field magnetic data were subjected to a variety of filtering transformation techniques to yield contour colour images of the following:

- IGRF removal
- First vertical derivative
- Second vertical derivative
- Analytic Signal
- Reduction to the pole

All of these spatial transformation-filtering techniques can assist in the recognition of magnetic features or bodies, particularly in the sedimentary sequence above the crystalline basement

7.6.1 IGRF Removal

The International Geomagnetic Reference Field (IGRF) is a long-wavelength regional magnetic field calculated from permanent magnetic observatory data collected around the world. The IGRF is updated and determined by an international committee of geophysicists every 5 years. Secular variations in the Earth's magnetic field are incorporated into the determination of the IGRF.

Through the removal of the IGRF from the observed Total Magnetic Intensity (TMI), the resulting residual magnetic intensity allows for more valid modelling of individual near surface anomalies. Additionally, the data can be more easily incorporated into databases of magnetic data acquired in the past or to be acquired in the future.

7.6.2 First Vertical Derivative

Vertical derivatives compute the rate of change of the field as it drops off when measured vertically over the same point (upward continuation). Potential field data obeys Laplace's equation, which allows for the computation, through the FFT package, to take advantage of this symmetry and sole for the vertical or "z" component of the field. The First Vertical Derivative has the effect of sharpening anomalies, which allows for better spatial location of source axes and boundaries.

7.6.3 Second Vertical Derivative

To enhance local anomalies in the map and to help outline the edges of anomalous bodies from the data, a second vertical derivative map is routinely computed from the data. A second vertical derivative map is a powerful interpretive tool and can be used to assist in the delineation of causative bodies and accurate location of changes in the potential field's gradients. Better definition of discontinuities and their relation to geology can be gained from the use of this tool. A Second Vertical Derivative map will show steep gradients over faults and positive closures over the "upthrown" blocks.

7.6.4 Analytic Signal

The analytic signal is the square root of the sum of the squares of the derivatives in the x, y, and z directions:

asig = sqrt (dx*dx + dy*dy + dz*dz)

The analytic signal is useful in locating the edges of magnetic source bodies, particularly where remanence and/or low magnetic latitude complicates interpretation.

7.6.5 Reduction to the Pole

To compensate for the shift of the true anomaly position over the causative source, due to the magnetic inclination, the magnetic data can be recomputed so that the magnetic map will appear as it would at vertical inclination and the magnetic "high" anomalies will be located over the bodies that cause them. This computation is referred to as "reduction-to-the-pole". The reduction-to-the-pole is computed using a FFT (Fast Fourier Transform) operator.

The RTP not only shifts the anomalies to their correct position with respect to the causative magnetic bodies, but assist in the direct correlation and comparison of magnetic anomalies, trends, structural axis, and discontinuities with mapped geological surface expressions, under the assumption that no remnant magnetization is present.

7.7 Apparent Resistivity

The apparent resistivity is calculated by assuming a uniform resistive half-space model. The computer program determines the resistivity by the inversion of the recorded in-phase and quadrature response amplitudes at the selected frequency through an inversion process.

7.8 EM Anomaly Selection and Analysis

The main purpose of EM anomaly selection is to identify possible near-vertical or dipping thin sheet bedrock conductors. If the source of conductance is not large, such anomalies may not register on the apparent resistivity maps as a distinctive resistivity low.

The response type expected from a vertical thin sheet conductor is a positive anomaly in the coaxial EM channels with a coincident low in the coplanar channels of the same frequency.

In some cases a negative in-phase anomaly will be accompanied by a positive quadrature response, which suggests a source, which is both conductive and magnetic (or conductors and magnetic sources which are very close). In rare instances, the coaxial in-phase trace shows a small positive peak superimposed on larger negative responses in both coaxial and coplanar channels. Such anomalies are often of special exploration interest.

EM anomalies were automatically picked from the offset profiles using Geosoft's HEM software. Each anomaly had to have a response in the 7,000 Hz coaxial channel. The coaxial channel is more sensitive to vertical thin conductors typified by sulphide mineralization.

8. DELIVERABLE PRODUCTS

The survey data are presented as coloured contour maps on paper, produced at a appropriate scale. A set of report-sized colour contour images, on paper, is also provided as appendices to this report. All digital data are also presented on CD-ROM in ASCII format

8.1 Colour Maps

The maps were produced at appropriate scale. For reference the latitude and longitude are also noted on the maps.

The following maps are delivered to the client in (2) paper copies each for all blocks:

- Flight Path with Planimetry
- Digital Terrain Model (DTM)
- Total Magnetic Intensity
- Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- Calculated Total Horizonatl Derivative of the RTP TMI
- Calculated First Vertical Derivative (1VD) of the RTP TMI
- Calculated Second Vertical Derivative (2VD) of the RTP TMI
- Analytic Signal of the Total Magnetic Intensity
- EM Profiles of Horizontal Coplanar 800 Hz Coil and Vertical Coaxial 980 Hz Coil with picked anomalies
- EM Profiles of Horizontal Coplanar 6600 Hz Coil and Vertical Coaxial 7000 Hz Coil with picked anomalies
- Apparent Resistivity Horizontal Coplanar 880 Hz
- Apparent Resistivity Horizontal Coplanar 6600 Hz

8.2 Digital Data

The edited field digital data recorded in flight and at the base stations, are delivered in 3 copies, in ASCII code, on CD-ROM. The final processed line and grid data, in GEOSOFT format, are also delivered in 3 copies on CD-ROM. Full descriptions of the digital data formats are included in this final report (see below).

8.3 Final Report

Three (3) copies of a survey report are delivered, complete with final prints of report size maps.
This report provides information of the acquisition, processing and presentation of the survey data.

McPhar Geosurveys Ltd.

Henrik T. Andersen
Principal Geophysicist

APPENDICES

APPENDIX 1 **System Tests and Reports**

- Lag Test
- Heading Correction
- Altimeter Test
- GPS Form
- Base Magnetometer Form
- Flight Logs
- Daily Reports

APPENDIX 2 **Equipment Documentation**

- The Eurocopter AS350B2 – A-Star Helicopter
- Hummingbird – Helicopter-borne Digital Electromagnetic System
- Scintrex CS-2 Cesium Magnetometer
- Terra TRA3000/TRI-30 Radar Altimeter
- GEM GSM-19T Proton Overhauser Magnetometer
- NovAtel Millenium GPS receiver
- Geosoft Oasis Montaj Processing Software
- Field Data Processing Workstations

APPENDIX 3 **Personnel Resumes**

- Henrik Toft Andersen
- Tonia Bojkova
- Asif Mirza

APPENDIX 4 **Digital Data Specifications**

APPENDIX 5 **Page Size Maps**

Each of the 5 areas include page size maps of the following:

- Flight Path with Planimetry
- Digital Terrain Model (DTM)
- Total Magnetic Intensity
- Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- Calculated Total Horizonatl Derivative of the RTP TMI
- Calculated First Vertical Derivative (1VD) of the RTP TMI
- Calculated Second Vertical Derivative (2VD) of the RTP TMI
- Analytic Signal of the Total Magnetic Intensity
- EM Profiles of Horizontal Coplanar 800 Hz Coil and Vertical Coaxial 980 Hz Coil with picked anomalies
- EM Profiles of Horizontal Coplanar 6600 Hz Coil and Vertical Coaxial 7000 Hz Coil with picked anomalies

- Apparent Resistivity Horizontal Coplanar 880 Hz
- Apparent Resistivity Horizontal Coplanar 6600 Hz

APPENDIX 6 Anomalies Lists

- Anomalies List_Beta Block.xls
- Anomalies List_Curie Block.xls
- Anomalies List_Gamma Block.xls
- Anomalies List_Geiger Block.xls
- Anomalies List_Pike Block.xls

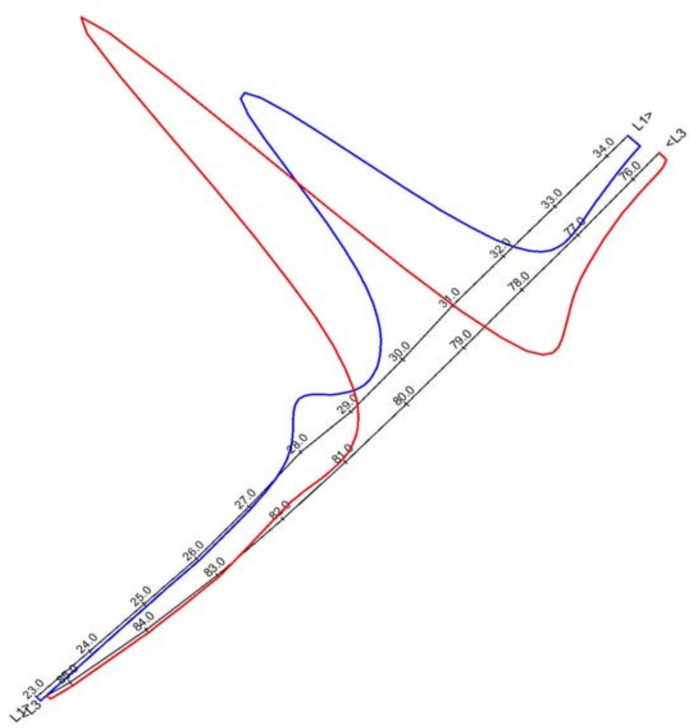
McPhar Geosurveys Ltd.

Lag Test flown on 12 May 2006

Mayo

0606 Signet Minerals Inc

Mayo



Lag: 1.2 sec

HEADING ERROR CORRECTION

Test Completed: 12-May-2006

Mayo

HEADING CORRECTION CALCULATION

Direction:	MAGD
N	57762.2
E	57768.2
S	57759.3
W	57762.7

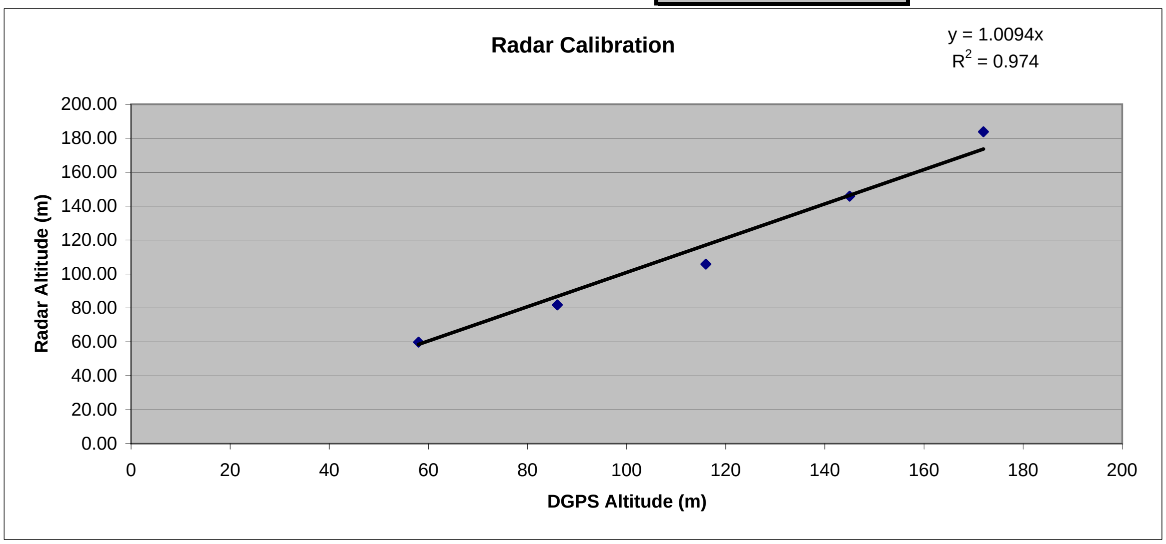
HEADING CORRECTION COEFFICIENTS

Direction	Heading
N	-0.90
E	0.06
S	-3.80
W	-0.40

McPhar Geosurveys Ltd.	
Altimeter Calibration Test	
Project:	**0606 Signet Minerals Inc.**
Location:	Mayo
Date:	26-May-06
Test No.	4
Aircraft:	

mV Ratio

Nominal Altitude above ground (m)	Nominal Altitude above ground (ft)	Radar Altitude Raw Data (m)	DGPS Altitude Ellipsoidal Height (m)	DTM = DGPS - Radar Alt Ellipsoidal Height WGS84 (m)	DGPS Altitude (ALT) ALT=DGPS - AVERAGE(DTM) (m)
				0.00	
60.96	200	58	614	556.00	59.80
91.44	300	86	636	550.00	81.80
121.92	400	116	660	544.00	105.80
152.4	500	145	700	555.00	145.80
182.88	600	172	738	566.00	183.80
0	0			0.00	
0	0			0.00	
				554.20	
				AVERAGE	



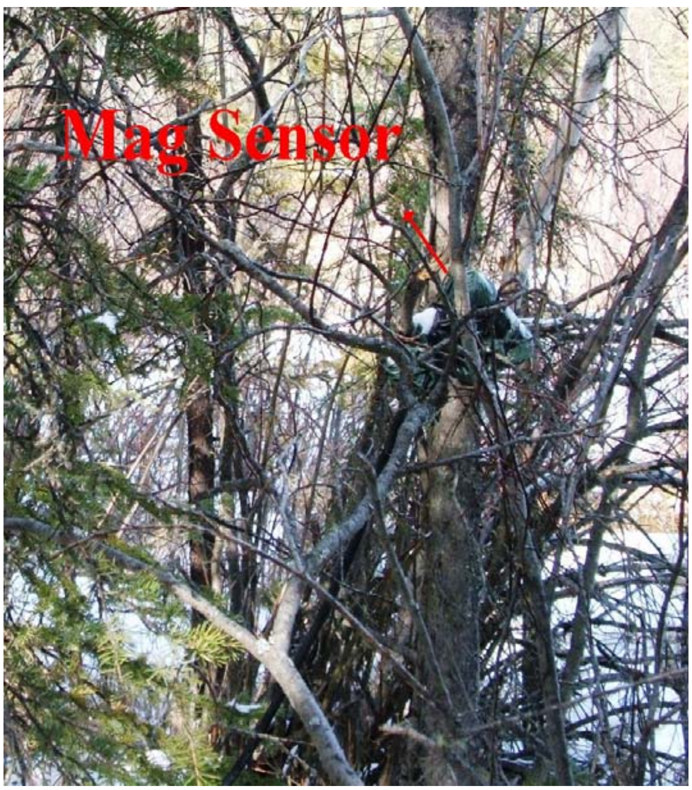
Pilot:	Marieke Niemeijer	Approved:	Date:	30-May-06
Operator:	Kevin Lindsay		Name:	Tonia Bojkova
QC:	Asif Mirza			
PM:	Kevin Lindsay			

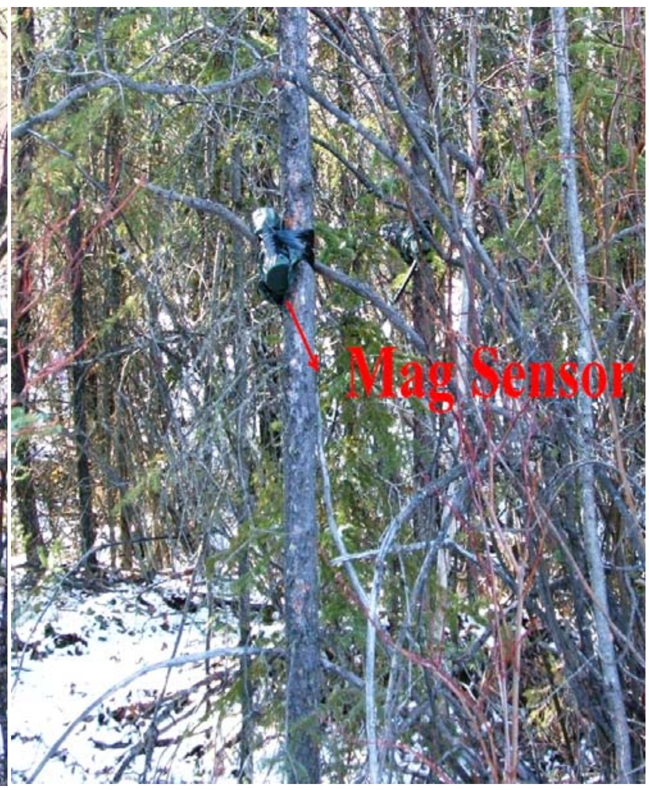
GPS Base Station Form

Station	*Number:*	**BASE02**	*Location:*	**Back of Hut**		*Type:*	**Base Station**
	City:	**Mayo**	*Prov:*	**Yukon**	*Country:*	**CANADA**	
Position	*System:*	*Latitude:*	*SD*	*Longitude:*	*SD*	*Ellipsoidal Height*	*SD*
	WGS-84	**N 63°36' 16"**	**1 m**	**W 135° 52' "**	**1 m**	**1206 m**	
	System:	*Easting*	*SD*	*Northing*	*SD*	*Antenna Height*	
	UTM zone 8N	**455772**	**1 m**	**7053246**	**1 m**	**183 cm**	
Info	*Topographic description / Notes:*						
	The base station was mounted on the top of the pole on a flattened mound.						
	The position was averaged from 24 hours observation carried out between May 11th to May 26, 2006.						
	Date of establishment:		**11/05/2006**	*By:*	**McPhar Geosurveys Ltd.**		
	Date of measurement:		**12/05/2006**	*By:*	**McPhar Geosurveys Ltd.**		

Magnetic Base Station Form

Station	*Number:*	**MB02**	*Location:*	**Back of Hut**		*Type:*	**Base Station**
	City:	**Mayo**	*State:*	**Yukon**	*Country:*	**Canada**	
Position	*System:*	*Latitude:*	*SD*	*Longitude:*	*SD*	*Ellipsoidal Height*	*SD*
	WGS-84	**N 63° 36' 17"**	**3 m**	**W 135° 52'**	**3 m**	**1206 m**	
	System:	*Easting*	*SD*	*Northing*	*SD*	*Sensor Height*	*SD*
	UTM zone 8N	**455772**	**3 m**	**7053277**	**3 m**	**152 cm**	
Magnetic	*System:*	*Total Magnetic Field*	*SD*	Inclination Declination			
	IGRF 2000	**57937 nT**		**I=79.4°; D= -27.41°**			
	Av.Total Filed	**57757 nT**					
Info	*Topographic description / Notes:*						
	The base station was mounted on the pole on a flattened mound. The position was surveyed by handheld eXplorist 400 GPS The value of Total magnetic field was averaged from 24 hours observation carried out on May 12, 2006						
	Date of establishment:		**11.05.2006**	*By:*	**McPhar Geosurveys Ltd.**		
	Date of measurement:		**12.05.2006**	*By:*	**McPhar Geosurveys Ltd.**		





AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :	JOB: 606	PAGE 1 of 1

FLT #: 1 Date : 12 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:________/-6C______ A/C REG: C-GRHH

DEPART TIME: 15:51 RETURN TIME: 16:40 TOTAL FLIGHT TIME: 0:49

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma121230.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
			05121548.HUM	
				Radar Test
	406	440		200 ft
	485	520		300 ft
	575	605		400 ft
	645			500 ft
				Lag Test
	878			
	926			

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :	JOB: 606	PAGE 1 of 1

FLT #: 2 Date : 12 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:________/-6C______ A/C REG: C-GRHH

DEPART TIME: 19:17 RETURN TIME: 19:50 TOTAL FLIGHT TIME: 0:33

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma121230.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
			05121914.HUM	
				Heading Test
	370	470		
	460	530		
	600	680		
	680	780		
	825	1000		
	1140	1370		
	1495	1749		

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Geiger	JOB: 606	PAGE 1 of 1

FLT #: 3 Date : 14 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/-6C_____ A/C REG: C-GRHH

DEPART TIME: 9:30 RETURN TIME: 11:08 TOTAL FLIGHT TIME: 1:38

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma141330.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	32		05140934.HUM	Null All
	66			
	100	200		High level cal
	215			Null All
	260	360		High level cal
20	960	990		
30	1070	1128		
40	1201	1419		
50	1432	1546		
60	1646	1890		
70	2045	2250		Over bridge bird swing
80	2648	2403		
90	3010	2880		
100	3190	3120		
110	3451	3375		
120	3650	3594		
130	3880	3830		
140	4015	3965		
150	4160	4105		
160	4250	4217		
170	4330	4280		
	4490	4590		High level call
	4600			Null All
	4640			High level call
	4680	4780		Null All

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 4   Date : 14 / 05 / 06   OPERATOR: Mark A.

PILOT: Ola V.   O.A.T.:_______/+8C_____   A/C REG: C-GRHH

DEPART TIME: 13:31   RETURN TIME: 14:55   TOTAL FLIGHT TIME: 1:24

SURVEY HEIGHT: 30 m   BASE MAG/GPS FILES: Ma141330.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	62		051235.HUM	Null All
	100			
	120	220		High level cal
1070	645	662		
1060	750	780		
1050	848	860		
1040	950	1000		
1030	1066	1126		
1020	1206	1290		
1010	1350	1480		
1000	1560	1722		
990	1790	2040		
980	2100	2370		
970	2439	2760		
	2820	2912		
960	3083	3450		
950	3513	3964		
940	4023	4455		
930	4515	5075		
920	5089	5580		
910	5648	6230		
900	6279	6788		
890	6802	7319		
	7520	7620		High level call

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 5 Date : 14 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.: ______/-6C_____ A/C REG: C-GRHH

DEPART TIME: 15:45 RETURN TIME: 17:38 TOTAL FLIGHT TIME: 1:53

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma142102.mag

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			05141545.HUM	
	190	335		High level cal
1080	726	732		Line missed in Flt # 4
880	950	1382		
870	1432	1768		
860	1827	2278		
850	2330	2700		
840	2742	3170		Bird swing @ 3150
830	3190	3616		
820	3629	4050		
810	4108	4503		
800	4513	4902		
790	4977	5375		
780	5455	5778		
	6195	6300		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 6 Date : 14 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/-6C_____ A/C REG: C-GRHH

DEPART TIME: 19:37 RETURN TIME: 21:18 TOTAL FLIGHT TIME: 1:41

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma142102.mag

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			05141941.HUM	
	10	110		High level cal
	124			Null All
	170			Null All
	240	330		High level cal
770	693	1044		Bird swing @ 745
760	1111	1422		
750	1469	1818		
740	1873	2200		Bird swing at start
730	2269	2592		
720	2660	2985		Bird swing @ 2905
710	3028	3385		
700	3480	3780		
690	3833	4270		
680	4358	4755		
	4910	5000		Hight level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 7 Date : 15 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+5C_____ A/C REG: C-GRHH

DEPART TIME: 12:20 RETURN TIME: 14:23 TOTAL FLIGHT TIME: 2:03

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma151404.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
			05151232.HUM	
	10	110		High level cal
670	270	508		
660	658	1020		
650	1070	1514		
640	1561	2065		
630	2110	2650		
620	2720	3252		
	3320	3420		
610	3550	4055		
600	4115	4588		
590	4635	5145		
580	5205	5660		
	5820	5920		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

McPHAR **AIRBORNE GEOPHYSICAL FLIGHT LOG** McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 8 Date : 15 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+4C_____ A/C REG: C-GRHH

DEPART TIME: 15:15 RETURN TIME: 17:29 TOTAL FLIGHT TIME: 2:14

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma152222.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
			05151516.HUM	
	475	595		High level cal
570	860	1358		
560	1404	1790		
550	2000	2360		
540	2417	2867		
	2910	3010		High level cal
530	3160	3615		
520	3670	4038		
510	4084	4474		
500	4524	4855		Bird swing @ 4720
	4890	4990		High level cal
490	5110	5544		
480	5590	5969		
470	60??	6495		
460	6545	6920		
	7080	7190		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 9   Date : 16 / 05 / 06   OPERATOR: Mark A.

PILOT: Ola V.   O.A.T.:________/-2C______   A/C REG: C-GRHH

DEPART TIME: 13:52   RETURN TIME: 16:34   TOTAL FLIGHT TIME: 2:42

SURVEY HEIGHT: 30 m   BASE MAG/GPS FILES: Ma152222.mag

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
	350		05161350.HUM	Null All
	400	500		High level cal
	675	770		
450	1005	1460		
440	1509	1449		
430	2001	2600		
420	2650	3236		
	3335	3433		High level cal
410	3598	4190		
400	4225	4795		Bird swing @ 4440
390	4840	5526		
380	5580	6162		
	6230	6330		High level cal
370	????	7175		
360	7232	7833		
350	7878	8600		
	8770	8870		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

McPHAR **AIRBORNE GEOPHYSICAL FLIGHT LOG** McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 10 Date : 16 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+4C_____ A/C REG: C-GRHH

DEPART TIME: 17:28 RETURN TIME: 18:55 TOTAL FLIGHT TIME: 1:27

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma152222.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	460		05161728.HUM	Null All
	580	680		High level cal
340	1073	1730		
330	1755	2328		
320	2375	3111		
310	3150	3815		
	3990	4090		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 11 Date : 18 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+4C_____ A/C REG: C-GRHH

DEPART TIME: 16:24 RETURN TIME: 17:53 TOTAL FLIGHT TIME: 1:29

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma181421.mag

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			05181622.HUM	
	710	815		High level cal
300	1073	1730		
	1815	1895		High level cal
290	2057	2627		
280	2690	3277		
	3300	3590		
270	3702	4294		
	4390	4490		

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 12 Date : 20 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+4C_____ A/C REG: C-GRHH

DEPART TIME: 9:43 RETURN TIME: 12:11 TOTAL FLIGHT TIME: 2:28

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma201215.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	300		05200941.HUM	Null All
	430	530		High level cal
	650	750		High level cal
260	1102	1675		
250	1725	2280		
	2330	2425		High level cal
240	2590	3270		
230	3315	4030		
	4090	4190		High level cal
220	4365	5068		
210	5120	5807		
	5865	5965		High level cal
200	6158	6839		
190	6908	7579		
	7625	7722		High level cal
T 40	7895	8020		Break in line
	8188	8214		
	8260	8360		High level cal
	8618			Null All

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 13 Date : 20 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+9C_____ A/C REG: C-GRHH

DEPART TIME: 12:57 RETURN TIME: 15:19 TOTAL FLIGHT TIME: 2:22

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma201215.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
			05201256.HUM	
	360	460		High level cal
T30	630	790		
	858	1345		
	1370	1470		High level cal
180	1613	2241		
170	2250	2930		
160	3003	3600		
	3650	3740		High level cal
150	3930	4440		
140	4502	5006		
130	5053	5590		
	5605	5695		High level cal
120	5858	6337		
110	6395	6839		
	6855	6950		High level cal
T20	7158	7990		
	8140	8240		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Beta	JOB: 606	PAGE 1 of 1

FLT #: 14 Date : 20 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+6C_____ A/C REG: C-GRHH

DEPART TIME: 16:10 RETURN TIME: 18:07 TOTAL FLIGHT TIME: 1:57

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma201215.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	100		05201610.HUM	Null All
	140			Null All
	160	260		High level cal
T10	600	1360		
	1440	1537		High level cal
100	1690	2015		
90	2065	2350		
80	2427	2692		
70	2745	3000		
60	3050	3211		
	3265	3360		High level cal
50	3503	3625		
40	3663	3704		
30	3748	3795		
20	3833	3858		
T 0	4046	4480		
T-10	4622	4940		
	4985	5085		High level cal
T-20	5151	5390		
			Geiger Block	
T 10	5650	5840		
T 20	5978	6260		
	6310	6410		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Gamma	JOB: 606	PAGE 1 of 1

FLT #: 15 Date : 21 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+6C_____ A/C REG: C-GRHH

DEPART TIME: 13:39 RETURN TIME: 15:44 TOTAL FLIGHT TIME: 2:05

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma211318.mag

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
	245	300	05211339.HUM	High level cal
	600			Null All
	675	765		High level cal
250	929			Line aborted dut to fog
170	1160	1425		
160	1470	1740		
150	1770	2010		
140	2020	2310		
130	2374	2590		
120	2635	2875		
	2930	3025		High level cal
110	3160	3385		
100	3450	3717		
90	3784	4025		
80	4080	4300		
	4338	4433		High level cal
180	4558	4760		
190	4830	5090		
200	5140	5312		
210	5395	5630		
220	5670	5860		
230	5880	6110		
	6130	6225		High level cal
T 30	6413	6504		

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Curie/Gamma	JOB: 606	PAGE 1 of 1

FLT #: 16 Date : 23 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:________/+3C______ A/C REG: C-GRHH

DEPART TIME: 16:14 RETURN TIME: 19:06 TOTAL FLIGHT TIME: 2:52

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma231322.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	460		052231615.HUM	Null All
	950			High level cal
560	1060	1520		Curie Block
550	1575	2036		
	2080			Null All
	2161	2260		High level cal
540	2280	2760		
530	2800	3309		
	3333	3430		High level cal
520	3545	4081		
510	4099	4575		
500	4081	4994		
	5028	5120		High level cal
490	5218	5572		
480	5617	5988		
470	6025	6275		
	6363	6373		Null All
	6400	6500		High level cal
460	6606	6930		
450	6970	7272		
	7340	7450		High level cal
50	7748	7823		Gamma Block
40	7866	7910		
30	7981	8010		
T 10	8183	8340		
T 20	8468	8602		
240	8752	8812		
250	8850	8904		
260	8990	9010		
	9040	9140		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Curie/Pike	JOB: 606	PAGE 1 of 1

FLT #: 17 Date : 23 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+4C______ A/C REG: C-GRHH

DEPART TIME: 20:06 RETURN TIME: 22:21 TOTAL FLIGHT TIME: 2:15

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma231322.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	95		05232006.HUM	Null All
	120	220		High level cal
160	756	821		Pike Block
150	795	1044		
140	1111	1287		
170	1371	1386		
130	1462	1625		
120	1657	1822		
110	1855	2038		
100	2065	2189		
90	2240	2387		
80	2395	2542		
70	2588	2696		
60	2700	2841		
50	2881	2982		
40		3122		
	3160	3257		High level cal
30	3350	3424		
20	3468	3500		
T 20	3590	3726		
T 10	3825	3998		
T 0	4129	4180		
	4050	4150		High level cal
440	4995	5370		Curie Block
430	5385	5815		Bird swing
	5890	5990		High level cal
190	6277	6557		
180	6590	6870		Bird swing
	7275	7380		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Curie	JOB: 606	PAGE 1 of 1

FLT #: 18 | Date : 24 / 05 / 06 | OPERATOR: Mark A.

PILOT: Ola V. | O.A.T.:_______/+1C______ | A/C REG: C-GRHH

DEPART TIME: 13:26 | RETURN TIME: 16:02 | TOTAL FLIGHT TIME: 2:36

SURVEY HEIGHT: 30 m | BASE MAG/GPS FILES: Ma241855.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	130	225	05241344.HUM	High level cal
20	333	376		
30	445	532		
40	578	700		
50	800	943		
60	1002	1160		
80	1307	1505		
90	1568	1733		
	1770	1870		High level cal
70	1920	2022		
100	??	2342		
110	2397	??		
120	2650	2895		
130	2924	3190		
140	3236	3518		
150	3560	3818		
	3840	3925		High level cal
160	4003	4347		
170	4398	4650		
200	4712	4969		
210	5020	5235		
220	5280	??		
230	5558	5775		
	5795	5880		High level cal
240	5945	6192		
250	??	6451		
260	6496	6735		
T 60	6750	7175		
	7300	7400		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Curie	JOB: 606	PAGE 1 of 1

FLT #: 19　　Date : 24 / 05 / 06　　OPERATOR: Mark A.

PILOT: Ola V.　　O.A.T.:_______/+4C_____　　A/C REG: C-GRHH

DEPART TIME: 16:41　　RETURN TIME: 18:59　　TOTAL FLIGHT TIME: 2:18

SURVEY HEIGHT: 30 m　　BASE MAG/GPS FILES: Ma241855.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	480	580	05241642.HUM	High level cal
270	1176	1390		
280	1415	1762		
290	1800	2130		
	2170	2260		High level cal
300	2320	2685		
310	2715	2975		
320	3015	3345		
330	3357	3685		
340	3730	4062		
350	4079	4375		
	4395	448		High level cal
	4480			Null All
	4525	4588		High level cal
360	4658	4994		
370	5046	5348		
380	5388	5690		
390	5721	5988		
400	6010	6293		
410	??	6570		
420	6610	6866		
T 50	7075	7479		
	7518	7622		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Curie	JOB: 606	PAGE 1 of 1

FLT #: 20 Date : 24 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+5C_____ A/C REG: C-GRHH

DEPART TIME: 19:52 RETURN TIME: 22:20 TOTAL FLIGHT TIME: 2:28

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma241855.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	590	672	05241953.HUM	High level cal
T 20	720	810		
570	950	1451		
580	1485	2035		
	2080	2168		High level cal
590	2274	2728		
600	2750	3263		
610	3290	3780		
620	3795	4303		
	4344	4440		High level cal
630	4524	4980		
640	5030	5480		
650	5518	5957		
660	??	6490		
	6500	6587		High level cal
670	6655	7050		
680	7070	7644		
	7740	7840		High level cal
				High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Curie	JOB: 606	PAGE 1 of 1

FLT #: 21 Date : 25 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+0C_____ A/C REG: C-GRHH

DEPART TIME: 9:01 RETURN TIME: 11:43 TOTAL FLIGHT TIME: 2:42

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma251326.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	5	95	05250913.HUM	High level cal
T 40	128	289		
T 30	394	556		
	590	687		High level cal
690	790	1312		
700	1372	1955		Bird swing
	1985	2080		High level cal
710	2160	2790		
720	2850	3500		
730	3525	4181		
	4250	4347		High level cal
	4347			Null All
	4390	4465		High level cal
740	4592	5240		
750	5280	5940		
760	5960	6550		
	6585	6674		High level cal
770	6770	7298		
780	7320	7877		
	8010	8100		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK # :Curie	JOB: 606	PAGE 1 of 1

FLT #: 22 Date : 25 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:_______/+0C_____ A/C REG: C-GRHH

DEPART TIME: 12:55 RETURN TIME: 15:25 TOTAL FLIGHT TIME: 2:30

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma251326.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
	680	780	05251256.HUM	High level cal
790	890	1510		
800	1557	2165		
810	2225	2900		
	2950	3045		
820	3127	3785		Bird swing
830	3848	4520		
840	4565	5220		
850	5260	5965		
	5980	6054		High level cal
	6055			Null All
	6110	6125		Null All
	6130	6222		High level cal
860	6355	6823		
870	6820	7403		
880	7450	7850		
	7895	8000		High level cal
	8040	8140		High level cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Curie	JOB: 606	PAGE 1 of 1

FLT #: 23　Date : 25 / 05 / 06　OPERATOR: Mark A.

PILOT: Ola V.　O.A.T.:_______/+0C_____　A/C REG: C-GRHH

DEPART TIME: 16:58　RETURN TIME: 19:03　TOTAL FLIGHT TIME: 2:05

SURVEY HEIGHT: 30 m　BASE MAG/GPS FILES: Ma251326.mag

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
	525	625	05251701.HUM	High level cal
890	779	1090		
900	1155	1480		
910	1535	1758		
920	1765	1980		
930	2075	2175		
	2235	2330		High level cal
940	2421	2490		
950	2542	2575		
				High level cal
T 70	??	3406		
T 80	3498	4094		
T 90	4200	4337		
	4360	4457		High level cal
T 90	4514	4727		
	4850	5052		High level cal
	5250			Heading Test
		5440		
		5775		
	6270	6370		

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Curie	JOB: 606	PAGE 1 of 1

FLT #: 24 Date : 26 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:________/+0C______ A/C REG: C-GRHH

DEPART TIME: 12:46 RETURN TIME: 14:12 TOTAL FLIGHT TIME: 1:26

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma251326.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
			05261245.HUM	
				Reflown lines of all blocks

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK # :Curie	JOB: 606	PAGE 1 of 1

FLT #: 25 Date : 26 / 05 / 06 OPERATOR: Mark A.

PILOT: Ola V. O.A.T.:________/+0C______ A/C REG: C-GRHH

DEPART TIME: 12:46 RETURN TIME: 14:12 TOTAL FLIGHT TIME: 1:26

SURVEY HEIGHT: 30 m BASE MAG/GPS FILES: Ma251326.mag

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
			05261514.HUM	
				Altimeter Test
	155	300		200 ft
	340	490		300 ft
	538	685		400 ft
	760	910		500 ft
	960	1110		600 ft

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

Project #: 606	Daily Field Production Report		
Report Date: May 11 2006	*Aircraft:* A-Star B2	Reg. # C-GRHH	**SURVEY PERSONNEL**
Report Number: 1	*Ops Base:* Copper point Camp		*Pilot*
Client: Signet Minerals Inc.	*Location* Yukon		*Pilot* Ola V.
Survey Type:	**High-Resolution Aeromagnetic Survey**		*Field Data QC:* Asif Mirza
Survey Area:			*Operator/Technician* Mark A.
Project Km:			*Operator/Technician*
Km flown today:			*Systems Engineer:*
Accumulated km:			*Project Manager* Kevin Lindsay
Percent Completed:			*Client Supervisor*

Flight #	Take off Time	First line start		Last line end	Land Time	*Hours Flown*	

Weather:						*Hours Flown Today:*	
Accum. Standby:		*Accumulated Survey Days:*		*Accumulated Days on site:*	1	*Accumulated Project Hours:*	

COMMENTS:

Operator, Pilot and AME reached at Mayo with Helicopter

Assembled the bird and leave it running over the night to check everything is working fine
Weather cloudy bird assemled at hotel in Mayo
Setup the basestation

CONTROL			*Flight date:*	
POST FLIGHT	*Accepted km*	*Rejected km*	*Reasons for Rejection*	

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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MCPHAR

Please note that kilometres flown are estimates.
Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries

Project #: 606	Daily Field Production Report				
Report Date:	May 12 2006	*Aircraft:*	A-Star B2	Reg. # C-GRHH	**SURVEY PERSONNEL**
Report Number:	2	*Ops Base:*	Copper point Camp		*Pilot*
Client:	Signet Minerals Inc.	*Location*	Yukon		*Pilot*: Ola V.
Survey Type:	**High-Resolution Aeromagnetic Survey**				*Field Data QC:* Asif Mirza
Survey Area:					*Operator/Technician* Mark A.
Project Km:					*Operator/Technician*
Km flown today:					*Systems Engineer:*
Accumulated km:					*Project Manager* Kevin Lindsay
Percent Completed:					*Client Supervisor*

Flight #	Take off Time	First line start		Last line end	Land Time	*Hours Flown*
1	15:51				16:40	0:49
2	19:17				19:50	0:33

Weather:					*Hours Flown Today:*	*1:22*
Accum. Standby:		*Accumulated Survey Days:*	1	*Accumulated Days on site:* 2	*Accumulated Project Hours:*	*1:22:00*

COMMENTS:

Radar, Lag and Heading test completed in both flights

Diurnal quiet all day

Clouds at 5000ft AGL at AM

CONTROL			*Flight date:*
POST FLIGHT	*Accepted km*	*Rejected km*	*Reasons for Rejection*

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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McPHAR

***Please note that kilometres flown are estimates.**
***Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries**

Project #: 606	Daily Field Production Report					
Report Date:	May 13 2006	Aircraft:	A-Star B2	Reg. # C-GRHH	SURVEY PERSONNEL	
Report Number:	3	Ops Base:	Copper point Camp		Pilot	
Client:	Signet Minerals Inc.	Location	Yukon		Pilot	Ola V.
Survey Type:	High-Resolution Aeromagnetic Survey				Field Data QC:	Asif Mirza
Survey Area:					Operator/Technician	Mark A.
Project Km:					Operator/Technician	
Km flown today:					Systems Engineer:	
Accumulated km:					Project Manager	Kevin Lindsay
Percent Completed:					Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown	
Weather:					Hours Flown Today:		
Accum. Standby:		Accumulated Survey Days:	1	Accumulated Days on site:	3	Accumulated Project Hours:	1:22:00

COMMENTS:

Low over cast and showers at AM, overcast with sun break PM
Imported all the Nav files into the system
Mobilization of the crew from Mayo to Copper point camp
Data aproval got from Tonia and Andy
Diurnal Active all day

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel			
General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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Tel: (905) 830-6880, Fax: (905) 898-0336, E-mail: info@mgssurveys.com

McPHAR

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Project #: 606	Daily Field Production Report				
Report Date:	May 14 2006	Aircraft:	A-Star B2	Reg. # C-GRHH	
Report Number:	4	Ops Base:	Copper point Camp		
Client:	Signet Minerals Inc.	Location	Yukon		
Survey Type:	High-Resolution Aeromagnetic Survey				
Survey Area:			Geiger Block	Beta Block	
Project Km:			26.0	682.0	
Km flown today:			22.4	204.04	
Accumulated km:			22.4	204.04	
Percent Completed:			86.15%	29.97%	

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown	
3	9:30	9:51		10:50	11:08	1:38	
4	13:31	13:47		14:44	14:55	1:24	
5	15:45	15:55		17:20	17:38	1:53	
6	19:37	19:53		21:00	21:18	1:41	
Weather:					Hours Flown Today:	6:38	
Accum. Standby:		Accumulated Survey Days:	2	Accumulated Days on site: 4	Accumulated Project Hours:	8:00:00	

COMMENTS:

CAVU all day

Diurnal quite all day

CONTROL		Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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Project #: 606	Daily Field Production Report				
Report Date:	May 15 2006	*Aircraft:*	A-Star B2	Reg. # C-GRHH	
Report Number:	5	*Ops Base:*	Copper point Camp		
Client:	Signet Minerals Inc.	*Location*	Yukon		

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Survey Type:	High-Resolution Aeromagnetic Survey	
Survey Area:	Geiger Block	Beta Block
Project Km:	26.0	682.0
Km flown today:		163.36
Accumulated km:	22.4	367.4
Percent Completed:	86.15%	53.87%

Flight #	Take off Time	First line start		Last line end	Land Time	*Hours Flown*	
7	12:20	12:37		14:10	14:23	2:03	
8	15:15	15:25		17:16	17:29	2:14	

Weather:						*Hours Flown Today:*	4:17
Accum. Standby:		*Accumulated Survey Days:*	3	*Accumulated Days on site:*	5	*Accumulated Project Hours:*	12:17:00

COMMENTS:

Low cileing at AM

Kevin went to the site to change the Tie lines Nav files according to updated specifications

Diurnal quite all day

CONTROL		*Flight date:*	
POST FLIGHT	*Accepted km*	*Rejected km*	*Reasons for Rejection*

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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MCPHAR

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Project #: 606	Daily Field Production Report				
Report Date:	May 16 2006	Aircraft:	A-Star B2	Reg. # C-GRHH	
Report Number:	6	Ops Base:	Copper point Camp		
Client:	Signet Minerals Inc.	Location	Yukon		
Survey Type:	High-Resolution Aeromagnetic Survey				
Survey Area:			Geiger Block	Beta Block	
Project Km:			26.0	682.0	
Km flown today:				112.42	
Accumulated km:			22.4	479.82	
Percent Completed:			86.15%	70.35%	

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown
9	13:52	14:08		16:19	16:34	2:42
10	17:28	17:44		18:33	18:55	1:27

Weather:				Hours Flown Today:	4:09
Accum. Standby:		Accumulated Survey Days:	4	Accumulated Days on site: 6	Accumulated Project Hours: 16:26:00

COMMENTS:

Low cileing at AM

Received settlite system from Aurora Geoscience, assembled and tested in Mayo

Diurnal quite all day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS	OBSERVATIONS.	LINES REFLOWN
Rejected km		
Kms today		
Accumulated km		
Percent Completed		

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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Project #: 606	Daily Field Production Report				
Report Date:	May 17 2006	Aircraft:	A-Star B2	Reg. # C-GRHH	
Report Number:	7	Ops Base:	Copper point Camp		
Client:	Signet Minerals Inc.	Location	Yukon		
Survey Type:	High-Resolution Aeromagnetic Survey				
Survey Area:			Geiger Block	Beta Block	
Project Km:			26.0	682.0	
Km flown today:					
Accumulated km:			22.4	479.82	
Percent Completed:			86.15%	70.35%	

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown	

Weather:						Hours Flown Today:	
Accum. Standby:	1	Accumulated Survey Days:	4	Accumulated Days on site:	7	Accumulated Project Hours:	16:26:00

COMMENTS:

Standby day
Very fogy all day, low ceiling and high wind at the survey area

Delievered Settlite system to the Copper point Camp by Kevin

Diurnal quite all day

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel			
General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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Project #: 606	Daily Field Production Report			
Report Date:	May 18 2006	Aircraft:	A-Star B2	Reg. # C-GRHH
Report Number:	8	Ops Base:	Copper point Camp	
Client:	Signet Minerals Inc.	Location	Yukon	
Survey Type:	High-Resolution Aeromagnetic Survey			

	Geiger Block	Beta Block
Survey Area:	Geiger Block	Beta Block
Project Km:	26.0	682.0
Km flown today:		30
Accumulated km:	22.4	509.82
Percent Completed:	86.15%	74.75%

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown
11	16:24	16:35		17:29	17:53	1:29

Weather:						Hours Flown Today:	1:29
Accum. Standby:	2	Accumulated Survey Days:	4	Accumulated Days on site:	8	Accumulated Project Hours:	17:55:00

COMMENTS:

Standby day

Very fogy, low ceiling and high wind at the survey area at AM and early PM
Couldy, have just short flight at PM
Kevin went to site to collect data and added revised Nav files of Tie lines into the system
Diurnal quite all day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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Project #: 606	Daily Field Production Report					
Report Date:	May 19 2006	*Aircraft:*	A-Star B2	Reg. # C-GRHH	SURVEY PERSONNEL	
Report Number:	9	*Ops Base:*	Copper point Camp		*Pilot*	
Client:	Signet Minerals Inc.	*Location*	Yukon		*Pilot*	Ola V.
Survey Type:	High-Resolution Aeromagnetic Survey				*Field Data QC:*	Asif Mirza
Survey Area:			Geiger Block	Beta Block	*Operator/Technician*	Mark A.
Project Km:			26.0	682.0	*Operator/Technician*	
Km flown today:				30	*Systems Engineer:*	
Accumulated km:			22.4	509.82	*Project Manager*	Kevin Lindsay
Percent Completed:			86.15%	74.75%	*Client Supervisor*	

Flight #	Take off Time	First line start		Last line end	Land Time	*Hours Flown*	
Weather:					*Hours Flown Today:*		
Accum. Standby: 2	*Accumulated Survey Days:*	4	*Accumulated Days on site:*	9	*Accumulated Project Hours:*	*17:55:00*	

COMMENTS:

Survey equipment problem in am Kevin to site and help with adjustments equipment ready in pm but low cloud and rain showers cancelled flights

Diurnal quite all day

CONTROL			*Flight date:*	
POST FLIGHT	*Accepted km*	*Rejected km*	*Reasons for Rejection*	
11	30.0			

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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Project #: 606	Daily Field Production Report				
Report Date:	May 20 2006	Aircraft:	A-Star B2	Reg. # C-GRHH	
Report Number:	10	Ops Base:	Copper point Camp		
Client:	Signet Minerals Inc.	Location	Yukon		
Survey Type:	High-Resolution Aeromagnetic Survey				

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Survey Area:	Geiger Block	Beta Block
Project Km:	26.0	682.0
Km flown today:	4.0	172.18
Accumulated km:	26.0	682
Percent Completed:	100.00%	100.00%

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown	
12	9:43	10:00		11:55	12:11	2:28	
13	12:57	13:30		15:13	15:19	2:22	
14	16:10	16:20		17:56	18:07	1:57	

Weather:						Hours Flown Today:	6:47
Accum. Standby:	2	Accumulated Survey Days:	5	Accumulated Days on site:	10	Accumulated Project Hours:	24:42:00

COMMENTS:

Weather good

Diurnal quite all day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection
11	30.0		

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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MCPHAR

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Project #: 606	Daily Field Production Report			
Report Date:	May 21 2006	*Aircraft:*	A-Star B2	Reg. # C-GRHH
Report Number:	11	*Ops Base:*	Copper point Camp	
Client:	Signet Minerals Inc.	*Location*	Yukon	
Survey Type:	High-Resolution Aeromagnetic Survey			
Survey Area:			Gamma Block	Pike Block
Project Km:			56.0	24.0
Km flown today:			44.0	
Accumulated km:			44.0	
Percent Completed:			78.57%	

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time	*Hours Flown*
15	13:39	13:53		15:35	15:44	2:05

Weather:						*Hours Flown Today:*	*2:05*
Accum. Standby:	3	*Accumulated Survey Days:*	5	*Accumulated Days on site:*	11	*Accumulated Project Hours:*	*26:47:00*

COMMENTS:

Standby day

Low ceiling and heavy clouds at AM and early PM

Diurnal quite all day

CONTROL			*Flight date:*
POST FLIGHT	*Accepted km*	*Rejected km*	*Reasons for Rejection*

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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MCPHAR

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Project #: 606	Daily Field Production Report				
Report Date:	May 22 2006	Aircraft:	A-Star B2	Reg. # C-GRHH	
Report Number:	12	Ops Base:	Copper point Camp		
Client:	Signet Minerals Inc.	Location	Yukon		

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Survey Type:	High-Resolution Aeromagnetic Survey	
Survey Area:	Gamma Block	Pike Block
Project Km:	56.0	24.0
Km flown today:		
Accumulated km:	44.0	
Percent Completed:	78.57%	

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown

Weather:						Hours Flown Today:	2:05
Accum. Standby:	4	Accumulated Survey Days:	5	Accumulated Days on site:	12	Accumulated Project Hours:	26:47:00

COMMENTS:

Standby day

Low ceiling, fog, high wind and snow showers at survey area whole day

Diurnal quite all day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection
15	44.0		

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel			
General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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Project #: 606	Daily Field Production Report				
Report Date:	May 23 2006	*Aircraft:*	A-Star B2	Reg. # C-GRHH	
Report Number:	13	*Ops Base:*	Copper point Camp		
Client:	Signet Minerals Inc.	*Location*	Yukon		
Survey Type:	High-Resolution Aeromagnetic Survey				

	Pike Block	Curie Block
Survey Area:	Pike Block	Curie Block
Project Km:	24.0	742.0
Km flown today:	24.0	134
Accumulated km:	24.0	134
Percent Completed:	100.00%	18.00%

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time	*Hours Flown*	
16	16:14	16:33		18:55	19:06	2:52	
17	20:06	20:12		22:06	22:21	2:15	

Weather:						*Hours Flown Today:*	5:07
Accum. Standby:	4	*Accumulated Survey Days:*	6	*Accumulated Days on site:*	13	*Accumulated Project Hours:*	31:54:00

COMMENTS:

Low ceiling, fog, high wind at survey area at AM

Diurnal quite all day

CONTROL			*Flight date:*
POST FLIGHT	*Accepted km*	*Rejected km*	*Reasons for Rejection*
15	44.0		

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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Project #: 606	Daily Field Production Report				
Report Date:	May 24 2006	Aircraft:	A-Star B2	Reg. # C-GRHH	
Report Number:	14	Ops Base:	Copper point Camp		
Client:	Signet Minerals Inc.	Location	Yukon		
Survey Type:	High-Resolution Aeromagnetic Survey				
Survey Area:			Pike Block	Curie Block	
Project Km:			24.0	742.0	
Km flown today:			24.0	356	
Accumulated km:			24.0	490	
Percent Completed:			100.00%	66.00%	

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown	
18	13:26	13:45		15:49	16:02	2:36	
19	16:41	14:55		18:42	18:59	2:18	
20	19:52	19:59		22:00	22:20	2:28	

Weather:						Hours Flown Today:	7:22
Accum. Standby:	4	Accumulated Survey Days:	7	Accumulated Days on site:	14	Accumulated Project Hours:	39:16:00

COMMENTS:

Low ceiling, fog, high wind at survey area at AM

Diurnal quite all day

CONTROL		Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection
15	44.0		

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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MCPHAR

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**Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries*

Project #: 606	Daily Field Production Report			
Report Date:	May 25 2006	Aircraft:	A-Star B2	Reg. # C-GRHH
Report Number:	15	Ops Base:	Copper point Camp	
Client:	Signet Minerals Inc.	Location	Yukon	
Survey Type:	High-Resolution Aeromagnetic Survey			

	Pike Block	Curie Block
Survey Area:	Pike Block	Curie Block
Project Km:	24.0	742.0
Km flown today:		252
Accumulated km:	24.0	742
Percent Completed:	100.00%	100.00%

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Flight #	Take off Time	First line start	Last line end	Land Time	Hours Flown
21	9:01	9:15	11:23	11:43	2:42
22	12:55	13:12	15:06	15:25	2:30
23	16:58	17:14	18:40	19:03	2:05

Weather:						Hours Flown Today:	7:17
Accum. Standby:	4	Accumulated Survey Days:	8	Accumulated Days on site:	15	Accumulated Project Hours:	46:33:00

COMMENTS:

Flt# 23 contains Heading Test as well

Diurnal quite all day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection
20	124.0		

REFLIGHTS	OBSERVATIONS.	LINES REFLOWN
Rejected km		
Kms today		
Accumulated km		
Percent Completed		

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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1256B Kerrisdale Boulevard, Newmarket, Ontario, Canada L3Y 8Z9
Tel: (905) 830-6880, Fax: (905) 898-0336, E-mail: info@mgssurveys.com

Please note that kilometres flown are estimates.
Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries

Project #: 606	Daily Field Production Report		

Report Date:	May 26 2006	Aircraft:	A-Star B2	Reg. # C-GRHH	
Report Number:	16	Ops Base:	Copper point Camp		
Client:	Signet Minerals Inc.	Location	Yukon		

SURVEY PERSONNEL	
Pilot	
Pilot	Ola V.
Field Data QC:	Asif Mirza
Operator/Technician	Mark A.
Operator/Technician	
Systems Engineer:	
Project Manager	Kevin Lindsay
Client Supervisor	

Survey Type:	High-Resolution Aeromagnetic Survey	
Survey Area:	Gamma Block	Curie Block
Project Km:	56.0	742.0
Km flown today:	12.0	
Accumulated km:	56.0	742
Percent Completed:	100.00%	100.00%

Flight #	Take off Time	First line start		Last line end	Land Time	Hours Flown
24	12:46	12:53		14:00	14:12	1:26
25	15:14				15:39	0:25

Weather:						Hours Flown Today:	1:51
Accum. Standby:	4	Accumulated Survey Days:	9	Accumulated Days on site:	16	Accumulated Project Hours:	48:24:00

COMMENTS:

Low ceiling and fog at AM

Flt# 24 contains missing and refly lines of all blocks
Flt#25 is Altimeter Test
Project done and Crew back to Mayo
Diurnal quite all day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection
23			Few lines at Curie block and Heading Test

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:			
President:	Tim Bodger	905-830-6880	tbodger@mgssurveys.com
Project Manager:	Kevin Lindsay	905-830-6880	
Systems Engineer			
QC	Asif Mirza	905-830-6880	amirza@mgssurveys.com
Operator:	Mark A	905-830-6880	mandrews@mgssurveys.com

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MCPHAR

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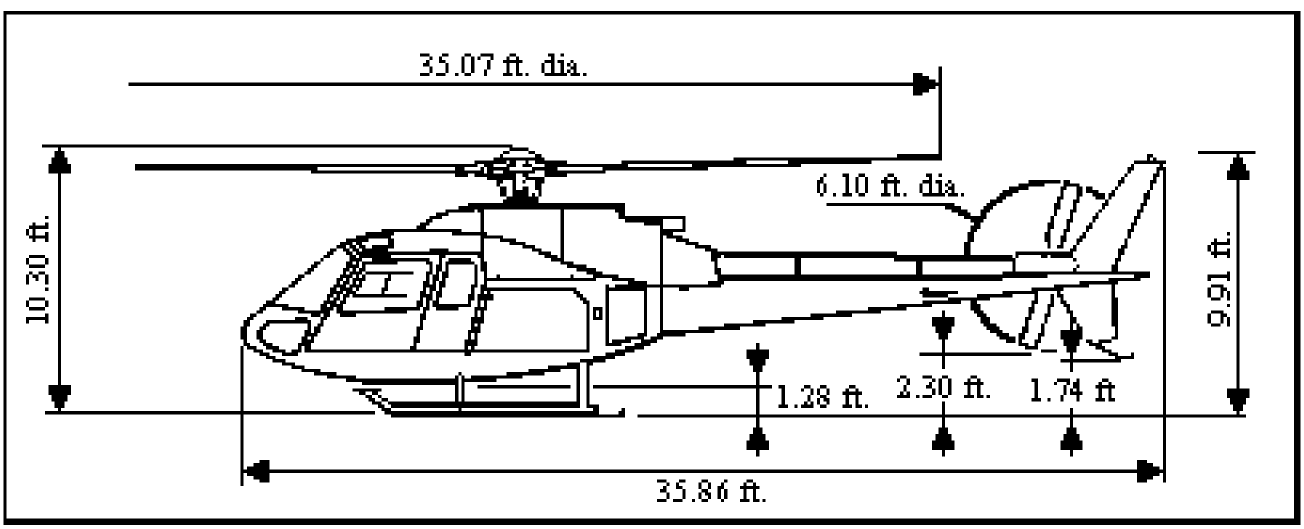
THE EUROCOPTER AS350B2 A-STAR HELICOPTER

Specification	Unit	Ac/Wt	Ac/Wt	Ac/Wt	MGW
Weight (standard aircraft 2,561 lbs.)	lb	3,530	3,970	4,410	4,991
VNE	kts	155	155	155	155
Cruising speed	kts	131	130	127	122
Fuel consumption at cruising speed	lb/nm	2.49	2.51	2.57	2.67
Rate of climb, oblique flight	ft/min	2,185	2,085	1,950	1,670
Range	nm	350	374	371	360
Endurance	hr	4.4	5.3	4.4	4.5
Hovering ceiling I.G.E. ISA	ft	20,000	16,580	13,450	9,850
Hovering ceiling I.G.E. ISA + 20 degrees	ft	17,900	14,450	11,000	7,050
Hovering ceiling O.G.E. ISA	ft	17,700	14,450	11,300	7,550
Hovering ceiling O.G.E. ISA + 20 degrees	ft	15,600	12,150	8,700	4,250
Service Ceiling	ft	20,000	>20,000	18,700	15,100

AS350B2 A-Star and HUMMINGBIRD electromagnetic sensor

AS350B2 A-Star at 4,300 meters altitude



The depth in the earth to which a single frequency can penetrate is a function of the frequency and the conductivity of the earth. [Skin Depth » 503 / (frequency x conductivity)$^{1/2}$] Lower frequencies penetrate deeper into the earth than higher frequencies. The higher frequencies are more sensitive to weakly conductive geology, and to subtle changes in the conductivity of the ground.

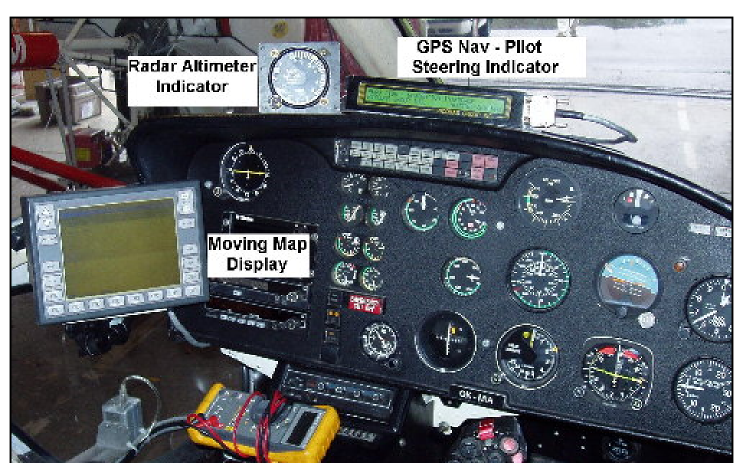
A HUMMINGBIRD system measures the in phase "I" and quadrature "Q" (sometimes called out-of-phase) components of the total EM field. The amplitude of these components is always given as a value that is relative to the transmitted primary. The ratio of in phase to quadrature (I/Q) depends mostly on the conductivity of the geology and the operating frequency; the amplitude depends mostly on the depth of the conductor below the sensor. (While this description of the relationship is only an approximation, it is a good start from which to understand changes in I and Q measurements.)

Two 5-frequency and a 4-frequency (in yellow) HUMMINGBIRD sensors undergoing preparations for the field at McPhar's offices in Newmarket, Ontario

Operator's screen/keyboard assembly – HUMMINGBIRD system

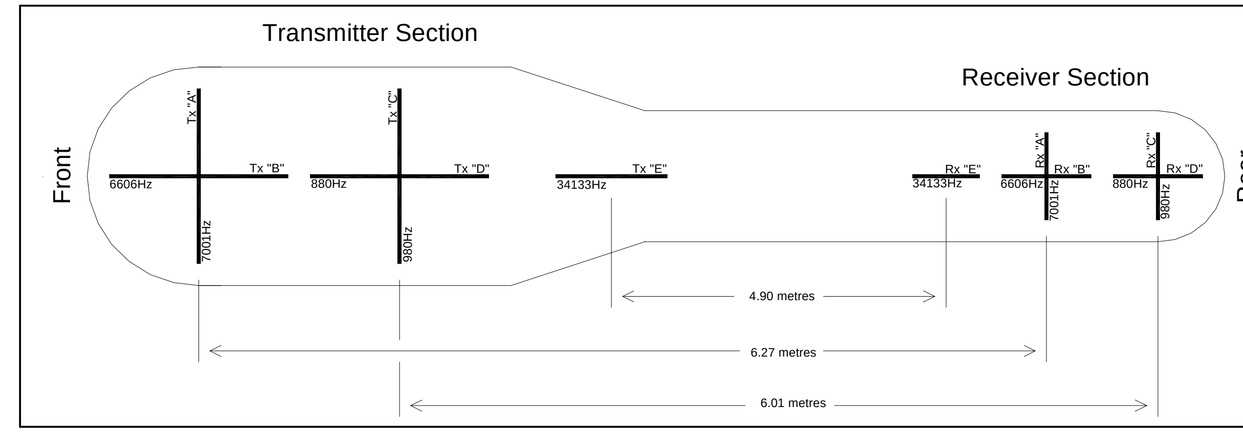
Typical system configuration is:

- 5-frequency HUMMINGBIRD EM sensor, 880 Hz, 980 Hz, 6.6 kHz, 7 kHz and 34 kHz frequencies
- high-sensitivity cesium magnetometer, 0.001 nT/10 Hz resolution
- 12-channel real-time differential GPS navigation system
- PC-based data acquisition system
- radar (*optional* laser) & barometric altimeters
- colour digital video imaging system
- *optional* gammaray spectrometer and 16.8/4.2 litres sensor



Cockpit displays for the pilot – HUMMINGBIRD system

COIL FREQUENCY	COIL ORIENTATION	COIL SEPARATION	CHANNELS
880 Hz	Coplanar	6.0 meters (19.5ft)	I, Q
980 Hz	Coaxial	6.0 meters (19.5ft)	I, Q
6.6 kHz	Coplanar	6.3 meters (20.5ft)	I, Q
7 kHz	Coaxial	6.3 meters (20.5ft)	I, Q
34 kHz	Coplanar	4.9 meters (16ft)	I, Q



Layout and dimensions of the transmitter and receiver coils in the HUMMINGBIRD

Vertical view of the 5-frequency HUMMINGBIRD sensor

SPECIFICATIONS

Frequency Range:	5 frequencies, 880 Hz, 980 Hz, 6.6 kHz, 7 kHz, 35 kHz
Coil Orientations:	Horizontal coplanar and vertical coaxial coil-sets
Output:	Inphase and Quadrature samples (ppm)
Sampling Rate:	10 Hz
Noise Levels:	2 –4 ppm under ideal conditions
Time Constant:	0.1 second
Filters:	50/60 Hz power line, spheric rejection, 4th order digital, 15 Hz 2nd order analogue and 5 Hz Low Pass 6th order digital
Data Recording:	On removable PCMCIA hard disk or flash card
Data Acquisition:	Pentium-PC based
Display:	Sunlight visible colour TFT back-lit LCD
Power Requirements:	12-36 VDC, maximum 30 Amps
Temperature Range:	-40^{o}C to +40^{o}C
Bird/Cable Weight:	Approx. 180 kg (400 lb) including tow-cable
Bird Length:	7.5 meters (3 joined sections each of approx. 2.5 metres)

Specifications may be subject to change without notice

DATA PROCESSING

McPhar is dedicated to processing geophysical data in the field.

For this purpose all our airborne systems are sent to the field with a geophysicist and a PC-based data processing system to support them. The Field Data Verification Workstation (FWS), as this system is known, can process airborne magnetic, radiometric and EM data, and produce plots and maps in full-color of the survey data, often within hours of the survey flight ending.

The FWS software, which is the core of this system, permits our field geophysicists to differentially correct the GPS navigation data; carry out flight path recovery; perform magnetic compensation and leveling; undertake radiometric corrections and preliminary processing; electromagnetic processing; and generally to perform filtering, gridding and contouring of data, imaging of selected data and plotting to any map scale and layout.

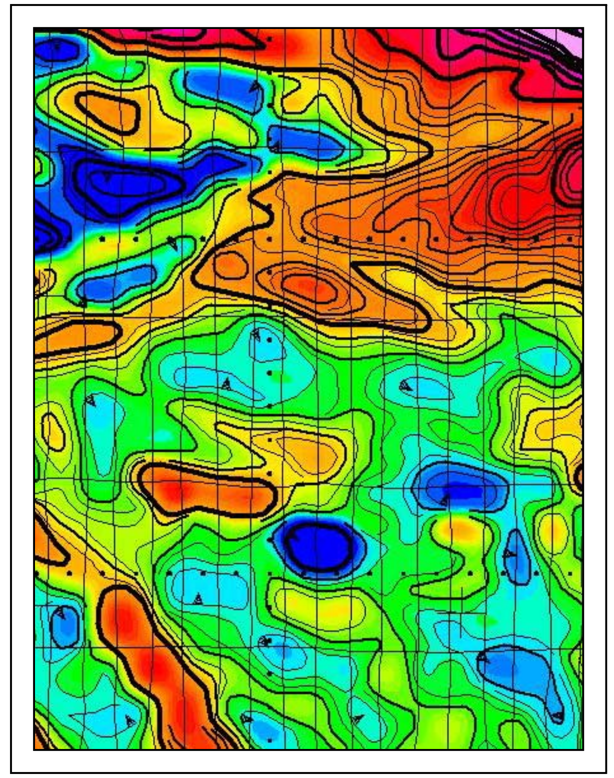
INTERPRETATION

The interpretation of geophysical results into meaningful geological parameters is the prime function of any of our interpreters.

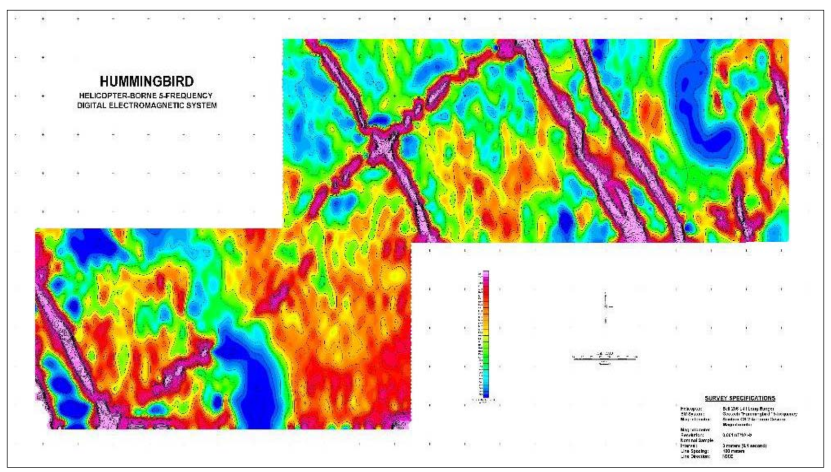
The many highly qualified geophysicists and technicians on our staff share a strong geological back-ground. The manipulation of geophysical data is only a means to an end, and the final product of the interpretation is the compilation of a series of maps showing interpreted geological parameters. The data processing routines and mathematical operators applied to the data are not the end product of the interpretation; they help delineate geologic and economic targets to be discussed in the final report.

We bring many techniques to bear on an interpretation project in order to determine depths to causative sources, to delineate discontinuities and boundaries, and to draw conclusions regarding geological structure beneath the survey.

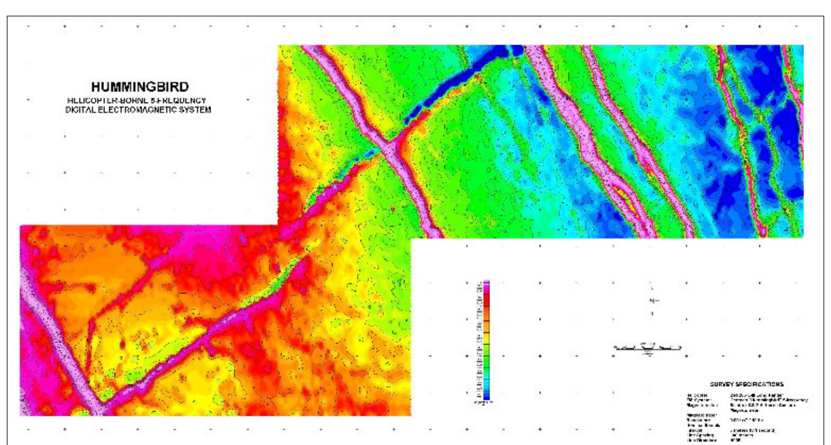
A wide variety of contour and interpretation maps, profiles, cross-sections and models, and a written report are the result of the interpretation.



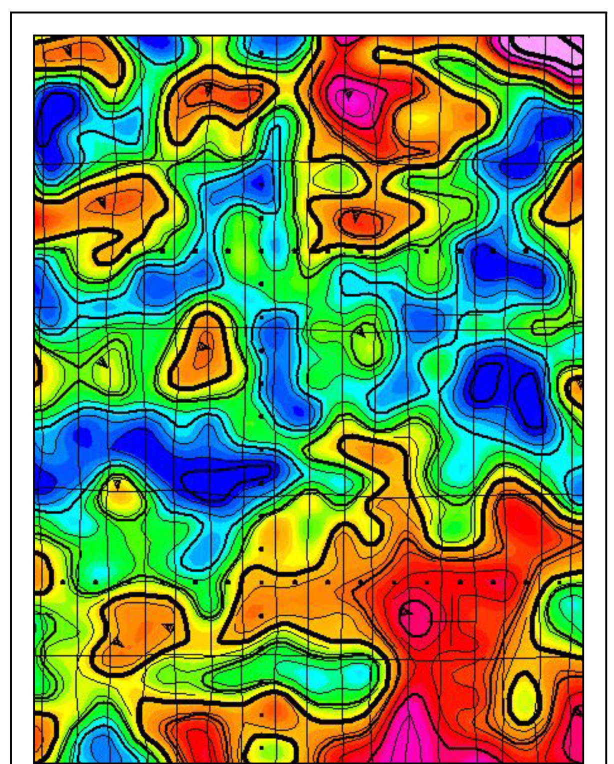
Magnetics



EM - Resistivity



Magnetics



EM – Resistivity3

HUMMINGBIRD

Helicopter-borne Digital Electromagnetic System

Undoubtedly, helicopter-borne electromagnetics (EM), combined with total field magnetics and often gamma-ray spectrometry, have been one of the most productive and useful of airborne system developments to date, and have accounted for the discovery of billions of dollars worth of mineral resources, tapped into numerous ground water reservoirs and provided immense volumes of data for environmental site evaluations. These systems are ideally suited for working in rugged, mountainous terrain, or over small claim block-sized properties.

Currently, electromagnetics (EM) combined with a high-sensitivity magnetometer are the techniques of choice for most mining companies worldwide, to locate and define kimberlite pipes and base and precious metal deposits.

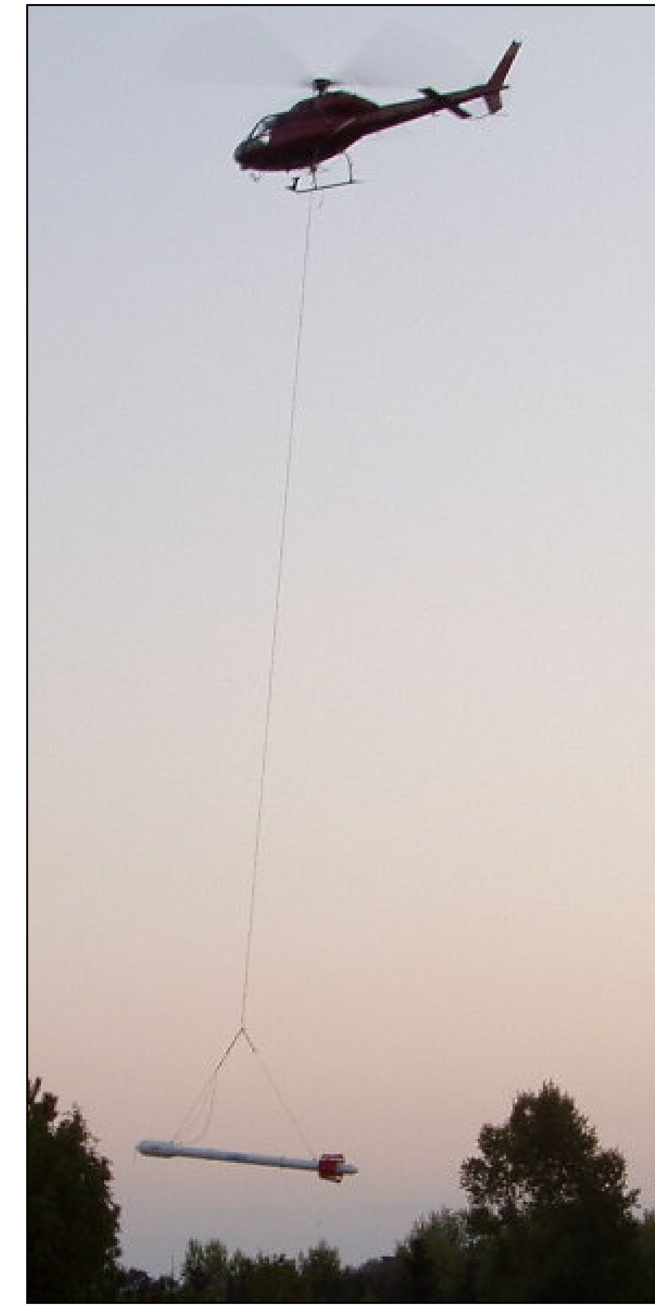
McPhar's electromagnetic survey systems are integrated around the HUMMINGBIRD EM sensor, which are available in either 4- or 5-frequency configurations.

The HUMMINGBIRD EM sensor, which is the heart of this system, can be simply described as a multi-frequency, multi-coil electromagnetic system, which measures the in phase and quadrature responses from a number of coil-pairs installed in a tubular bird, towed beneath a helicopter.

All components of the HEM instrumentation are digitally controlled. The HUMMINGBIRD is currently the only operating HEM system that is 100% digital from front to back. All digital samples generated by the instrumentation are supplied as in phase and quadrature measurements.

Data is telemetered on a lightweight serial cable to the data acquisition console onboard the helicopter, where it is displayed on a LCD colour screen and recorded on a removable PCMCIA hard disk.

Pilot guidance and DGPS navigation systems are integrated into the package together with a gammaray spectrometer (optional). Other flight control instruments include radar or laser altimeters and a barometric altimeter and a digital colour video imaging system.



McPHAR

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SCINTREX

CS-2 High Resolution Cesium Magnetometer

SCINTREX introduces the CS-2 high-resolution magnetometer sensor offering characteristics superior to any competitor's magnetometer sensor, supported by years of proven reliability and continuous effort for improved results.

Main Features

- Improved electronics
- High sensitivity
- High gradient tolerance
- Narrowest dead zone
- Widest active zone
- Smallest heading error
- Shortest warm-up time

The Scintrex CS-2 is a high resolution, high sensitivity cesium magnetometer that is ideally suited for a wide variety of magnetic applications. The CS-2 is the latest cesium magnetometer sensor in a long line of cesium magnetometer development by Scintrex. When used with an appropriate processor the magnetic data from the CS-2 is unsurpassed in its quality.

The unique design of the CS-2 and its high tolerance of adverse operating conditions while still providing quality data, make the CS-2 the magnetic sensor of choice for users worldwide.

The CS-2 has become the magnetic sensor of choice for many airborne geophysical systems and is also used extensively in vehicle borne (cars, trucks, ATV's and snowmobiles) ground based and marine high-resolution magnetic systems. Applications for its use include, mineral exploration, oil & gas exploration, magnetic base station monitoring, engineering and geotechnical usage, archaeology as well UXO (unexploded ordnance) detection.

CS-2 Specifications

Operating Principal:	Self-oscillation split-beam Cesium Vapor (non-radioactive Cs-133)
Operating Range:	15,000 to 105,000 nT
Gradient Tolerance:	40,000 nT/metre
Operating Zones:	2° to 86° (+/- 2° equatorial dead zone and +/- 4° polar dead zones)
Hemisphere Switching:	Manual
Sensitivity:	0.0006nT/ Hz rms.
Noise Envelope:	typically 0.002 nT P-P, 0.1 to 1 Hz bandwidth
Heading Error:	+/- 0.25nT
Absolute Accuracy:	<2.5 nT throughout range
Output:	a) continuous signals at the Larmor frequency which is proportional to the magnetic field (proportionally constant 3.49857 Hz/nT) b) square wave signal at the I/O connector, TTL/CMOS compatible c) sine wave signal amplitude modulated on the power supply voltage
Information Bandwidth:	only limited by the magnetometer processor used

Sensor:	Diameter:	63mm (2.5")
	Length:	160mm (6.3")
	Weight:	1.15kg (2.6lb)
Sensor Electronics:	Diameter:	63mm (2.5")
	Length:	350mm (13.8")
	Weight:	1.5kg (3.3lb)

Cable, Sensor to Sensor Electronics:	3m (9.8'), lengths up to 5m (16.14') available
Operating Temperature:	-40°C to +50°C
Humidity:	up to 100%, splash-proof
Supply Power:	27 to 35 Volts DC
Supply Current:	approx. 1.5A at start-up, decreasing to 0.5A at 20°C
Power Up Time:	less than 15 minutes at -30°C

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E-Mail: info@mgssurveys.com
WebSite: www.mgssurveys.com

TERRA TRA-3000 / TRI-30 Radar Altimeter

The Terra TRA-3000 Radar Altimeter unit provides AGL (Above Ground Level) altitude information from 40 feet (12.3 m) up to 2,500 feet (769 m). The system consists of a single TRA-3000 receiver/transmitter/antenna unit and a TRI-30 indicator.

SPECIFICATIONS

TRA-3000 Unit

Type:	Single antenna, FMCW
Altitude Range:	40 to 2,500 ft
System Accuracy:	
• **40 to 100 ft**	+/- 5 ft
• **100 to 500 ft**	+/- 5%
• **500 to 2,500 ft**	+/- 7%
Frequency Range:	100 MHz sweep within 4,200 to 4,400 GHz range
Input Voltage:	Approx. 20 VDC from indicator
Input Current:	600 ma
Altitude Output:	Digital
Self-Test:	Ground or flight, initiated at indicator
Transmitter/Receiver/Antenna:	All solid-state, microstrip antenna,
Physical:	Size - 1" H x 5" W x 7.625" L, Weight - 1.5 lb.
Environment:	-40° C to + 70° C
Unlock display:	Altitude – 45,000 ft

TRI-30 Indicator

Power Supply:	Input voltage – 27.5 VDC +/- 20%
Environment:	Power – 16 watts nominal (includes power to T/R/A unit
Physical:	Size – 3.25" H x 3.25" W x 4" L, Weight – 1 lb.
Mounting:	Front panel mounting; requires a 3" ATI mounting space
Altitude range:	40 ft. to 2,500 ft (linear); 40 – 500 ft (enlarged linear)
Analog display:	Servo; pointer and dial type Needle will go off scale on the high-end
Decision height:	Bug, continuous setting from 40 to 2,500 ft.
Display update rate:	continuous
Analog output:	2.5 mv/ft., 100 mv = 40 ft.
Display disable:	One strut switch input, ground to enable
Altitude accuracy:	
• **40 to 100 ft**	+/- 5 ft
• **100 to 500 ft**	+/- 5%
• **500 to 2,500 ft**	+/- 7%
Aural Decision Height alert:	1 KHz tone for 2 sec. (500 ohms) adjustable audio level
Self-test:	Indicates 40 ft., DH operates normally
Visual alert:	Amber lamp with automatic adjustable intensity; internal LED standard; external lamp operation available.

NEW

Proton Precession

Magnetometer / Gradiometer / VLF (GSM-19 v7.0)

The new v7.0 system is the industry's latest innovation in proton precession design - with many new technologies that deliver significant benefits for earth science applications.

Key technologies include:

Data export in standard XYZ (i.e. line-oriented) format for easy use in standard commercial software programs

Programmable export format for full control over output

GPS elevation values provide input for geophysical modeling

<1.5m standard GPS for high resolution surveying; higher resolutions also available

Enhanced GPS positioning resolution

Multi-sensor capability for advanced surveys to resolve target geometry

Picket marketing / annotation for capturing related surveying information on-the-go

And all of these technologies come complete with the most attractive savings and warranty in the business!

GSM-19T Proton Precession console with sensor and cable. Can also be configured with additional sensor for gradiometer(simultaneous) readings.

For earth science survey groups who require a complete solution for end-to-end magnetic data acquisition at an affordable price, the GSM-19T proton precession family is the proven choice - for even the most challenging environments.

From robust field units to efficient survey modes to fast data downloading, the GSM-19T is carefully designed to deliver the maximum value in a proton precession system.

The GSM-19T also provides numerous technologies that differentiate it from other systems. For example, it is the only proton precession system with ***integrated GPS*** (optional) for high-sensitivity, accurately-positioned ground surveys.

With other v7.0 upgrades, GEM's proton precession system also leads in sensitivity, memory, base station technology, and other key areas.

Designed From the Ground Up

Leading the list of advances is GEM's rover unit which features a 25% increase in ***sensitivity*** -- reflecting new processing algorithms and implementation of the latest RISC microprocessors.

In addition, v7.0 ***standard memory*** is 16 Mbytes (expandable in 4 Mybte increments) which translates into 838,860 readings of line / station data or more than 2,796,202 readings for base station units.

The new memory capacity sets an industry standard, but more importantly, it means that operators can now handle even the largest surveys with ease.

Another important innovation is GEM's unique ***programmable base station*** which you can enable via either a field unit *or* a *Personal Computer* as follows:

Daily scheduling (define working hours and minutes each day). This mode provides economy of memory and battery usage on a daily basis.

Flexible scheduling (up to 30 on / off periods). Simply define a series of intervals and the base station will turn itself on as you need. This mode provides the greatest flexibility for longer surveys where leaving your base station running increases efficiency.

Immediate start. This mode is the traditional mode of starting a base station unit and leaving it until the operator can return to turn off the unit.

Survey Planning and Efficiency

One of the traditional challenges in ground magnetometer / gradiometer surveys is ensuring that surveys are designed and implemented as effectively as possible.

With the v7.0 proton precession system, GEM addresses this challenge through

standard GEM capabilities, such as the Walking Mag option that enables the operator to sample while walking. Though there is some increase in noise, many users find this is balanced by improved field productivity. Having nearly continous data on survey lines also helps increase the accuracy of interpretations.

Another innovation is GPS way ***point pre-programming***. Now you can define a complete survey in the office on your Personal Computer and download this information directly to a rover unit via RS-232. Then, the operator simply performs the survey using the points as their survey guide -- with a resulting decrease in errors and more rapid survey completion.

Survey Operations

The GSM-19T also helps the operator on a daily basis while performing surveys. A key feature is the ***easy-to-read LCD*** data display in graphical (or text) format along with a signal quality indicator to determine when readings need to be repeated.

And, although GEM's proton precession unit is very tolerant to gradients, it also provides a warning indicator so that the operator can monitor data quality continuously. Other features operators appreciate include easy-to-use line and station incrementing -- as well as end-of-line indicators.

Fast Data Transfer

Another traditional area in which time is lost in surveys is in data transfer. In v7.0, GEM addressed this in several ways:

Data download is tripled to 115 KBaud (fastest rate possible with RS-232).

PC-based data reduction is now possible using an upgraded version of GEMLinkW, GEM's proprietary data transfer software.

GPS and Other Software

GEM Systems recently became the only manufacturer to provide a ***fully integrated*** GPS option for its line of proton precession products. Along with metre to sub-metre positioning options, the new processing functionality enables users to take advantage of the benefits of GPS.

Some of the capabilities include:

Pre-programming of way points.

Post-processing of GPS data. GEM's DGPS option enables transfer of GPS data for post-processing and merging via 3rd party software.

Precise ***time synchronization*** of field and base station units. This capability is particularly important for working in noisy magnetic conditions and provides the highest accuracy possible.

In addition to its own software, GEM is also pleased to offer a variety of data analysis and processing software from 3rd party developers.

Ongoing Maintenance and Support

As a potential user of a GSM-19T system -- the industry's end-to-end magnetometer / gradiometer solution -- you should also know that we stand by our technologies, products and services.

With a 25-year record of success and new innovations -- plus ***Internet-based upgrades*** that keep your system up-to-date and our ongoing support -- we believe that you will find that GEM offers the best solution in proton precession units today.

Specifications

Performance

Sensitivity:	< 0.1 nT @ 1 Hz
Resolution:	0.01 nT
Absolute Accuracy:	1 nT (+/- 0.5 nT)
Dynamic Range:	20,000 to 120,000 nT
Gradient Tolerance:	Over 7000 nT/m
Sampling Rate:	1 reading per 3 to 60 sec
Operating Temperature:	-40C to +60C

Operating Modes

Manual: Coordinates, time, date and reading stored automatically at minimum 3 second interval.

Base Station: Time, date and reading stored at 3 to 60 second intervals.

Remote Control: Optional remote control using RS-232 interface.

Input / Output: RS-232 or analog (optional) output using 6-pin weatherproof connector.

Storage - 16 MB (# of Readings)

Mobile:	838,860
Base Station:	2,796,202
Gradiometer:	699,050
Walking Mag:	1,677,721

Dimensions

Console:	223 x 69 x 240mm
Sensor:	170 x 71mm diameter cylinder

Weights

Console:	2.1 kg
Sensor and Staff Assembly:	2.2 kg

Standard Components

GSM-19T console, GEMLinkW software, batteries, harness, charger, sensor with cable, RS-232 cable, staff, instruction manual and shipping case.

Optional VLF

Frequency Range: Up to 3 stations between 15 to 30.0 kHz

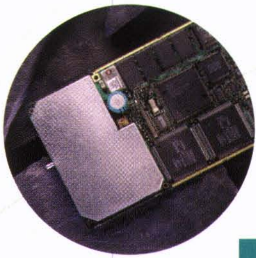
Parameters: Vertical in-phase and out-of-phase components as % of total field. 2 relative components of the horizontal field.

Resolution:	0.1% of toal field

GEM Systems, Inc.
52 West Beaver Creek Road, 14
Richmond Hill, ON
Canada L4B 1L9
Email: info@gemsys.on.ca
Web: www.gemsys.ca

Look into NovAtel's MiLLennium®

It's a state of the art dual frequency GPS receiver that features pseudorange and full wavelength carrier phase measurements on both L1 and L2 frequencies.



ADVANTAGES

- 24 channel "all in view" parallel tracking
- L1-C/A code and L2-P-code measurements
- L1 and L2 full wave carrier measurements
- Narrow Correlator® technology
- P-code tracking through Antispoofing (AS)
- cm level real-time accuracy
- mm level post-processed accuracy
- High data output rates
- Low data latency
- High dynamics
- Ease of use
- OEM or standalone configurations
- Flexible integration
- Field-upgradable
- CMR compatible

NovAtel

MiLLenium

MiLLennium®

NovAtel's MiLLennium GPSCard provides unparalleled dual frequency GPS performance. Featuring Narrow Correlator and P-code Delayed Correlation technologies, the MiLLennium receiver outputs pseudorange and full wavelength carrier phase observations for both the L1 and L2 frequencies – even in the presence of Antispoofing (AS). High data output rates, low data latency, and fast signal acquisition algorithms round out the MiLLennium advantage and make it the ideal choice for your high dynamic, high precision GPS applications.

To address your integration requirements, MiLLennium's multiple hardware configurations provide you with the flexibility you need. Available modules include a single card OEM platform for embedded systems, and PowerPak™ II or ProPak® II enclosures for standalone applications. The MiLLennium hardware platform supports several different firmware models; offering a comprehensive and affordable upgrade path beyond that available on a single frequency-only hardware platform.

Features

- mm level post-processed accuracy
- L1-C/A code and carrier tracking
- L2-P-code and full wavelength carrier tracking
- 24 channel "all in view" parallel tracking
- Fast reacquisition
- Patented Narrow Correlator technology
- 5 or 10 MHz external oscillator input
- 10 Hz position output rate
- 10 Hz raw data output rate
- 1 PPS output
- Event marker
- RTCM SC104 v 2.1/2.2
- RTCA SC159
- RINEX v 2.0
- NMEA 0183 v 2.01
- GPSolution™ – Windows® compatible graphical user interface
- RT-2 transmit
- Transmit CMR v 3.0
- Receive CMR v 1.0, 2.0 or 3.0 (except 3151 model)
- WAAS differential capability

Windows is a registered trademark of Microsoft Corporation.

Specifications[1]

• position accuracy[2]	
standalone	
SA off	15 m CEP
SA on	40 m CEP
differential	
code (L1,C/A)[3]	0.75 m
• post-processed (MiLLennium STD & RT-2)	±5mm +1ppm
• time to first fix	
cold start	70 s (typical)
• reacquisition	
warm start	1 s L1, 10 s L2 (typical)
• data rates	
measurements	10 Hz
position	10 Hz
• time accuracy[4]	
SA off	50 ns RMS
SA on	250 ns RMS
• velocity accuracy	
standalone	0.20 m/s RMS
differential	0.03 m/s RMS
• measurement precision	
C/A code	10 cm RMS
L2 P code	40 cm RMS
L1 carrier phase	
single channel	3 mm RMS
differential channel	0.75 mm RMS
L2 carrier phase	
single channel	5 mm RMS
differential channel	4 mm RMS
• dynamics	
acceleration	6 g
velocity[5]	515 m/s max.

1. Performance specifications are subject to GPS system characteristics & U.S. DOD operational degradation.
2. Accuracy is dependent upon ionospheric and tropospheric conditions, satellite geometry, baseline length and multipath effects.
3. Requires use of choke ring with antenna.
4. Time does not include biases due to antenna cables or RF delay.
5. Export licensing restricts operation to 60,000 feet maximum and 1,000 nautical miles/hour maximum.

OEMCard MiLLennium

• physical (Eurocard)	
size	17.9 cm x 10.0 cm x 1.8 cm
weight	175 g
• temperature	
operating	-40°C to +85°C
storage	-45°C to +95°C
• humidity	95% non-condensing
• interface	
dual RS232	300 to 115,200 bps
strobes I/O	5 signals, TTL level
external clock	5 or 10 MHz
• connector type	
edge	64 pin 0.1" DIN 41612 type B
antenna	SMB male
external clock	SMB male
• input voltage	+5 VDC
• power consumption (typical)	7 watts

PowerPak II MiLLennium

• physical	
size	21.0 cm x 11.1 cm x 4.7 cm
weight	980 g
• temperature	
operating	-40°C to +60°C
storage	-40°C to +85°C
• humidity	95% non-condensing
• interface	
dual RS232	300 to 115,200 bps
strobes I/O	TTL level
external clock	5 or 10 MHz
• connector type	
communications	DE9P
strobes I/O	DE9S
antenna	TNC female
power	2.1 mm threaded plug
external clock input	SMB male
• input voltage	10-36 VDC
• power consumption	11 watts
• included accessories	
RS232 "Y" type null modem cable	
automotive power adaptor	
• optional accessories	
110/220 Volt AC adapter	

ProPak II MiLLennium

• physical	
size	25.1 cm x 13.0 cm x 6.2 cm
weight	1.3 kg
• temperature	
operating	-40°C to +55°C
storage	-40°C to +85°C
• humidity	95% non-condensing
• interface	
dual RS232	300 to 115,200 bps
strobes I/O	TTL level
• connector type	
communications	10 pin LEMO
strobes I/O	8 pin LEMO
antenna	TNC female
power	4 pin LEMO
• input voltage	10-36 VDC
• power consumption	12 watts
• included accessories	
RS232 null and straight modem cable	
automotive power adaptor	
• optional accessories	
110/220 Volt AC adapter	

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For detailed product technical specifications, please call:

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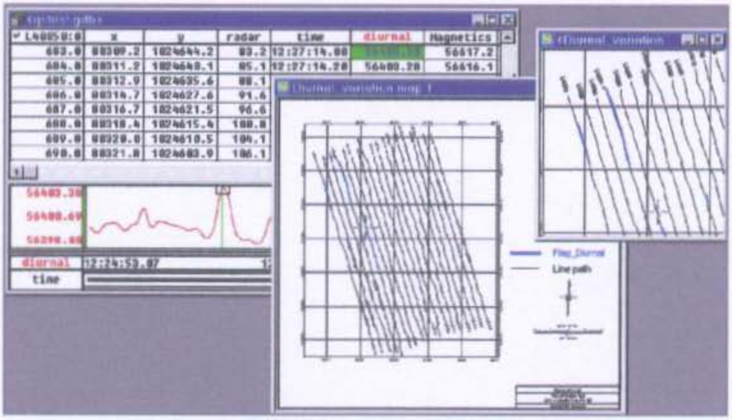
NovAtel

Now, what's tomorrow's challenge?

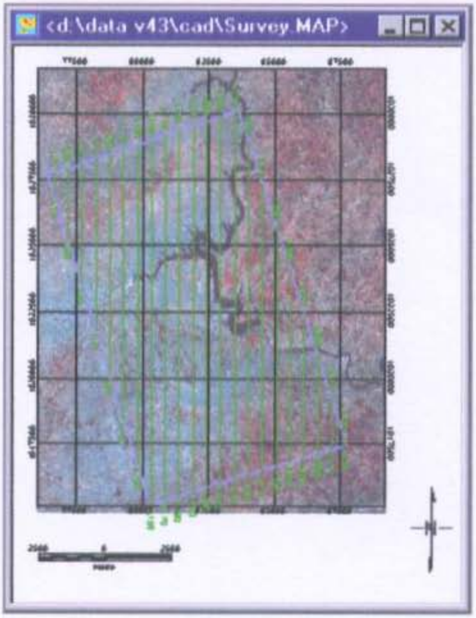
Airborne Quality Control Toolkit

product description



The Airborne Quality Control toolkit offers the productivity tools to plan an airborne survey, and meet basic tender specifications. This provides flight path planning tools, the ability to monitor the survey progress, and streamlined quality control (QC) tools. A built-in mapping wizard automatically displays QC results.

The Airborne Quality Control toolkit provides the tools to accomplish the tasks below:



- Generate flight path map of planned survey
- Display survey statistics
- Display survey line distance
- Perform altitude deviation QC test
- Perform flight path deviation QC test
- Perform flight line separation QC test
- Perform sample spacing QC test
- Perform diurnal drift QC test
- Perform magnetic noise QC test
- Map and print QC results

This tool can be added to any Geosoft application to offer you a more complete data processing and analysis solution. For more information about specialized data processing and analysis tools, please contact your local Geosoft representative.

product capabilities

This tool includes the following capabilities:

- Map Creation
- Importing
- Symbol plots
- Survey line plots
- Quality Control
- Grid Compression
- Database compression
- Coordinate Utilities and Warping

Aiborne Quality Control Toolkit capabilities

Map Creation

Map creation capabilities consist of the "Mapping Wizard" which simplifies the mapmaking process. The wizard uses a series of dialog boxes in which the user can define each specification for the map. The Mapping Wizard uses an existing grid or database to define the extent (area) and scale of the map. The first step in mapping data is to create a new map, which is a blank map with the size, scale and name defined. Once a blank map has been created, plot data, grids or other information can then be added. Map surrounds, north arrows, coordinates and titles can also be add to a map.

Importing

Oasis montaj provides seamless access to both original spatial data and processed information (grids, images and plots).

Spatial data import formats include:

- ASCII data files
- Database table files (single or all tables)
- Geosoft XYZ data files
- Geosoft binary data files
- Flat archive data files
- Blocked binary data files
- ODBC data files
- RMS data files
- Picodas PDAS data files
- USGS data files

Processed data import formats include:

- Geosoft plot (PLT)
- AutoCAD DXF (DXF)
- MapInfo TAB files
- ArcView shape files

Database Compression

Oasis montaj (v4.3 or later) features a database compression option that can reduce file size and improve the performance of Geosoft database files (*.gdb). Processing speed is improved by compressing files because the computer takes less time to read and write to disk. Power users will especially benefit from using compressed databases.

Grid Compression

Oasis montaj (v4.3 or later) features a grid compression option that can reduce the file size and improve the performance of Geosoft grids files (*.grd). Processing speed is improved by compressing files because the computer takes less time to read and write to disk. Power users will especially benefit from using compressed grids.

Symbol Plots

The symbol plotting function can draw symbols on a map at all data points along all selected lines in a database. Symbol plotting methods include adding:

- Symbols
- Proportionally scaled symbols
- Zoned colored symbols (symbols can be a fixed size, or sized in proportion to data values)
- Range classified symbols

Survey Line Plots

The survey line path plots and labels survey line locations.

Quality Control (Airborne)

Airborne Quality Control includes three main functions:

- The Flight Path Planning creates a flight line plan tailored to the shape and size of the survey area. Boundary maps of the survey area can be imported from an AutoCAD DXF file or digitized as polygon files. Planning controls specify the direction, starting reference point, and distance between flight lines for the airborne survey area. The software plots both regular flight lines and tie lines. The flight planning utility produces a database and a map of the flight lines that can be viewed, printed or exported.
- Database Statistics extends the statistical reporting tools included in the basic **Oasis montaj** system. The QC statistical tool generates and prints a statistical report for specific channels or an entire database. The statistical report provides the number of dummies, minimum, maximum, mean and total distance flown for each channel and for the whole database. The survey line distance tool displays the total distance flown for a specific flight line.
- Airborne Quality Control Tool identifies line sections that do not meet survey specifications. Examples include evaluating the diurnal variation, altitude deviation, flight path deviation, and flight line separation of each point along the flight lines to ensure they are within specification. Points that do not meet specifications are identified by a coloured symbol using a colour that corresponds to the type of error. These results are plotted to a map so that the user can visualize the sections of the survey that must be re-flown.

Warping & Coordinate Utilities

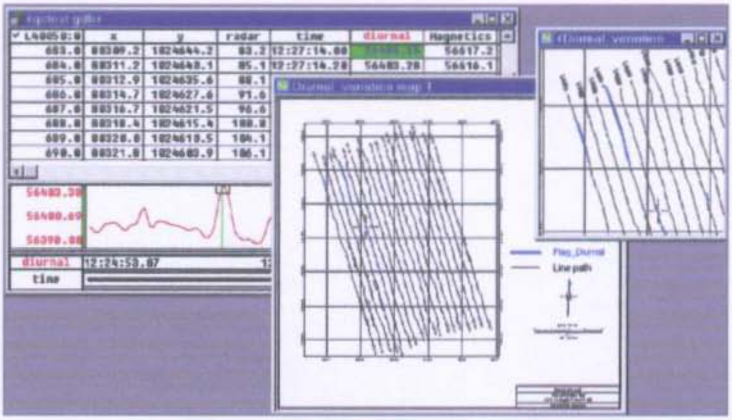
Warping is the process of re-projecting or moving data coordinates numerically, instead of using standard analytical methods for projecting to UTM, longitude/latitude and other coordinate systems. **Oasis montaj** warping defines a polygonal outline (either in a file or interactively) by defining a maximum of four control points. Then data can be warped (creating new X and Y channels) or an entire grid can be warped based on this polygonal outline.

Warping and coordinate utilities include capabilities to do the following:

- Change coordinates
- Backup current X, Y channels
- Restore backup X, Y channels
- Translate coordinates
- Rotate coordinates
- Interpolate X, Y channels
- Convert longitude, latitude to local X, Y
- Convert local X, Y to longitude, latitude
- Define a warp
- Apply a warp

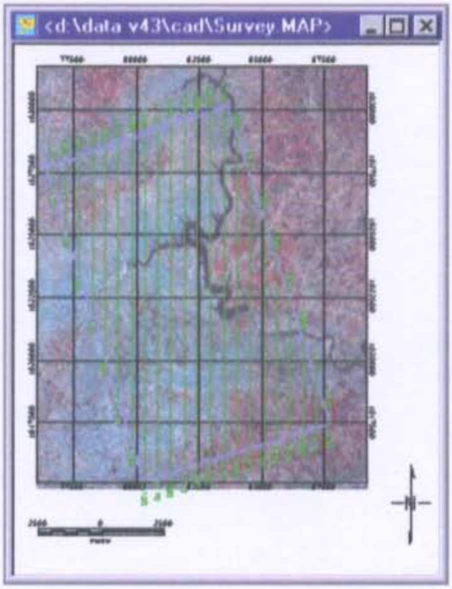
Airborne Geophysics

product description



Geosoft's **Airborne Geophysics** application for the **Oasis montaj**™ software platform provides field geophysicists with the ability to process, filter, grid, and map data from airborne geophysical surveys.

This application includes **Oasis montaj** the core software platform for working with large volume spatial data. The core software platform consists of an Interface and a Processing engine. For detailed information on the system and its capabilities, see the **Oasis montaj** Core software platform information page.



In addition to the features provided in the core platform, the **Airborne Geophysics** application provides a variety of gridding methods and 1-D filters for processing your data. Perform quality control tasks on airborne data including levelling survey lines and correcting IGRF, lag, heading, and base station errors. Several map-creation capabilities are also provided to present your processed data for interpretation.

product capabilities

The **Airborne Geophysics** application includes the following capabilities:

- Basic grid utilities
- Advanced grid utilities
- Basic 1-D Filters
- 1D Non-linear Filters
- Line levelling
- Line intersections
- Lag, heading, and base station corrections
- IGRF
- Picodas (PDAS) import
- C3NAV support
- Profile Plotting
- Symbol plotting
- Posting (label) plotting
- Contouring
- Line gridding (Bigrid)
- Minimum curvature gridding
- Tinning
- Target Picking
- Survey line plotting
- Quality Control
- Trend gridding (**GeoStrike**™ Tool)

Airborne Geophysics capabilities

Basic Grid Utilities

The following functions can be performed with the basic grid utilities:

- Display grid as a terenary image
- Display grids as two, three or four grid composites
- Grid windowing (create a grid from a window of a larger grid)
- Colour shaded grid (apply shading to create a quick shaded relief grid)
- Display statistics (display header and grid details on screen)
- Import ASCII grid
- Point grid value (the grid value at a selected location from up to four grid files)
- Grid outline (find edge points in a grid image and either save the edges in a polygon file or draw the edges on the current map)
- Sample a grid (sample a grid at specified X,Y locations and create a new channel that contains the sampled grid data)
- Grid profile (extract a data profile from a grid and place it in a new line of the current database)
- Transpose a grid by swapping the grid rows with the grid columns
- Save grid to database (import grid data into new or existing databases)
- Shaded relief grid (create a shaded relief image from a grid)

Advanced Grid Utilities

The following functions can be performed with advanced grid utilities:

- Trend enforcement (**GeoStrike**)
- Remove regional trends and gradients (remove a regional trend or gradient from a grid)
- Locate grid peaks
- Grid masking (insert placeholder values based on a polygonal area you specify in a file)
- Grid expansion and filling
- Grid volume (calculate the volume of space defined by a grid surface, above and below a base of reference)
- Grid peak (find peaks in a grid file)
- Apply a 3 X 3 convolution filter such as hanning, laplace, horizontal derivative (X direction), horizontal derivative (Y direction), horizontal derivative (45 degree direction)
- Apply a 5x5 symmetric convolution filter
- Apply a vertical derivative convolution filter
- Create and apply user defined filters
- Horizontal gradient (calculate the grid gradient amplitude in a specified direction)
- AGC (apply automatic gain compensation to a grid)
- Use Boolean operators to merge overlapping grids or display the parts of grids which overlap
- Expressions: mathematical operations such as remove base, multiply by factor, add grids, subtract grids, multiply grids, ratio grids and general expressions

Basic 1D Filters

Basic one dimensional filters are commonly used to smooth data, with or without non-linear filtering. The following are descriptions of the different 1D filters:

- High-pass filter applies a high-pass (sharpening) filter to a channel.
- Low-pass filter applies a low-pass (smoothing) filter to a channel.
- Bandpass filter applies a filter that removes features longer than the long wavelength cutoff and shorter than the short wavelength cutoff.
- Convolution filter applies space-domain averaging filter to a channel. The filter can be defined in a filter file or in a comma delimited string.
- Difference filter calculates differences between values in a channel. The common fourth difference can be calculated by specifying four differences, which is useful for identifying noise.
- Polynomial filter calculates n'th (maximum nine) order trend of a data channel by (least square) best-fit polynomial. The trend is then evaluated and placed in a new channel. An optional residual channel (input trend) may also be created.
- B-Spline filter calculates a B-spline interpolation of data in a channel. A B-spline allows you to control the smoothness of the spline and the tension applied to the ends of the spline.
- Linear Regression filter fits a least-square linear regression to a set of marked data in a channel and reports the slope and intercept.

1D Non-Linear Filters

The 1D Non-Linear Filter is ideal for removing very short wavelength, but high amplitude features from data. It is often thought of as a noise spike-rejection filter, but it can also be effective for removing short wavelength geological features, such as signal from surficial features.

The 1D Non-Linear Filter is used to locate and remove data that is recognized as noise. The algorithm is 'non- linear' because it looks at each data point and decides if that data is noise or a valid signal. If the

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point is noise, it is simply removed and replaced by an estimate based on surrounding data points. Parts of the data that are not considered noise are not modified at all.

Line Levelling

Statistical levelling corrects for intersection errors (miss ties) that follow a specific pattern or trend. The algorithm calculates a least-squares trend line through an error channel to derive a trend error curve, which is then added to the channel to be levelled.

The objective of full line levelling is to adjust the survey lines so that all lines match the trended tie lines exactly at each intersection that has been included in the process.

The line levelling system:

- Identifies potential errors in data sets
- Applies systematic corrections including magnetic base station, lag and heading corrections and select line direction
- Performs conventional levelling using simple (tie line and full levelling) and careful levelling methods

Line Intersections

The output intersection table file tabulates every intersection between tie lines and regular survey lines. It includes the exact ground location of the intersection point, the tie line and survey line numbers, the recorded value on each line, and the horizontal gradient of the data at that location. The line intersection system can find and edit intersection between any lines in a data set (lines can either be regular survey lines or tie lines).

Lag, Heading and Base Station Corrections

Correction routines include applying a:

- Lag correction to a channel of data by shifting the start fiducial by a specified lag amount
- Heading correction to data for a systematic shift (in the data) that is a function of the direction of travel for a survey line
- Magnetic base station correction to a magnetic channel

IGRF

The International Geomagnetic Reference Field **IGRF** or the Definitive International Geomagnetic Reference Field **DGRF** correction (field strength, inclination and declination) can be calculated from a geographic coordinate channel or a single geographic point.

Picodas import

Picodas is an airborne instrument data acquisition system that records multi-parameter airborne survey data. The system produces a set of files for each survey flight. The files include an ASCII header file and a number of binary data files that contain the data for each survey flight. The ASCII header file fully documents the contents of the binary data files and includes a list of the binary files for that flight.

C3NAV

C3Nav software corrects errors caused by the difference between recorded GPS location and the true ground loaction.

C3Nav matches the ground GPS and moving GPS readings at the same time, and uses the data only from the common set of satellites that both are observing at that time. C3Nav produces a listing file that contains the GPS time (seconds from the start of the week), and the differentially corrected location of the moving GPS receiver.

Profile Plots

The profile plotting capability features the ability to draw profiles of channel values for all selected lines in a database.

Posting Plots

Posting plots means the user can post the data values for a channel on a map.

Symbol Plots

The symbol plotting function can draw symbols on a map at all data points along all selected lines in a database. Symbol plotting methods include adding:

- Symbols
- Proportionally scaled symbols
- Zoned colored symbols (symbols can be a fixed size, or sized in proportion to data values)
- Range classified symbols

Contouring

Contouring is the capability to draw contours on a map using a specified grid.

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Airborne Geophysics capabilities

Line Gridding

Line gridding is the capability to create a new grid file (.GRD) using the bi-directional gridding method (BIGRID).

The BIGRID method uses a two step process:

1. Each line is interpolated along the original survey line to yield data values at the intersection of each required grid line with the observed value.
2. The intersected points from each line are then interpolated in the across-line direction to produce a value at each required grid node.

The BIGRID GX has the following capabilities:

- Unlimited line based data
- LP, HP filters
- Data presort options
- Enhanced trended gridding
- Output any grid size

Minimum Curvature Gridding

Minimum curvature gridding uses a minimum curvature gridding algorithm (RANGRID) to create a new grid file (.GRD).

The RANGRID method fits a minimum curvature surface to the data points. A minimum curvature surface is the smoothest possible surface that will fit the given data values and settings.

The RANGRID GX also has the capability to:

- Access unlimited number of input observation points
- Adjust internal tension
- Apply de-aliasing filter
- Apply linear and logarithmic gridding
- Blank un-sampled areas
- Output grids up to any size

Tinning

The Triangular Irregular Network (TIN) method, utilizes the Sweepline algorithm implemented by Steven Fortune of Bell Laboratories. The Sweepline algorithm calculates the X,Y (Z-optional) values to create a binary (*.TIN) file.

When Z values are included in the (*.TIN) file, a TIN grid can be created using the TINGRID GX. The TINGRID GX applies the Natural Neighbour algorithm (Sambridge, Brown & McQueen 1995) to the Z values in the (*.TIN) file to create a grid.

Survey Line Plots

The survey line path plots and labels survey line locations.

Quality Control (Airborne)

Airborne Quality Control includes three main functions:

1 **The Flight Path Planning** which creates a flight line plan tailored to the shape and size of the survey area. Boundary maps of the survey area can be imported from an AutoCAD DXF file or digitized as polygon files.

- Planning controls specify the direction, starting reference point, and distance between flight lines for the airborne survey area.
- The software plots both regular flight lines and tie lines. The flight planning utility produces a database and a map of the flight lines that can be viewed, printed or exported.

2 **Database Statistics** extends the statistical reporting tools included in the basic **OASIS montaj**™ system.

- The QC statistical tool generates and prints a statistical report for specific channels or an entire database. The statistical report provides the number of dummies, minimum, maximum, mean and total distance flown for each channel and for the whole database.
- The survey line distance tool displays the total distance flown for a specific flight line.

3 **Airborne Quality Control Tool** identifies line sections that do not meet survey specifications. Examples include evaluating the diurnal variation, altitude deviation, flight path deviation, flight line separation of each point along the flight lines to ensure they are within specification. Points that do not meet specifications are identified by a coloured symbol using a colour that corresponds to the type of error. These results are plotted to a map so that the user can visualize the sections of the survey that must be re-flown.

Trend Gridding (GeoStrike™)

Trend Gridding (GeoStrike™) alleviates the aliasing problem that results when there are more samples "along the lines" than across lines — a traditional problem in gridding geophysical data. This problem leads to undesirable effects including ellipsoids or ellipsoidal "beads" between lines in gridded data. The Trend Gridding (GeoStrike™) algorithm is designed to provide a solution that preserves the character of local trends while eliminating aliasing effects.

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Target Picking

Two new target-picking capabilities have been added to the Geophysics application:

- The new Pick anomalies option, located on the X-Utility menu, enables the users to pick anomalies from one or multiple channels based on the channel(s) values and the amplitude of the troughs on either side of the anomaly in the channel(s) profile. The target results will be stored in a new "targets" line using the actual values of the input channel or with alphabetical or numerical numbering.
- The Select target option, located on the profile window popup menu, enables individual targets to be picked directly from the profile window. The selected targets are appended to the "targets" line and, optionally, can be plotted simultaneously to the current map using user-defined symbols.

Advanced Gridding Toolkit

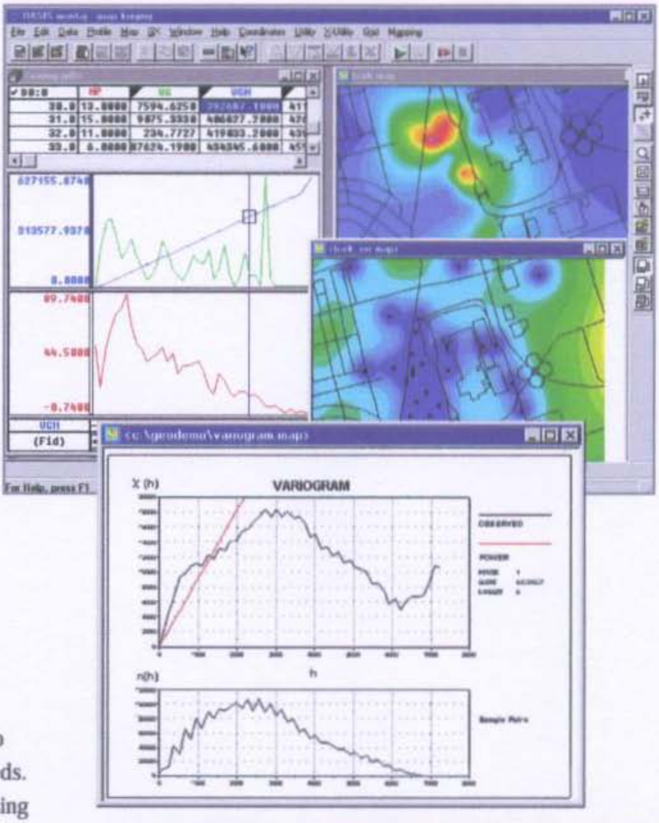
product description

Geosoft's **Advanced Gridding Toolkit** expands your **Oasis montaj™** core system to enable advanced gridding capabilities, including four proven gridding routines and basic grid analysis methods.

The **Advanced Gridding Toolkit** enables you to interpolate data and produce a grid using any of Geosoft's four gridding routines; Minimum Curvature (Random) Gridding, Line (Bi-Directional) Gridding, TIN Gridding using the Natural Neigbours method, and Kriging. Basic grid utilities provide processing and grid enhancement tools, including:

- Grid outline
- Grid windowing
- Point grid value
- Apply shading to create a shaded relief grid
- Display and update standard grid statistics

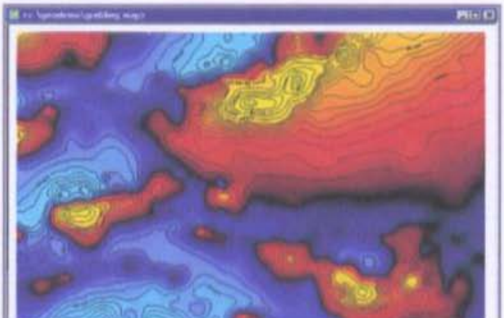
This tool can be added to any Geosoft application to meet your specific data processing and analysis needs. For more information about specialized data processing and analysis tools, please contact your local Geosoft representative.

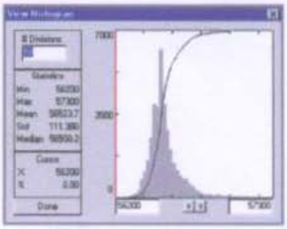


product capabilities

This tool includes the following capabilities:

- Basic Grid Utilities
- Line gridding
- Minimum curvature gridding
- Tinning
- Kriging





Advanced Gridding Toolkit capabilities

Basic Grid Utilities

The following functions can be performed with the basic grid utilities:

- Display grid as a terenary image
- Display grids as two, three or four grid composites
- Grid windowing (create a grid from a window of a larger grid)
- Colour shaded grid (apply shading to create a quick shaded relief grid)
- Display statistics (display header and grid details on screen)
- Import ASCII grid
- Point grid value (the grid value at a selected location from up to four grid files)
- Grid outline (find edge points in a grid image and either save the edges in a polygon file or draw the edges on the current map)
- Sample a grid (sample a grid at specified X,Y locations and create a new channel that contains the sampled grid data)
- Grid profile (extract a data profile from a grid and place it in a new line of the current database)
- Transpose a grid by swapping the grid rows with the grid columns
- Save grid to database (import grid data into new or existing databases)
- Shaded relief grid (create a shaded relief image from a grid)

Line Gridding

Line gridding is the capability to create a new grid file (.GRD) using the bi-directional gridding method (BIGRID). The BIGRID method uses a two step process:

1. Each line is interpolated along the original survey line to yield data values at the intersection of each required grid line with the observed value.
2. The intersected points from each line are then interpolated in the across-line direction to produce a value at each required grid node.

The BIGRID GX has the following capabilities:

- Unlimited line based data
- LP, HP filters
- Data presort options
- Enhanced trended gridding
- Output any grid size

Minimum Curvature Gridding

Minimum curvature gridding uses a minimum curvature gridding algorithm (RANGRID) to create a new grid file (.GRD). The RANGRID method fits a minimum curvature surface to the data points. A minimum curvature surface is the smoothest possible surface that will fit the given data values and settings. The RANGRID GX also has the capability to:

- Access unlimited number of input observation points
- Adjust internal tension
- Apply de-aliasing filter
- Apply linear and logarithmic gridding
- Blank un-sampled areas
- Output grids up to any size

Tinning

The Triangular Irregular Network (TIN) method, utilizes the Sweepline algorithm implemented by Steven Fortune of Bell Laboratories. The Sweepline algorithm calculates the X,Y (Z-optional) values to create a binary (*.TIN) file.

When Z values are included in the (*.TIN) file, a TIN grid can be created using the TINGRID GX. The TINGRID GX applies the Natural Neighbour algorithm (Sambridge, Brown & McQueen 1995) to the Z values in the (*.TIN) file to create a grid.

Kriging

The Kriging Tool provides you with the capability to:

- Apply de-aliasing filter
- Apply linear and logarithmic gridding options
- Blank un-sampled areas
- Calculate a variogram from the input data channel
- Output grids up to any size
- Process unlimited number of input observation points
- Support linear, power, spherical, Gaussian, exponen-

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FIELD DATA PROCESSING WORKSTATIONS

Our Field Data Processing Workstations (FWS) are dedicated PC-based microcomputer systems for use at the technical base in the field. The workstations are designed for use with Geosoft OASIS, MPS and MONTAJ, ENCOM, and other data processing software, as well as in-house developed software and utilities.

The FWS has a data replot capability, and may be used to produce pseudo analog charts from the recorded digital data within less than 12 hours after the completion of a survey flight, if this is necessary. It is also capable of processing and imaging all the geophysical and navigation data acquired during the survey, producing semi-final, preliminary-levelled maps in either black-line contours on Mylar or full colour contours on paper.

FWS FEATURES

- **Portability** - the workstations can be packaged and transported to the field with a minimum of effort
- **Digital Data Verification** - flight data quality and completeness can be assured by both statistical and graphical means
- **Flight Path Plots** - flight path plots can be quickly generated from the GPS satellite data to verify the completeness and accuracy of a day's flying
- **Versatility** - the FWS can be used in both the field and the office. Data pre-processed in the field can be up-loaded to the computers at the Data Processing Centre to speed data turnaround.
- **QC and Preliminary Maps** - the software will permit preliminary maps of the magnetic and gamma-ray spectrometer data to be quickly and efficiently created in the field, providing a quick and efficient method to undertake QC Verification of newly acquired data.

THE HARDWARE

The workstations are PC-compatible PENTIUM microcomputers with a 2GHz or faster processor, 512 MB of memory, a large capacity hard disk drive, an extended VGA graphics card with VGA monitor and a colour inkjet plotter for generating maps and/or profiles, and ZIP, JAZZ and writeable CD-ROM drives to backup data.

THE SOFTWARE

The FWS software enables the user to read the FLASH cards, ZIP cartridges or PCMCIA removable hard disks from the airborne system, check the data for gaps, spikes or other defects and permits editing where necessary.

The base station GPS/magnetometer data is checked and edited, and where necessary merged with the airborne data. Post-survey differential GPS corrections are made using either C³NAV and/or WAYPOINT software. GPS flight path plots may be created and plotted. Multi-channel stacked profiles of the recorded and edited data may be produced on the dot-matrix printer.

The Software includes:

- Geosoft OASIS/Montaj Airborne Processing Software
- PC-based airborne data compilation and binary database system for in-field processing and compilation of large volumes of time or fiducial based airborne data
- Proprietary data for processing HEM data
- GrafNAV GPS processing/differential GPS correction software
- McPhar's proprietary software and utilities
- General Utility software (WINDOWS 200 PRO, Norton Utilities, Norton Anti-virus, Xtree Gold, LapLink, etc.)

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WebSite: www.mgssurveys.com

RÉSUMÉ

NAME: **HENRIK TOFT ANDERSEN**

PROFESSION: Geophysicist

EDUCATION:

1987	Ph.D. Geophysics, Colorado School of Mines, Golden, Colorado.
1978	M.S. Geophysics, Colorado School of Mines, Golden, Colorado.
1973	B.S.(hons) Geophysics, Bernard Price Inst. for Geoph. Research, University of the Witwatersrand, Johannesburg, South Africa.
1968	B.S. Geology, University of Pretoria, Pretoria, South Africa.

WORK EXPERIENCE:

2003 -

McPhar Geosurveys Ltd., Newmarket, Ontario, Canada - Principal Geophysicist - supervising all geophysical activities of the company, including research and development of instrumentation and software; data processing, interpretation and reporting.

1996 - 2002

Aero Surveys Inc., President and Chief Geophysicist - responsible for the day-to-day management of the company; determining the company's future business plans; strategic planning; supervising a staff of 12 plus employees; maintaining budgets and cash-flow; supervising all geophysical activities of the company, including data processing, interpretation and reporting.

1998 - 2002

EDCON Aero Surveys, Inc., Vice President and Chief Geophysicist – a joint-venture company between Aero Surveys Inc. and EDCON Inc. Responsible for the day-to-day geophysical activities of the company, including data processing, interpretation and reporting.

1993 - 1996

GeoeXperT C.A. and Digitus International, Ltd., Vice President. Research Project: Imaging and Pattern recognition in the interpretation of Transient Electromagnetic data for Idaho National Engineering Labs. **Consultant to GeoeXperT, Venezuela**, on mineral exploration in tropical terranes, **Consultant to: (a) TerraSoft**, Sunnyvale, California, on interpretation of Electromagnetic Offset Logging, (b) **Sandia**

McPHAR

National Labs., Albuquerque, New Mexico, on application of electrical methods to map and characterize the disturbed rock zone around underground excavations and its associated fluid redistribution.

1990 - 1993	**Department of Geophysics, Colorado School of Mines, Assist. Research Professor.** Research Projects: (a) Imaging and Pattern recognition in the interpretation of Transient Electromagnetic data for Idaho National Engineering Labs, (b) Mapping of fluid redistribution in the Disturbed Rock Zone around underground excavations for Sandia National Lab. Vice President and consultant to GeoeXperT, Venezuela, on precious- and base metal exploration in tropical terranes.
1988 - 1990	**Department of Geophysics, Colorado School of Mines, Professional Research Assistant**. Research Projects: (a) Characterization of the Disturbed rock Zone around underground excavations for Sandia National Labs., test of exploration methods for oil and gas beneath the pre-Cambrian overthrust in upstate New York, (c) application of electrical exploration methods for oil and gas exploration in Venezuela. Consultant to MINDECO and The Nuclear Fuels and Reactor Corp. of Japan.
1987 - 1988:	**Department of Geophysics, Colorado School of Mines, Post Doctoral Fellow**. Research Projects: (a) Application of Electrical methods to Oil and Gas exploration in Venezuela, (b) Geothermal exploration in Iceland, and (c) Site characterization of the Waste Isolation Pilot Plant in SE New Mexico. Consultant to GeoPacific Resources for MINDECO on geothermal exploration in Japan.
1981- 1987	**Department of Geophysics, Colorado School of Mines, Teaching and Research Assistant.** (a) Teaching assistant for Electrical Exploration Methods during Summer Field Camp, (b) Research assist. on Electromagnetic and Gravity project over pre-Cambrian overthrust in New York, (b) Research assist. on the development of multi-component electromagnetic application and interpretation systems, and (c) Project Manager on Transient Electromagnetic studies of deep structural features below volcanic cover in the states of Washington and Colorado. Consultant to Newmont Overseas Exploration in Spain and Peru.
1970 - 1981	**Tsumeb Corporation Ltd. (Newmont Mining), Senior Exploration Geophysicist** for base metals in Namibia and Namaqualand. Commonly used methods on integrated surveys included ground- and airborne magnetics, radiometrics, IP/resistivity, frequency and transient electromagnetics and gravimetry.
1969 - 1970	**Falconbridge Exploration (South Africa); Field Geologist/ Geophysicist** on base metal exploration in Namibia and Zimbabwe.

1968 - 1969	**Kennecott Exploration (South Africa); Field Geologist** on base metal exploration in Namibia.
1963 - 1968	**Geological Survey of South Africa; Geophysical Field Technician** on gravity surveying and electrical logging of shallow wells.
1962 - 1963	**Federal Vanadium Corp. (South Africa); Laboratory Technician** in chemical production control laboratory.

PUBLICATIONS:

Authored/co-Authored and published more than 20 technical papers. List available on request.

PROFESSIONAL EXPERIENCE:

- More than thirty years professional experience in the collection, processing and interpretation of ground and airborne geophysical data for a wide range of applications, including: oil and gas exploration; mineral exploration; ground water exploration; and environmental studies.
- Considerable management experience, supervising staff of up to 20 persons, as well as extensive experience as an in-field Project Manager and/or consultant.
- Extensive computer skills, experienced with AutoCAD, GEOSOFT OASIS/MPS/MONTAJ data processing software, and FORTRAN, C, and other programming languages.
- Experienced in the planning and design of geological and geophysical exploration programs for both oil and gas and minerals exploration.
- Extensive experience in teaching and training personnel to do data processing and in the application of geophysical surveying techniques.
- Considerable experience in designing and managing Research and Development programs.

PROFESSIONAL SOCIETIES:

- American Geophysical Union
- Geological Society of America
- Venezuelan Geophysical Society
- Sigma Xi
- Aircraft Owners and Pilots Association

LANGUAGES:

English, Danish, Afrikaans, some Spanish

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WebSite: www.mgssurveys.com

RÉSUMÉ

NAME: **Tonia Bojkova**

PROFESSION: Geophysicist

EDUCATION:

2001	Geosoft Data Processing and Analysis Software, Guildford, United Kingdom
1998	GeoPak Data Processing Software, HSG Ltd., Toronto, Canada
1978 – 1980	M.Sc., Applied Mathematics, Technical University, Sofia, Bulgaria
1973 – 1978	M.Sc., Geophysics, University of Mining and Geology, Sofia, Bulgaria

WORK EXPERIENCE:

2004 - **McPhar Geosurveys Ltd., Geophysicist/Data Processor -** responsible for processing of airborne geophysical data; quality control (QC) of acquired geophysical data; geophysical interpretations; operational logistics

2000 – 2002 **Fugro Airborne Survey (FAS), United Kingdom – Office in Sofia, Bulgaria, Geophysicist -** Processed and analyzed radiometric and magnetic data, and produced corresponding maps in Bulgaria and in the UK (Guildford). Prepared final reports.

1992 - 2000 **Airborne Geophysical Survey (AGS) Ltd., Bulgaria** (a Joint Venture between the Government of Bulgaria and High-Sense Geophysics Ltd., Toronto, Canada), **Geophysicist -** Planned and managed airborne surveys; collected, processed, and analyzed airborne radiometric and magnetic data, produced the corresponding maps and prepared final reports; reprocessed archive data from Namibia, performed environment projects - gamma-ray monitoring of the Bulgarian NPP, Kozloduy using 2048-channel gamma-ray spectrum analyzer

1980 – 1992 **Airborne Geophysical Department of the Enterprise for Geophysical Explorations and Geological Mapping, Sofia, Bulgaria, Geophysicist -** collected, processed, and analyzed airborne radiometric and magnetic data; produced the corresponding maps and prepared final reports; performed gamma-ray monitoring of Bulgaria after Chernobyl NPP fallout

INTERNATIONAL EXPERIENCE:

Canada, Bulgaria, Macedonia, Congo, Zimbabwe, Zambia, Botswana

PROFESSIONAL EXPERIENCE:

- 24 years of continuous experience in the geophysical survey industry
- Extensive international experience
- Extensive experience processing and interpreting airborne magnetic and/or magnetics/ radiometric data
- Excellent computer skills, experienced programmer

LANGUAGES: Bulgarian, English

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RÉSUMÉ

NAME: **ASIF M. MIRZA**

PROFESSION: **Geophysicist**

EDUCATION:

- M.Sc., Applied Environmental Measurement Techniques, Chalmers University of Technology, Sweden
- M.Sc., Applied Geophysics, Dept. of Earth Science, Quaid-I-Azam University, Islamabad, Pakistan
- B.Sc., Applied Geology, Institute of Geology, University of the Punjab, Lahore, Pakistan

TRAINING:

<u>Internship</u>
- Seismic Data Processing, OGDCL, Islamabad, Pakistan

<u>Technical Courses</u>
- Evaluation of Aggregates as constructional material, Course arranged by the Kent State University, Ohio, USA and Institute of Geology, University of the Punjab, Lahore, Pakistan
- Course on Geographical Information System (GIS), Course arranged by the National University of Science and Technology, Islamabad, Pakistan
- Course on Seismic Stratigraphy and Tectonics (Basin Analysis and Computer Modelling), Course arranged by Petroleum Geology Investigators ApS, Copenhagen, Denmark and the Dept. of Earth Sciences, Quaid-i-Azam University, Islamabad, Pakistan
- Well Logging interpretation, course arranged by Petroleum Geology Investigators ApS, Copenhagen, Denmark and the Dept. of Earth Sciences, Quaid-i-Azam University, Islamabad, Pakistan

PROFESSIONAL EXPERIENCE:

2004 McPhar Geosurveys Ltd, Newmarket, Ont, Canada - Geophysicist
- Airborne geophysical field data management and preliminary processing, of different projects, using Geosoft Oasis Montaj
- Quality control decisions of survey data within the specification laid down with clients and McPhar's standards
- Gridding, contouring and leveling of magnetic and electromagnetic geophysical data to produce profiles and contours maps
- Set up and operate ground base station system, comprising magnetometer and GPS system
- Producing of backup CD-ROM's of the processed data for forwarding to clients via internet or company network site
- Making final reports of the processed geophysical data for clients

2000 – 2001 SEFEC (Pvt.) Ltd, Karachi, Pakistan - Field Geophysicist

- Seismic reflection data acquisition with the help of dynamite in Attock Area, Pakistan
- Seismic reflection data recorded in the field using well-defined field parameters, i.e. source and spread configuration
- Seismic spread and geophone arrays designed using walk away test and spectral analysis
- Performed field seismic data processing Attock Area, Pakistan

HIGHLIGHTS OF QUALIFICATIONS:

- Experience as a field geophysicist
- Airborne geophysical data management and processing
- Seismic reflection data processing experience in Geophysical Investigations for the demarcation of overburden from the bedrock and concerning oil resources
- Extensive experience in 2-D seismic reflection data interpretation
- Experience in seismic data interpretation with the help of Seismic Straitigraphy, Borehole logging, Gravity and Resistivity methods
- Data acquisition with the help of different environmental instruments
- Research about new environmental issues
- Risk assessments and cost estimates related to environmental clean up
- Evaluation of groundwater potential along sea shoreline, environmental investigations, remedial activities
- Master's in Environmental Science, Master's in Geophysics and Bachelor of Applied Geology
- Knowledge and work experience of the software's, Geosoft Montaj, DOS, Windows XP/NT/2000, M.S.Office, Corel DRAW 9, Arc view GIS

LANGUAGES

- English, Urdu, Hindi and Punjabi

McPhar Geosurveys Ltd.

Digital File Organization

Directory Structure:

Digital data is arranged on the DVD_ROM in the following structure:

Report:

Report

- 0606_FinalReport.pdf

Appendices

Appendix 1: System Tests and Reports

- Appendix 1.pdf
  - Altimeter Test
  - Lag Test
  - Heading Correction Test
  - GPS Form
  - Base Magnetometer Form
  - Daily Reports
  - Flight Logs

Appendix 2: Technical Information

- Appendix 2.pdf
  - The Eurocopter AS350B2 – A-Star Helicopter
  - Hummingbird – Helicopter-borne Digital Electromagnetic System
  - Scintrex CS-2 Cesium Magnetometer
  - Terra TRA3000/TRI-30 Radar Altimeter
  - GEM GSM-19T Proton Overhauser Magnetometer
  - NovAtel Millenium GPS receiver
  - Geosoft Oasis Montaj Processing Software
  - Field Data Processing Workstations

Appendix 3: McPhar Personnel Resumes

- Appendix 3.pdf
  - Tonia Bojkova
  - Asif Mirza
  - Henrik T. Andersen

Appendix 4: Digital Data Specifications

- Appendix 4.pdf

Appendix 5: Page Size Maps

- Appendix 5.pdf

Each of the 5 areas include page size maps of the following:

- Flight Path with Planimetry
- Digital Terrain Model (DTM)
- Total Magnetic Intensity
- Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- Calculated Total Horizontal Derivative of the TMI RTP
- Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- Analytic Signal of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- EM Profiles : Horizontal Coplanar 880 Hz Coil Vertical Coaxial 980 Hz Coil
- EM Profiles : Horizontal Coplanar 6600 Hz Coil Vertical Coaxial 7000 Hz Coil
- Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- Apparent Resistivity of Horizontal Coplanar 6600 Hz Coils

Geosoft Grid Files:

Beta Block

- **dtm_20.grd** - Digital Terrain Model (DTM)
- **TMI_20.grd** - Total Magnetic Intensity (TMI)
- **RTP_20.grd** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG_20.grd** – Calculated Total Horizontal Derivative of the TMI-RTP
- **1VD_20.grd** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **2VD_20.grd** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS_20.grd** - Analytic Signal of the Total Magnetic Intensity
- **Res880_log_20.grd** – Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Res6600_log_20.grd –** Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Curie Block

- **dtm_mic.grd** - Digital Terrain Model (DTM)
- **tmi_25.grd** - Total Magnetic Intensity (TMI)
- **rtp_25.grd** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG.grd –** Calculated Total Horizontal Derivative of the TMI-RTP

- **1VD_25.grd** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **2VD_25.grd** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS.grd** - Analytic Signal of the Total Magnetic Intensity
- **res880_log.grd –** Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **res6600_log.grd –** Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Gamma Block

- **DTM_10.grd** - Digital Terrain Model (DTM)
- **TMI_10.grd** - Total Magnetic Intensity (TMI)
- **RTP_10.grd** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG_10.grd –** Calculated Total Horizontal Derivative of the TMI-RTP
- **1VD_10.grd** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **2VD_10.grd** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS_10.grd** - Analytic Signal of the Total Magnetic Intensity
- **Res880_10.grd –** Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Res6600_10.grd –** Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Geiger Block

- **dtm-10.grd** - Digital Terrain Model (DTM)
- **tmi_10.grd** - Total Magnetic Intensity (TMI)
- **RTP_10.grd** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG.grd –** Calculated Total Horizontal Derivative of the TMI-RTP
- **1VD_10.grd** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **2VD_10.grd** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS.grd** - Analytic Signal of the Total Magnetic Intensity
- **Res880_10.grd –** Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Res6600_10.grd –** Apparent Resistivity of Horizontal Coplanar 6600 Hz Coils

Pike Block

- **DTM_10.grd** - Digital Terrain Model (DTM)
- **TMI_10.grd** - Total Magnetic Intensity (TMI)
- **RTP_10.grd** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG_10.grd –** Calculated Total Horizontal Derivative of the TMI-RTP
- **1VD_10.grd** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)

- **2VD_10.grd** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS_10.grd** - Analytic Signal of the Total Magnetic Intensity
- **Res880 _10.grd –** Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Res6600_10.grd –** Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Packed Geosoft Map Files:

Beta Block

- **FlightPath_Beta.map –** Flight path with planimetry
- **dtm_Beta.map** - Digital Terrain Model (DTM)
- **TMI_Beta.map** - Total Magnetic Intensity (TMI)
- **RTP_Beta.map** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG_Beta.map** - Calculated Total Horizontal Derivative of the TMI-RTP
- **1VD_Beta.map** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **2VD_Beta.map** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS_Beta.map** - Analytic Signal of the Total Magnetic Intensity
- **Profiles_980&880_Beta.map** - EM Profiles: Horizontal Coplanar 880 Hz Coil Vertical Coaxial 980 Hz Coil
- **Profiles_7&6_Beta.map** - EM Profiles: Horizontal Coplanar 6600 Hz Coil Vertical Coaxial 7000 Hz Coil
- **Res880_Beta.map** - Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Res6600_Beta.map** - Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Curie Block

- **FlightPath_Curie.map –** Flight path with planimetry
- **dtm_Curie.map** - Digital Terrain Model (DTM)
- **TMI_Curie.map** - Total Magnetic Intensity (TMI)
- **RTP_Curie.map** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG_Curie.map** - Calculated Total Horizontal Derivative of the TMI-RTP
- **1VD_Curie.map** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **2VD_Curie.map** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS_Curie.map** - Analytic Signal of the Total Magnetic Intensity
- **Profiles_980&880_Curie.map** - EM Profiles: Horizontal Coplanar 880 Hz Coil Vertical Coaxial 980 Hz Coil
- **Profiles_7&6_Curie.map** - EM Profiles: Horizontal Coplanar 6600 Hz Coil Vertical Coaxial 7000 Hz Coil

- **Res880_Curie.map** - Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Res6600_Curie.map** - Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Gamma Block

- **Gamma_FlightPath.map** – Flight path with planimetry
- **Gamma_DTM.map** - Digital Terrain Model (DTM)
- **Gamma_TMI.map** - Total Magnetic Intensity (TMI)
- **Gamma_RTP.map** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **Gamma_HRG.map** - Calculated Total Horizontal Derivative of the TMI-RTP
- **Gamma_1VD.map** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **Gamma_2VD.map** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **Gamma_AS.map** - Analytic Signal of the Total Magnetic Intensity
- **Gamma_profiles_980&880.map** - EM Profiles: Horizontal Coplanar 880 Hz Coil Vertical Coaxial 980 Hz Coil
- **Gamma_profiles_7000&6600.map** - EM Profiles: Horizontal Coplanar 6600 Hz Coil Vertical Coaxial 7000 Hz Coil
- **Gamma_Res880.map** - Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Gamma_Res6600.map** - Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Geiger Block

- **FlightPath_Geiger_Final.map –** Flight path with planimetry
- **dtm.map** - Digital Terrain Model (DTM)
- **TMI.map** - Total Magnetic Intensity (TMI)
- **RTP.map** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG.map** - Calculated Total Horizontal Derivative of the TMI-RTP
- **1VD.map** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **2VD.map** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS.map** - Analytic Signal of the Total Magnetic Intensity
- **Profiles_980&880_Geiger_Final.map** - EM Profiles: Horizontal Coplanar 880 Hz Coil Vertical Coaxial 980 Hz Coil
- **Profiles_7&6_Geiger_Final.map** - EM Profiles: Horizontal Coplanar 6600 Hz Coil Vertical Coaxial 7000 Hz Coil
- **Res880_Geiger.map** - Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Res6600_Geiger.map** - Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Pike Block

- **FlightPath_pike_final.map** – Flight path with planimetry
- **DTM_pike.map** - Digital Terrain Model (DTM)
- **TMI_pike.map** - Total Magnetic Intensity (TMI)
- **RTP_pike.map** - Reduction to the Magnetic Pole (RTP) of the Total Magnetic Intensity
- **HRG_pike.map** - Calculated Total Horizontal Derivative of the TMI-RTP
- **1VD_pike.map** - Calculated First Vertical Derivative (1VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **2VD_pike.map** - Calculated Second Vertical Derivative (2VD) of the Reduced to the Magnetic Pole (RTP) Total Magnetic Intensity (TMI)
- **AS_pike.map** - Analytic Signal of the Total Magnetic Intensity
- **Profiles_980&880_pike.map** - EM Profiles: Horizontal Coplanar 880 Hz Coil Vertical Coaxial 980 Hz Coil
- **Profiles_7&6_pike.map** - EM Profiles: Horizontal Coplanar 6600 Hz Coil Vertical Coaxial 7000 Hz Coil
- **Res880_pike.map** - Apparent Resistivity of Horizontal Coplanar 880 Hz Coils
- **Res6600_pike.map** - Apparent Resisitivity of Horizontal Coplanar 6600 Hz Coils

Free Viewer:

- Geosoft Oasis Montaj 6.3 free viewer for viewing maps

Database:

Geosoft XYZ Files:

- *Beta_Final.xyz*
- *Curie_Final.xyz*
- *Gamma_Final.xyz*
- *Geiger_Final.xyz*
- *Pike_Final.xyz*

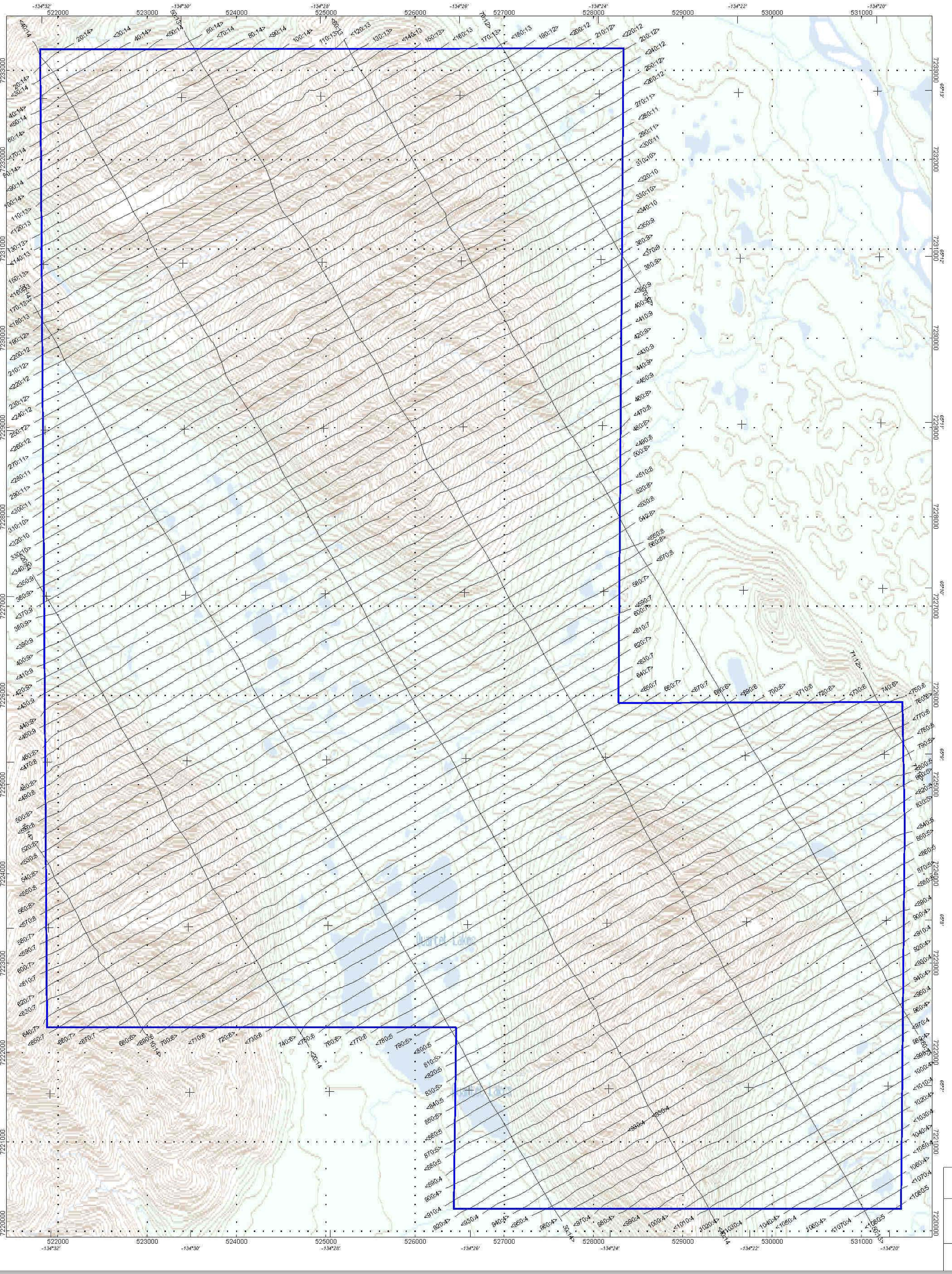
Channel Name Descriptions:

X	X coordinate-NAD83, UTM zone 8N (metres)
Y	Y coordinate-NAD83, UTM zone 8N (metres)
Lat	Latitude (Decimal degrees)
Long	Longitude (Decimal degrees)
Galt_m	GPS Height (metres)
GPS_sec	GPS Time (seconds)
Radar_m	Radar Altimeter (metres)
Dtm	Digital Terrain Model (metres)

Fid	Fiducial
Fltno	Flight Number
Base_mag	Diurnal variation of magnetic field (nanoTesla)
Mag_filt	Raw edited magnetic intensity (nanoTesla)
Mag_lag	Total magnetic intensity corrected for diurnal and lag(nanoTesla)
Mag_lev	Tie line leveled Total magnetic intensity (nanoTesla)
TMI	Micro leveled Total magnetic intensity (nanoTelsa)
IGRF	International Geomagnetic Reference Field (nanoTesla)
Incl	Inclination of IGRF (degrees)
Decl	Declination of IGRF (degrees)
TMI_IGRF	Total magnetic intensity IGRF removed
Ip1_7k_F	Raw filtered In Phase component of coaxial 7 kHz coil
Ip1_7k_final	Final In Phase component of coaxial 7 kHz coil
Ip2_6k_F	Raw filtered In Phase component of hor. coplanar 6.6 kHz coil
Ip2_6k_final	Final In Phase component of hor. coplanar 6.6kHz coil
Ip3_980_F	Raw filtered In Phase component of coaxial 980 Hz coil
Ip3_980_final	Final In Phase component of coaxial 980 Hz coil
Ip4_880_F	Raw filtered In Phase component of hor. coplanar 880 Hz coil
Ip4_880_final	Final In Phase component of hor. coplanar 880 Hz coil
Ip5_34k_F	Raw filtered In Phase component of hor. coplanar 34 kHz coil
Ip5_34k_final	Final In Phase component of hor. coplanar 34 kHz coil
Q1_7k_F	Raw filtered Quadrature component of coaxial 7 kHz coil
Q1_7k_final	Final Quadrature component of coaxial 7 kHz coil
Q2_6k_F	Raw filtered Quadrature component of Hor. coplanar 6.6 kHz coil
Q2_6k_final	Final Quadrature component of Hor. coplanar 6.6 kHz coil
Q3_980_F	Raw filtered Quadrature component of coaxial 980 Hz coil
Q3_980_final	Final Quadrature component of coaxial 980 Hz coil
Q4_880_F	Raw filtered Quadrature component of Hor. coplanar 880 Hz coil
Q4_880_final	Final Quadrature component of Hor. coplanar 880 Hz coil
Q5_34k_F	Raw filtered Quadrature component of Hor. coplanar 34 kHz coil
Q5_34k_final	Final Quadrature component of Hor. coplanar 34 kHz coil
Res6600	Final calculated resistivity for 6600 Hz
Res880	Final calculated resistivity for 880 Hz

Appendix 6: Anomalies List

- Anomalies List_Beta Block.xls
- Anomalies List_Curie Block.xls
- Anomalies List_Gamma Block.xls
- Anomalies List_Geiger Block.xls
- Anomalies List_Pike Block.xls



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Survey Area

Scale 1:20000

250 0 250 500 750 1000 1250 1500

metres

NAD83 / UTM zone 8N

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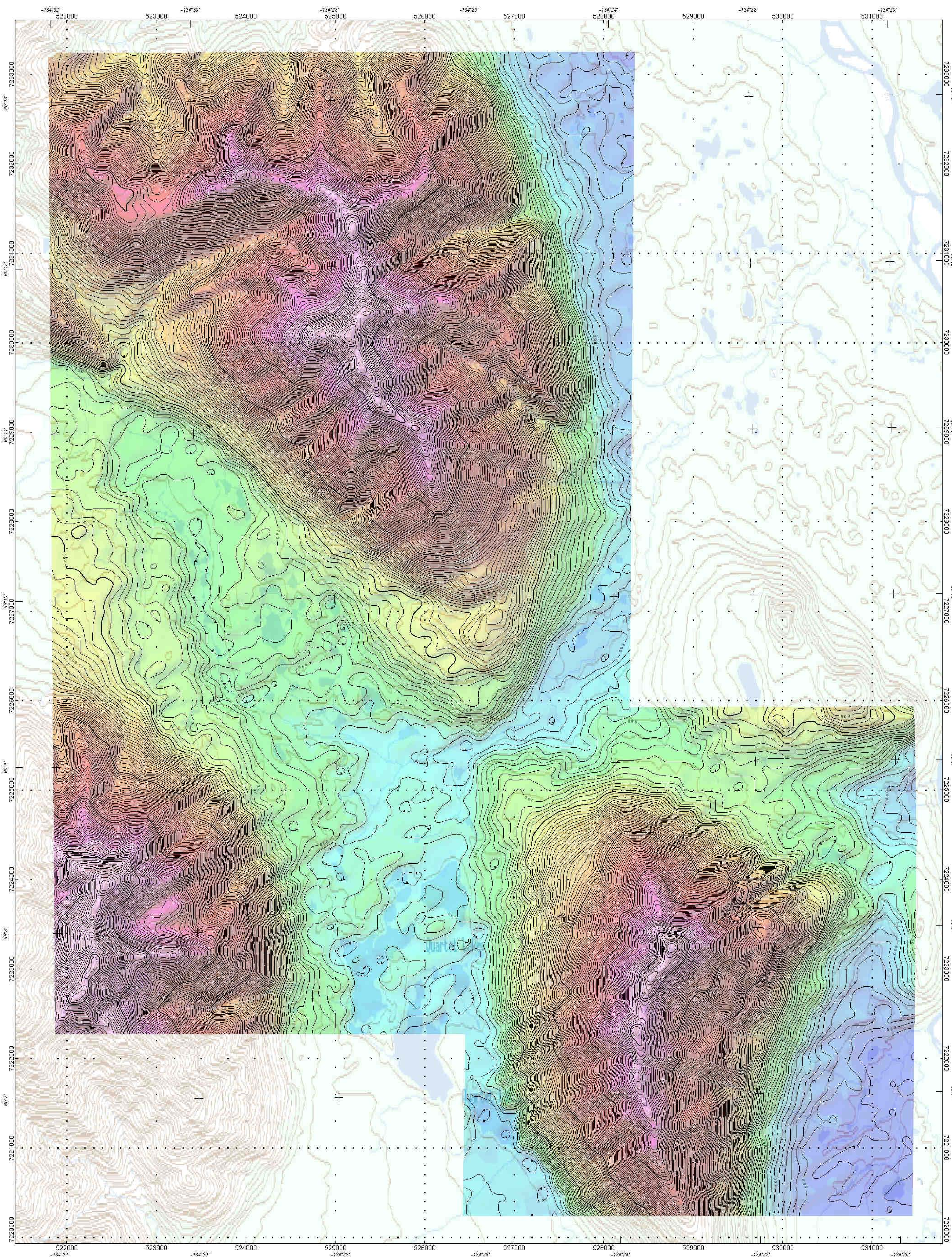
Flight Path Map

Beta Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
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Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

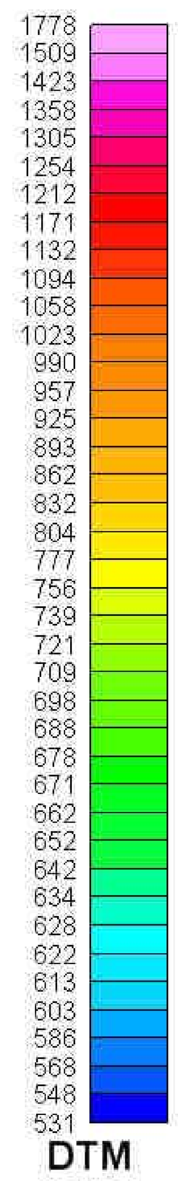
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



DTM
metres

Contours Legend:

10 metres
50 metres
250 metres

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
NAD83 / UTM zone 8N

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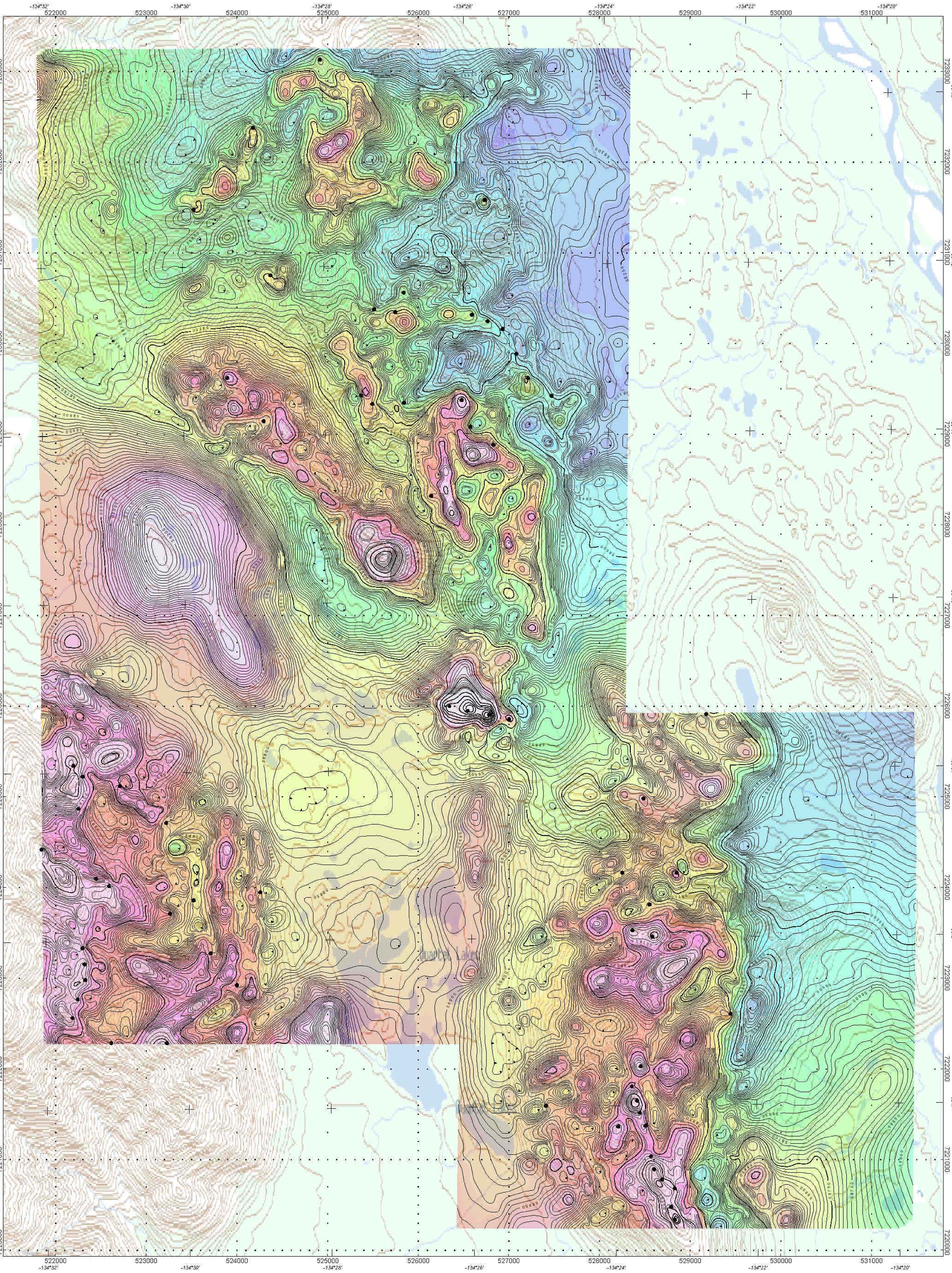
Digital Terrain Model

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

61096
59149
59081
59038
59003
58978
58956
58938
58926
58913
58900
58886
58873
58860
58845
58832
58820
58809
58797
58782
58764
58744
58727
58712
58699
58683
58665
58645
58627
58611
58591
58562
58530
58492
58455
58411
58370
58328
58296
58181

TMI
nanoTesla (nT)

Contours Legend:

10 nanoTesla
50 nanoTesla
150 nanoTesla

EM Anomaly with Magnetic Permagility Response

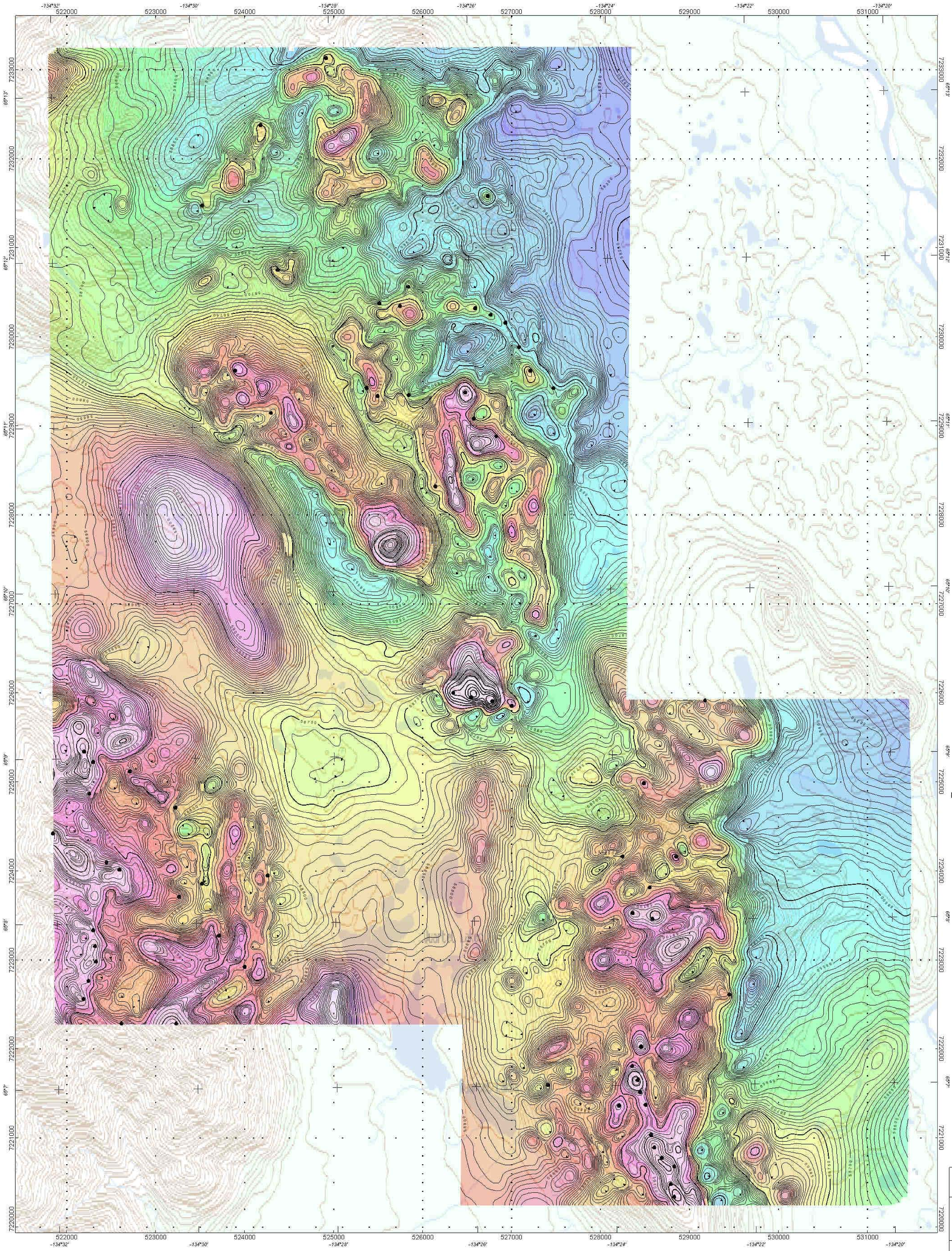
Scale 1:20000

Signet Minerals Inc

Total Magnetic Intensity

Beta Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

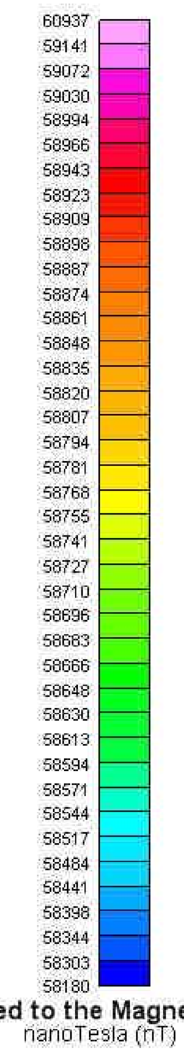
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



Reduced to the Magnetic Pole
nanoTesla (nT)

Contours Legend:

10 nanoTesla
50 nanoTesla
150 nanoTesla

● EM Anomaly with Magnetic Permability Response

Scale 1:20000

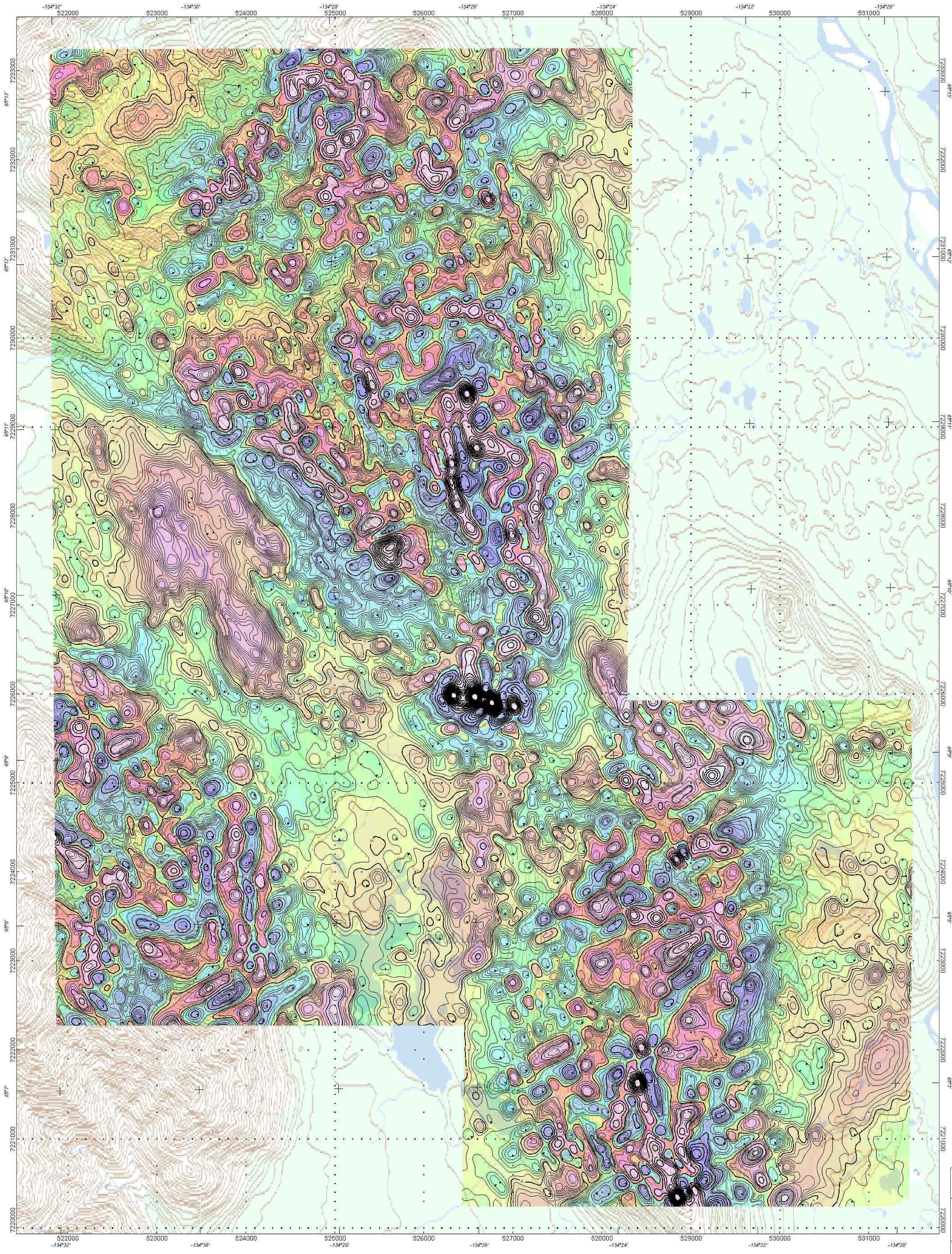
250 0 250 500 750 1000 1250 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc

Reduced to the Magnetic Pole of Total Magnetic Intensity

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.



N

LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

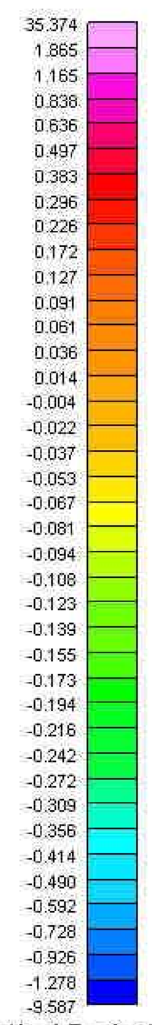
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



First Vertical Derivative of TMI
nanoTesla/metre (nT/m)

Contours Legend:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nanoTesla/metre

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
NAD83 / UTM zone 8N

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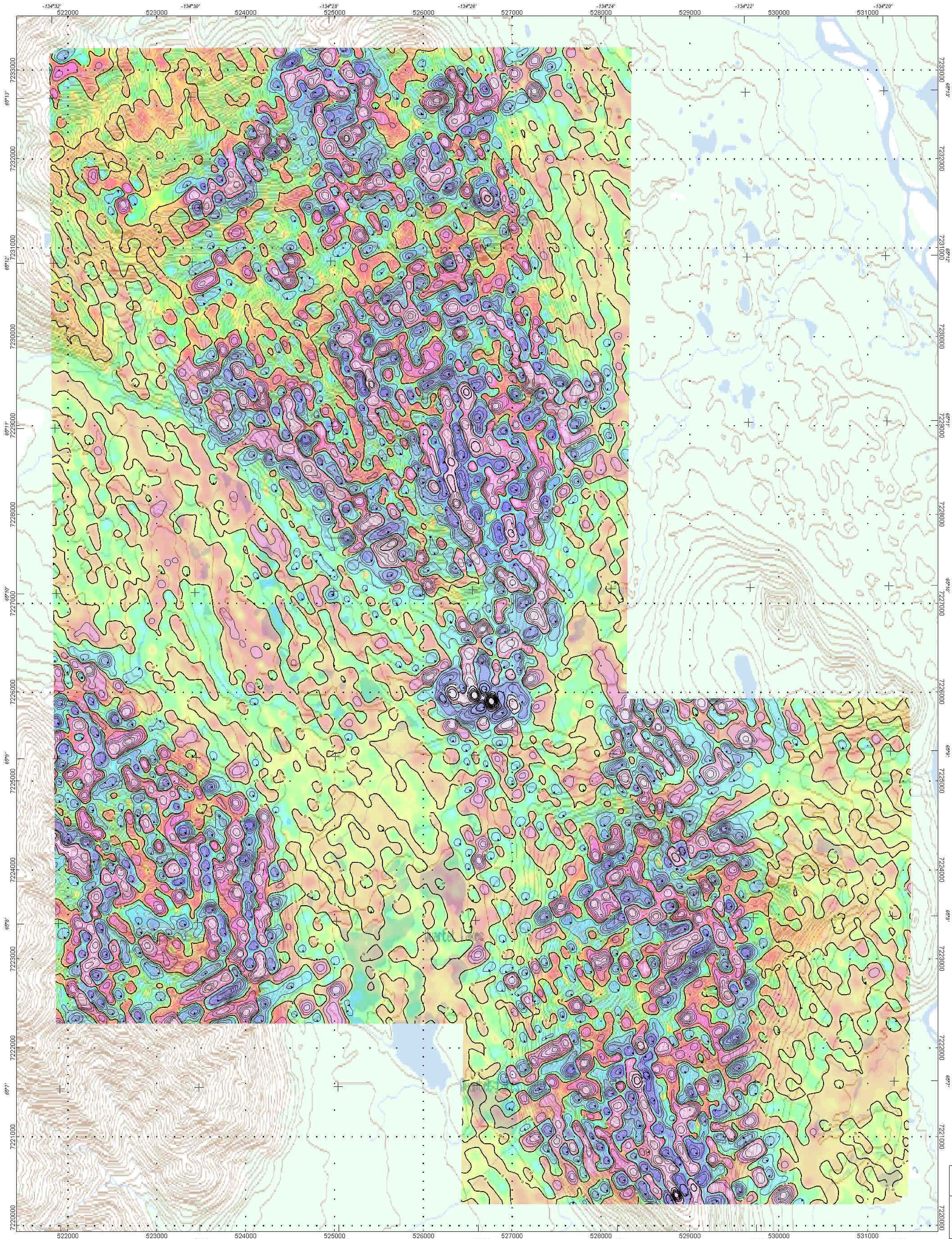
Calculated First Vertical Derivative of Total Magnetic Intensity

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.



N

LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

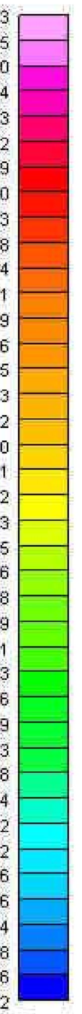
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



Second Vertical Derivative of TMI
nanoTesla/metre**2 (nT/m**2)

Contours Legend:

0.005 nanoTesla/metre**2
0.025 nanoTesla/metre**2
0.1 nanoTesla/metre**2

Scale 1:20000

250 0 250 500 750 1000 1250 1500
metres
NAD83 / UTM zone 8N

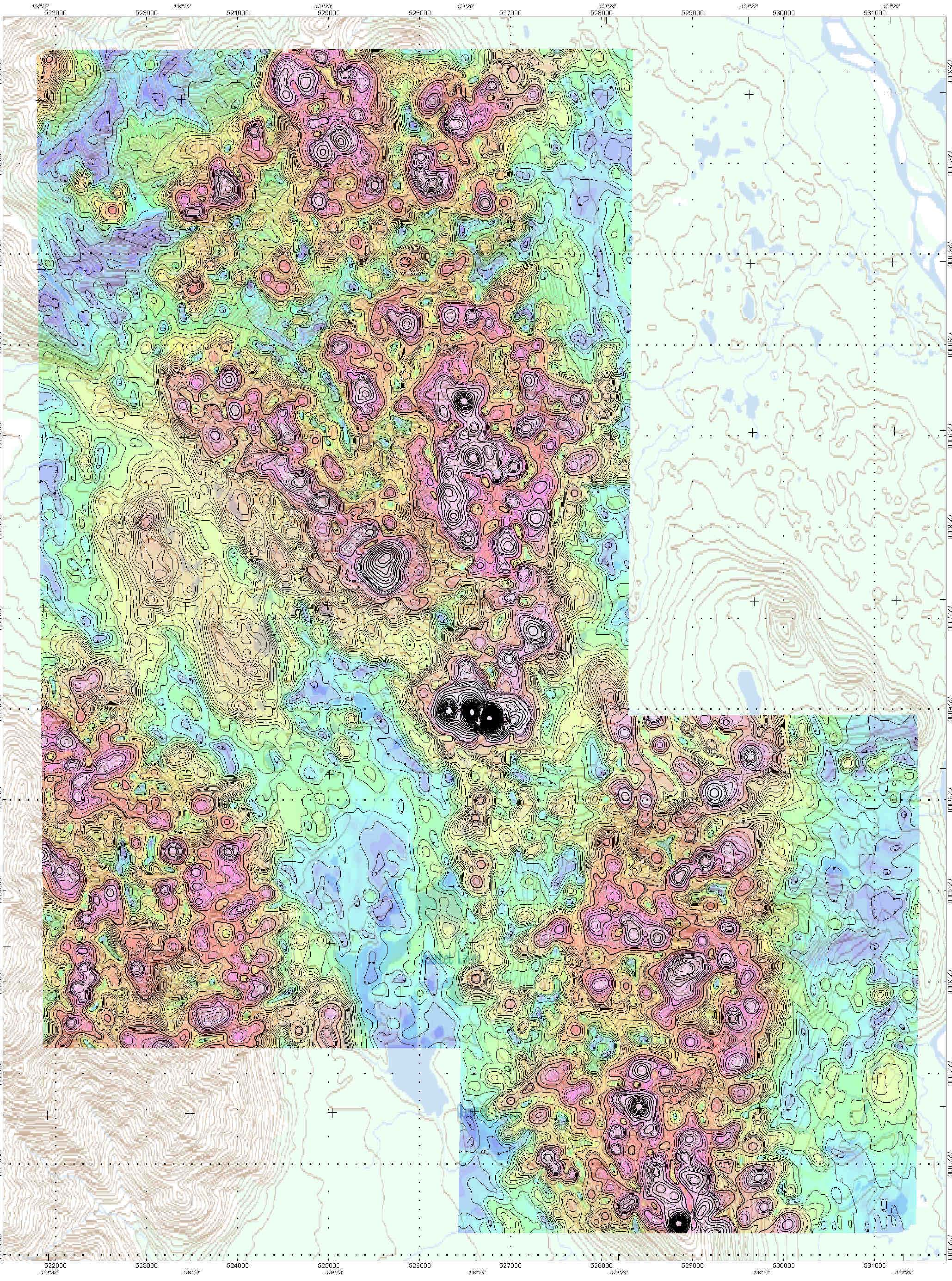
McPHAR

Signet Minerals Inc

Calculated Second Vertical Derivative of Total Magnetic Intensity

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

35.467
3.057
2.247
1.845
1.590
1.402
1.249
1.131
1.029
0.940
0.866
0.797
0.736
0.680
0.629
0.581
0.536
0.495
0.457
0.424
0.392
0.363
0.336
0.311
0.289
0.269
0.251
0.235
0.219
0.204
0.190
0.176
0.163
0.149
0.135
0.121
0.107
0.090
0.069
0.006

Analytic Signal of TMI
nanoTesla/metre (nT/m)

Contours Legend:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nanoTesla/metre

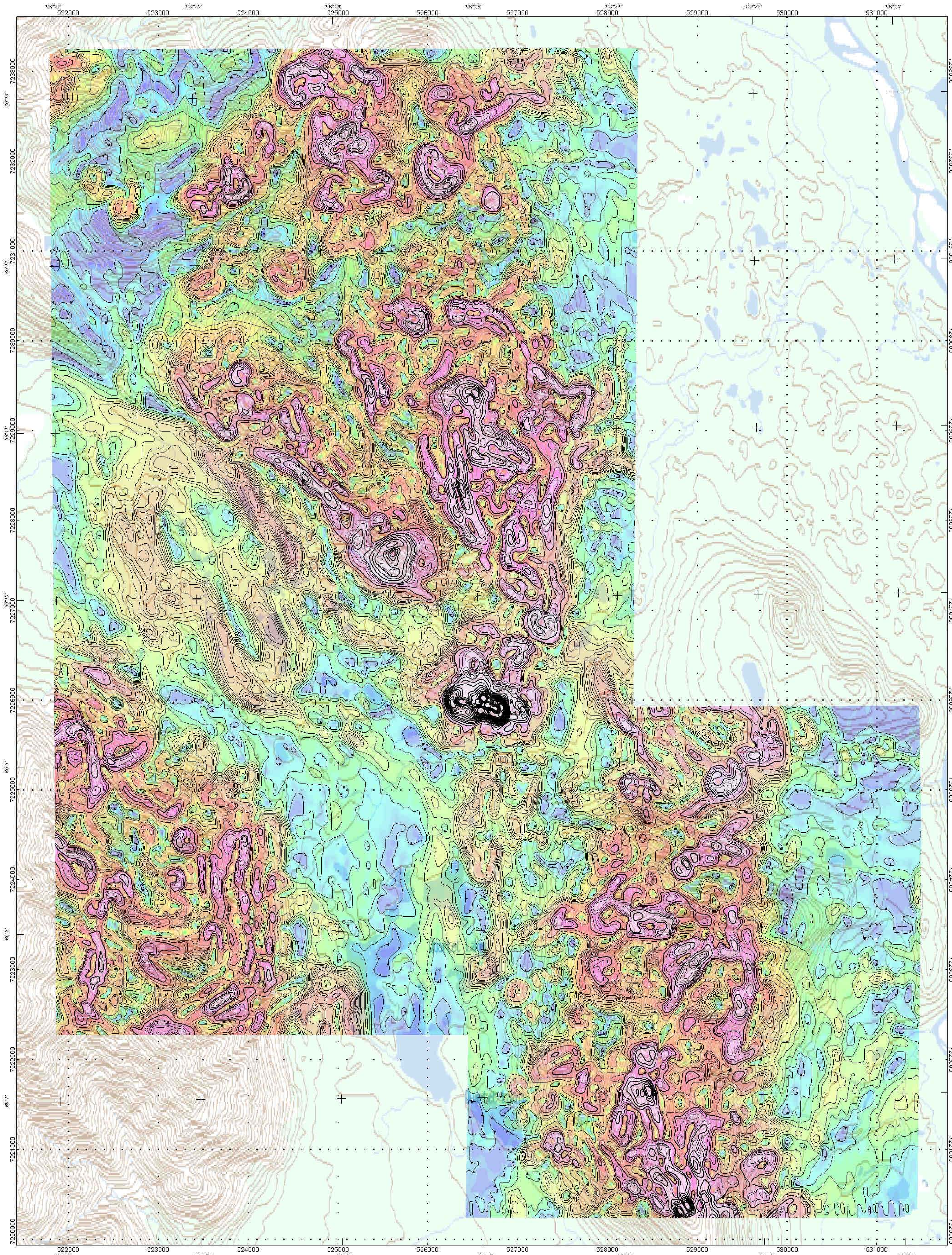
Scale 1:20000
250 0 250 500 750 1000 1250 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc

Calculated Analytic Signal of Total Magnetic Intensity

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
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Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

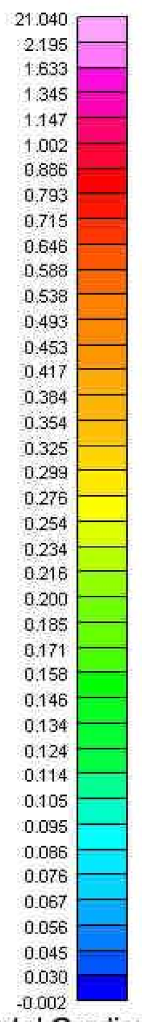
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



Horizontal Gradient of TMI
nanoTesla/metre (nT/m)

Contours Legend:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nanoTesla/metre

Scale 1:20000

metres

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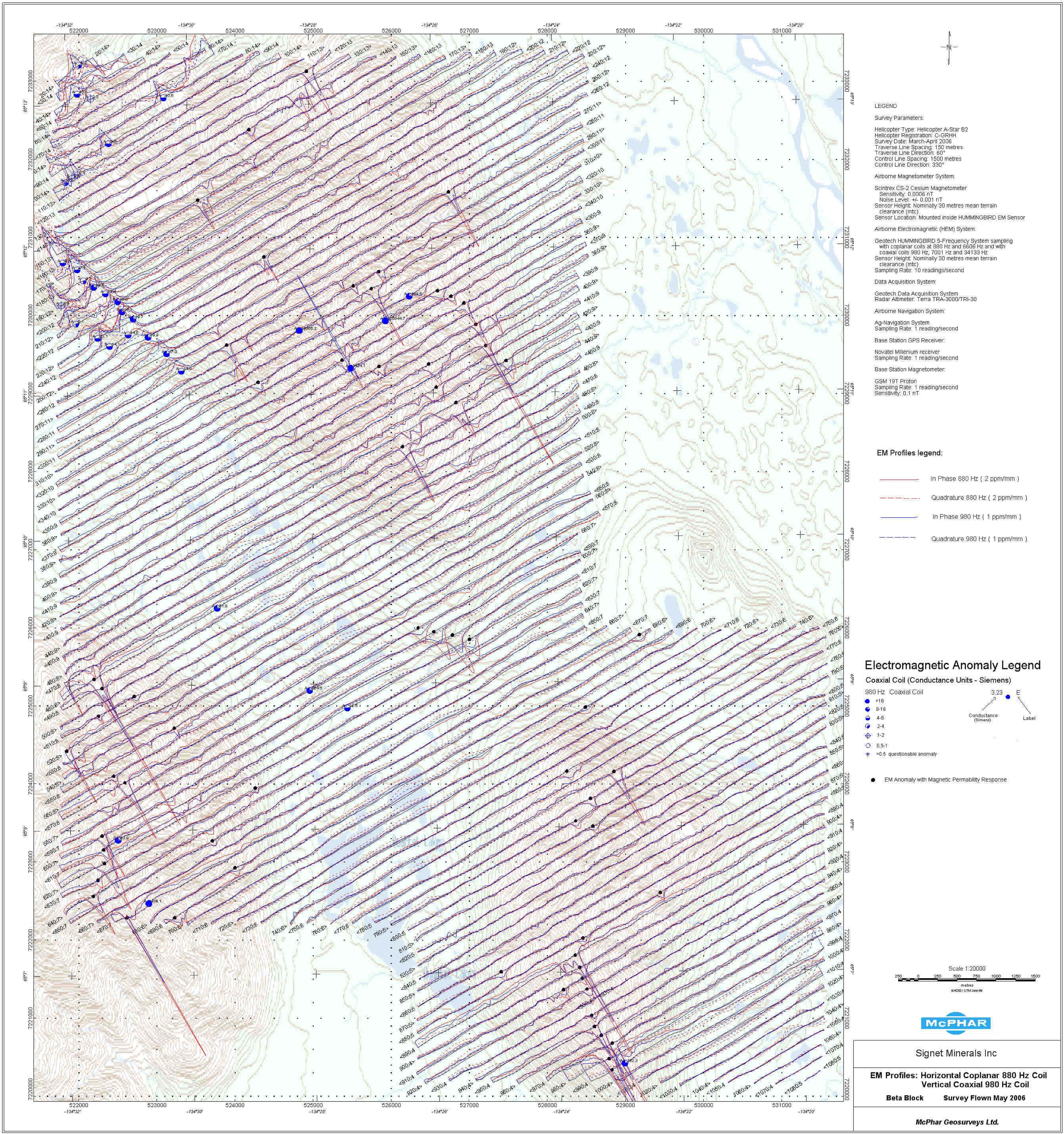
Calculated Horizontal Gradient of Total Magnetic Intensity

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.


LEGEND
Survey Parameters:
Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
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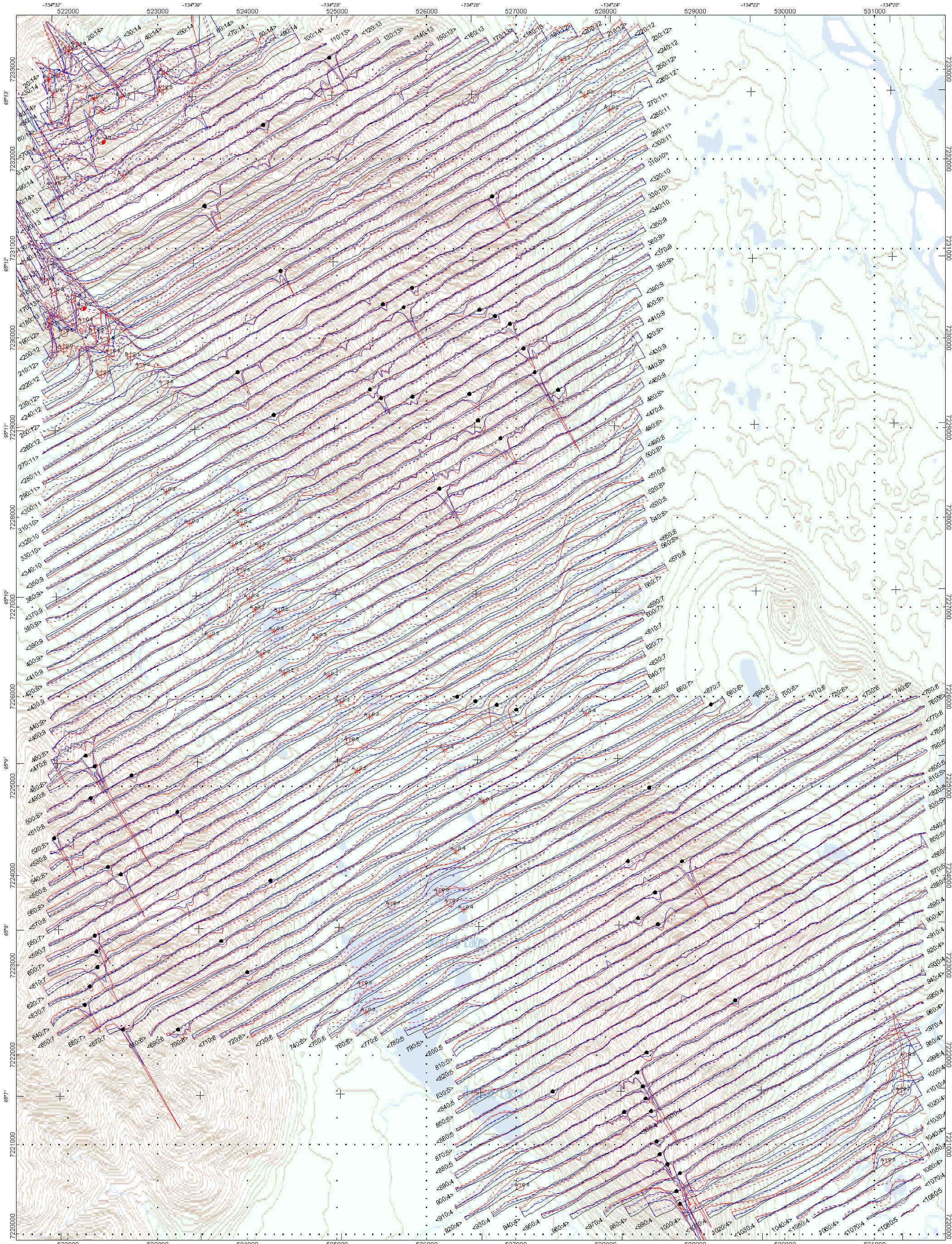
Control Line Direction: 330°
Airborne Magnetometer System:
Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor
Airborne Electromagnetic (HEM) System:
Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second
Data Acquisition System:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30
Airborne Navigation System:
Ag-Navigation System
Sampling Rate: 1 reading/second
Base Station GPS Receiver:
Novatel Millenium receiver
Sampling Rate: 1 reading/second
Base Station Magnetometer:
GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT
EM Profiles legend:
In Phase 880 Hz (2 ppm/mm)
Quadrature 880 Hz (2 ppm/mm)
In Phase 980 Hz (1 ppm/mm)
Quadrature 980 Hz (1 ppm/mm)
Electromagnetic Anomaly Legend
Coaxial Coil (Conductance Units - Siemens)
980 Hz Coaxial Coil
>16
8-16
4-8
2-4
1-2
0.5-1
<0.5 questionable anomaly
3.23 E
Conductance (Simens)
Label
EM Anomaly with Magnetic Permability Response
Scale 1:20000
250 0 250 500 750 1000 1250 1500
metres
NAD83 / UTM zone 8N
McPHAR
Signet Minerals Inc
EM Profiles: Horizontal Coplanar 880 Hz Coil
Vertical Coaxial 980 Hz Coil
Beta Block
Survey Flown May 2006
McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

EM Profiles legend:

In Phase 6600 Hz (2ppm/mm)
Quadrature 6600 Hz (2ppm/mm)
In Phase 7000 Hz (2ppm/mm)
Quadrature 7000 Hz (2 ppm/mm)

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil

- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Simens)
Label

EM Anomaly with Magnetic Permability Response

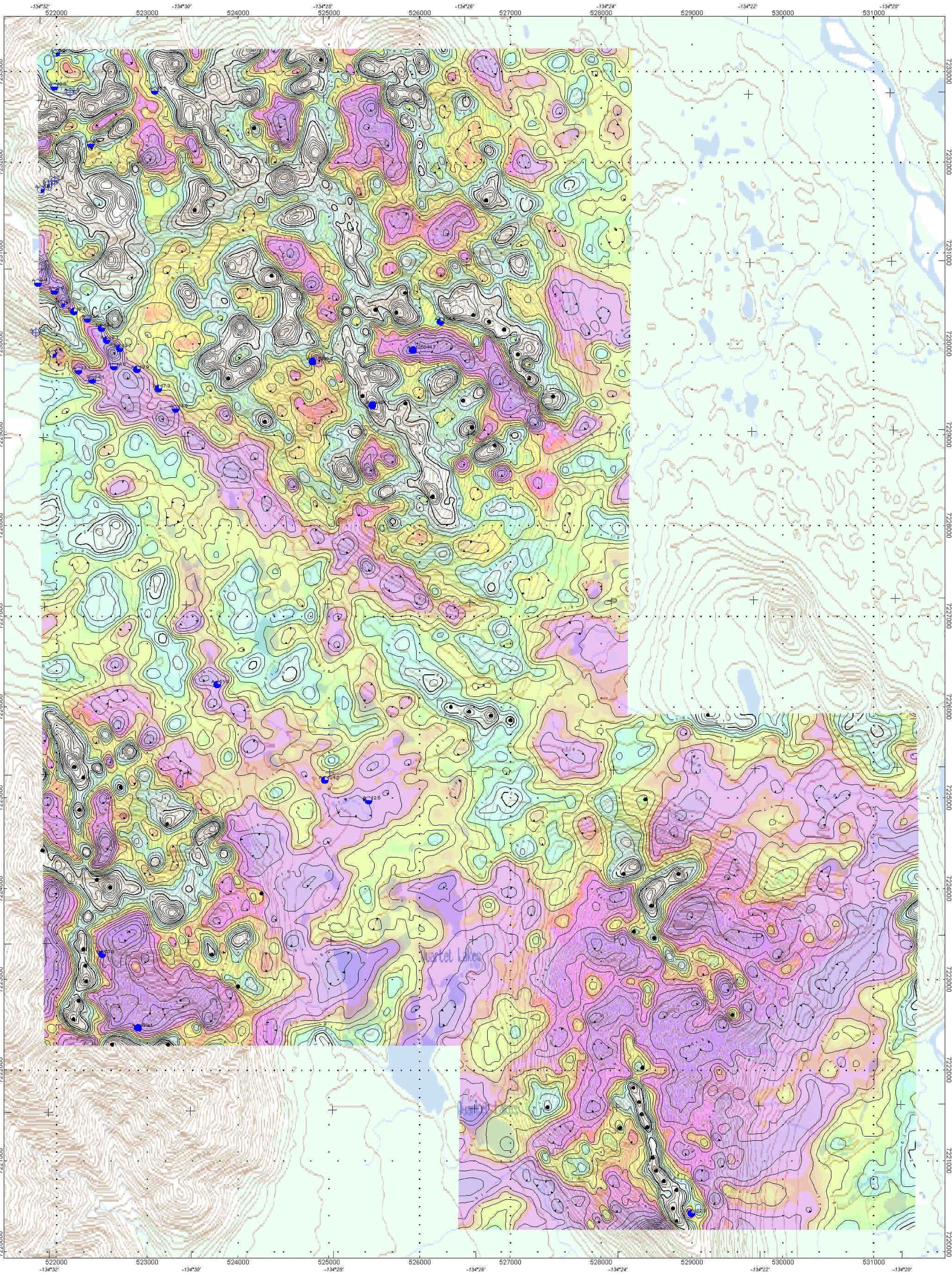
Scale 1:20000

Signet Minerals Inc

EM Profiles: Horizontal Coplanar 6600 Hz Coil
Vertical Coaxial 7000 Hz Coil

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

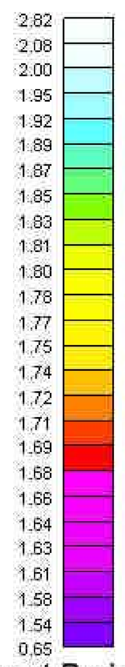
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



Apparent Resistivity
(Ohm-metre, Ohm-m)
Logarithmic Scale

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil

- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Simens)
Label

EM Anomaly with Magnetic Permability Response

Logarithmic Contour Intervals: 0.1, 1, 10, 100, 1000, 10000 Ohm-m

Scale 1:20000

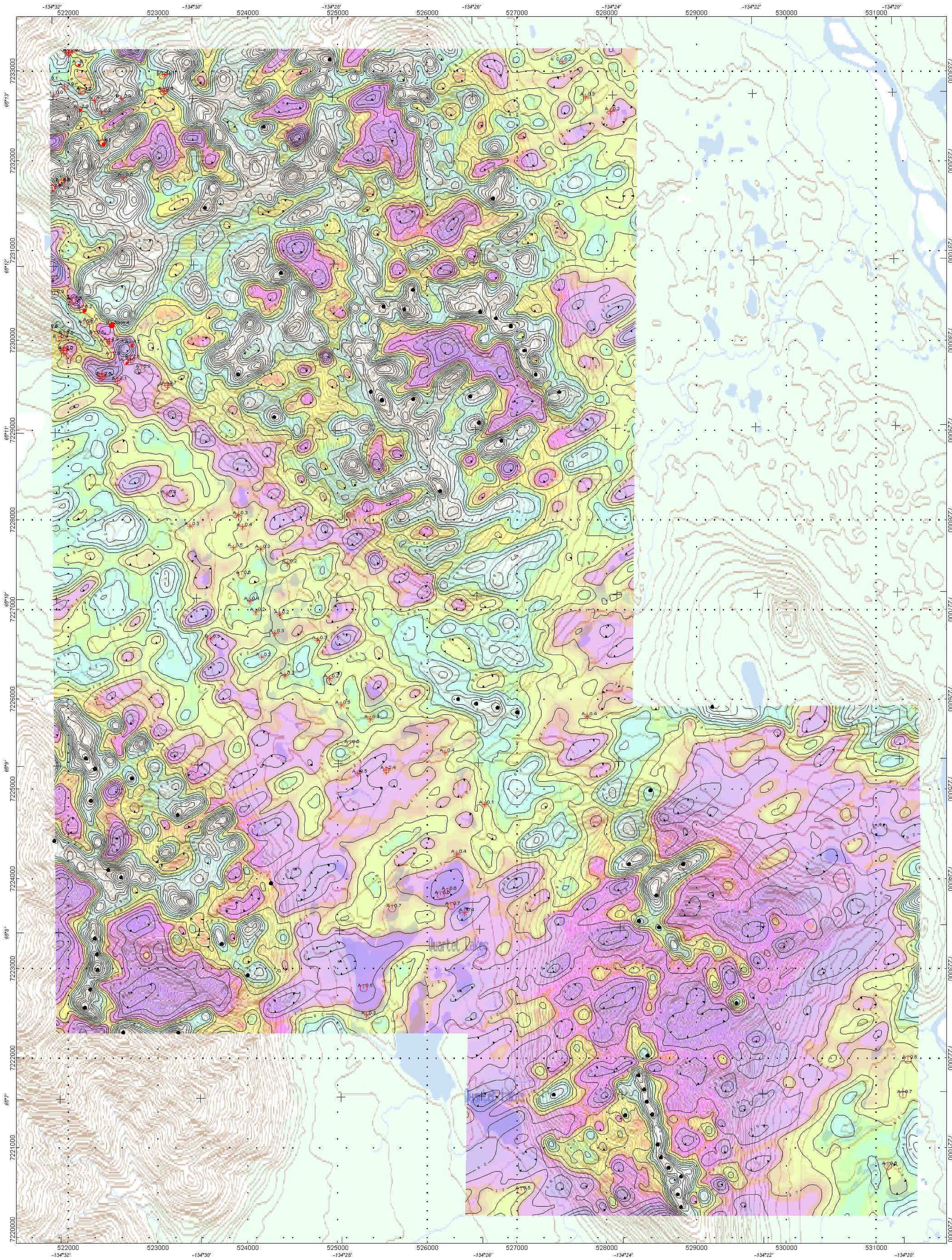
McPHAR

Signet Minerals Inc

Apparent Resistivity of Horizontal Coplanar 880 Hz Coils

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

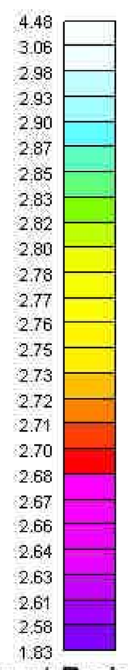
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



Apparent Resistivity

(Ohm-metre, Ohm-m)
Logarithmic Scale

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7001 Hz Coaxial Coil

- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Simens)
Label

EM Anomaly with Magnetic Permability Response

Logarithmic Contour Intervals: 0.1, 1, 10, 100, 1000, 10000 Ohm-m

Scale 1:20000

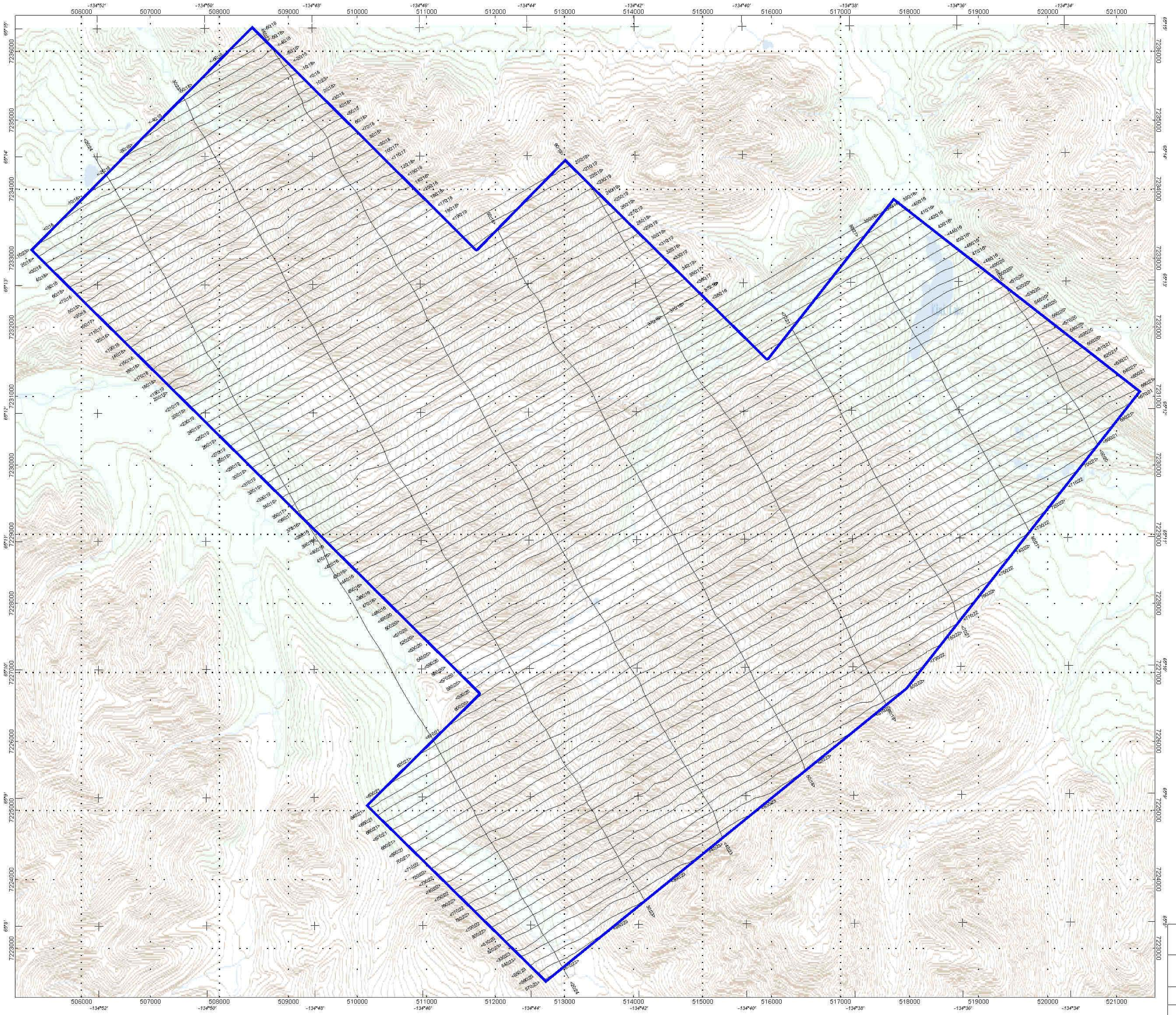
250 0 250 500 750 1000 1250 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc

Apparent Resistivity of Horizontal Coplanar 6600 Hz Coils

Beta Block **Survey Flown May, 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Survey Area

Scale 1:25000

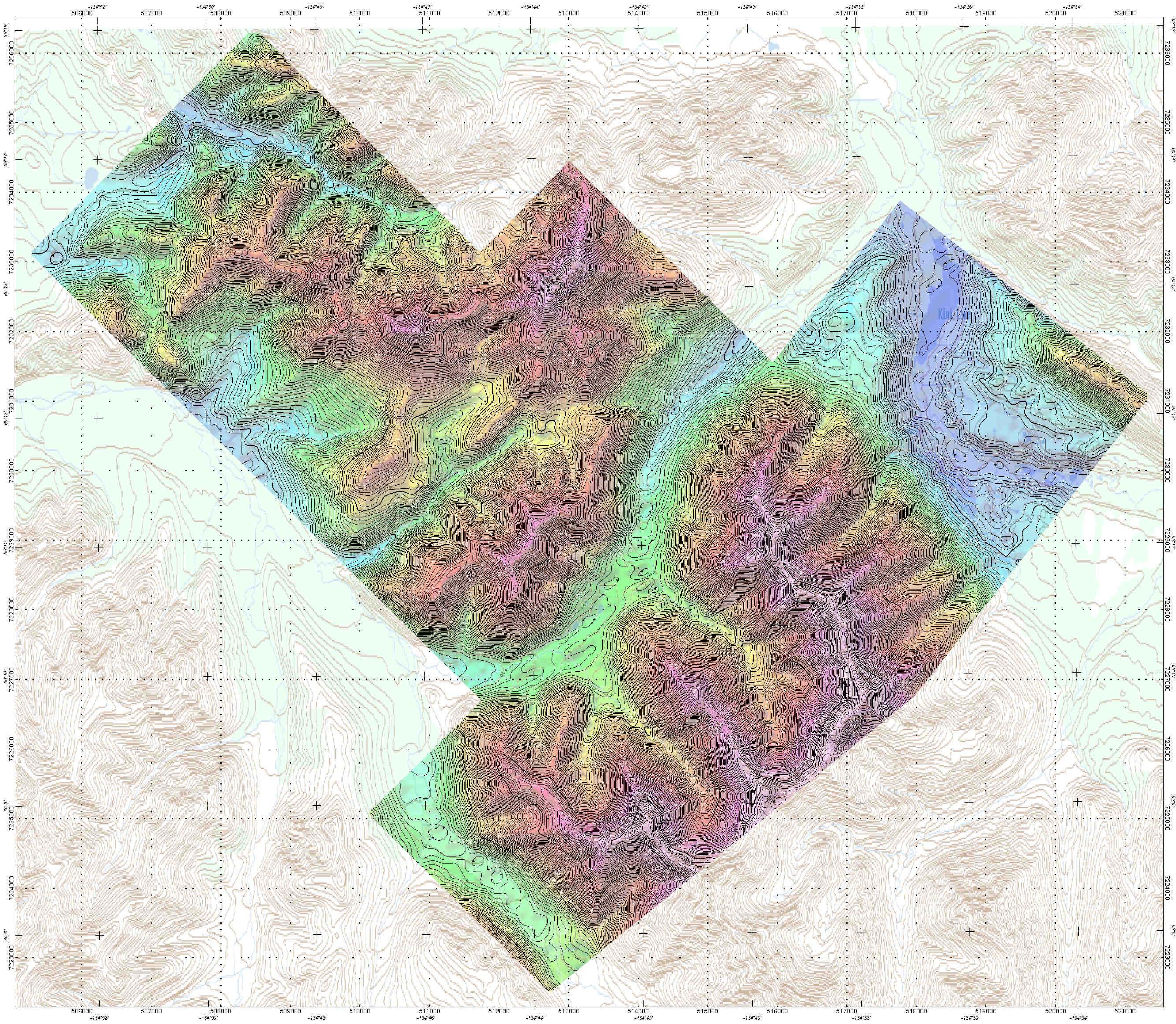
500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Flight Path Map

Block Curie — Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
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Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contours Legend:

10 metres
50 metres
250 metres

Scale 1:25000

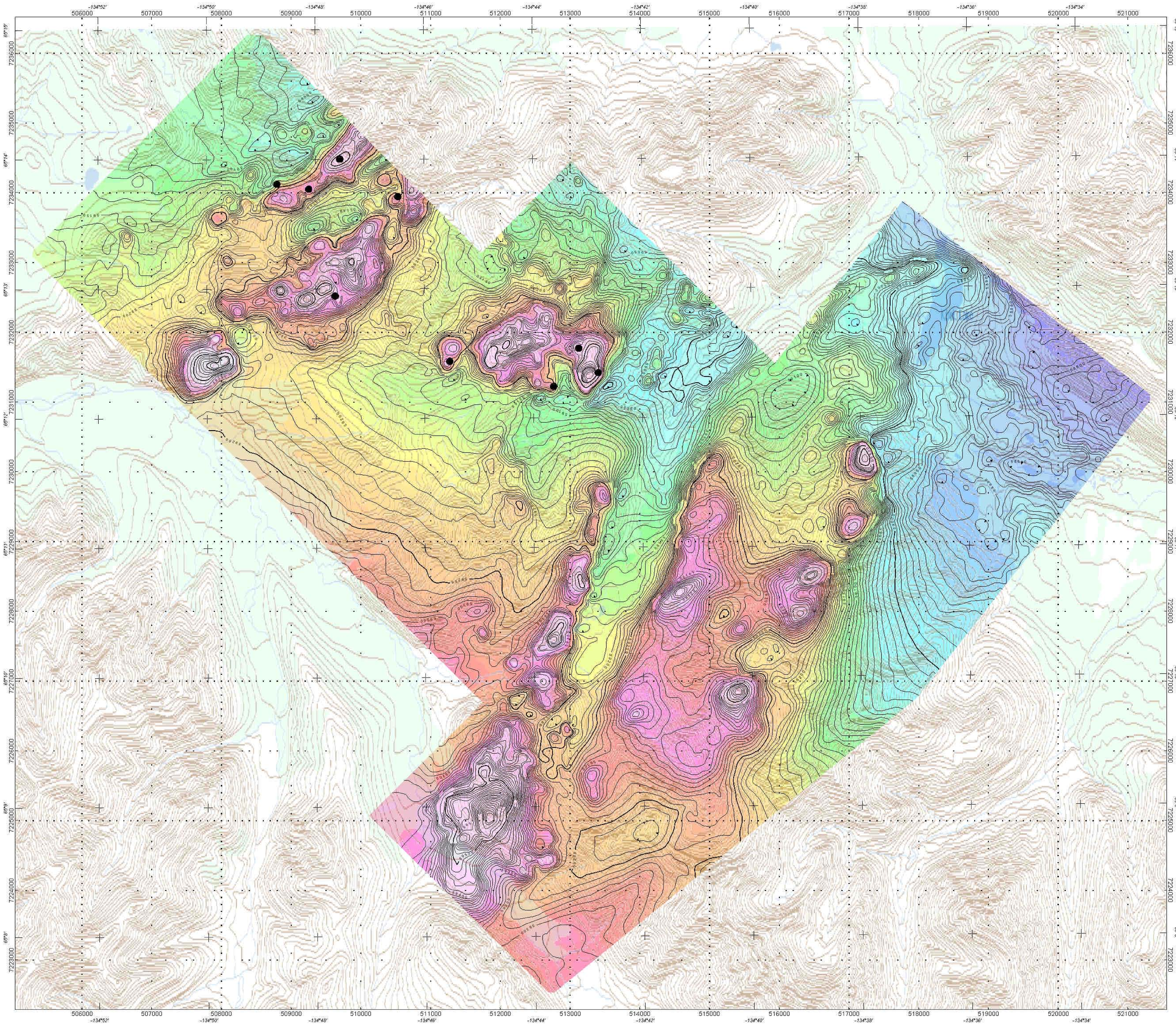
500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Digital Terrain Model

Block Curie — Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
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Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

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Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

60038
59442
59377
59344
59327
59314
59303
59294
59284
59275
59266
59258
59251
59243
59236
59228
59221
59213
59205
59197
59189
59182
59173
59166
59157
59145
59132
59118
59104
59089
59073
59057
59041
59012
58976
58940
58911
58885
58829
58753

Total Magnetin Intesity
nanoTesla

Contours Legend:

10 nanoTesla
50 nanoTesla
250 nanoTesla

EM Anomaly weth Magnetic Permability Response

Scale 1:25000
500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

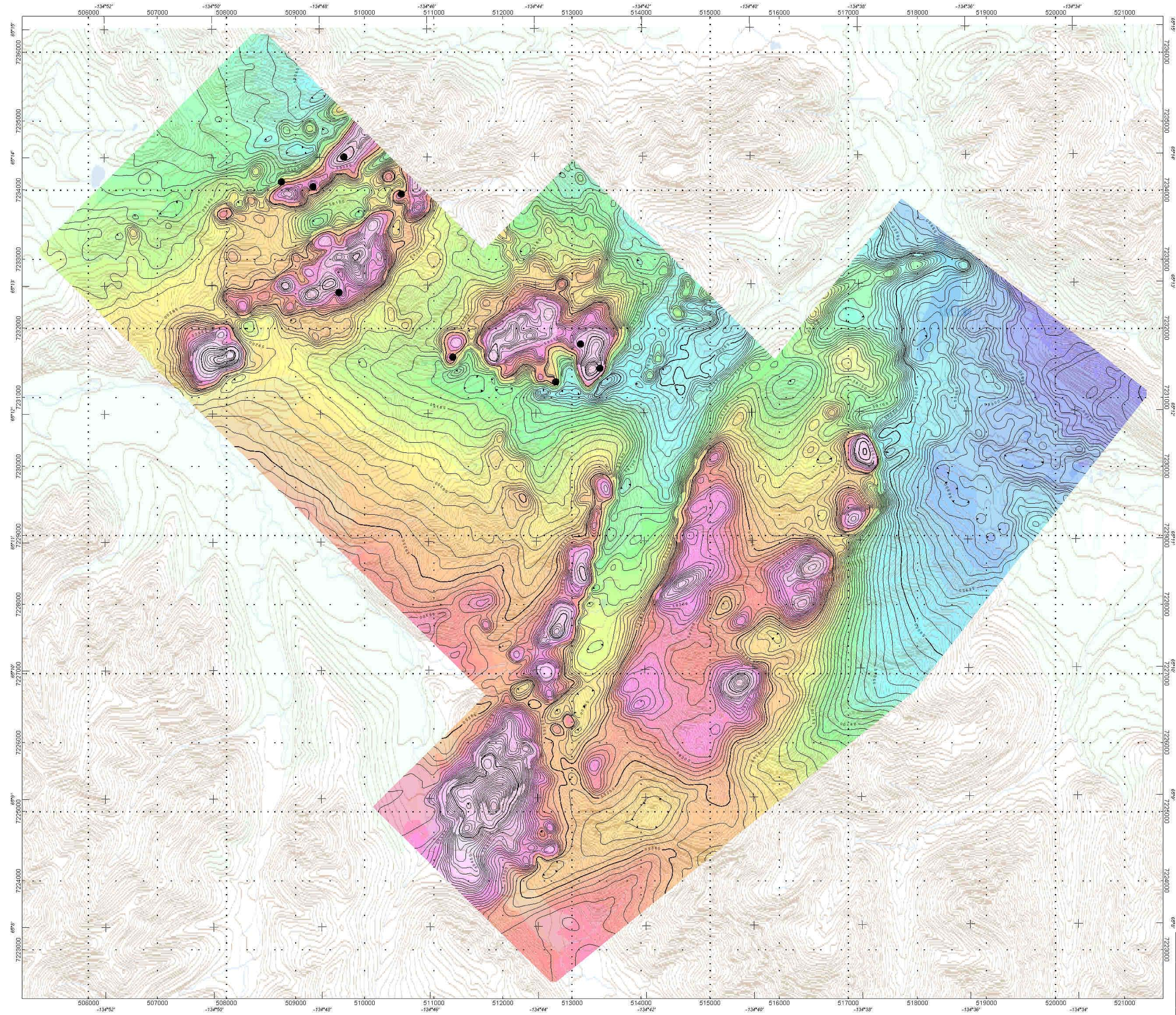
McPHAR

Signet Minerals Inc.

Total Magnetic Intesity

Block Curie Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

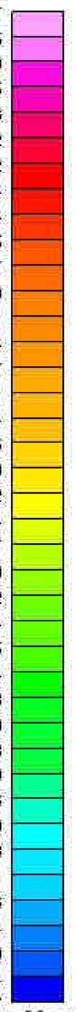
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



Reduced to the Magnetic Pole of TMI
nanoTesla

Contours Legend:

10 nanoTesla
50 nanoTesla
250 nanoTesla

● EM Anomaly weth Magnetic Permability Response

Scale 1:25000

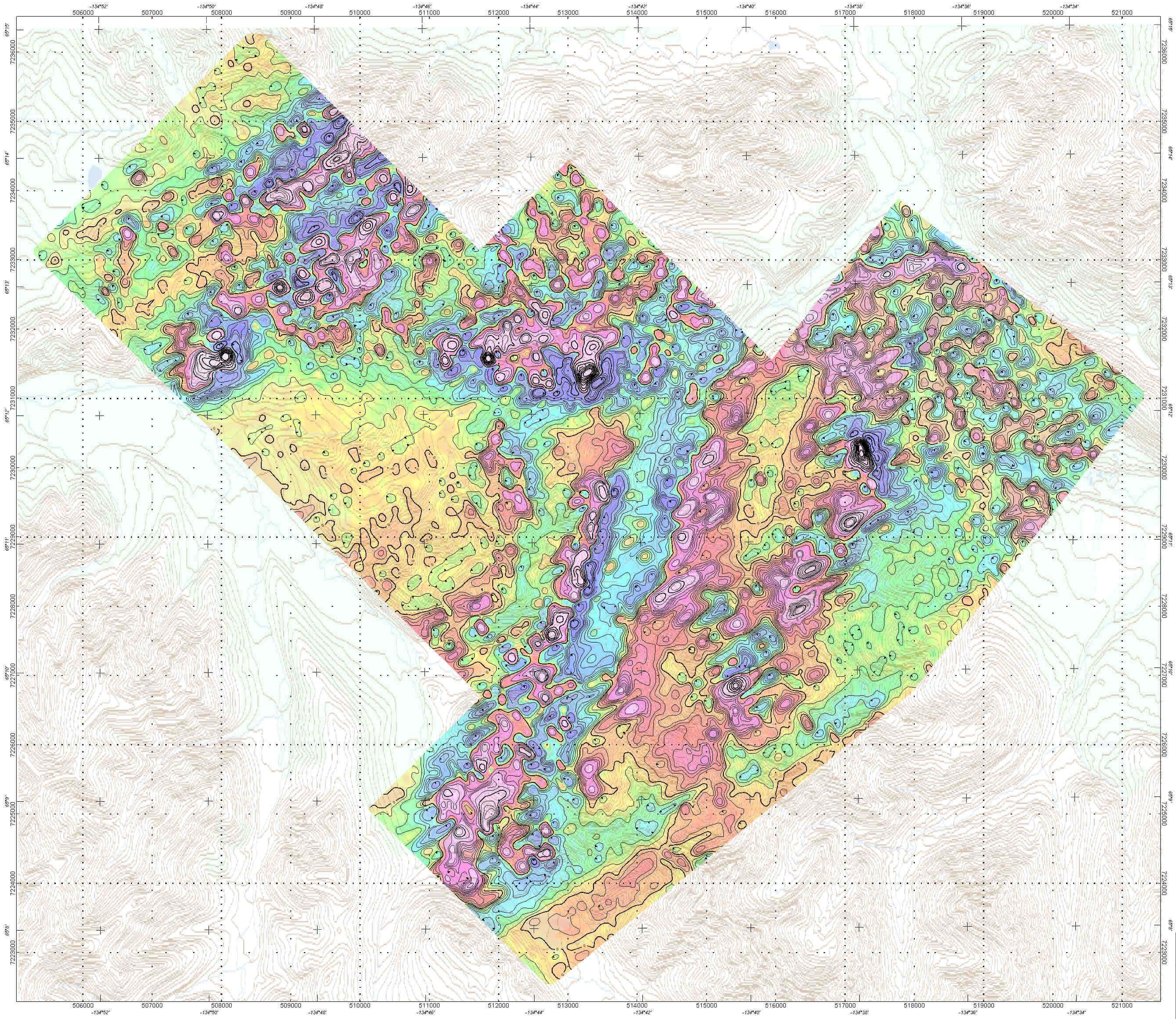
500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Reduced to the Magnetic Pole of Total Magnetic Intensity

Block Curie Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

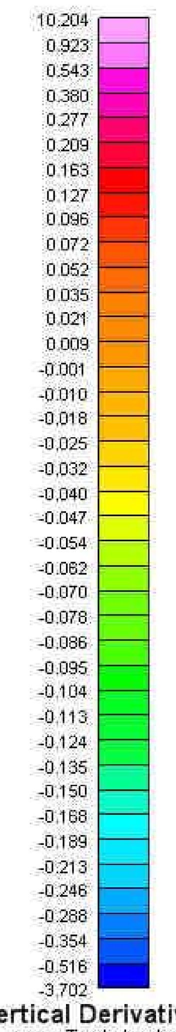
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



First Vertical Derivative of TMI
nanoTesla/metre

Contours Legend:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nanoTesla/metre

Scale 1:25000

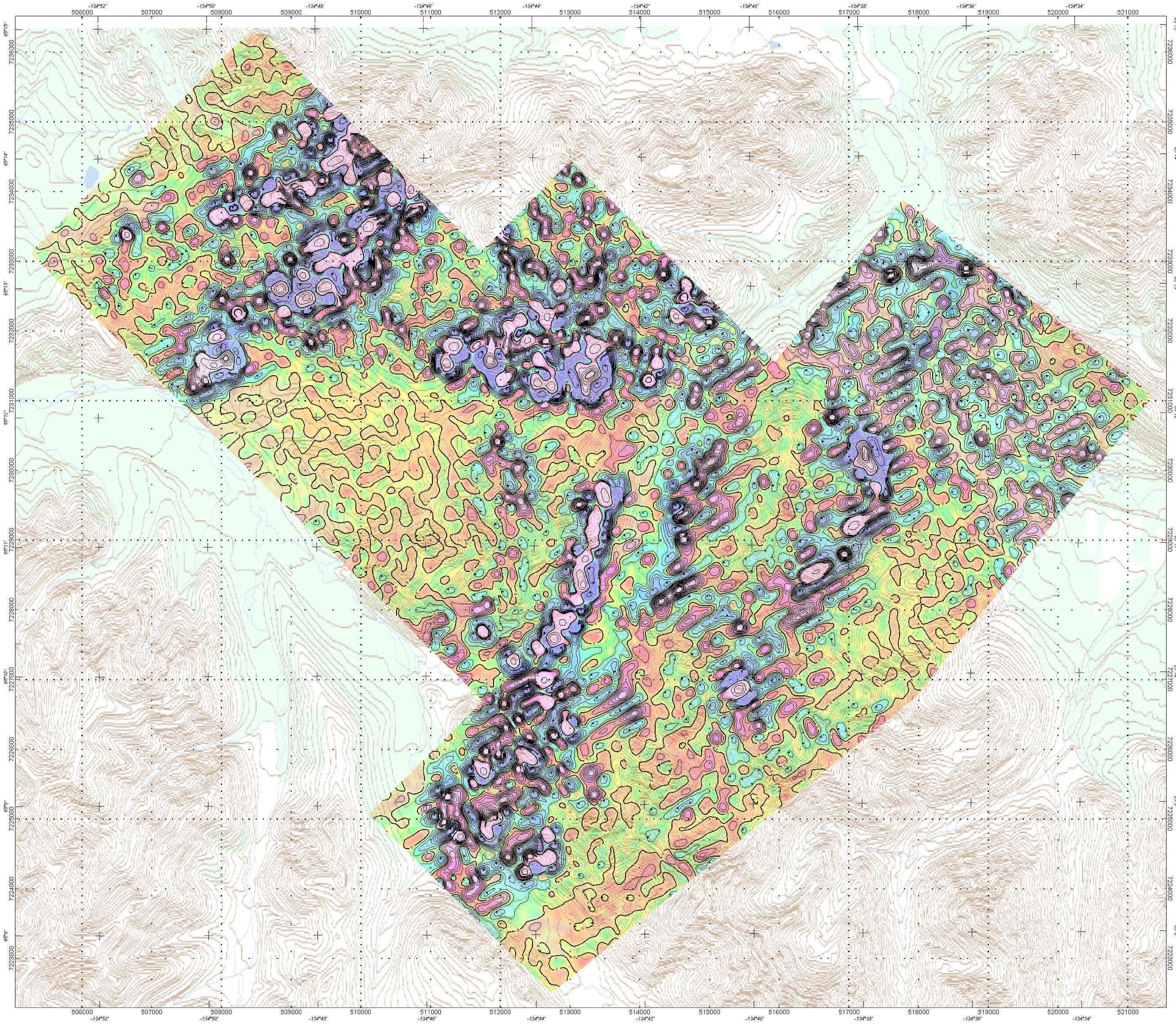
McPHAR

Signet Minerals Inc.

Calculated First Vertical Derivative of Total Magnetic Intensity

Block Curie — Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

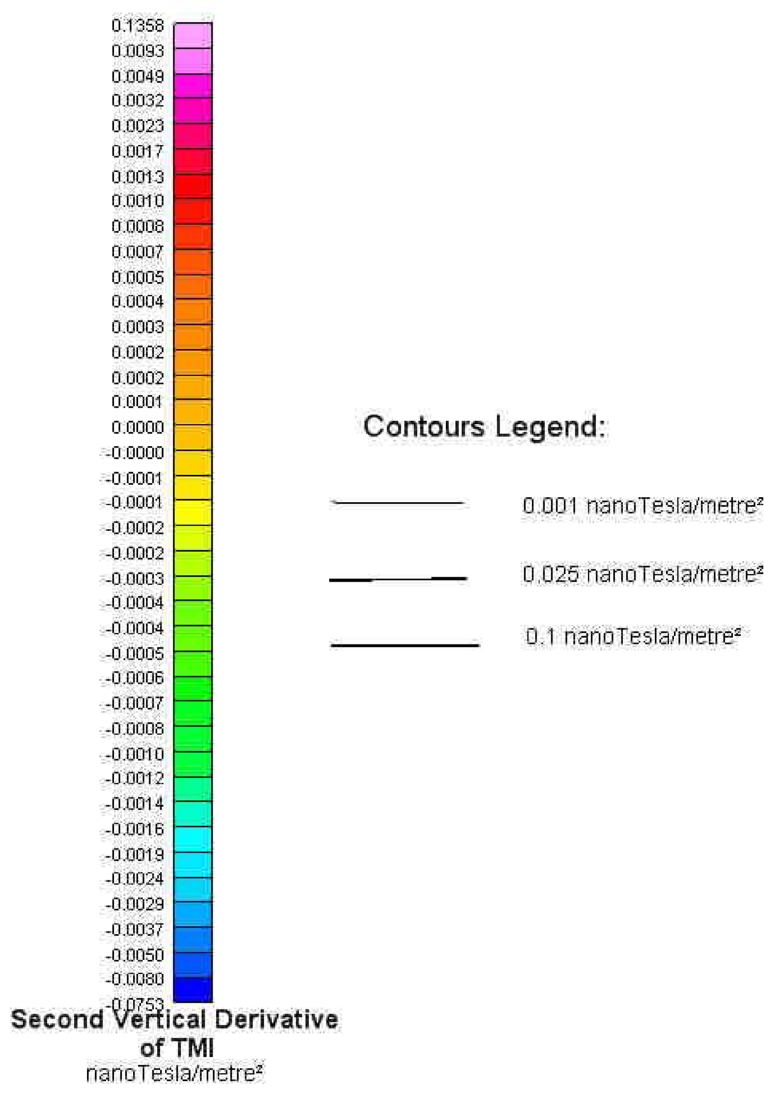
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



Scale 1:25000

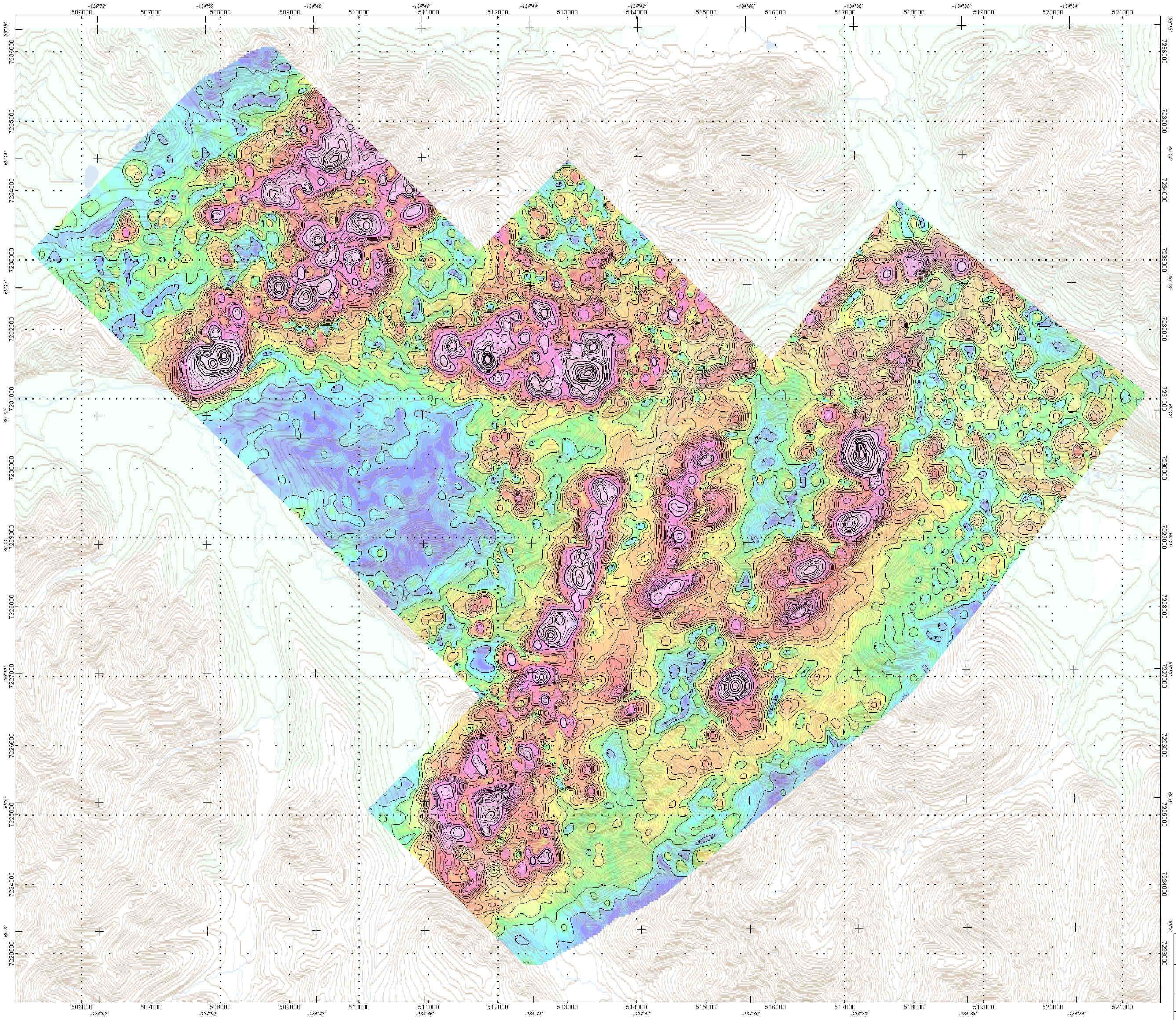
McPHAR

Signet Minerals Inc.

Calculated Second Vertical Derivative of Total Magnetic Intensity

Block Curie | Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

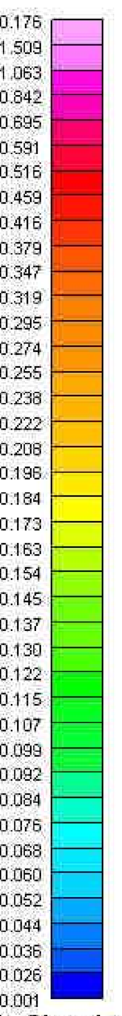
Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT



Analytic Signal of TMI
nanoTesla/metre

Contours Legend:

0.05 nanoTesla/metre

0.25 nanoTesla/metre

1 nanoTesla/metre

Scale 1:25000

500 0 500 1000 1500

metres

NAD83 / UTM zone 8N

Signet Minerals Inc.

Calculated Analytic Signal of Total Magnetic Intensity

Block Curie Survey flown May, 2006

McPhar Geosurveys Ltd.


LEGEND
Survey Parameters:
Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
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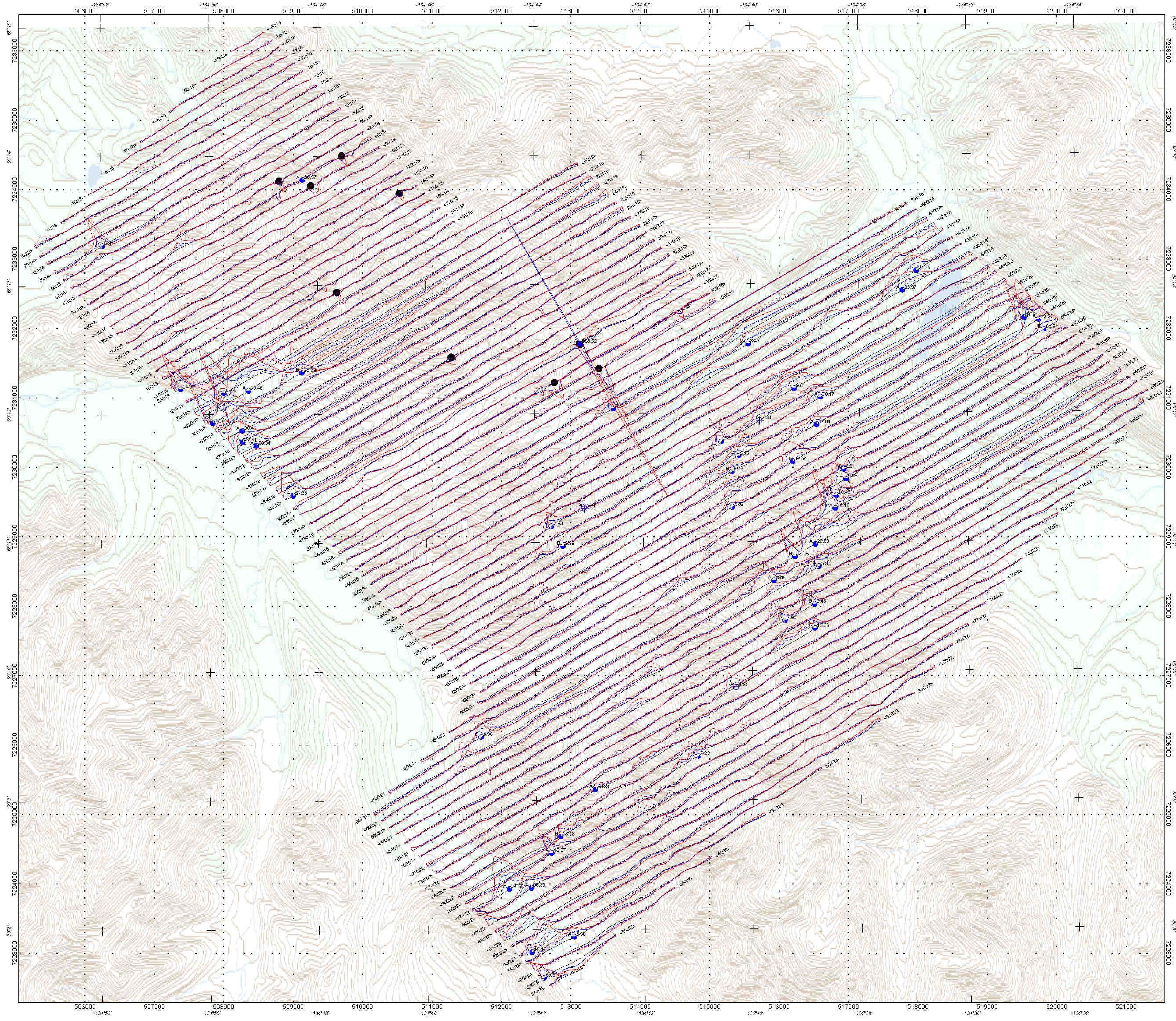
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°
Airborne Magnetometer System:
Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor
Airborne Electromagnetic (HEM) System:
Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second
Data Acquisition System:
Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30
Airborne Navigation System:
Ag-Navigation System
Sampling Rate: 1 reading/second
Base Station GPS Receiver:
Novatel Millenium receiver
Sampling Rate: 1 reading/second
Base Station Magnetometer:
GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT
Contours Legend:
0.02 nanoTesla/metre
0.1 nanoTesla/metre
0.5 nanoTesla/metre
Horizontal Gradient of TMI
nanoTesla/metre
Scale 1:25000
metres
NAD83 / UTM zone 8N
McPHAR
Signet Minerals Inc.
Calculated Horizontal Gradient of Total Magnetic Intensity
Block Curie
Survey flown May, 2006
McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
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Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

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Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

EM Profiles legend:

In Phase 880 Hz (5ppm/mm)
Quadrature 880 Hz (5 ppm/mm)
In Phase 980 Hz (3 ppm/mm)
Quadrature 980 Hz (3 ppm/mm)

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil
- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Simens)
Label

EM Anomaly with Magnetic Permability Response

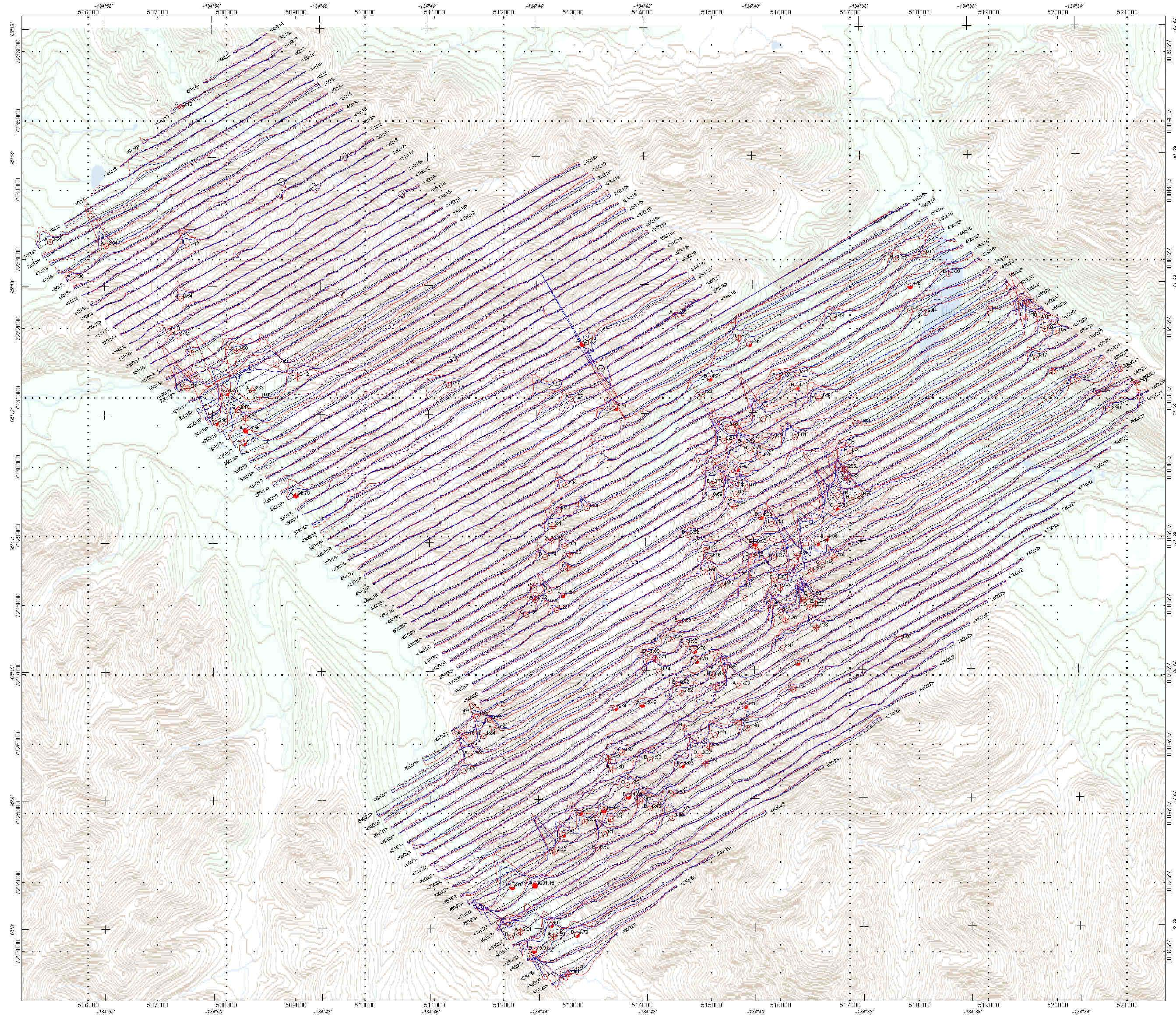
Scale 1:25000
600 0 500 1000 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

EM Profiles: Horizontal Coplanar 880 Hz Coil
Vertical Coaxial 980 Hz Coil

Block Curie — Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

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Helicopter Registration: C-GRHH
Survey Date: March-April 2006
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Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

EM Profiles legend:

In Phase 6600 Hz (5ppm/mm)
Quadrature 6600 Hz (5 ppm/mm)
In Phase 7000 Hz (5 ppm/mm)
Quadrature 7000 Hz (5 ppm/mm)

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil

>16
8-16
4-8
2-4
1-2
0.5-1
<0.5 questionable anomaly

3.23 E
Conductance (Simens)
Label

EM Anomaly with Magnetic Permability Response

Scale 1:25000

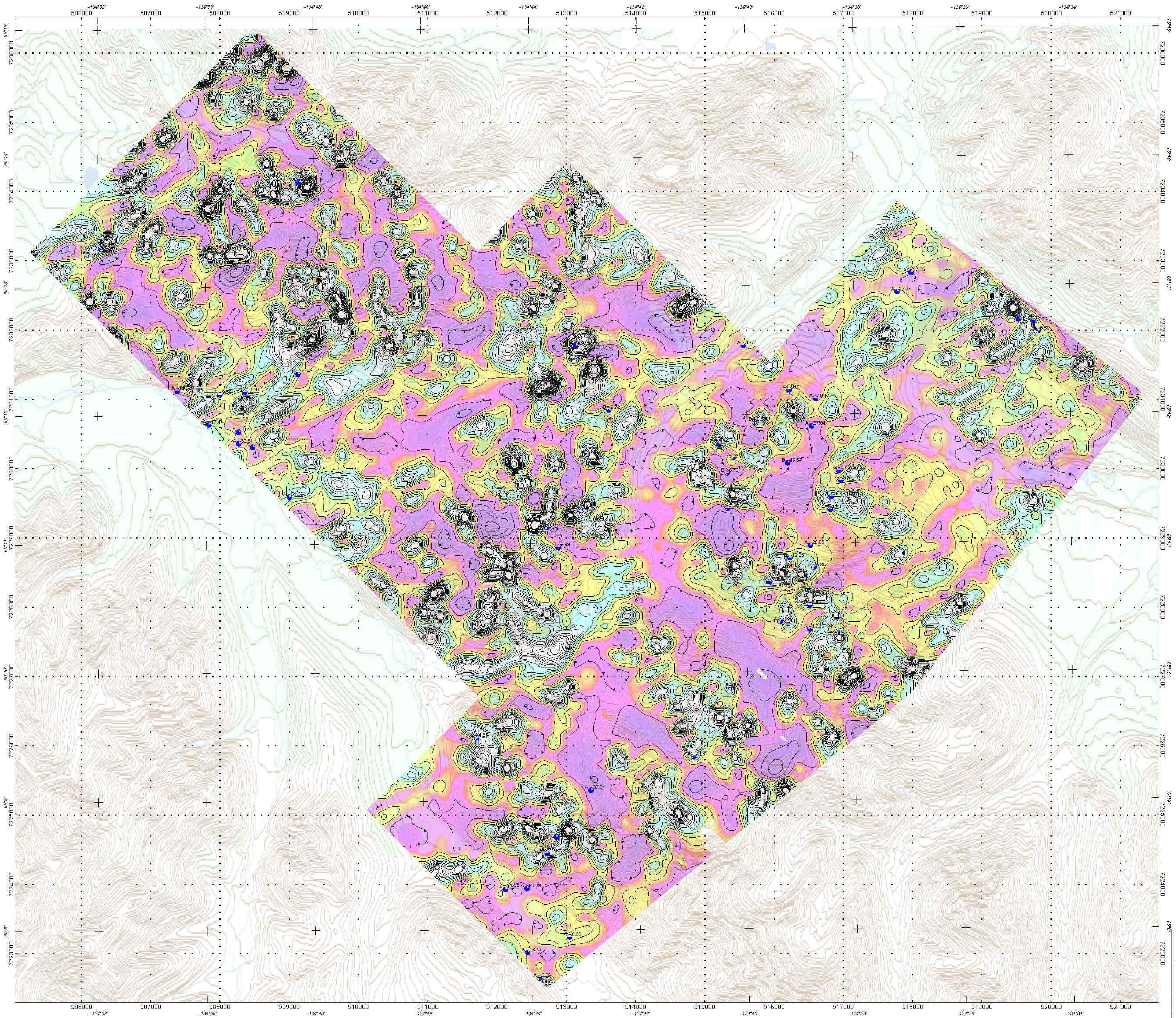
500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

EM Profiles: Horizontal Coplanar 6600 Hz Coil
Vertical Coaxial 7000 Hz Coil

Block Curie Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
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Traverse Line Direction: 60°
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Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
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Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

2.876
1.883
1.814
1.781
1.761
1.746
1.733
1.724
1.716
1.709
1.704
1.700
1.693
1.612

Apparent Resistivity
(Ohm-metre, Ohm-m)
Logarithmic Scale

Logarithmic Contour Intervals:
0.1, 1, 10, 100, 1000, 10000 Ohm-m

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil

- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Simens)
Label

EM Anomaly with Magnetic Permability Response

Scale 1:25000

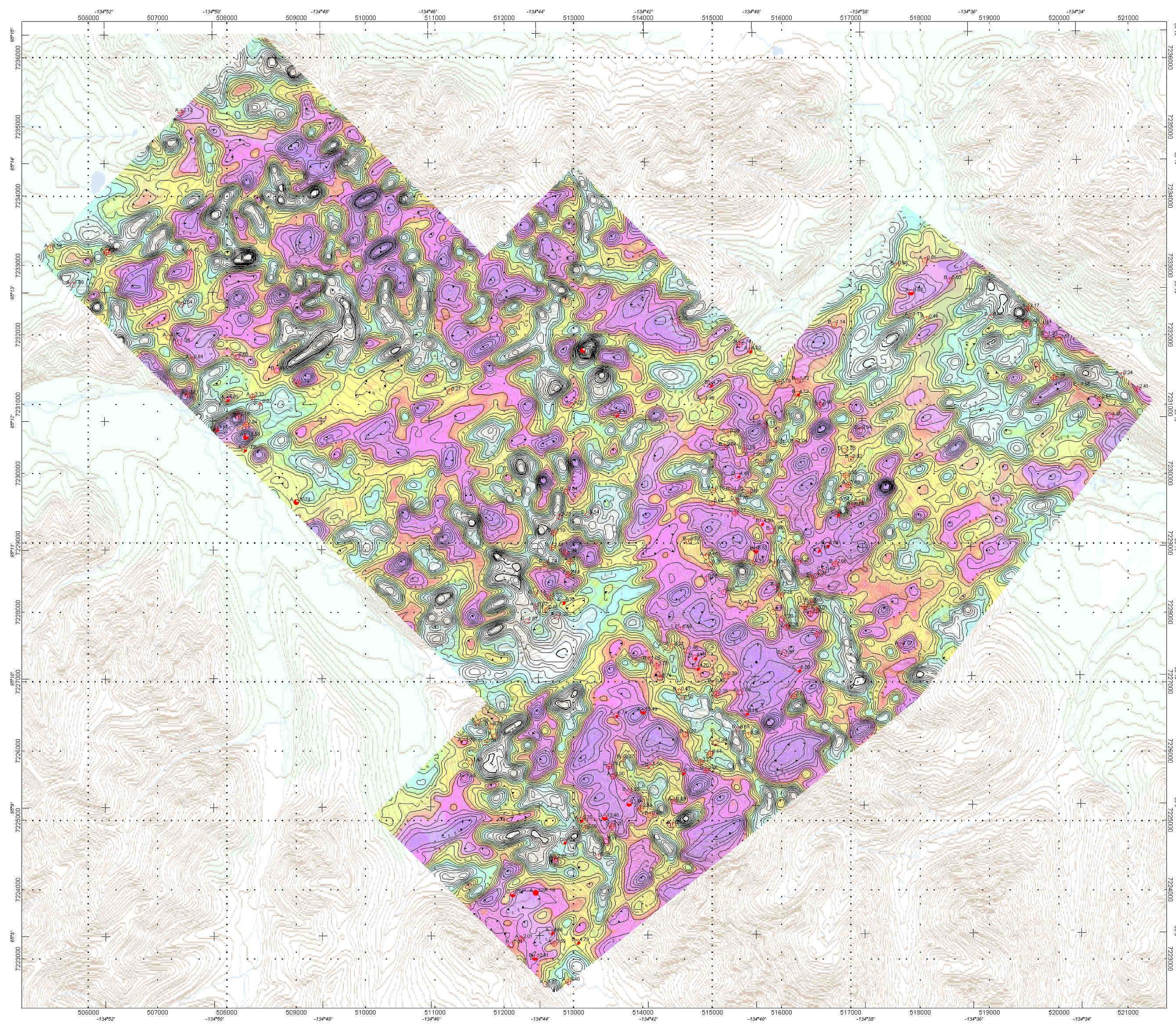
500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Apparent Resistivity of Horizontal Coplanar 880 Hz Coils

Block Curie — Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

3.665
2.857
2.736
2.668
2.616
2.572
2.530
2.491
2.452
2.412
2.371
2.325
2.262
1.673

Apparent Resistivity
(Ohm-metre, Ohm-m)
Logarithmic Scale

Logarithmic Contour Intervals:
0.1, 1, 10, 100, 1000, 10000 Ohm-m

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil

- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Simens)
Label

EM Anomaly with Magnetic Permability Response

Scale 1:25000

500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

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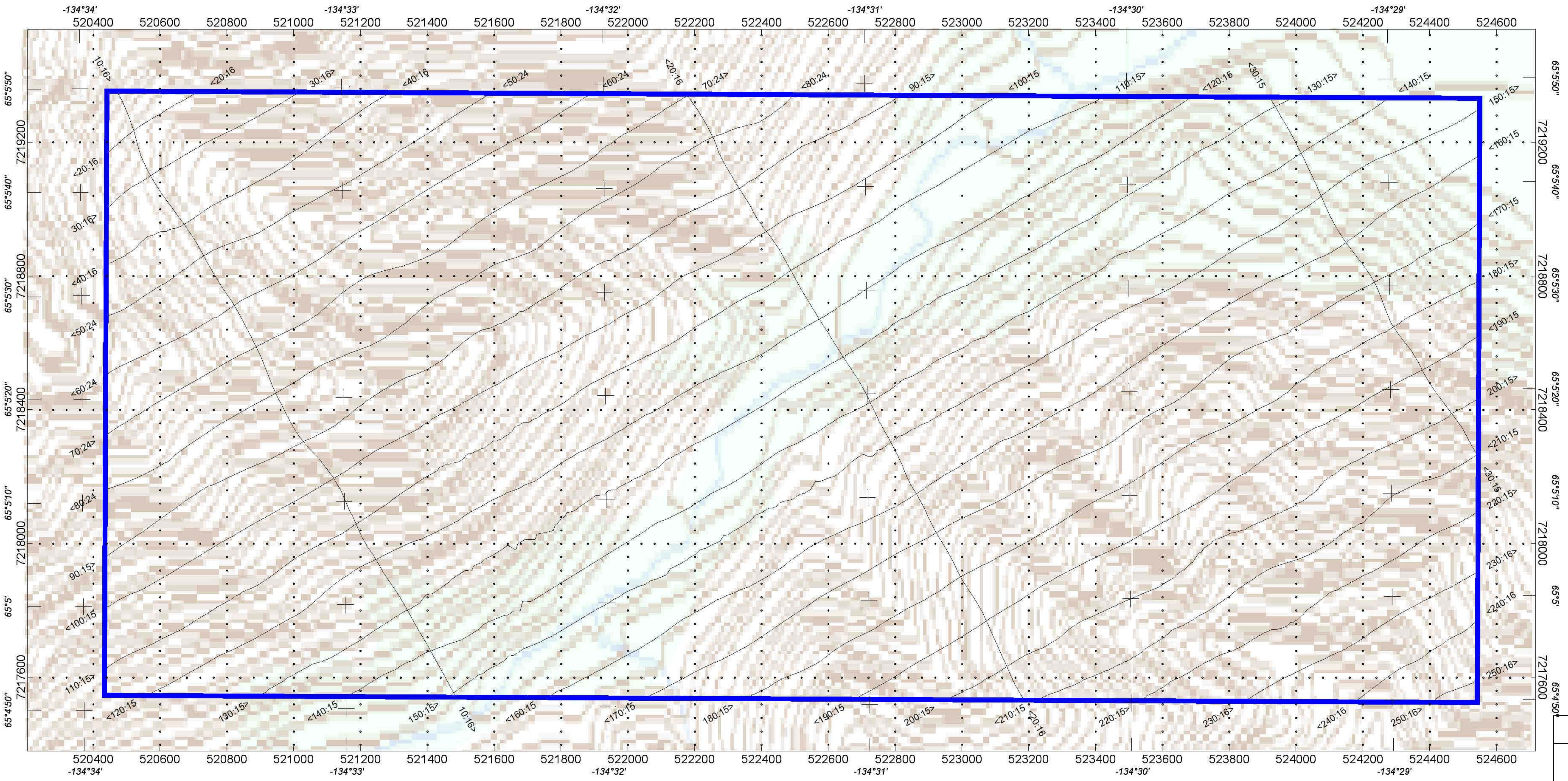
Apparent Resistivity of Horizontal Coplanar 6600 Hz Coils

Block Curie — Survey flown May, 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

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Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Survey Area

Scale 1:10000

200 0 200 400 600

metres

NAD83 / UTM zone 8N

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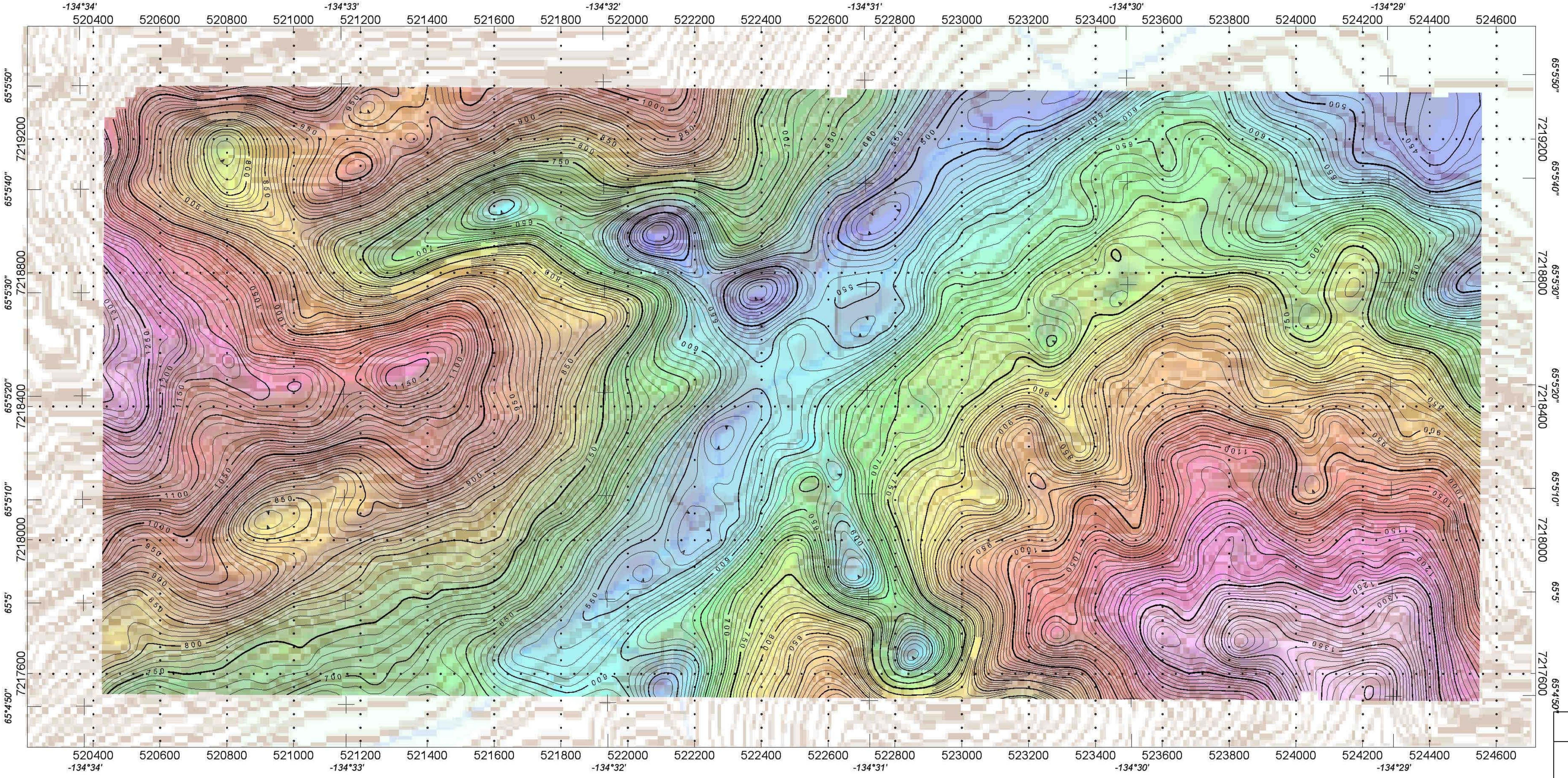
Flight Path Map

Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
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Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

10 metres
50 metres
250 metres

Digital Terrain Model
metre

482 570 637 700 758 834 912 985 1093 1305

Scale 1:10000

200 0 200 400 600
metres
NAD83 / UTM zone 8N

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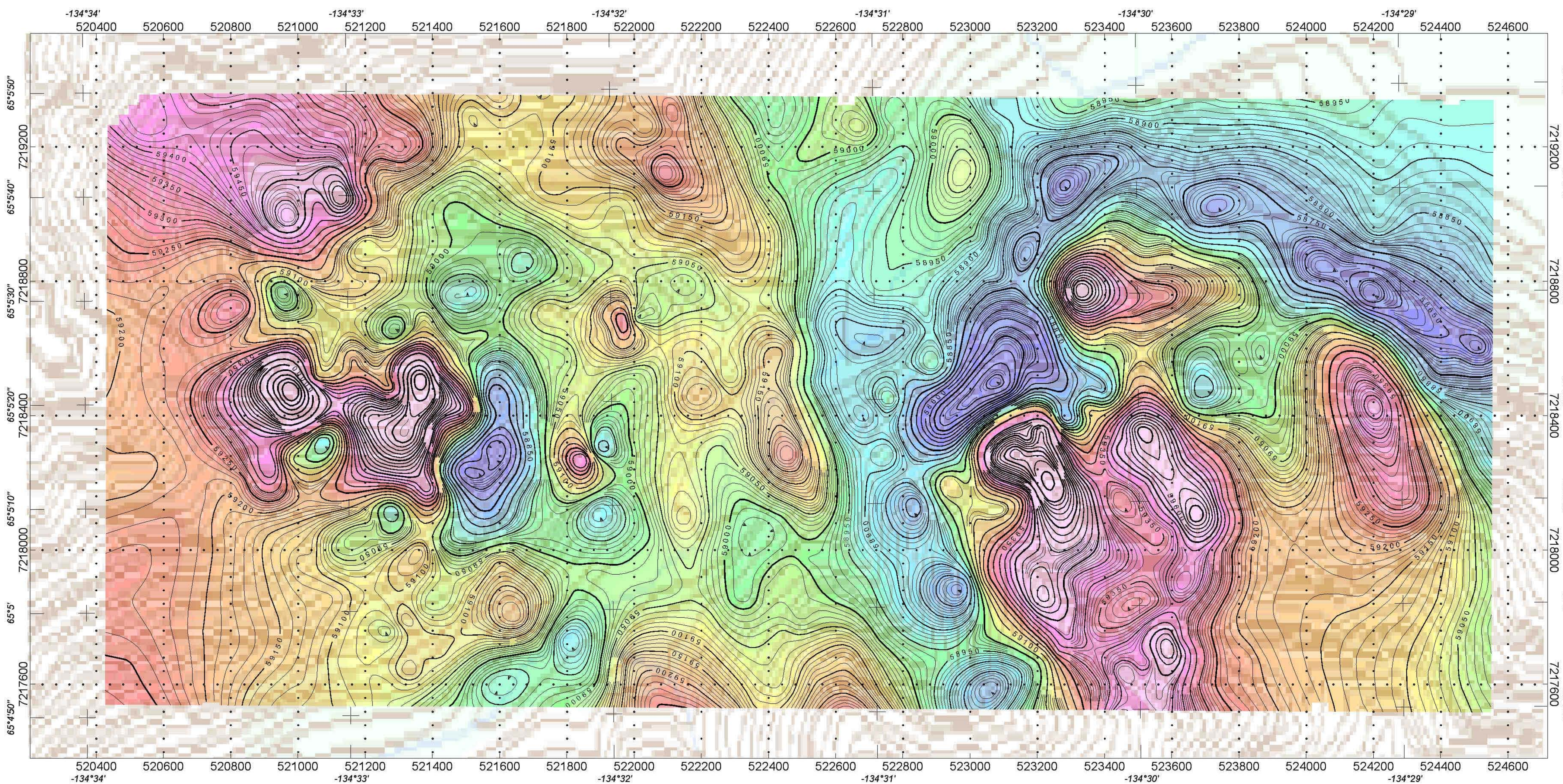
Signet Minerals Inc.

Digital Terrain Model
Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



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Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

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Ag-Navigation System
Sampling Rate: 1 reading/second

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Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

10 nanoTesla
50 nanoTesla
250 nanoTesla

TMI
nanoTesla

58693 58919 59002 59076 59151 59231 59464

Scale 1:10000

200 0 200 400 600
metres

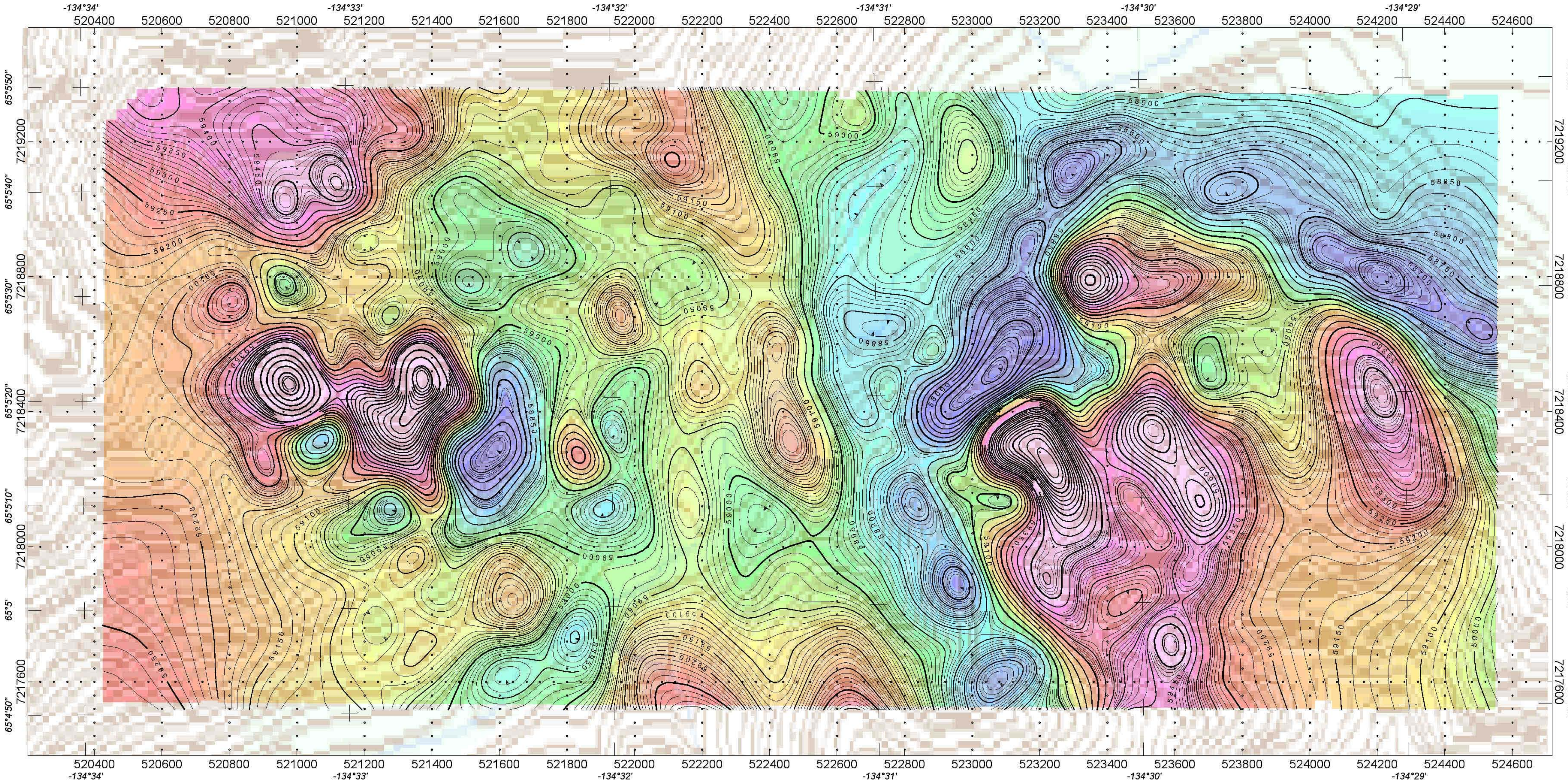
NAD83 / UTM zone 8N

McPHAR

Signet Minerals Inc.

Total Magnetic Intensity
Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
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Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
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Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

10 nanoTesla
50 nanoTesla
250 nanoTesla

Reduced to the Magnetic Pole of TMI
nanoTesla

58712 58912 59009 59078 59160 59233 59461

Scale 1:10000

200 0 200 400 600
metres

NAD83 / UTM zone 8N

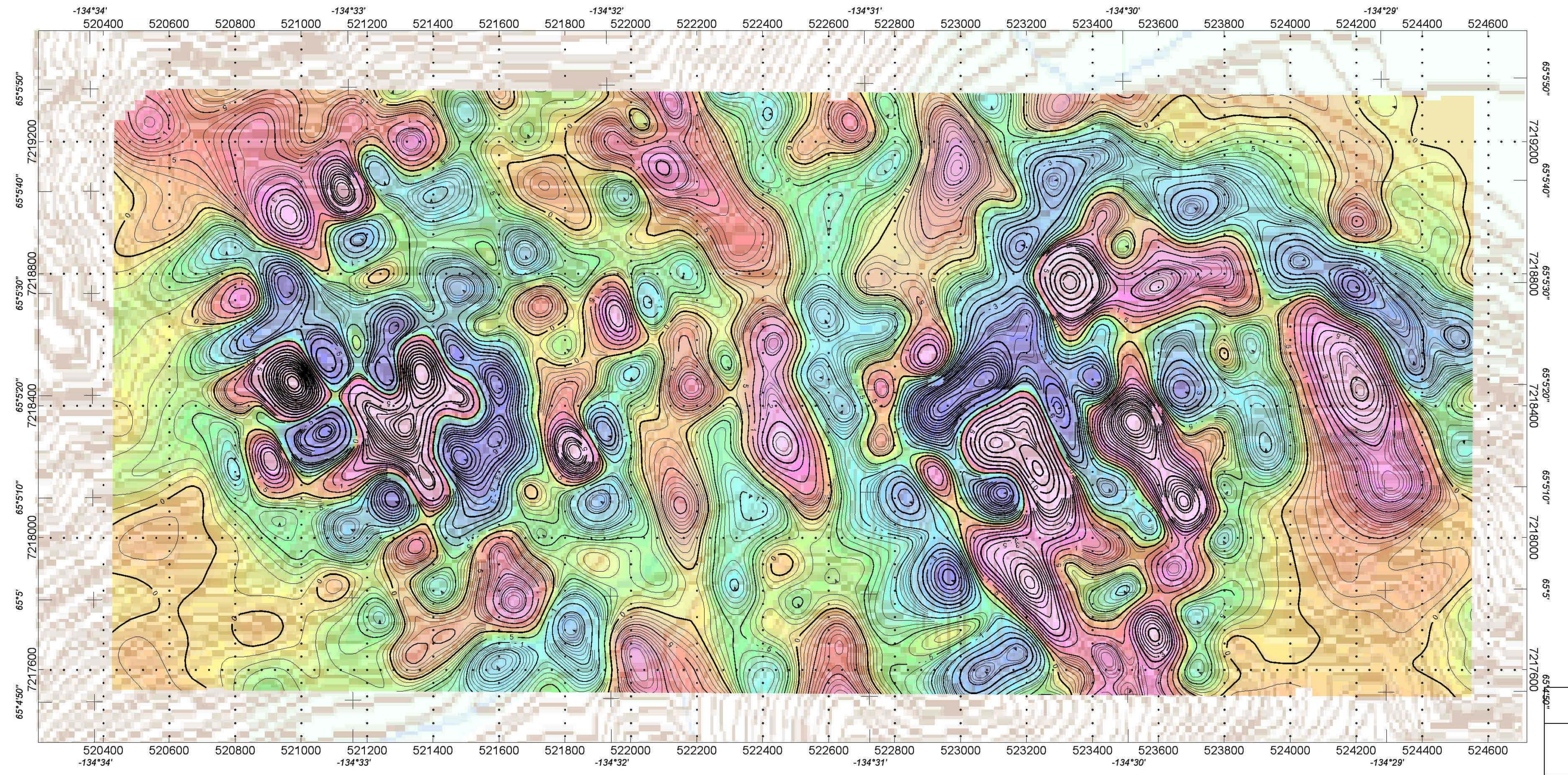
McPHAR

Signet Minerals Inc.

Reduced to the Magnetic Pole of Total Magnetic Intensity

Gamma Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

0.1 nanoTesla/metre
0.5 nanoTesla/metre
2.5 nanoTesla/metre

First Vertical Derivative of TMI
nanoTesla/metre

-3.975 -0.952 -0.424 -0.132 0.074 0.432 1.437

Scale 1:10000

200 0 200 400 600
metres

NAD83 / UTM zone 8N

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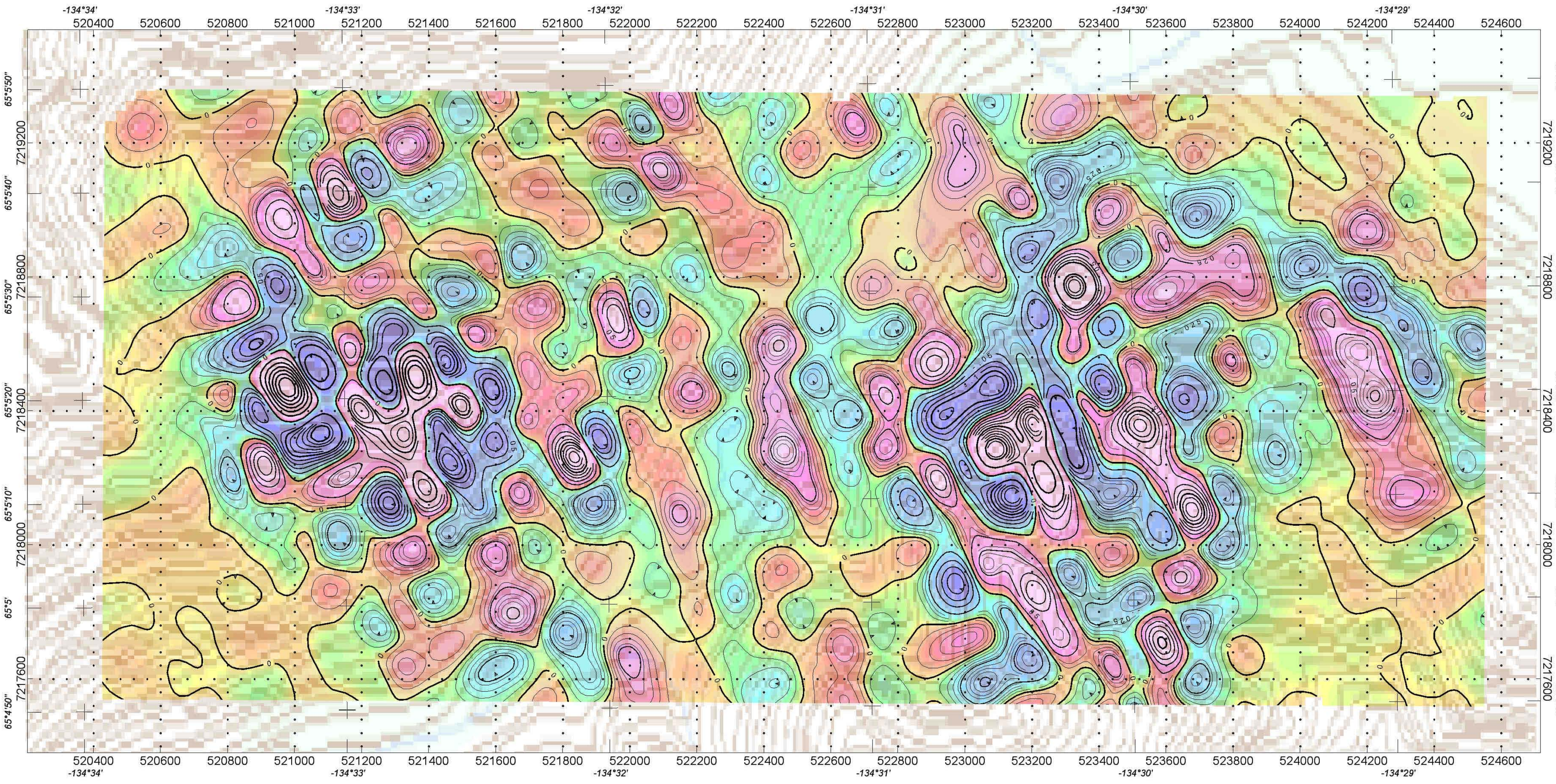
Signet Minerals Inc.

Calculated First Vertical Derivative of Total Magnetic Intensity
Gamma Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

0.005 nanoTesla/metre**2
0.025 nanoTesla/metre**2
0.125 nanoTesla/metre**2

Second Vertical Derivative of TMI
nanoTesla/metre**2

-0.0800 -0.0119 -0.0028 0.0004 0.0043 0.0171

Scale 1:10000

200 0 200 400 600
metres

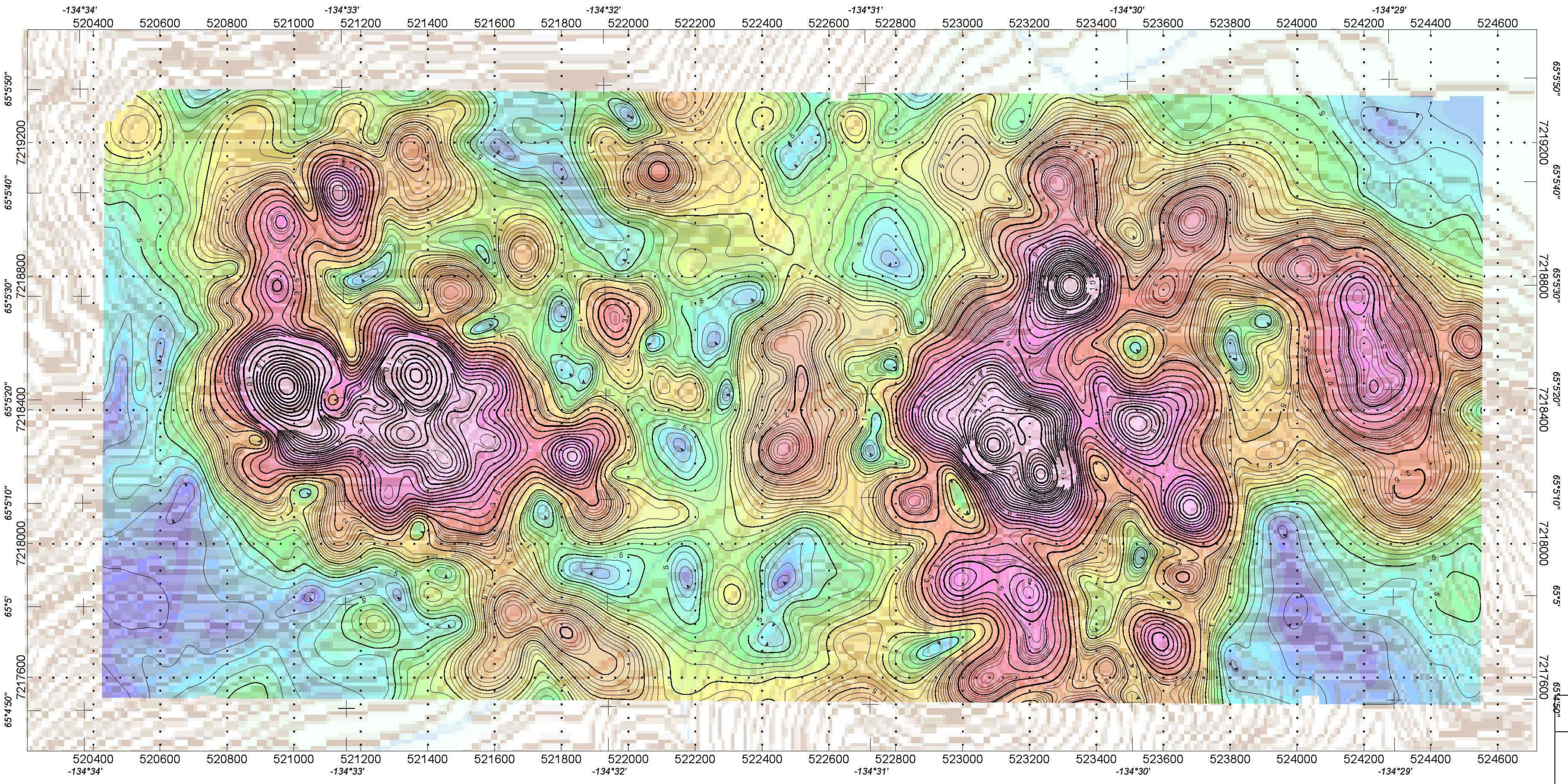
NAD83 / UTM zone 8N

McPHAR

Signet Minerals Inc.

Calculated Second Vertical Derivative of Total Magnetic Intensity
Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



N

LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

0.1 nanoTesla/metre
0.5 nanoTesla/metre
2.5 nanoTesla/metre

Analytic Signal of TMI
nanoTesla/metre

0.138 0.357 0.593 0.861 1.167 1.663 2.546 5.204

Scale 1:10000

200 0 200 400 600
metres

NAD83 / UTM zone 8N

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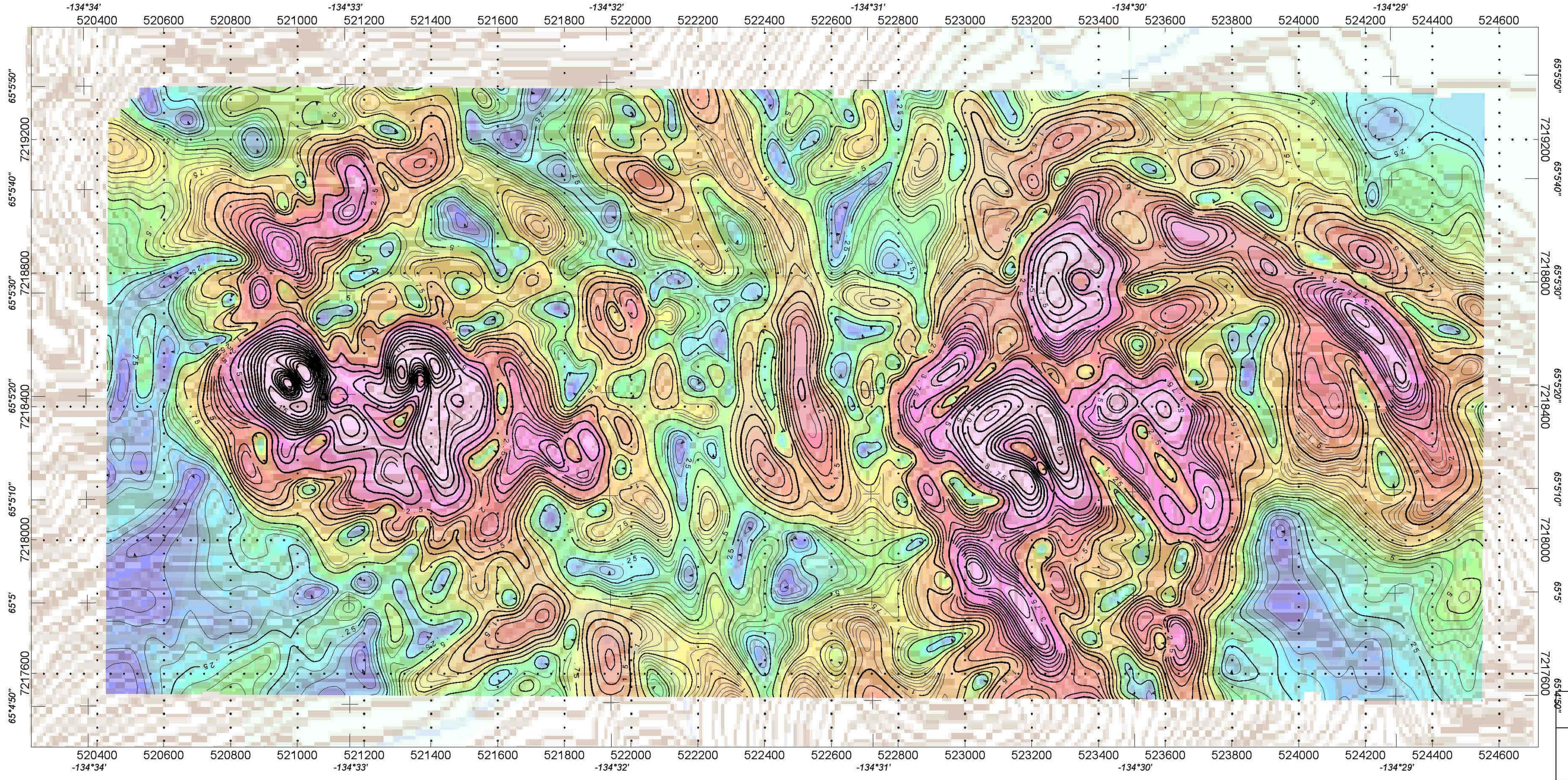
Calculated Analytic Signal of Total Magnetic Intensity
Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1.25 nanoTesla/metre

Horizontal Gradient of TMI
nanoTesla/metre

0.091 0.241 0.386 0.573 0.800 1.126 1.763 3.635

Scale 1:10000

200 0 200 400 600
metres

NAD83 / UTM zone 8N

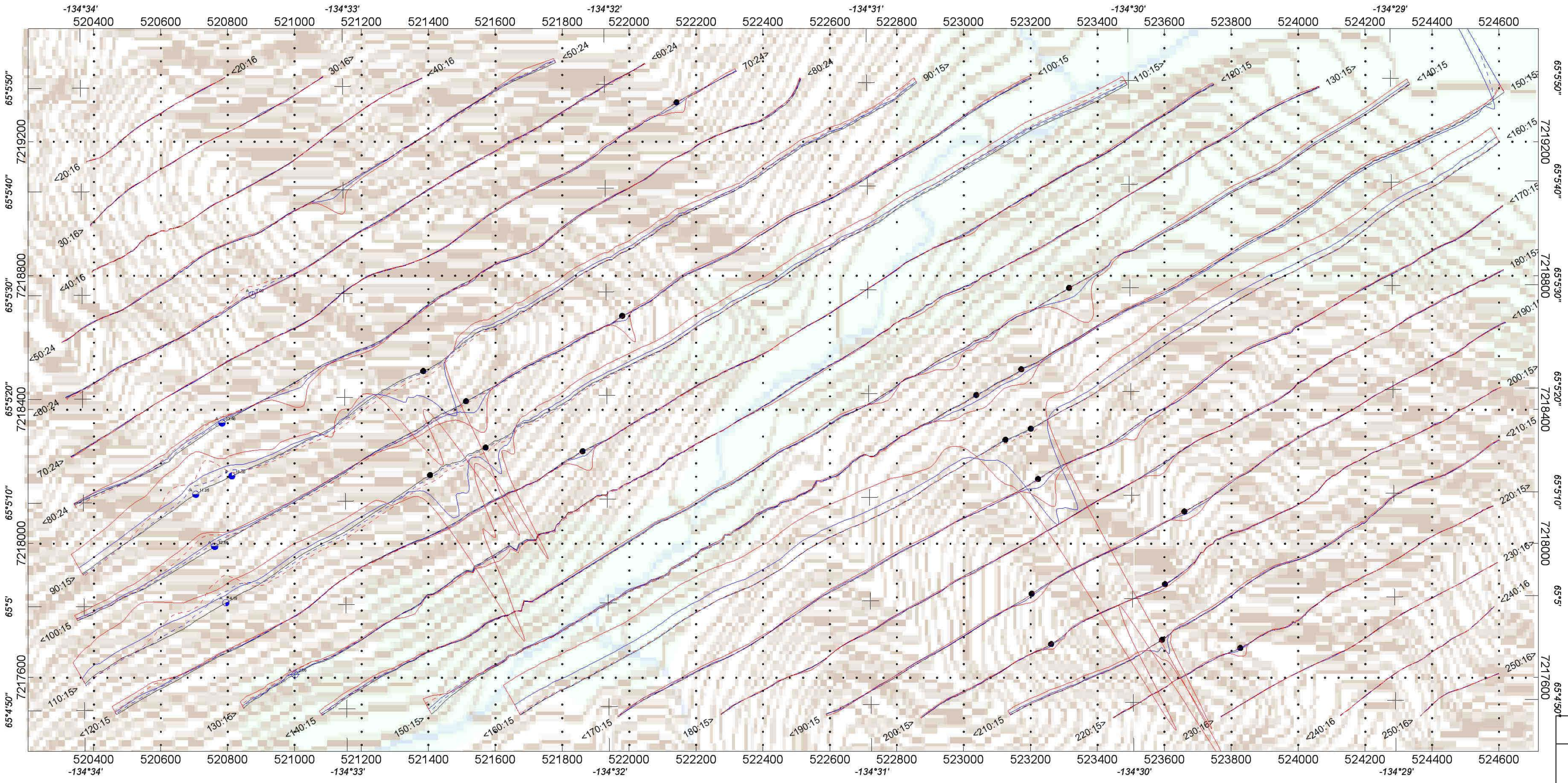
McPHAR

Signet Minerals Inc.

Calculated Horizontal Gradient of Total Magnetic Intensity

Gamma Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

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Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil
>16
8-16
4-8
2-4
1-2
0.5-1
<0.5 questionable anomaly

3.23 E
Conductance
Label

EM Anomaly with Permability Response

EM Profiles legend:

In Phase 880 Hz (5ppm/mm)
Quadrature 880 Hz (5ppm/mm)
In Phases 980 Hz (5ppm/mm)
Quadrature 980 Hz (5ppm/mm)

Scale 1:10000

200 0 200 400 600

metres

NAD83 / UTM zone 8N

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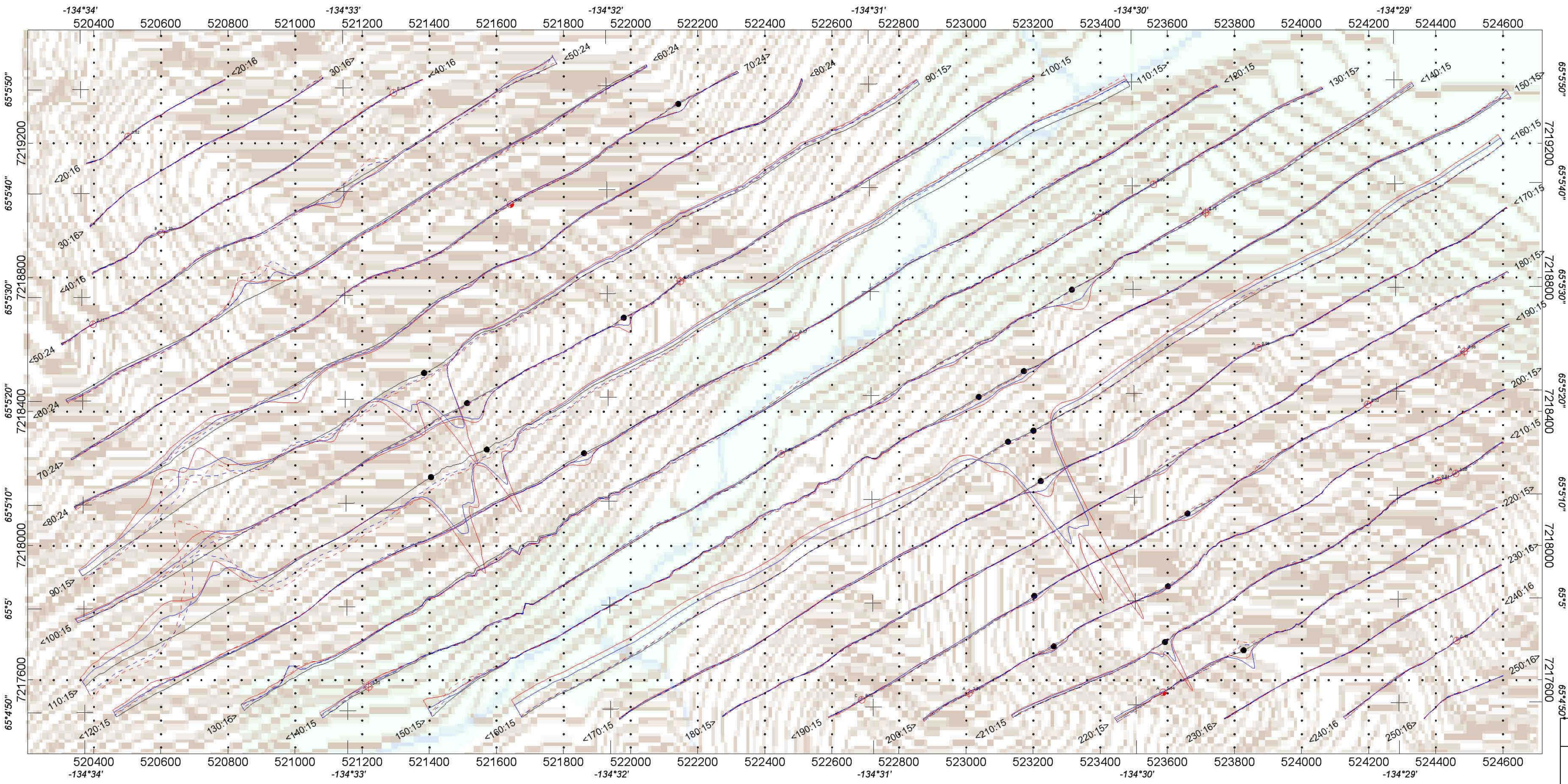
EM Profiles: Horizontal Coplanar 880 Hz Coil
Vertical Coaxial 980 Hz Coil

Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil
>16
8-16
4-8
2-4
1-2
0.5-1
<0.5 questionable anomaly

3:23 E
Conductance (Siemens)
Label

EM Anomaly with Permability Response

EM Profiles legend:

In Phase 6600 Hz (5ppm/mm)
Quadrature 6600 Hz (5ppm/mm)
In Phases 7000 Hz (5ppm/mm)
Quadrature 7000 Hz (5ppm/mm)

Scale 1:10000

200 0 200 400 600

metres

NAD83 / UTM zone 8N

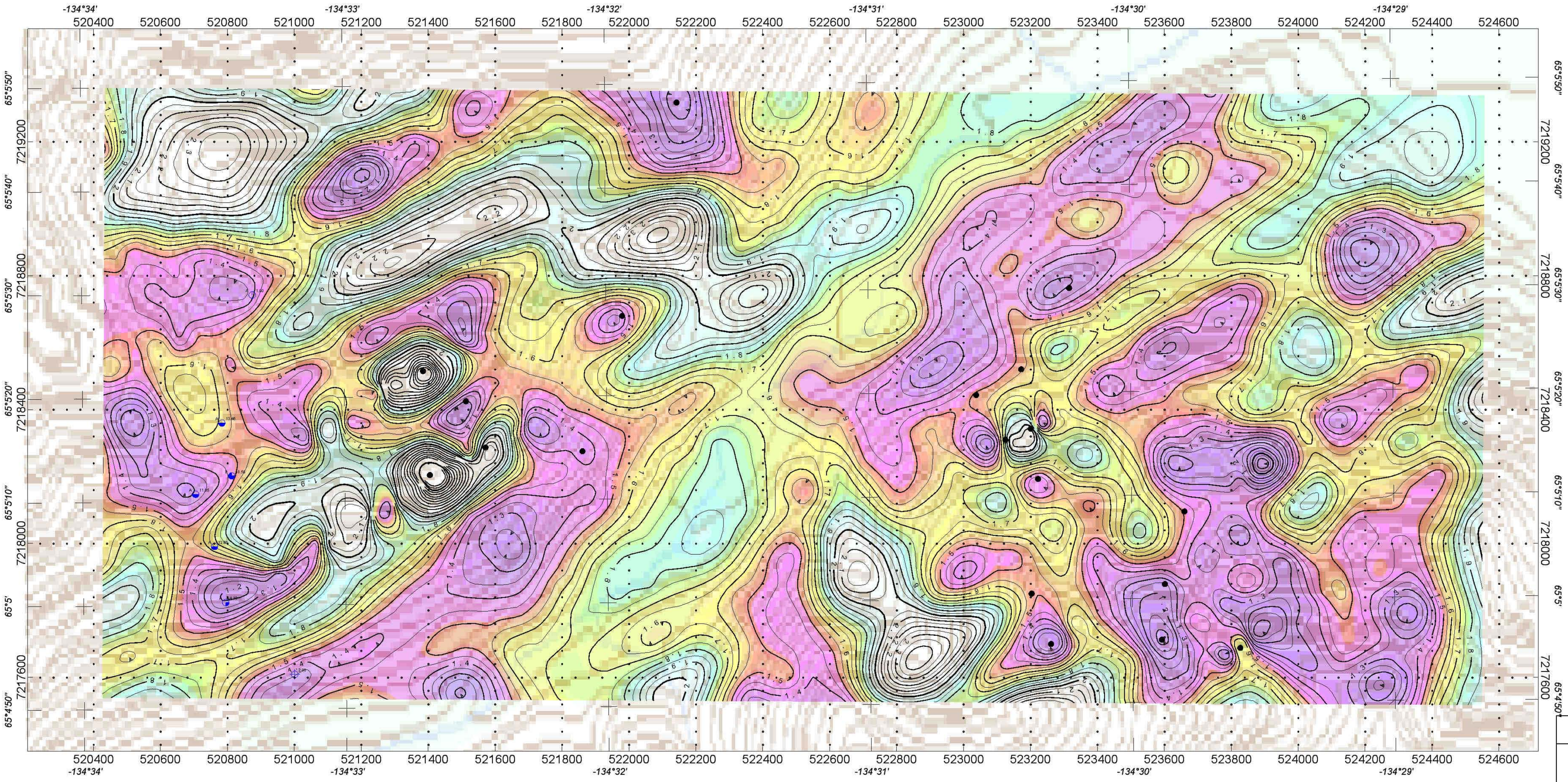
McPHAR

Signet Minerals Inc.

EM Profiles: Horizontal Coplanar 6600 Hz Coil
Vertical Coaxial 7000 Hz Coil

Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

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Ag-Navigation System
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Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil
- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

● EM Anomaly with Permability Response

Logarithmic Contour Intervals:
0.1, 1, 10, 100, 1000, 10000 Ohm-m

3.666
2.126
1.924
1.833
1.770
1.710
1.659
1.609
1.560
1.512
1.466
1.416
1.347
0.840

Apparent Resistivity

(Ohm-metre, Ohm-m)
Logarithmic Scale

Scale 1:10000

200 0 200 400 600

metres

NAD83 / UTM zone 8N

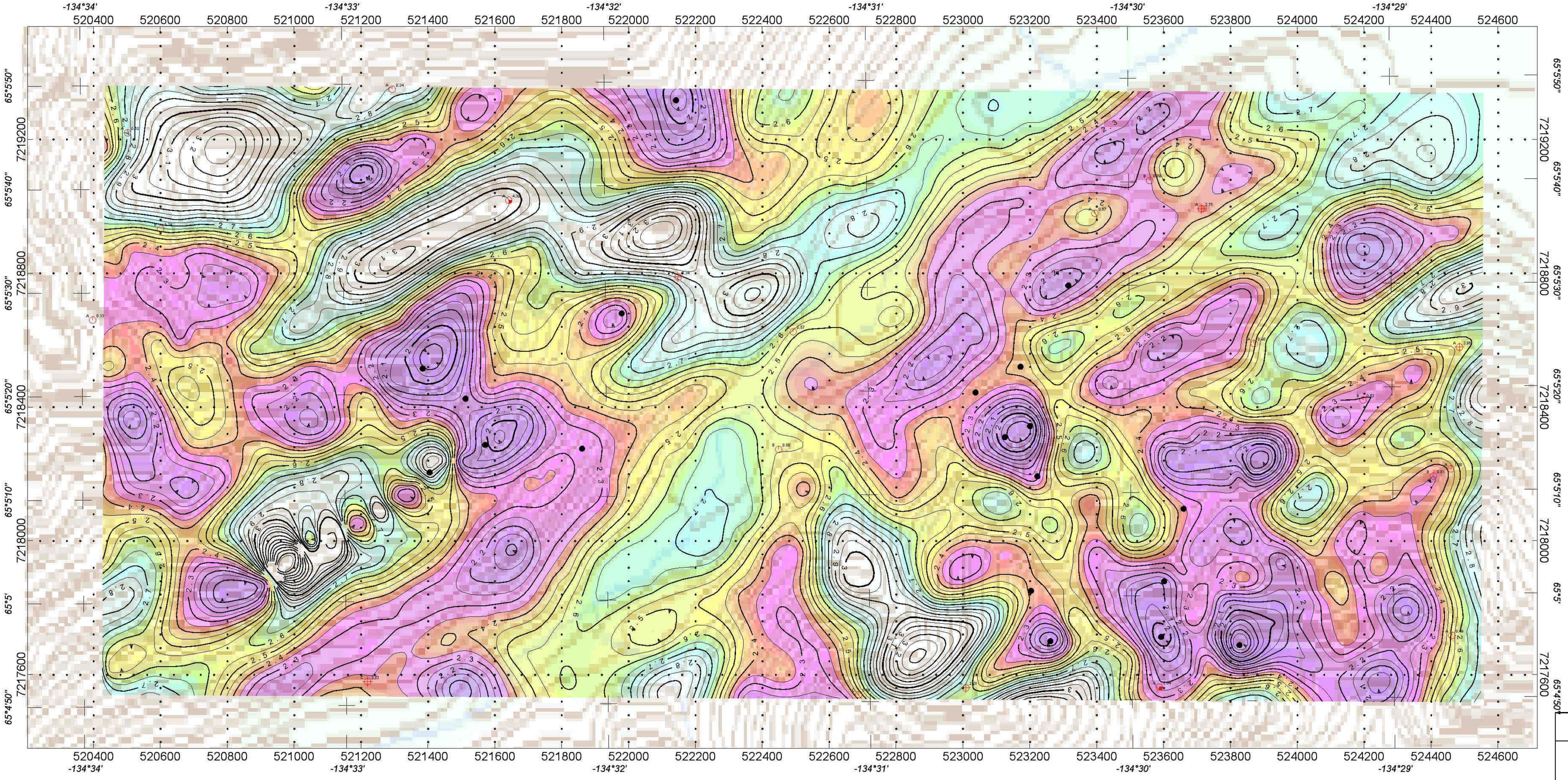
McPHAR

Signet Minerals Inc.

Apparent Resistivity of Horizontal Coplanar 880 Hz Coils

Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



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Control Line Direction: 330°

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Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil
>16
8-16
4-8
2-4
1-2
0.5-1
<0.5 questionable anomaly

3.23 E
Conductance
Label

EM Anomaly with Permability Response

Logarithmic Contour Intervals:
0.1, 1, 10, 100, 1000, 10000 Ohm-m

4.039
2.992
2.791
2.695
2.634
2.577
2.526
2.475
2.424
2.374
2.328
2.278
2.202
1.671

Apparent Resistivity
(Ohm-metre, Ohm-m)
Logarithmic Scale

Scale 1:10000

200 0 200 400 600
metres

NAD83 / UTM zone 8N

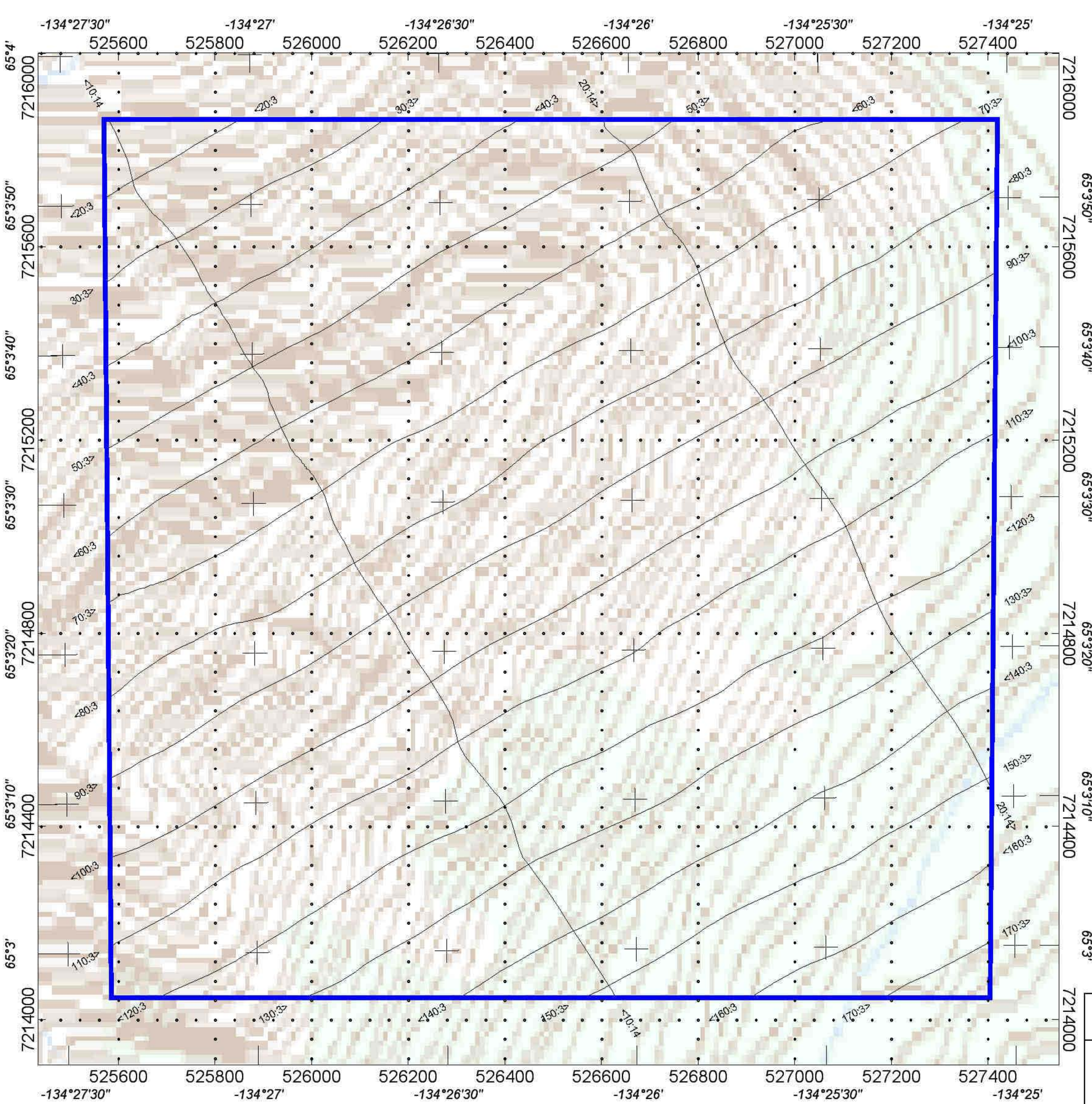
McPHAR

Signet Minerals Inc.

Apparent Resistivity of Horizontal Coplanar 6600 Hz Coils

Gamma Block Survey Flown May 2006

McPhar Geosurveys Ltd.



N

LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Survey Area

Scale 1:10000

100 0 100 200 300 400 500

metres

NAD83 / UTM zone 8N

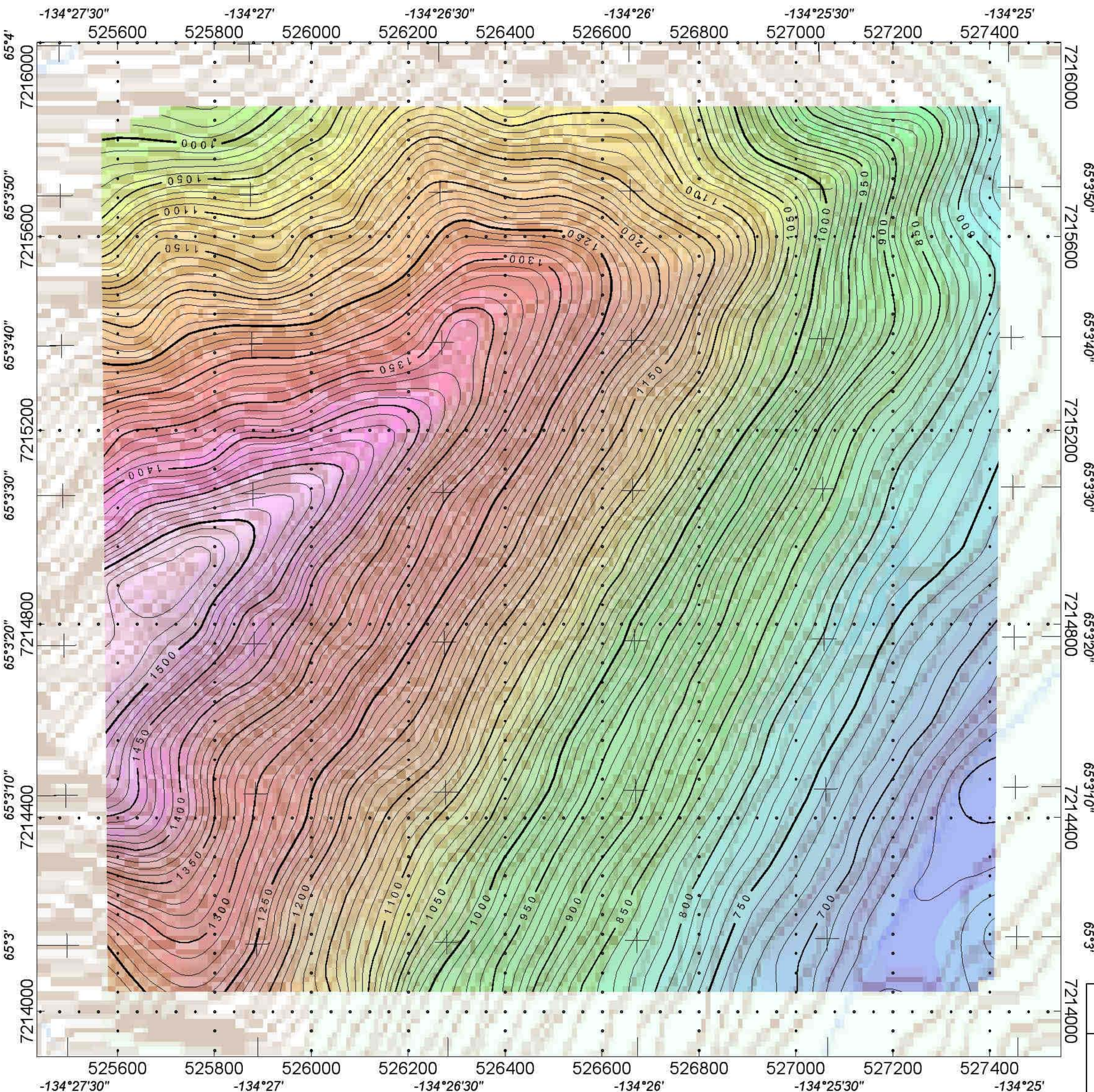
McPHAR

Signet Minerals Inc

Flight Path Map

Geiger Block — Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

10 metres
50 metres
250 metres

Digital Terrain Model
metre

644 716 781 841 916 992 1055 1126 1199 1275 1357 1541

Scale 1:10000

100 0 100 200 300 400 500
metres

NAD83 / UTM zone 8N

MCPHAR

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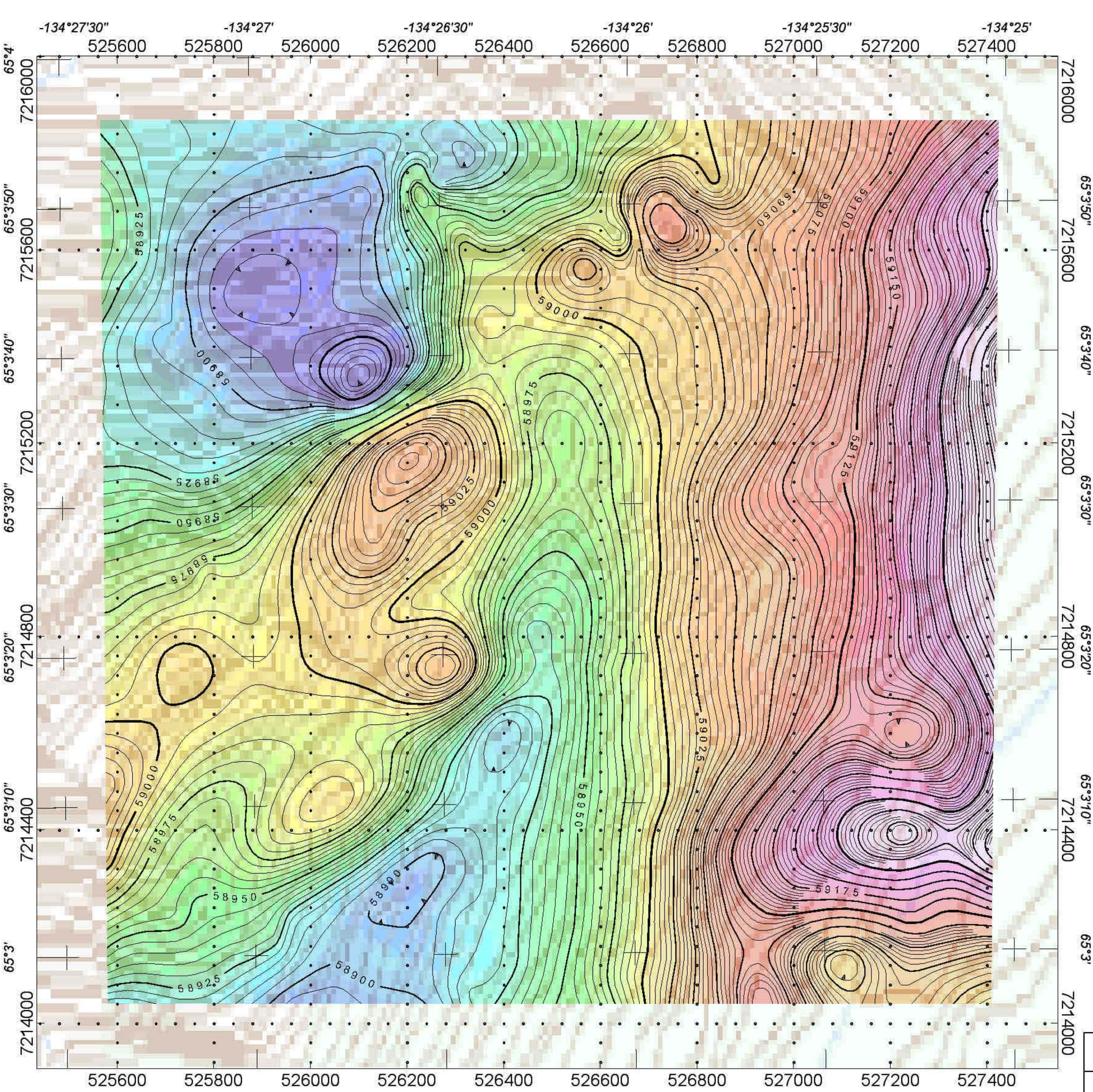
Digital Terrain Model

Geiger Block — Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

5 nanoTesla
25 nanoTesla
125 nanoTesla

TMI
nanoTesla

58851 58915 58952 58987 59016 59080 59379

Scale 1:10000

100 0 100 200 300 400 500
metres

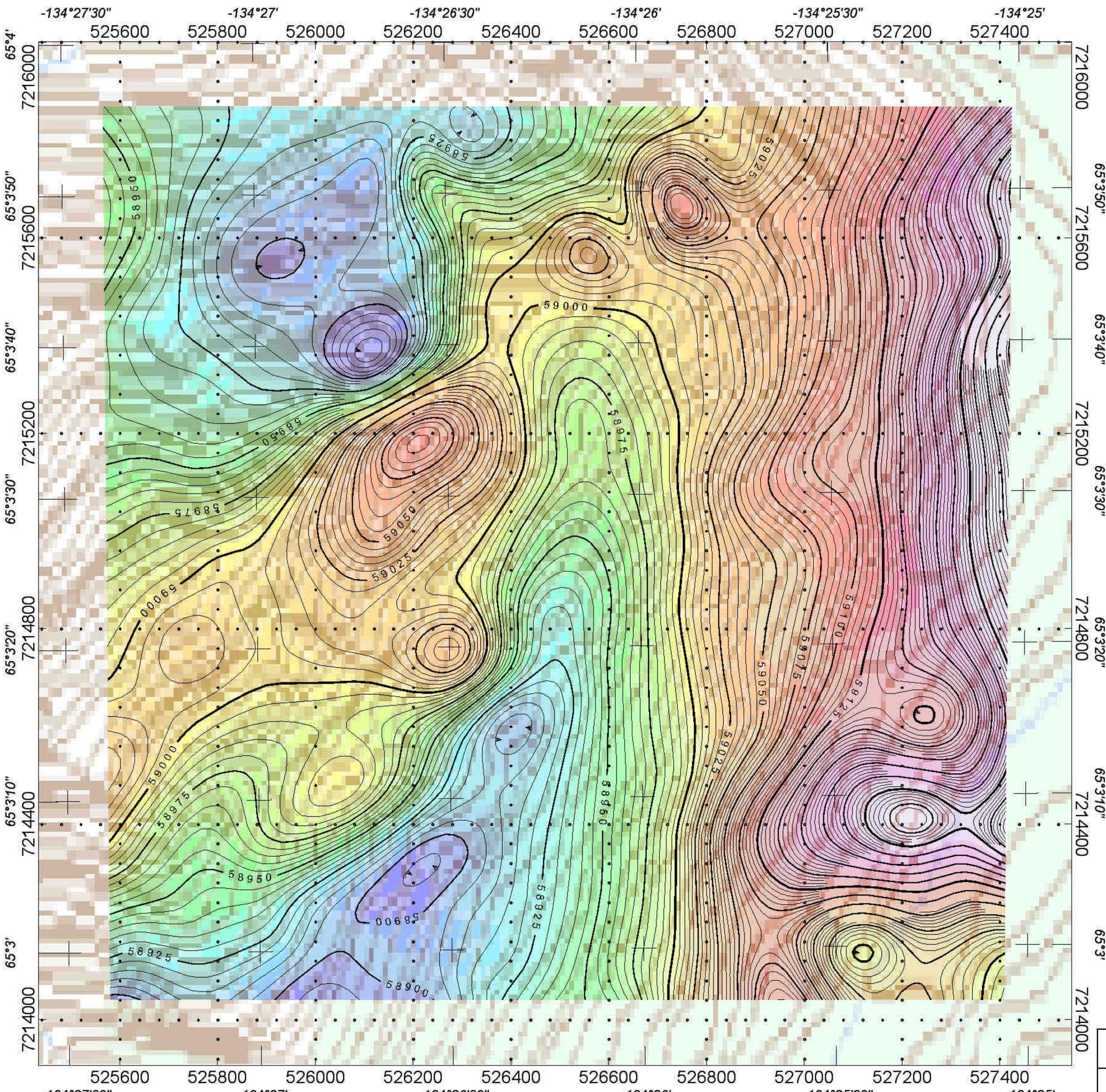
NAD83 / UTM zone 8N

McPHAR

Signet Minerals Inc

Total Magnetic Intensity
Geiger Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



N

LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRRH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

5 nanoTesla
25 nanoTesla
125 nanoTesla

Reduced to the Magnetic Pole of TMI
nanoTesla

58876 58914 58933 58955 58980 59000 59015 59048 59102 59384

Scale 1:10000

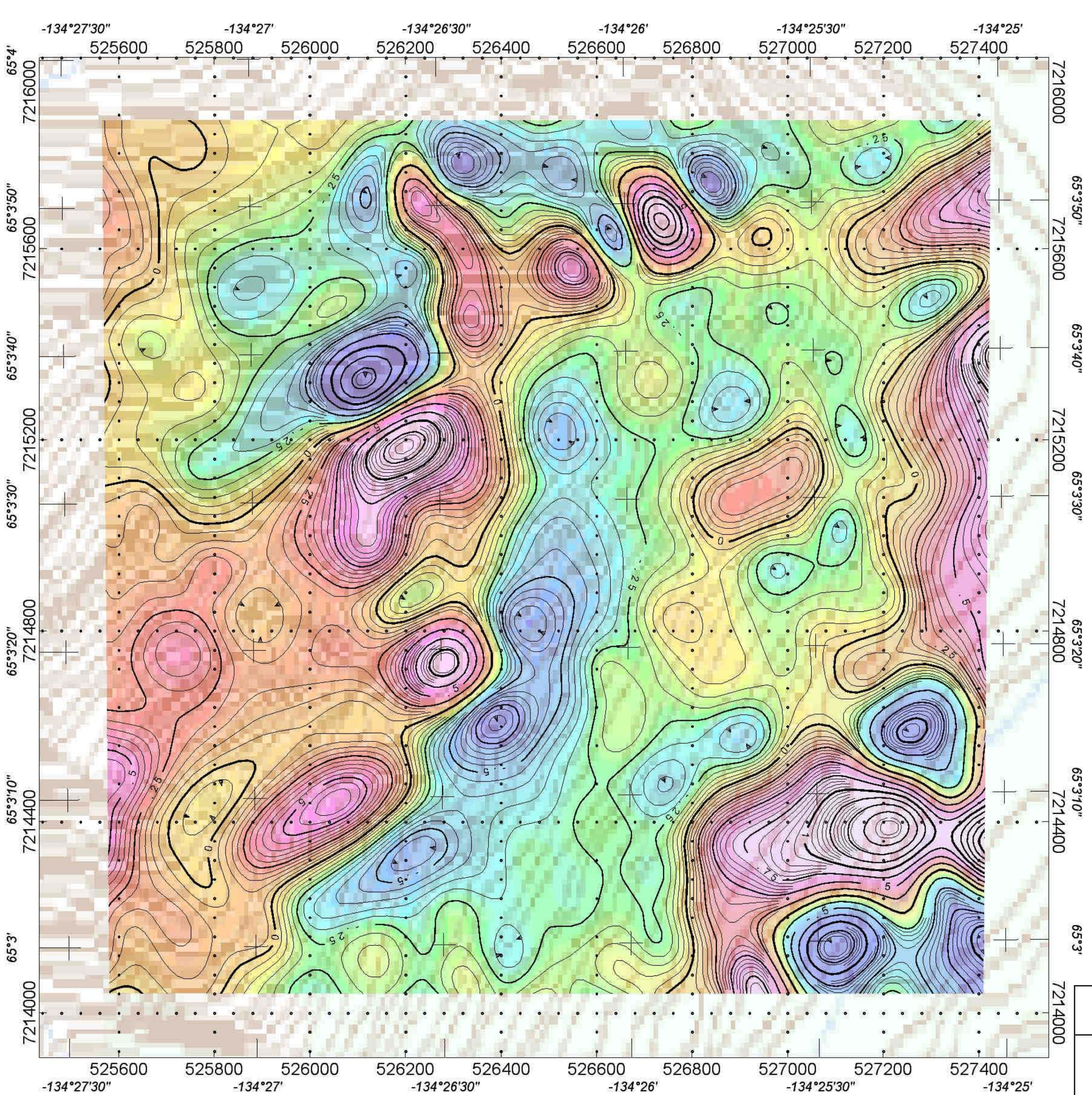
100 0 100 200 300 400 500
metres
NAD83 / UTM zone 8N

McPHAR

Signet Minerals Inc

Reduced to the Magnetic Pole of TMI
Geiger Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nanoTesla/metre

First Vertical Derivative of TMI
nanoTesla/metre

-1.603 -0.391 -0.286 -0.235 -0.173 -0.096 0.013 0.123 0.257 2.295

Scale 1:10000

100 0 100 200 300 400 500
metres

NAD83 / UTM zone 8N

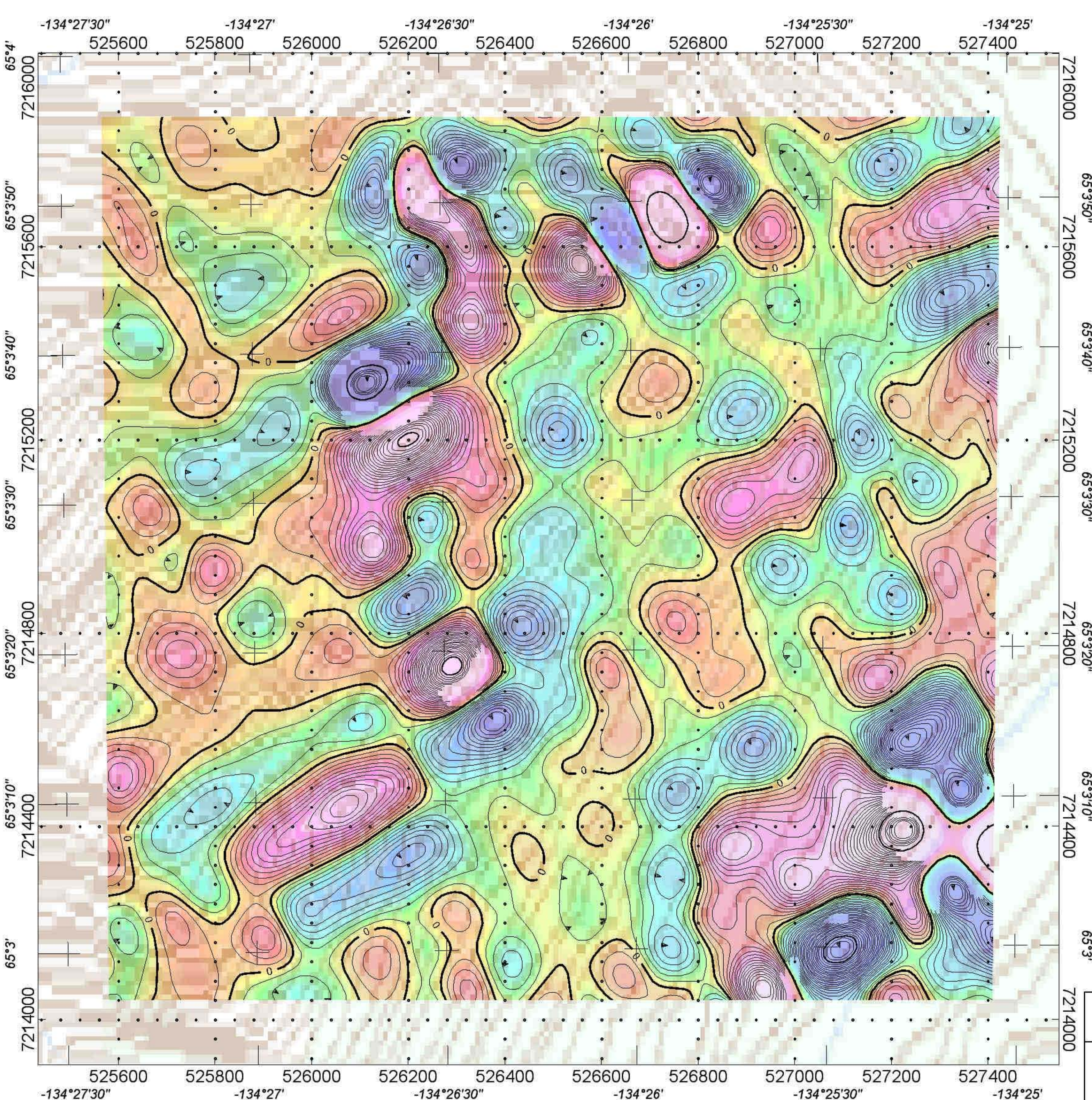
McPHAR

Signet Minerals Inc

Calculated First Vertical Derivative of Total Magnetic Intensity

Geiger Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

0.001 nanoTesla/metre**2
0.025 nanoTesla/metre**2
0.1 nanoTesla/metre**2

Second Vertical Derivative of TMI
nanoTesla/metre**2

-0.0330 -0.0040 -0.0022 -0.0012 -0.0004 0.0004 0.0016 0.0493

Scale 1:10000

100 0 100 200 300 400 500

metres

NAD83 / UTM zone 8N

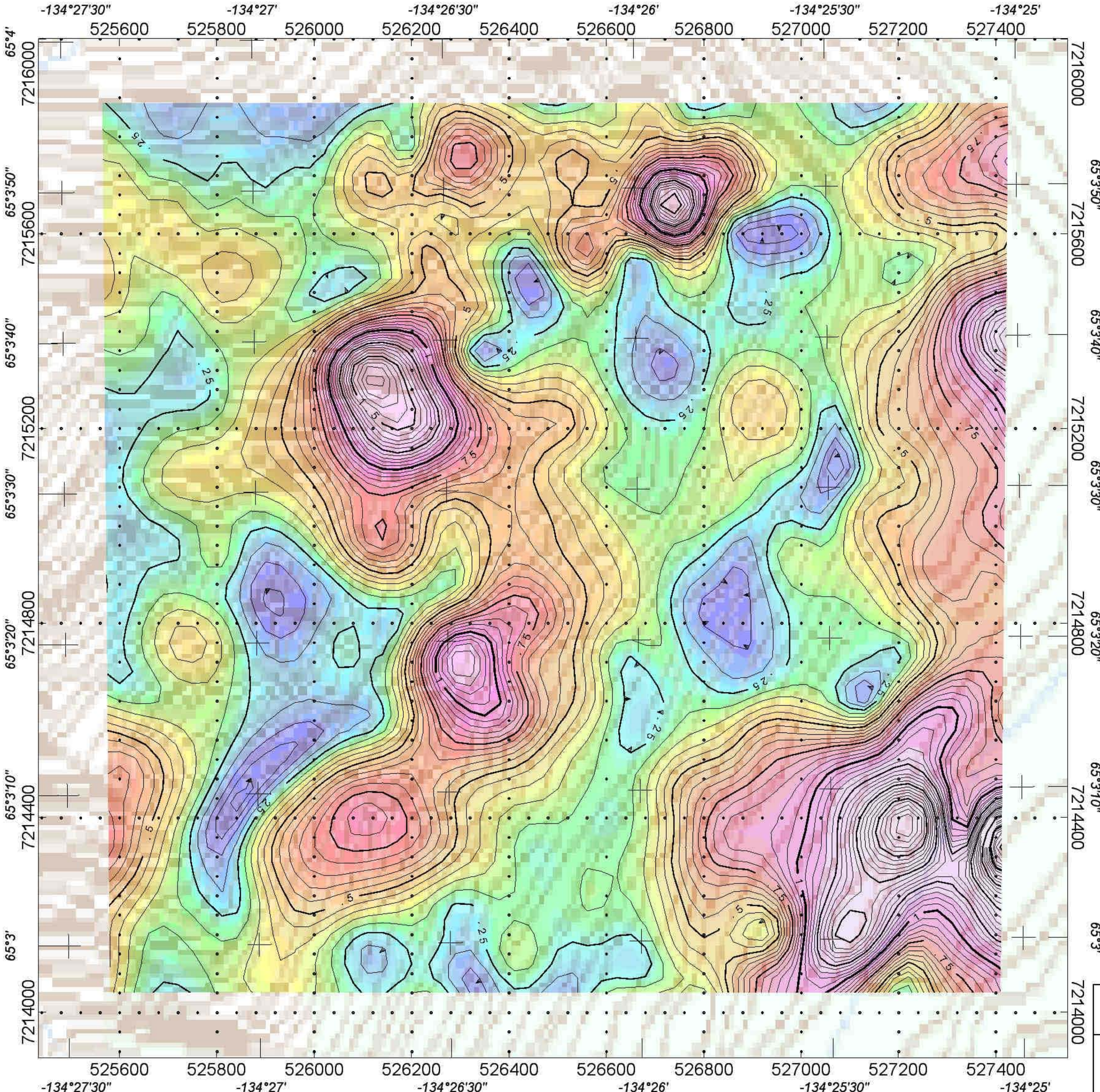
MCPHAR

Signet Minerals Inc

Calculated Second Vertical Derivative of Total Magnetic Intensity

Geiger Block Survey Flown May 2006

McPhar Geosurveys Ltd.



N

LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nanoTesla/metre

Analytic Signal of TMI
nanoTesla/metre

0.006 0.223 0.265 0.298 0.332 0.383 0.456 0.561 0.705 2.382

Scale 1:10000

100 0 100 200 300 400 500
metres

NAD83 / UTM zone 8N

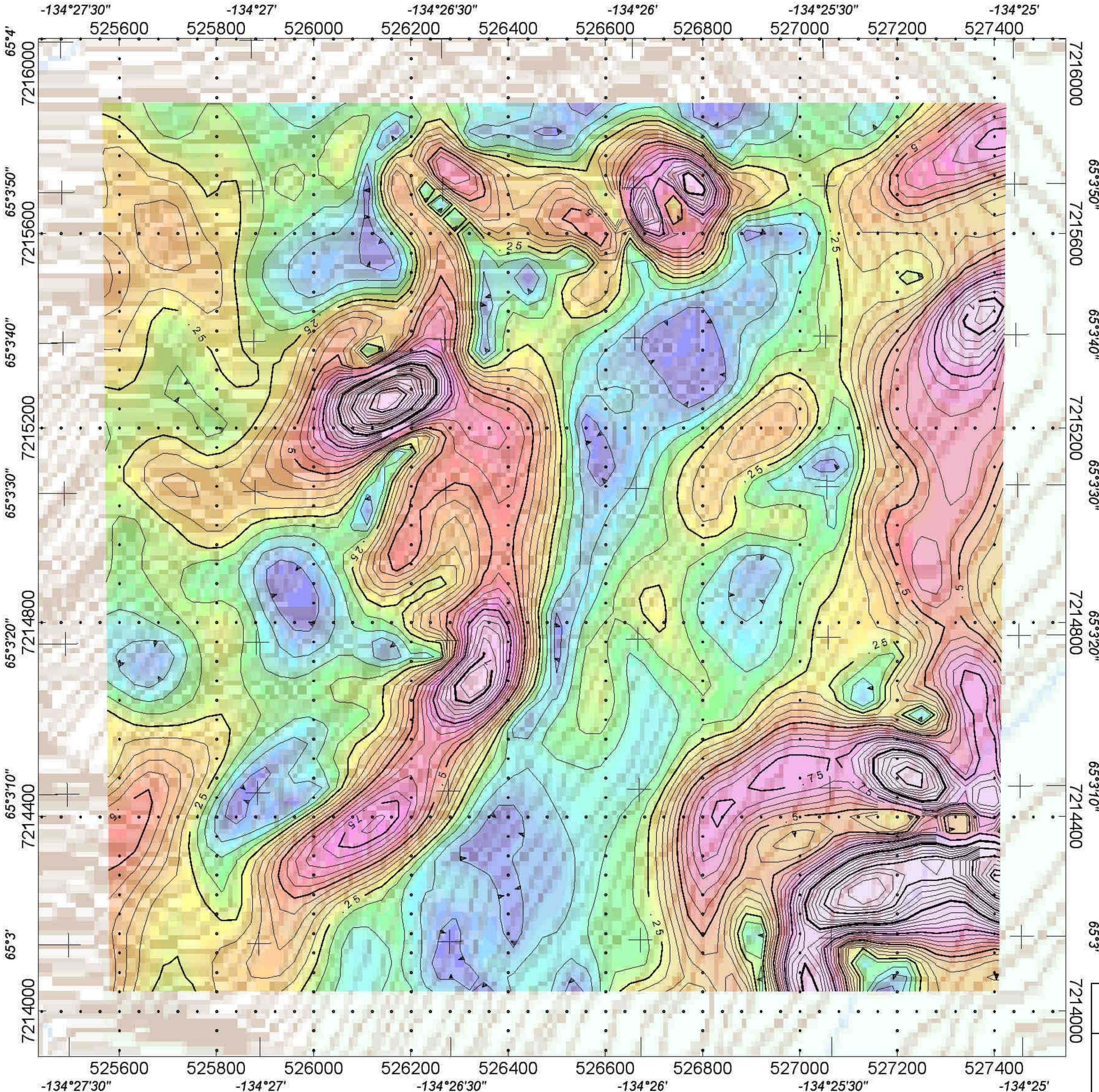
McPHAR

Signet Minerals Inc

Calculated Analytic Signal of Total Magnetic Intensity

Geiger Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legend:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nanoTesla/metre

Horizontal Gradient of TMI
nanoTesla/metre

0.002 0.095 0.144 0.186 0.224 0.270 0.333 0.417 0.530 1.803

Scale 1:10000

100 0 100 200 300 400 500
metres

NAD83 / UTM zone 8N

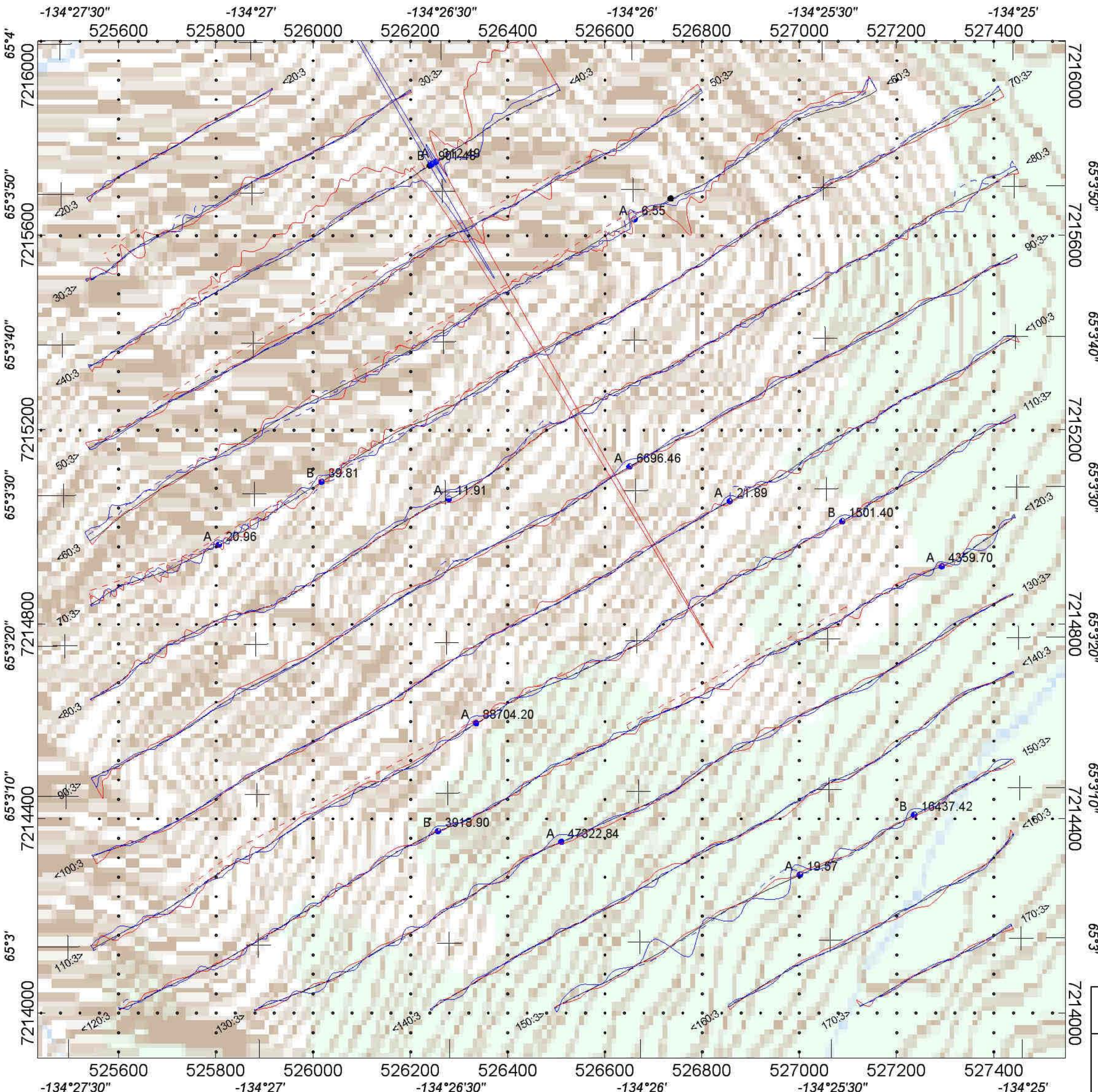
McPHAR

Signet Minerals Inc

Calculated Horizontal Gradient of Total Magnetic Intensity

Geiger Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

EM Profiles legend:

In Phase 880 Hz (1 ppm/mm)
Quadrature 880 Hz (1 ppm/mm)
In Phase 980 Hz (1 ppm/mm)
Quadrature 980 Hz (1 ppm/mm)

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil

>16
8-16
4-8
2-4
1-2
0.5-1
<0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

EM Anomaly with Magnetic Permability Response

Scale 1:10000

100 0 100 200 300 400 500

metres

NAD83 / UTM zone 8N

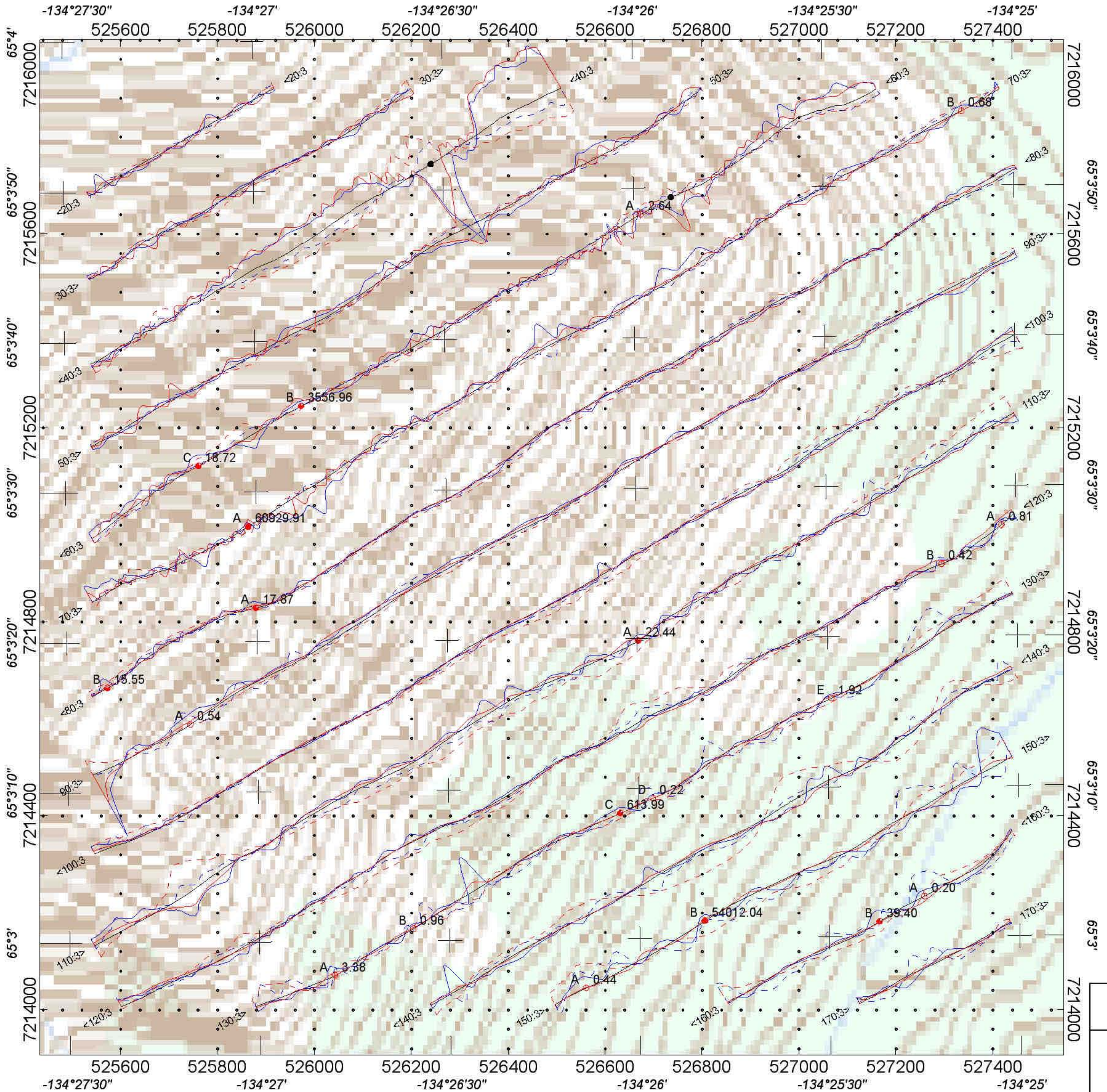
McPHAR

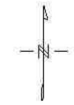
Signet Minerals Inc

EM Profiles: Horizontal Coplanar 880 Hz Coil
Vertical Coaxial 980 Hz Coil

Geiger Block Survey Flown May 2006

McPhar Geosurveys Ltd.





LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

EM Profiles legend:

- In Phase 6600 Hz (1 ppm/mm)
- Quadrature 6600 Hz (0.5ppm/mm)
- In Phase 7000 Hz (1ppm/mm)
- Quadrature 7000 Hz (1ppm/mm)

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil

- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

EM Anomaly with Magnetic Permeability Response

Scale 1:10000

100 0 100 200 300 400 500

metres

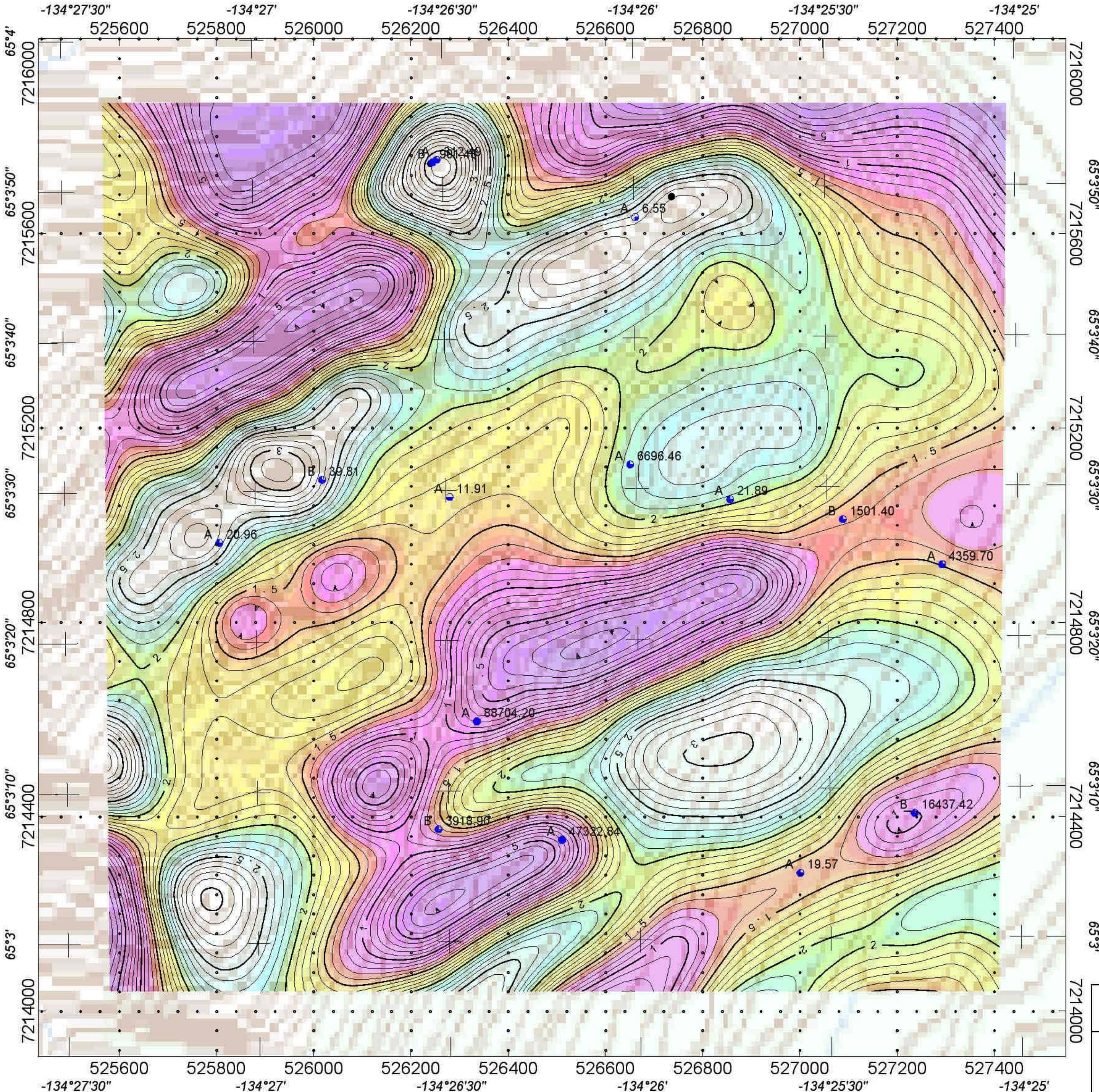
NAD83 / UTM zone 8N

Signet Minerals Inc

EM Profiles: Horizontal Coplanar 6600 Hz Coil
Vertical Coaxial 7000 Hz Coil

Geiger Block Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

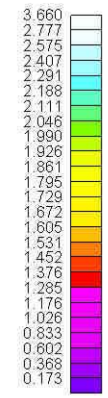
Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Logarithmic Contour Intervals:
0.1, 1, 10, 1000, 10000 Ohm-m



Apparent Resistivity
(Ohm-metre, Ohm-m)
Logarithmic

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil
- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

EM Anomaly with Magnetic Permability Response

Scale 1:10000

100 0 100 200 300 400 500

metres

NAD83 / UTM zone 8N

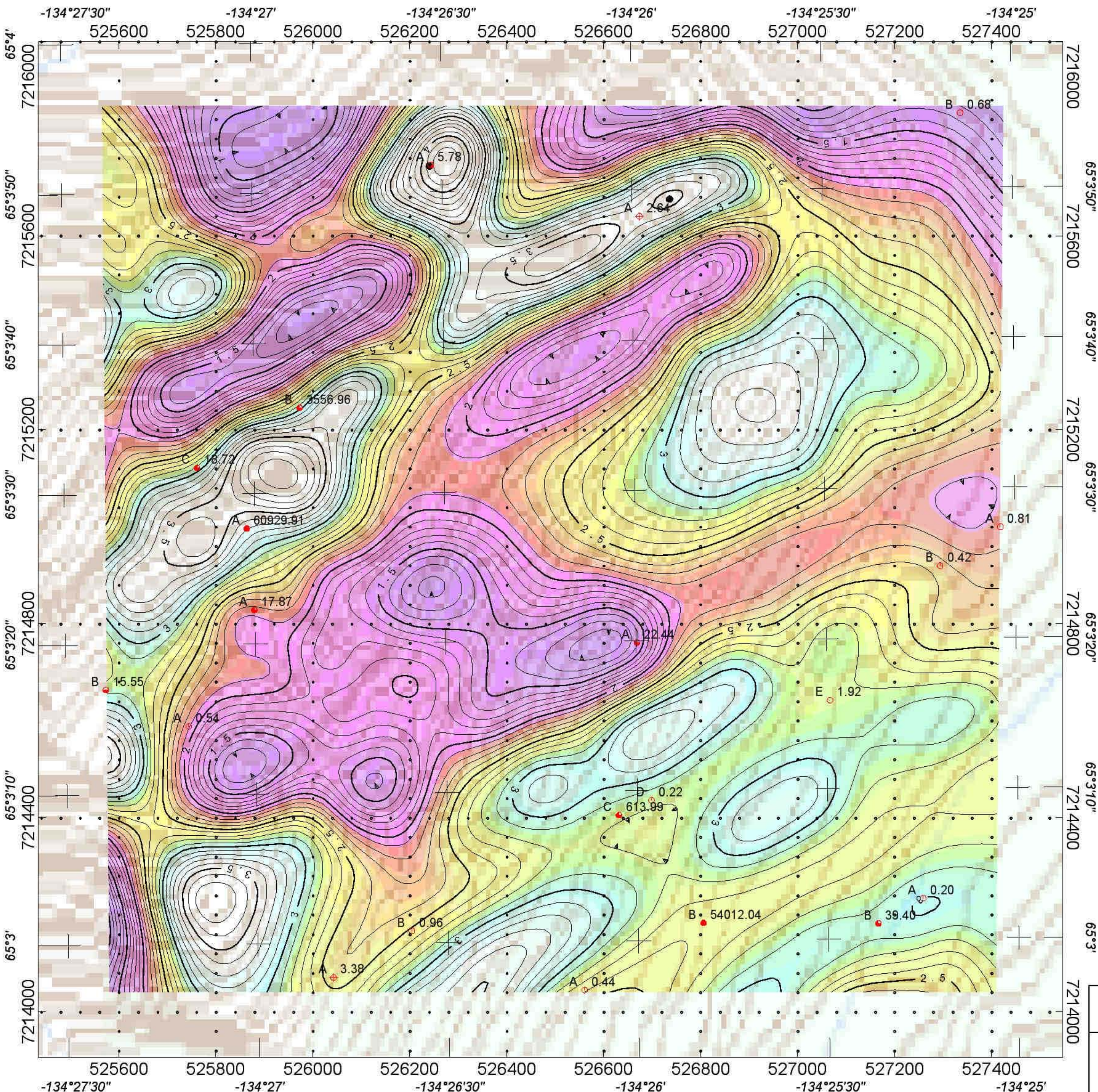
MCPHAR

Signet Minerals Inc

Apparent Resistivity of Horizontal Coplanr 880 Hz Coils

Geiger Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
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Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0005 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Logarithmic Contour Intervals:
0.1, 1, 10, 1000, 10000 Ohm-m

4.283
3.469
3.297
3.159
3.056
2.972
2.917
2.864
2.817
2.770
2.714
2.663
2.596
2.519
2.436
2.356
2.269
2.183
2.110
2.001
1.876
1.742
1.590
1.417
1.189
0.029

Apparent Resistivity
(Ohm-metre, Ohm-m) Logarithmic

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil

- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

EM Anomaly with Magnetic Permeability Response

Scale 1:10000

100 0 100 200 300 400 500
metres

NAD83 / UTM zone 8N

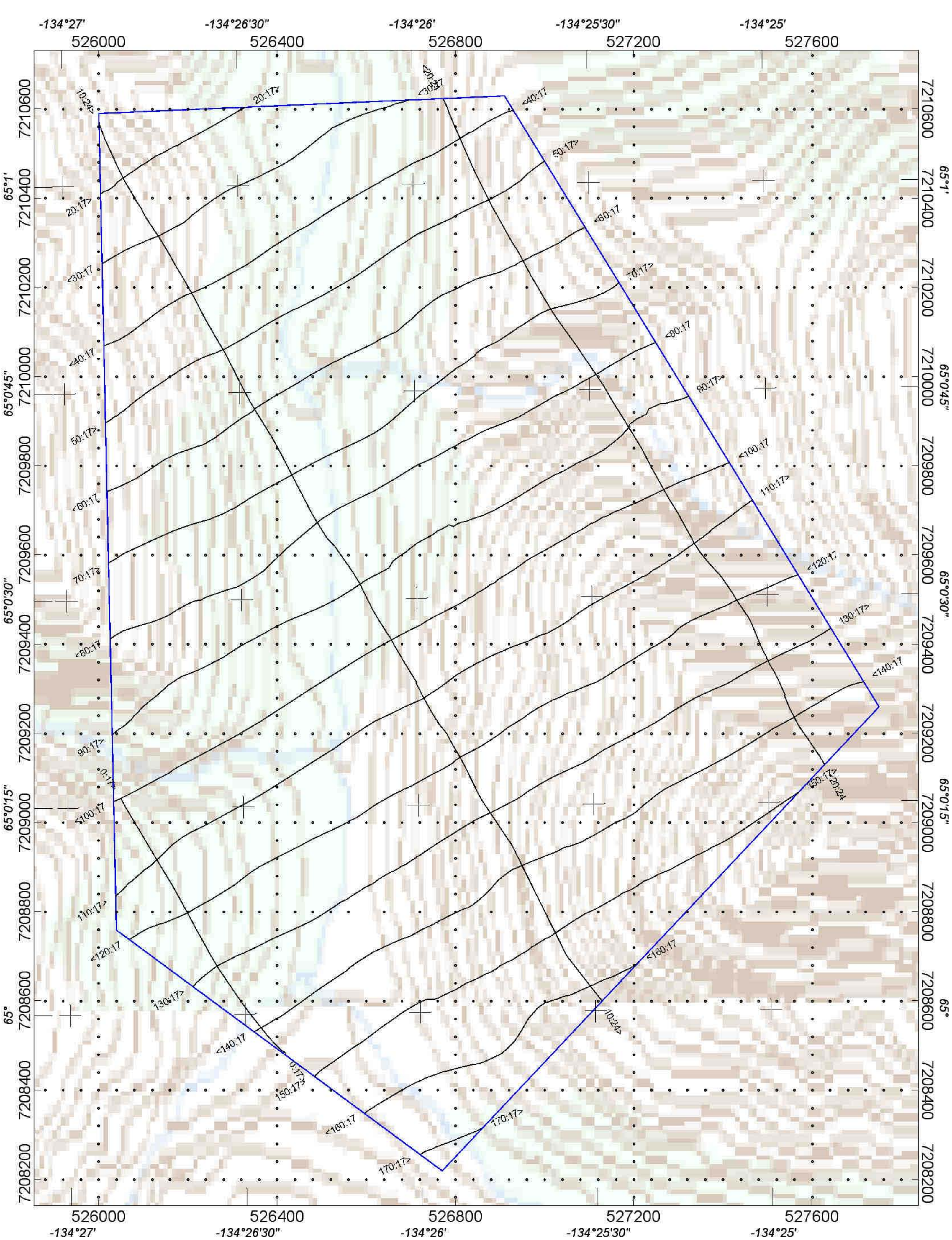
MCPHAR

Signet Minerals Inc

Apparent Resistivity of Horizontal Coplanar 6600 Hz Coils

Geiger Block **Survey Flown May 2006**

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Survey Area

Scale 1:10000

100 0 100 200 300 400 500 600

metres

NAD83 / UTM zone 8N

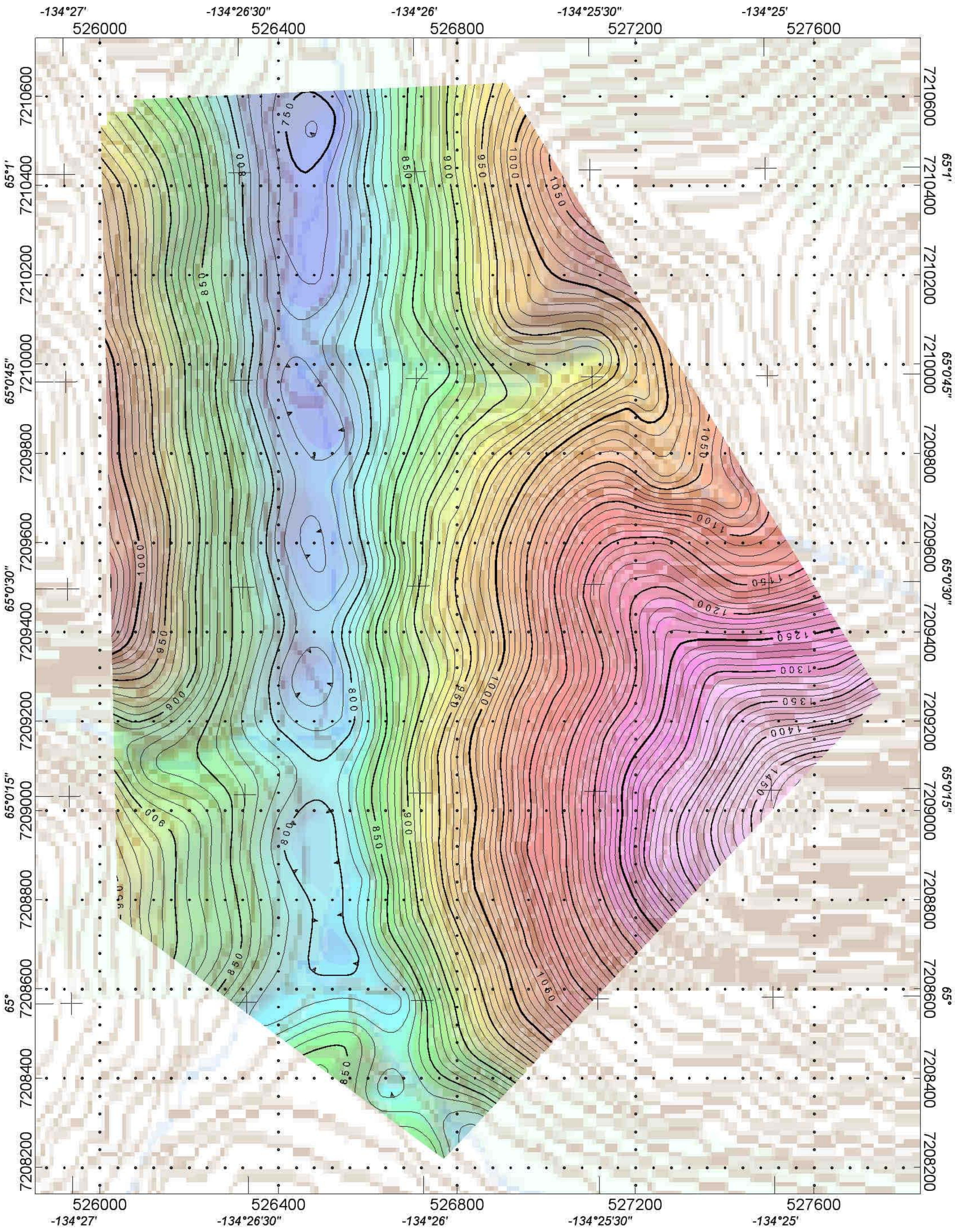
McPHAR

Signet Minerals Inc.

Flight Path Map

Block Pike   Survey flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

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Helicopter Registration: C-GRHH
Survey Date: March-April 2006
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Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legent:

10 metres
50 metres
250 metres

Digital Terrain Model
metre

767 804 833 865 904 947 996 1053 1175

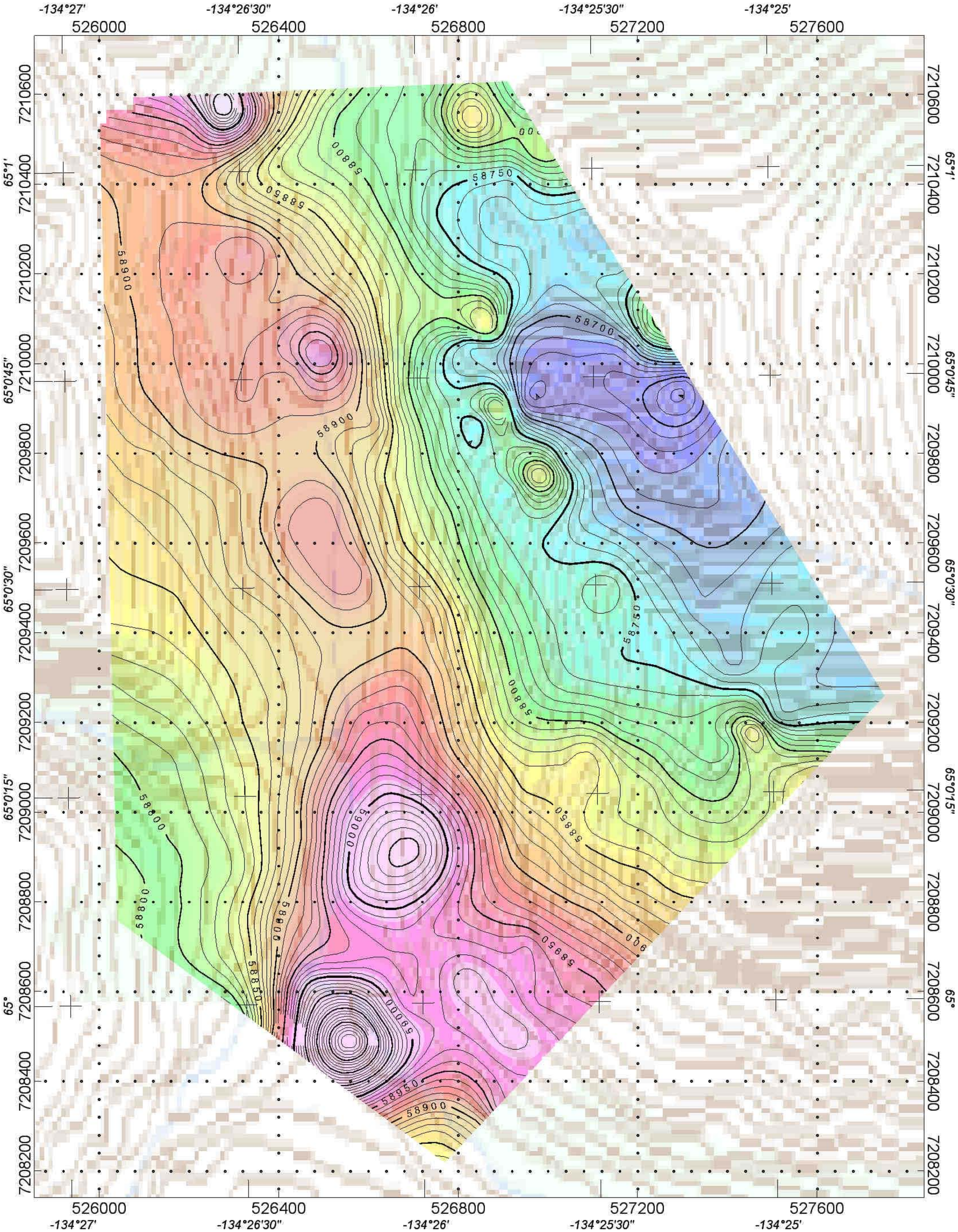
Scale 1:10000

100 0 100 200 300 400 500 600
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Digital Terrain Model
Block Pike   Survey flown May 2006

McPhar Geosurveys Ltd.



LEGEND

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Helicopter Registration: C-GRHH
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Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legent:

10 nanoTesla
50 nanoTesla
250 nankoTesla

Total Magnetic Intensity
nanoTesla

58681 58750 58799 58838 58882 58915 58986

Scale 1:10000

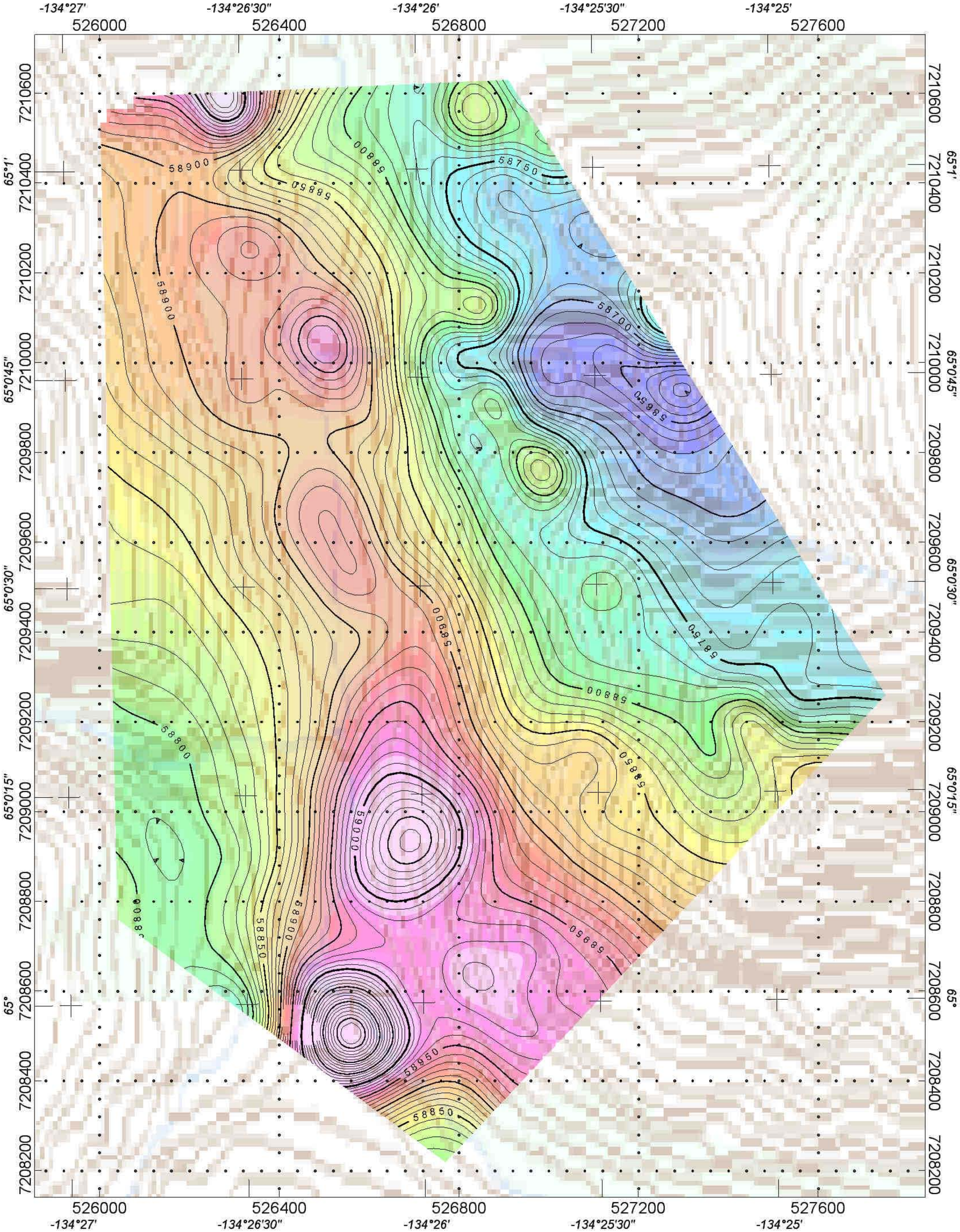
100 0 100 200 300 400 500 600
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Total Magnetic Intensity

Block Pike Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

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Helicopter Registration: C-GRHH
Survey Date: March-April 2006
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Control Line Direction: 330°

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Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
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Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legent:

10 nanoTesla
50 nanoTesla
250 nankoTesla

Reduced to the Magnetic Pole of TMI
nanoTesla

58680 58763 58802 58841 58882 58916 58984

Scale 1:10000

100 0 100 200 300 400 500 600
metres
NAD83 / UTM zone 8N

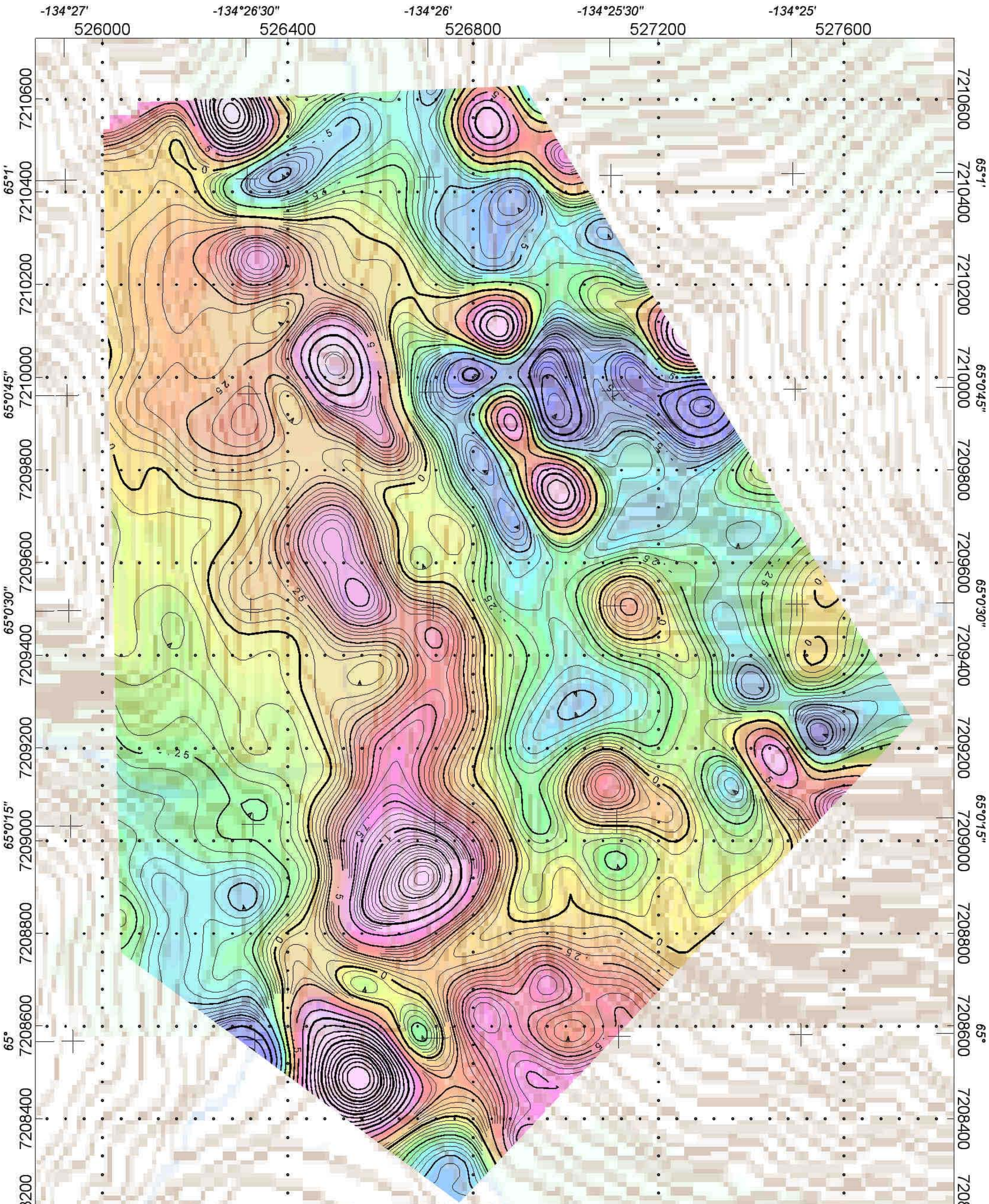
McPHAR

Signet Minerals Inc.

Reduced to the Magnetic Pole of TMI

Block Pike — Survey Flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
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Control Line Spacing: 1500 metres
Control Line Direction: 330°

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Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legent:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nankoTesla/metre

First Vertical Derivative of TMI
nanoTesla/metre

-0.801 -0.381 -0.218 -0.063 0.092 0.264 0.587

Scale 1:10000

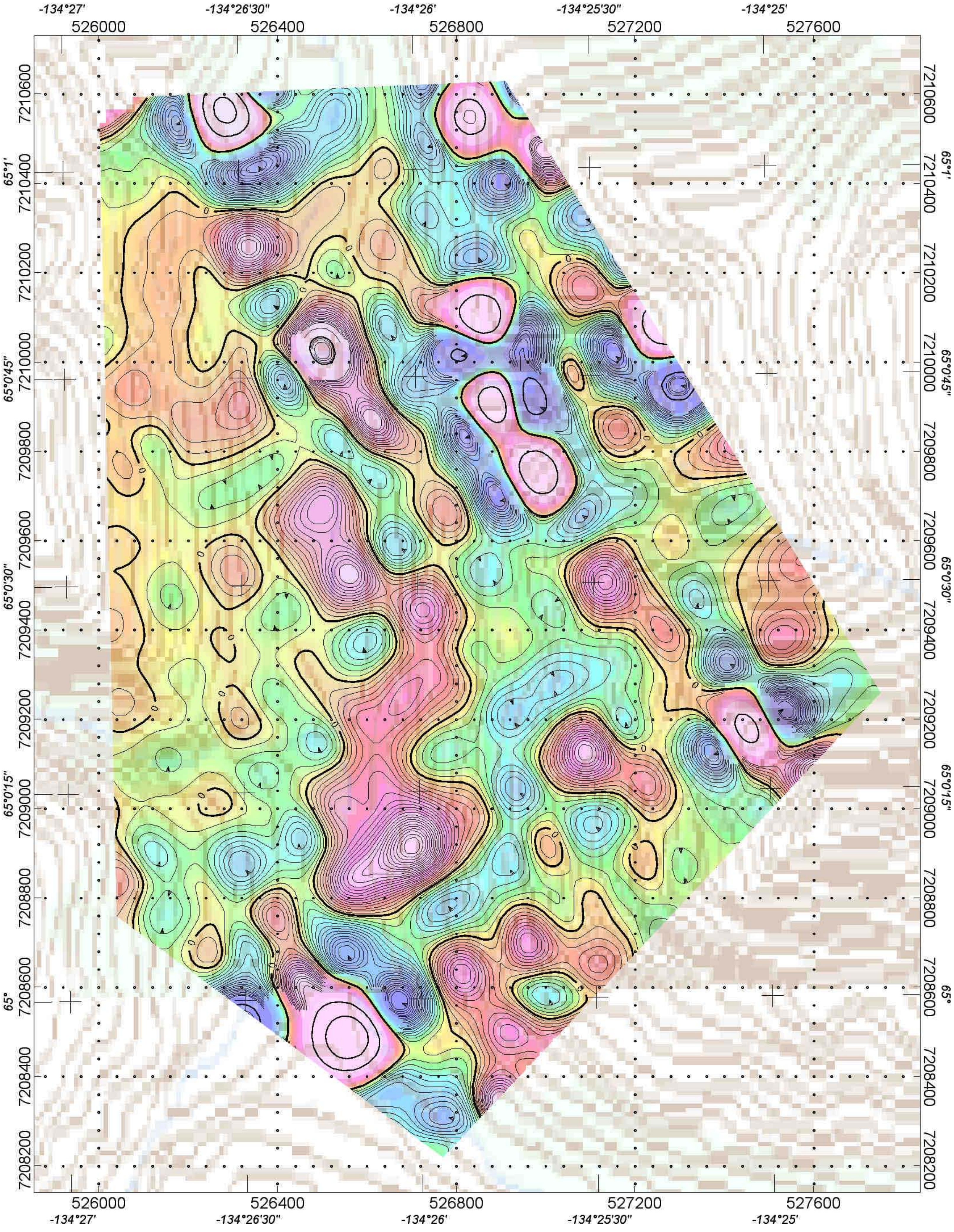
100 0 100 200 300 400 500 600
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Calculated First Vertical Derivative of Total Magnetic Intensity

Block Pike Survey flown May 2006

McPhar Geosurveys Ltd.



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LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legent:

0.001 nanoTesla/metre²
0.025 nanoTesla/metre²
0.1 nankoTesla/metre²

Second Vertical Derivative of TMI
nanoTesla/metre²

-0.0144 -0.0038 -0.0016 -0.0003 0.0017 0.0066

Scale 1:10000

100 0 100 200 300 400 500 600
metres
NAD83 / UTM zone 8N

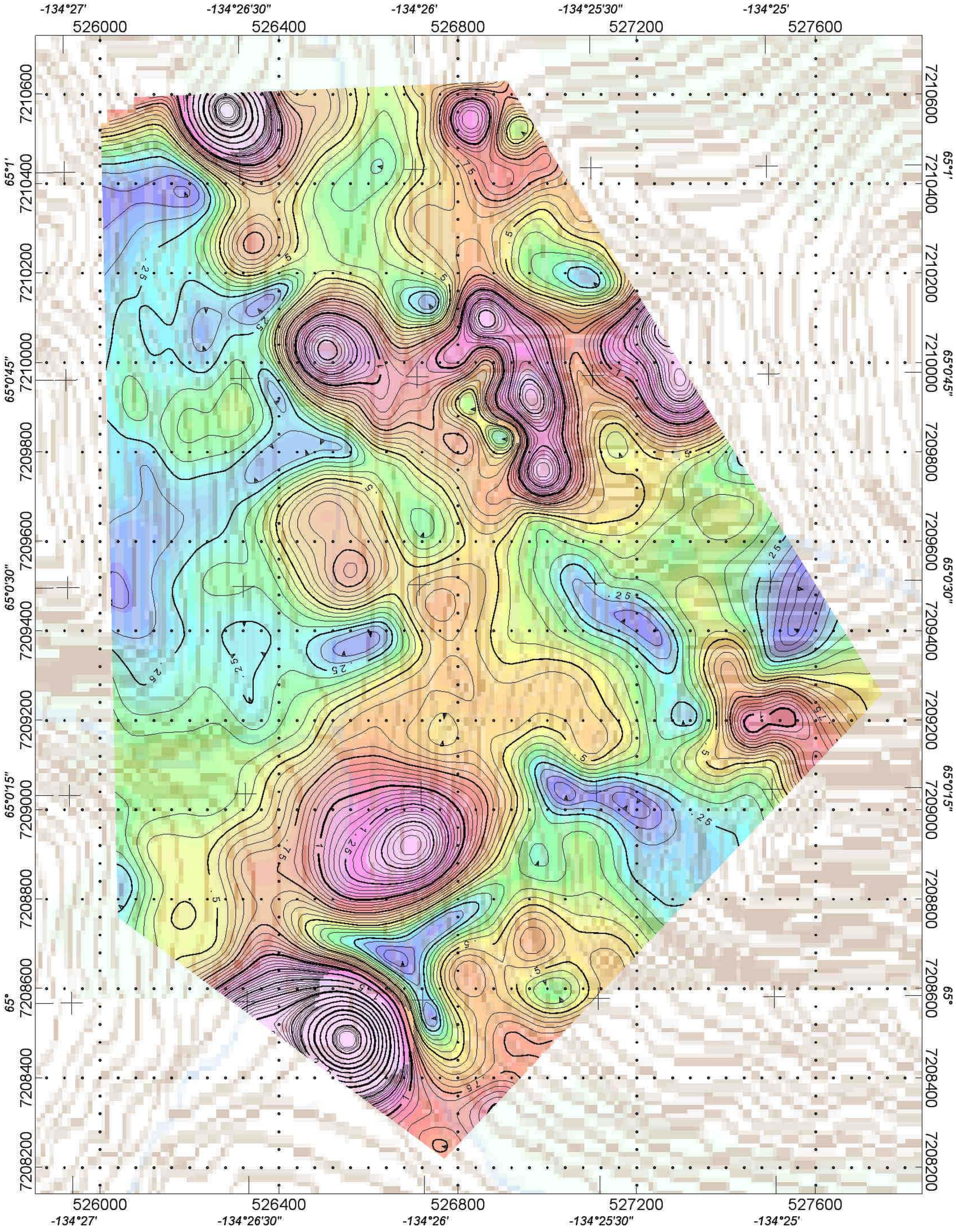
MCPHAR

Signet Minerals Inc.

Calculated Second Vertical Derivative of Total Magnetic Intensity

Block Pike Survey flown May 2006

McPhar Geosurveys Ltd.



N

LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legent:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nankoTesla/metre

Analytic Signal of TMI
nanoTesla/metre

0.155 0.255 0.336 0.410 0.506 0.609 0.769 1.190

Scale 1:10000

100 0 100 200 300 400 500 600
metres
NAD83 / UTM zone 8N

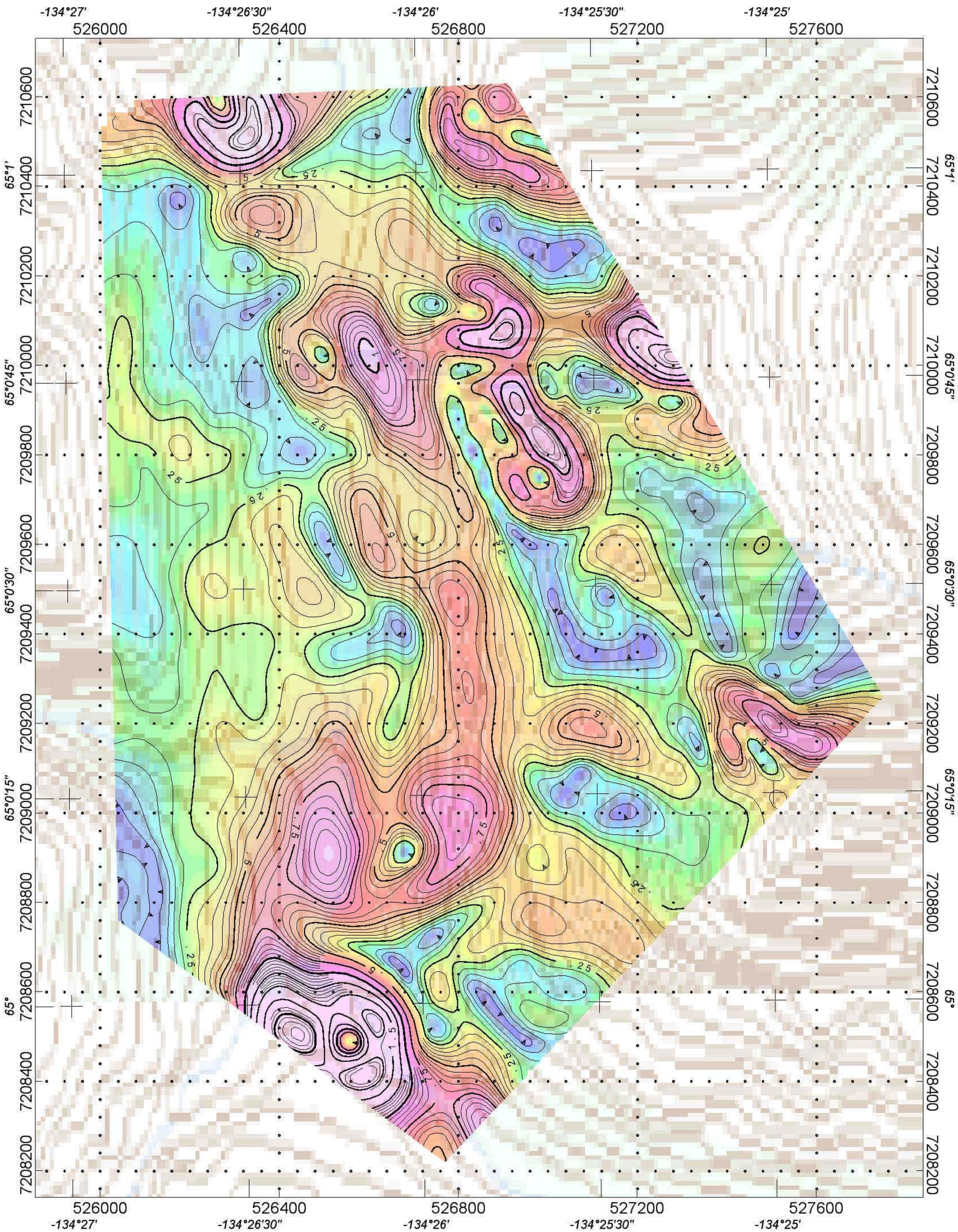
MCPHAR

Signet Minerals Inc.

Calculated Analytic Signal of Total Magnetic Intensity

Block Pike Survey flown May 2006

McPhar Geosurveys Ltd.



LEGEND

Survey Parameters:

Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

Geotech HUMMINGBIRD 5-Frequency System sampling with coplanar coils at 880 Hz and 6606 Hz and with coaxial coils 980 Hz, 7001 Hz and 34133 Hz
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Contour Legent:

0.05 nanoTesla/metre
0.25 nanoTesla/metre
1 nankoTesla/metre

Horizontal Gradient of TMI
nanoTesla/metre

0.051 0.139 0.200 0.251 0.321 0.420 0.573 0.864

Scale 1:10000

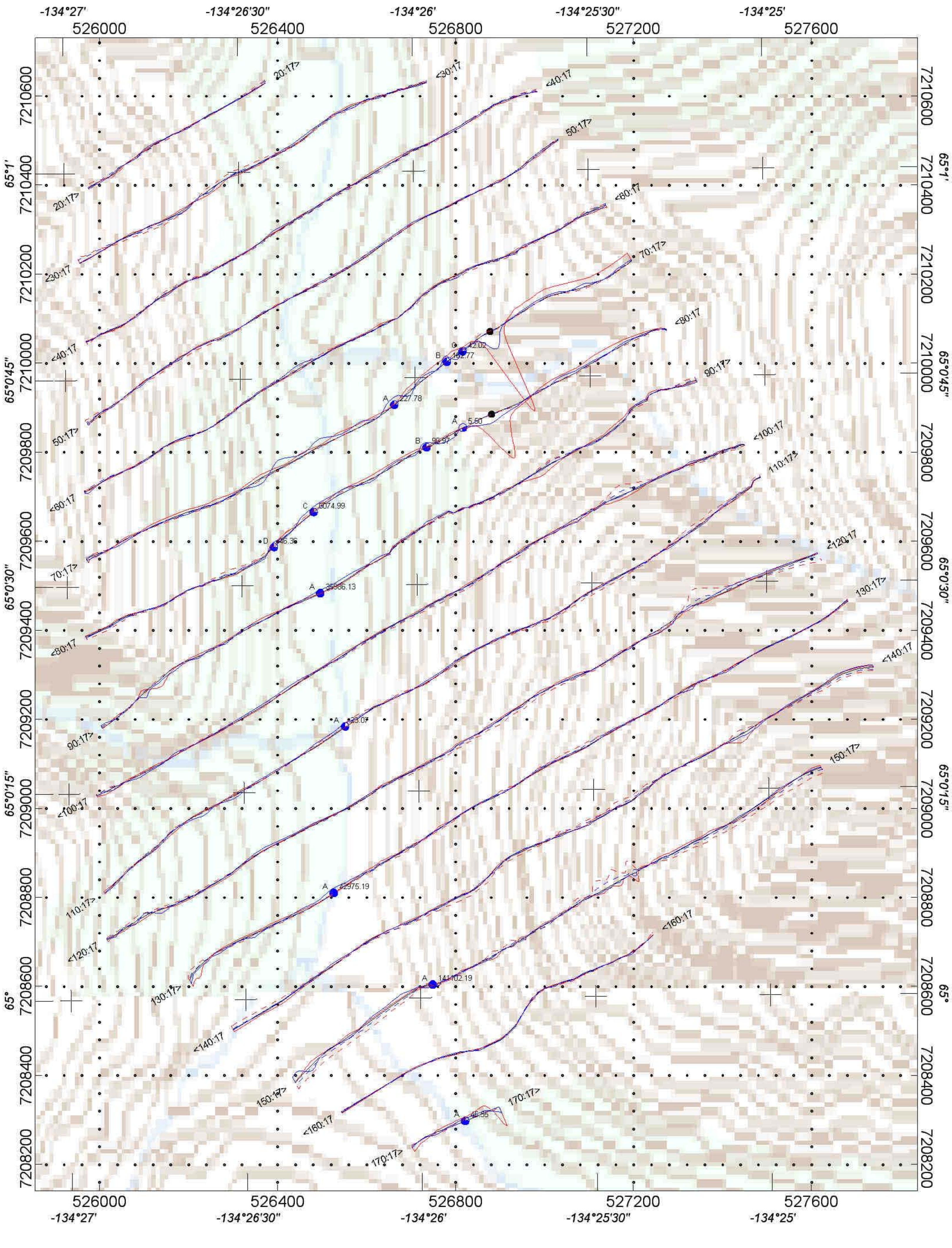
100 0 100 200 300 400 500 600
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Calculated Horizontal Gradient of Total Magnetic Intensity

Block Pike Survey flown May 2006

McPhar Geosurveys Ltd.



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Helicopter Registration: C-GRHH
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Traverse Line Spacing: 150 metres
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Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

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Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil
- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

EM Anomaly with Permability Response

EM Profiles legend:

In Phase 880 Hz (2ppm/mm)
Quadrature 880 Hz (2ppm/mm)
In Phase 980 Hz (2ppm/mm)
Quadrature 980 Hz (2ppm/mm)

Scale 1:10000

100 0 100 200 300 400 500 600
metres

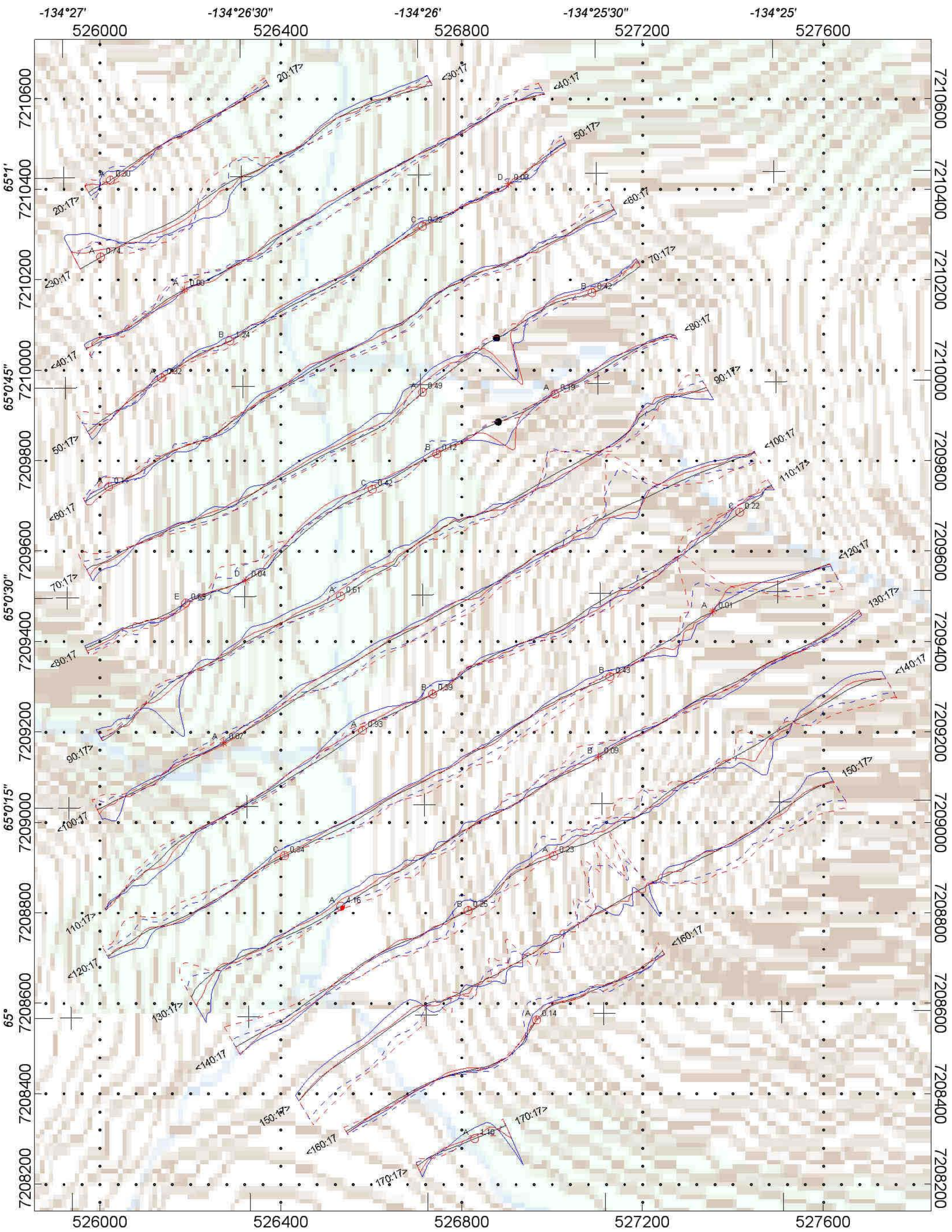
NAD83 / UTM zone 8N

Signet Minerals Inc.

EM Profiles: Horizontal Coplanar 880 Hz Coil
Vertical Coaxial 980 Hz Coil

Block Pike Survey flown May 2006

McPhar Geosurveys Ltd.



LEGEND

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Helicopter Type: Helicopter A-Star B2
Helicopter Registration: C-GRHH
Survey Date: March-April 2006
Traverse Line Spacing: 150 metres
Traverse Line Direction: 60°
Control Line Spacing: 1500 metres
Control Line Direction: 330°

Airborne Magnetometer System:

Scintrex CS-2 Cesium Magnetometer
Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

Airborne Electromagnetic (HEM) System:

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Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sampling Rate: 10 readings/second

Data Acquisition System:

Geotech Data Acquisition System
Radar Altimeter: Terra TRA-3000/TRI-30

Airborne Navigation System:

Ag-Navigation System
Sampling Rate: 1 reading/second

Base Station GPS Receiver:

Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil

- >16
- 8-16
- 4-8
- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

EM Anomaly with Permability Response

EM Profiles legend:

In Phase 6600 Hz (2ppm/mm)
Quadrature 6600 Hz (2ppm/mm)
In Phase 7000 Hz (1ppm/mm)
Quadrature 7000 Hz (2ppm/mm)

Scale 1:10000

100 0 100 200 300 400 500 600

metres

NAD83 / UTM zone 8N

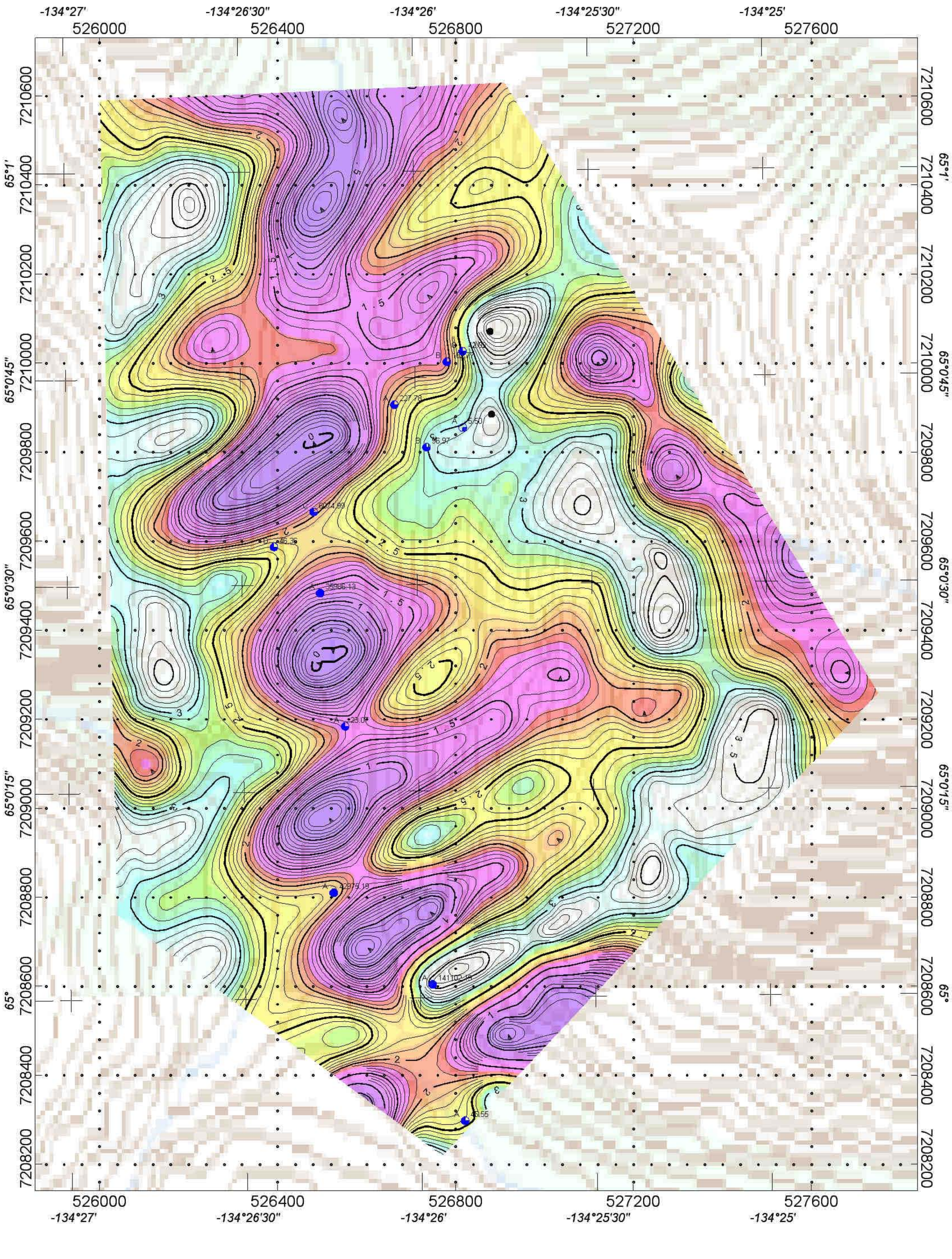
MCPHAR

Signet Minerals Inc.

EM Profiles: Horizontal Coplanar 6600 Hz Coil
Vertical Coaxial 7000 Hz Coil

Block Pike Survey flown May 2006

McPhar Geosurveys Ltd.



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Sensitivity: 0.0006 nT
Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

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Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

980 Hz Coaxial Coil
>16
8-16
4-8
2-4
1-2
0.5-1
<0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

EM Anomaly with Permability Response

Logarithmic Contour Intervals:
0.1, 1, 10, 100, 1000, 10000 Ohm-m

3.240
3.030
2.874
2.731
2.575
2.414
2.230
2.018
1.788
1.531
1.169
0.510

Apparent Resistivity
(Ohm-metre, Ohm-m)
Logarithmic Scale

Scale 1:10000

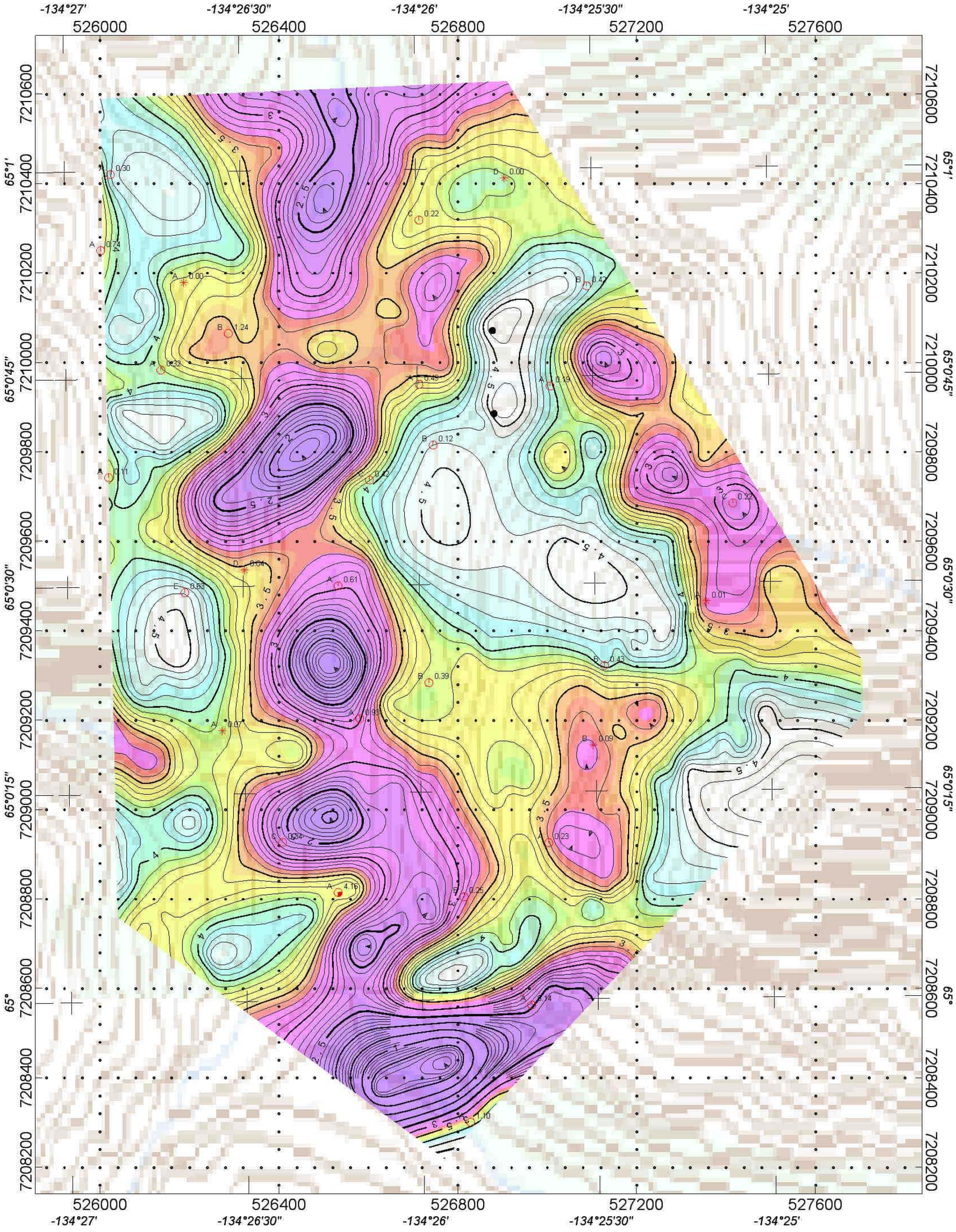
100 0 100 200 300 400 500 600
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Apparent Resistivity of Horizontal Coplanar
880 Hz Coils

Block Pike Survey flown May 2006

McPhar Geosurveys Ltd.



LEGEND

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Noise Level: +/- 0.001 nT
Sensor Height: Nominally 30 metres mean terrain clearance (mtc)
Sensor Location: Mounted inside HUMMINGBIRD EM Sensor

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Sampling Rate: 1 reading/second

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Novatel Millenium receiver
Sampling Rate: 1 reading/second

Base Station Magnetometer:

GSM 19T Proton
Sampling Rate: 1 reading/second
Sensitivity: 0.1 nT

Electromagnetic Anomaly Legend

Coaxial Coil (Conductance Units - Siemens)

7000 Hz Coaxial Coil

- >16
- 8-16
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- 2-4
- 1-2
- 0.5-1
- <0.5 questionable anomaly

3.23 E
Conductance (Siemens)
Label

● EM Anomaly with Permability Response

Logarithmic Contour Intervals:
0.1, 1, 10, 100, 1000, 10000 Ohm-m

5.992
4.520
4.291
4.092
3.925
3.801
3.704
3.611
3.499
3.379
3.226
2.994
2.626
0.024

Apparent Resistivity (Ohm-metre, Ohm-m)

Logarithmic Scale

Scale 1:10000

100 0 100 200 300 400 500 600

metres

NAD83 / UTM zone 8N

McPHAR

Signet Minerals Inc.

Apparent Resistivity of Horizontal Coplanar 6600 Hz Coils

Block Pike   Survey flown May 2006

McPhar Geosurveys Ltd.

Anomalies List - Beta Block

x	y	GPS_sec	fid	fltno	C7	C980	Cl7	Cl980	L7	L980	Line
521998	7233204	970.6	3851.6	14		6.185014		5		A	L20
522010.3	7233212	971.6	3852.6	14	2.533013		4		A		L20
522098.3	7233258	978.3	3859.3	14	0.955812		2		B		L20
521787.1	7232889	901.1	3782.1	14	0.080119		1		A		L30
521841.3	7232733	782.1	3663.1	14	0.041181		1		A		L40
521976.1	7232832	792	3673	14		10.8313		6		A	L40
522154.8	7232773	693.3	3574.3	14	1.204297		3		A		L50
522149.6	7232771	693.8	3574.8	14		2.267465		4		A	L50
522292.5	7232673	237.9	3120.9	14	0.234549		1		A		L60
523082.9	7232960	86327.7	2811.7	14	0.086052		1		A		L70
522596	7232690	86393	2877	14	0.255075		1		B		L70
522373.6	7232537	23.3	2907.3	14	0.212245		1		C		L70
523064.3	7232773	86119.6	2603.6	14	2.479157		4		A		L80
523083	7232787	86122.1	2606.1	14		10.61446		6		A	L80
522379	7232199	85755.1	2240.1	14	4.260455		5		A		L90
522378.4	7232199	85755.2	2240.2	14		8.554624		6		A	L90
521819.4	7231693	85227.7	1718.7	14	1.552783		3		A		L100
521829.3	7231701	85229.2	1720.2	14		5.00463		5		A	L100
521914	7231756	85240	1731	14		2.397908		4		B	L100
521929.4	7231760	85242.8	1733.8	14	0.694941		2		B		L100
521985.4	7231800	85254.5	1745.5	14		2.840965		4		C	L100
522618.2	7231813	78027.1	6207.1	13	0.01845		1		A		L120
521796.4	7230670	75398.1	3580.1	13		8.408704		6		A	L160
521744.2	7230628	75404.5	3586.5	13	0.875623		2		A		L160
521853.3	7230514	74135.2	2319.2	13	0.860754		2		A		L170
521978.5	7230582	74158.7	2342.7	13		9.403284		6		A	L170
522057.2	7230442	74008.7	2193.7	13		4.202327		5		A	L180
522046.5	7230438	74010.3	2195.3	13	1.215011		3		A		L180
521775.2	7230124	67024.2	6896.2	12		3.884915		4		A	L190
521784.6	7230133	67027.2	6899.2	12	0.824741		2		A		L190
522165.1	7230346	67124.4	6996.4	12	6.193973		5		B		L190
522192	7230357	67128.1	7000.1	12		19.54829		7		B	L190
522341.6	7230275	66841.6	6713.6	12		13.35965		6		A	L200

x	y	GPS_sec	fid	fltno	C7	C980	CI7	CI980	L7	L980	Line
522175.1	7230178	66862.8	6734.8	12	0.623406		2		A		L200
521959.5	7230056	66918.3	6790.3	12	0.520845		2		B		L200
521954.2	7229885	65259.6	5133.6	12	2.042638		4		A		L210
521963.6	7229889	65260.7	5134.7	12		5.140384		5		A	L210
522299.8	7230063	65314.4	5188.4	12	0.511284		2		B		L210
522497.1	7230173	65335.4	5209.4	12		18.76994		7		B	L210
527506.1	7233103	65919.2	5791.2	12	0.162916		1		C		L210
522553.4	7230043	65083.8	4957.8	12		18.0958		7		A	L220
522417	7229970	65100.1	4974.1	12	1.475426		3		A		L220
522243.7	7229705	63471.8	3345.8	12		13.10713		6		A	L230
522479.5	7229829	63510.1	3384.1	12	0.768073		2		A		L230
522696.9	7229952	63533.8	3407.8	12		19.68848		7		B	L230
527767.9	7232714	62729.4	2610.4	12	0.307706		1		A		L240
522701.4	7229791	63329	3204	12	2.069855		4		B		L240
522633.2	7229749	63334.3	3208.3	12		14.63087		6		A	L240
522394.2	7229602	63352.9	3226.9	12		14.1001		6		B	L240
522373.7	7229592	63354.5	3228.5	12	2.514771		4		C		L240
522814.8	7229679	61870.3	1762.3	12	0.798013		2		A		L250
522886.9	7229719	61874.3	1766.3	12		19.91852		7		A	L250
528046.5	7232549	61218.8	1121.8	12	0.248276		1		A		L260
523078	7229483	1550.2	3755.2	11	1.782929		3		A		L270
523124	7229507	1553	3758	11		17.29213		7		A	L270
523313.2	7229285	86302.9	2118.9	11		14.93137		6		A	L290
524821.5	7229806	5167.2	3387.2	10		18066.17		8		A	L310
526231.5	7230246	3879	2122	10		164.5368		7		A	L330
525927.2	7229932	3035.9	1286.9	10		125844.7		8		A	L340
523099.1	7228285	3401.1	1650.1	10	0.342457		1		A		L340
525480.8	7229325	82606.7	7487.7	9		1434.062		8		A	L360
523360.6	7227929	82218.4	7102.4	9	0.338292		1		A		L370
523896.7	7228048	80768.3	5657.3	9	0.269753		1		A		L380
523945.9	7227919	80522.9	5411.9	9	0.418351		1		A		L390
523843.8	7227686	79409.8	4304.8	9	0.470792		1		A		L400
524146.5	7227674	79170.7	4085.7	9	0.315439		1		A		L410
523934.2	7227384	77809.1	2738.1	9	0.55363		2		A		L420
524448.2	7227509	77497.5	2432.5	9	0.239484		1		A		L430
524025	7227095	76680.1	1621.1	9	0.363949		1		A		L440

x	y	GPS_sec	fid	fltno	C7	C980	Cl7	Cl980	L7	L980	Line
524091.1	7226970	76369.9	1312.9	9	0.19327		1		A		L450
523586.7	7226673	76395.8	1337.9	9	0.328196		1		B		L450
524359.1	7226941	568.6	6699.6	8	0.196369		1		A		L460
524306.5	7226731	142.3	6275.3	8	0.304802		1		A		L470
523772.1	7226248	86019.6	5754.6	8		51.79498		7		A	L480
524158.8	7226469	86034	5769	8	0.20972		1		A		L480
524782.1	7226658	85563.4	5303.4	8	0.263584		1		A		L490
524416.6	7226260	84942.1	4686.1	8	0.176483		1		A		L500
524912.9	7226227	84139.1	3887.1	8	0.236001		1		A		L520
525043.6	7225935	82935.7	2686.7	8	0.334793		1		A		L540
525368	7225776	81910.3	1667.3	8	0.261352		1		A		L560
525145.6	7225497	81233.2	1005.6	8	0.559836		2		A		L570
524957.1	7225195	75895.5	5505.5	7		124.6237		7		A	L580
525230.2	7225170	75166.1	4779.1	7	0.461359		1		A		L590
526203	7225402	74045.3	3660.3	7	0.441337		1		A		L610
525438.6	7224970	74074.9	3689.9	7		12.48429		6		A	L610
522504.4	7223277	74375.3	3990.3	7		53.8658		7		B	L610
527785.7	7225808	72403.6	2020.6	7	0.362846		1		A		L640
526641.7	7224824	71303.5	929.5	7	0.112889		1		A		L660
522898.4	7222467	70921.9	556.9	7		438.111		8		A	L670
526333.1	7224273	14410.2	4615.6	6	0.357407		1		A		L680
525609.8	7223667	13815.6	4026.6	6	0.666142		2		A		L690
526151.3	7223815	13391	3611	6	0.593447		2		A		L700
526268	7223696	12994.9	3221.9	6	0.720049		2		A		L710
526418.3	7223621	12540	2776	6	0.439744		1		A		L720
525292.9	7222779	12307.2	2544.2	6	0.507205		2		A		L730
525329	7222477	11555.7	1801.7	6	0.343127		1		A		L750
527047.6	7220523	75783.3	5110.3	4	0.532801		2		A		L920
531355.8	7221982	72992	2357	4	0.635527		2		A		L980
528995.1	7220423	72608.8	1974.8	4		182.2714		7		A	L990
531300.3	7221593	72347.7	1713.7	4	0.702566		2		A		L1000
531133.9	7220799	71600.8	981.8	4	0.593279		2		A		L1040

Anomalies List - Curie Block

x	y	GPS_sec	fid	C7	C980	CI7	CI980	L7	L980	Line
507344.1	7235205	75352.5	682.5	2.119033		4		A		L-40
505454	7233250	5254.1	4863.1	0.593359		2		A		L10
509353.4	7235495	5450	5051		3					L10
506251.7	7233182	77412.4	2677.4		6.91069		5		A	L40
506266.1	7233192	77413.6	2678.6	2.040949		4		A		L40
505775.8	7232721	77929.7	3186.7	1.08285		3		A		L50
507436.8	7233186	78857.3	4093.3	1.415328		3		A		L80
509135.7	7234136	79003.3	4235.3		20.56932		7		A	L80
507345.4	7232435	79556.5	4771.5	0.537697		2		A		L120
507162.7	7231962	80104.2	5303.2	1.096794		3		A		L140
507306.3	7231886	80554.9	5742.9	1.336053		3		A		L150
507495.4	7231646	81239.3	6412.3	0.840229		2		A		L170
508143.8	7231676	444.9	1329.9	0.676502		2		A		L190
507384.2	7231119	537.8	1414.8		14.01667		6		A	L200
507432.9	7231137	541.5	1418.5	2.809026		4		A		L200
508001.2	7231064	1490.5	2339.5		9.563704		6		A	L220
508003.5	7231066	1490.6	2339.6	4.752645		5		A		L220
508722.4	7231484	1524.5	2370.5	1.94519		3		B		L220
508371.6	7231107	2129.5	2952.5	3.325386		4		A		L230
508359.6	7231099	2129.9	2952.9		10.46049		6		A	L230
507842.4	7230632	2205.7	3022.7		17.43787		7		A	L240
507849	7230636	2206	3023	5.951648		5		A		L240
508167.5	7230824	2219.9	3035.9	2.155117		4		B		L240
508488.8	7231005	2235.2	3051.2	0.017416		1		C		L240
509025.1	7231304	2258	3072	3.118168		4		D		L240
509127.7	7231359	2261.8	3075.8		23.92072		7		B	L240
508278	7230707	2865.9	3667.9	2.942731		4		A		L250
508268.8	7230522	2941.7	3741.7		30.41492		7		A	L260
508277.1	7230526	2942	3742	16.55703		7		A		L260
508274.6	7230359	3572.1	4358.1		32.60993		7		A	L270
508252	7230345	3572.8	4358.8	7.120089		5		A		L270
508471	7230306	3897.3	4669.3		60.34259		7		A	L280

x	y	GPS_sec	fid	C7	C980	Cl7	Cl980	L7	L980	Line
511213.4	7231183	5410.2	6124.2	0.273729		2		A		L320
509002.8	7229589	5917.6	6612.6	25.78637	51.36294	7	7	A	A	L340
513136.3	7231776	17200.2	5638.2	21.04775		7		A		L350
513136.8	7231776	17200.4	5638.4		860.5192		7		A	L350
514481.3	7232199	4957.9	7239.9	1.551906		3		A		L371
512979.5	7230984	3857.2	6176.2	1.071204		3		A		L390
		3331.6	5679.6	1.574432		3		A		L400
		3139.3	5495.3		14.02882		6		A	L410
		3140.1	5496.1	4.721972		5		A		L410
		3153.1	5508.1	6.957675		5		B		L410
		2320.8	4710.8	8.464064		6		A		L420
		2320.9	4710.9		14.64771		6		A	L420
515395.7	7231862	2329.1	4718.1	2.73956		4		B		L420
513619.2	7230848	2411.1	4793.1	5.305841		5		C		L420
513613.6	7230844	2411.5	4793.5		8.724464		6		B	L420
515546.1	7231773	2064.7	4471.7	4.921489		5		A		L430
515558.4	7231780	2065.1	4472.1		8.432513		6		A	L430
517660.1	7233001	2138.7	4540.7	0.879501		2		B		L430
518069	7233076	1127.7	3563.7	0.64921		2		A		L440
514977.8	7231277	1261	3690	4.768466		5		B		L440
514869.8	7231050	708.6	3170.6	1.403026		3		A		L450
516758.8	7232151	786.3	3241.3	1.142523		3		B		L450
517977.7	7232837	829.2	3283.2		27.35287		7		A	L450
517871.9	7232610	86236	2358.5	9.828413		6		A		L460
517776.1	7232556	86240	2362		23.97355		7		A	L460
512893.1	7229739	92.3	2602.3	0.843637		2		B		L460
515968.5	7231299	85785.8	1926.8	0.788945		2		A		L470
518427.6	7232789	85871.8	2012.8	0.502399		2		B		L470
517868.6	7232265	84926.5	1100.5	1.112752		3		A		L480
516237.7	7231338	84995.5	1160.5	1.71935		3		B		L480
512800.2	7229377	85171	1330	0.730399		2		C		L480
518094	7232228	11486.7	989.7	0.439606		2		A		L490
516231.8	7231148	11568	1070	4.11628		5		B		L490
516218.8	7231140	11568.7	1070.7		9.005249		6		A	L490
515232.2	7230578	11619.1	1121.1	0.389974		2		C		L490
513205	7229406	11729.5	1230.5	1.543566		3		D		L490

x	y	GPS_sec	fid	C7	C980	CI7	CI980	L7	L980	Line
513201.1	7229405	11730	1231		3.612851		4		B	L490
512721.9	7229149	11764.4	1264.4		7.929629		5		C	L490
512715.7	7229146	11764.9	1264.9	3.095929		4		E		L490
512692.1	7228935	12163	1660	2.492542		4		A		L500
515168.3	7230370	12311.9	1806.9		4.424212		5		A	L500
515182.9	7230381	12315	1810	0.643525		2		B		L500
515718.9	7230675	12372.1	1867.1		2.682658		4		B	L500
515747.3	7230693	12375.4	1870.4	1.114794		3		C		L500
516597.7	7231014	12900.5	2389.5		10.16725		6		A	L510
516557	7230992	12902.9	2391.9	2.460874		4		A		L510
515463	7230339	12970.7	2458.7	0.889859		2		B		L510
512887.9	7228862	13099.5	2582.5		9.989307		6		B	L510
512884.6	7228860	13099.7	2582.7	2.840672		4		C		L510
512598.6	7228702	13120.1	2603.1	1.74371		3		D		L510
512956.1	7228730	13430.9	2908.9	3.048579		4		A		L520
515410.5	7230163	13569.9	3045.9		5.915751		5		A	L520
515554.7	7230240	13581.9	3057.9	1.05548		3		B		L520
515889	7230423	13605.6	3081.6	1.306547		3		C		L520
519022.4	7232261	13753.8	3229.8	0.494161		2		D		L520
519557.3	7232382	13819.1	3294.1	2.168499		4		A		L530
516542.1	7230619	13962.7	3435.7		87.03896		7		A	L530
516211.7	7230434	13987.9	3460.9	1.042052		3		B		L530
515708.1	7230140	14033.5	3506.5	0.760343		2		C		L530
515369.5	7229966	14052.1	3525.1	4.476156		5		D		L530
515323.2	7229939	14054.6	3527.6		6.728409		5		B	L530
515014.5	7229757	14072.5	3545.5	0.761733		2		E		L530
512924.6	7228541	14162.1	3634.1	2.138609		4		F		L530
512439.2	7228258	14190.7	3662.7	1.141623		3		G		L530
512460.1	7228083	14452	3923	0.824559		2		A		L540
512665	7228209	14467.1	3938.1	1.818858		3		B		L540
514997.8	7229567	14572.9	4043.9	0.688345		2		C		L540
515292.3	7229741	14599.3	4070.3	1.918401		3		D		L540
519531.3	7232163	14818.4	4289.4		18.90881		7		A	L540
519535.9	7232166	14818.6	4289.6	3.398574		4		E		L540
519739.8	7232137	15062.9	4532.9		13.52647		6		A	L550
519734.3	7232133	15063.3	4533.3	1.866762		3		A		L550

x	y	GPS_sec	fid	C7	C980	Cl7	Cl980	L7	L980	Line
517136.6	7230630	15171.3	4640.3	0.63924		2		B		L550
516195.4	7230085	15224.2	4693.2		47.54324		7		B	L550
515518.5	7229707	15283.9	4751.9	0.609541		2		C		L550
515355.2	7229608	15299	4767	0.776446		2		D		L550
512852.3	7228145	15410.7	4878.7	4.296416		5		E		L550
512616.3	7228031	15425.6	4893.6	0.56028		2		F		L550
512325.7	7227867	15445.8	4912.8	1.073273		3		G		L550
512762.5	7227935	15644.4	5110.4	1.278632		3		A		L560
514659.5	7229021	15723.9	5189.9	0.624563		2		B		L560
515329.2	7229429	15766.3	5232.3		7.321373		5		A	L560
515330.5	7229430	15766.4	5232.4	2.765032		4		C		L560
516909.6	7230326	15886.1	5352.1	1.050874		3		D		L560
519814.9	7231993	16003.1	5468.1	1.92702	6.591874	3	5	E	B	L560
519995.1	7231941	16067.6	5532.6	0.566647		2		A		L570
517001	7230208	16204.3	5669.3	0.822899		2		B		L570
514915.4	7228803	16686.6	6149.6	0.445954		2		A		L580
515711.8	7229281	16738.2	6201.2	4.977006		5		B		L580
516926.5	7229974	16834.1	6297.1	3.548874		4		C		L580
516932.5	7229976	16834.6	6297.6		8.809526		6		A	L580
519686.2	7231582	16977.1	6439.1	1.173941		3		D		L580
516965.2	7229834	17348.1	6808.1	3.632025		4		A		L590
516963.9	7229833	17348.2	6808.2		9.955946		6		A	L590
515869.3	7229177	17417.2	6876.2	1.47536		3		B		L590
514969.1	7228691	17472.5	6931.5	0.758157		2		C		L590
514915.8	7228481	17807.9	7265.9	0.68456		2		A		L600
515632.5	7228890	17866.2	7323.2	8.579482		6		B		L600
516816.8	7229594	17958.5	7415.5	1.843444		3		C		L600
516826.9	7229600	17959.6	7416.6		10.48206		6		A	L600
519927.7	7231384	18133.5	7589.5	3.092904		4		D		L600
517138.5	7229581	59454.9	972.9	0.643756		2		A		L610
517028.8	7229528	59468.5	986.5	0.682705		2		B		L610
516811.9	7229414	59487.6	1005.6		12.1789		6		A	L610
516805.7	7229411	59488	1006	5.227126		5		C		L610
515587.9	7228705	59579.3	1096.3	0.125365		2		D		L610
511614.2	7226401	59785.8	1290.4	1.945328		3		E		L610
511421.3	7226121	59903.5	1401.5	1.704702		3		A		L620

x	y	GPS_sec	fid	C7	C980	Cl7	Cl980	L7	L980	Line
511806.9	7226348	59933.9	1431.9	0.753726		2		B		L620
515169.1	7228289	60107.3	1601.3	0.86634		2		C		L620
515905	7228690	60170.2	1663.2	0.372691		2		D		L620
520289.2	7231251	60420.5	1910.5	1.583133		3		E		L620
520905.7	7231417	60679.7	2161.7	0.238115		2		A		L630
516661.6	7228967	60898	2372	6.05795		5		B		L630
516531.3	7228897	60907.6	2381.6	7.605486		5		C		L630
516524.4	7228893	60908.1	2382.1		20.60126		7		A	L630
516243.2	7228722	60933.8	2406.8	3.282681		4		D		L630
516229.3	7228715	60935.5	2408.5		12.2475		6		B	L630
514543.7	7227751	61069.3	2541.3	0.682977		2		E		L630
511861.5	7226208	61241.4	2710.4	1.184271		3		F		L630
511716.9	7226117	61252.3	2721.3	1.843569		3		G		L630
511710.2	7226113	61252.8	2721.8		4.858422		5		C	L630
511523.3	7225834	61446.4	2912.4	1.434916		3		A		L640
514086.8	7227303	61604.9	3063.9	1.05444		3		B		L640
514426.6	7227508	61635.9	3093.9	0.269152		2		C		L640
515481.2	7228110	61695.4	3152.4	1.320089		3		D		L640
515924.6	7228366	61740.6	3192.6	1.734442		3		E		L640
515928.4	7228368	61741.1	3193.1		8.056303		6		A	L640
520591.5	7231072	62009.5	3456.5	0.641707		2		F		L640
521135.1	7231221	62076.7	3520.7	2.40778		4		A		L650
516773.7	7228696	62321.8	3759.8	2.663666		4		B		L650
516603.3	7228591	62335.1	3772.1	1.493995		3		C		L650
516577.4	7228576	62337.4	3774.4		5.297416		5		A	L650
516492.1	7228525	62346.6	3782.6	1.208941		3		D		L650
516435.8	7228494	62353.6	3789.6	0.956725		2		E		L650
515995.8	7228251	62412	3848	2.754626		4		F		L650
514633.8	7227446	62493.8	3928.8	1.95146		3		G		L650
514197.3	7227225	62526	3960	3.708629		4		H		L650
511426.2	7225607	62698.8	4129.8	1.650688		3		I		L650
514246.8	7227048	63401.9	4815.9	0.743677		2		A		L660
514752.2	7227345	63448.8	4861.8	6.775513		5		B		L660
515878.7	7228005	63531.8	4940.8	0.707396		2		C		L660
520747.7	7230818	63803.7	5206.7	1.904474		3		D		L660
		63874.2	5275.2	1.311009		3		A		L670

x	y	GPS_sec	fid	C7	C980	Cl7	Cl980	L7	L980	Line
516421.2	7228139	64123.9	5510.9	0.602482		2		B		L670
516333	7228086	64132.9	5519.9	2.120683		4		C		L670
516006.4	7227904	64170	5557	1.202795		3		D		L670
514785.9	7227196	64243.8	5627.8	4.701772		5		E		L670
513611.5	7226513	64349.6	5730.6	6.741109		5		F		L670
514005.6	7226564	64754	6126	15.49338		6		A		L680
514521.2	7226858	64805.6	6172.8	0.425684		2		B		L680
516069.3	7227787	64913.6	6276.8	2.280399		4		C		L680
516088.1	7227794	64915.1	6278.1		7.850674		5		A	L680
516421.9	7227983	64947.2	6306.2	2.255256		4		D		L680
516505.3	7228026	64956.5	6314.5	2.007235		4		E		L680
516516.9	7228031	64957.9	6315.9		9.456777		6		B	L680
515196.2	7227080	65729.9	7063.9	0.385376		2		A		L690
515021.5	7226977	65743.9	7075.9	0.459836		2		B		L690
514567.8	7226743	65786.4	7117.4	0.523062		2		C		L690
515060.4	7226823	66247.9	7559.9	2.37551		4		A		L700
516023.2	7227384	66309	7620	1.973742		3		B		L700
516516.8	7227682	66339.9	7646.9	3.37815		4		C		L700
516520.4	7227685	66340.2	7647.2		13.35937		6		A	L700
515396.2	7226845	72994.4	1185.4	1.09176		3		A		L710
515381.5	7226836	72995.2	1186.2		2.526885		4		A	L710
513712.5	7225879	73161.7	1352.7	0.374004		2		B		L710
513515.1	7225778	73175.1	1366.1	2.919104		4		C		L710
513572.2	7225634	73546.2	1736.2	2.802098		4		A		L720
514612.7	7226240	73636	1825	0.274816		2		B		L720
516248.8	7227170	73761	1949	6.798267		5		C		L720
515493.2	7226546	74336.3	2522.3	6.178064		5		A		L730
514115	7225774	74489.3	2668.3	1.501057		3		B		L730
513359.3	7225357	74557.7	2732.7		33.83642		7		A	L730
513104.5	7225004	75112.4	3270.2	5.763752		5		A		L740
513790.7	7225408	75154.2	3311.2	1.551705		3		B		L740
515052.9	7226126	75304	3460	1.237744		3		C		L740
515379.8	7226314	75341.7	3497.7	0.645105		2		D		L740
516179.3	7226790	75400.5	3552.5	3.520634		4		E		L740
517727.7	7227520	75788.6	3936.6	1.071811		3		A		L750
515521.4	7226230	75976.6	4119.6	0.958007		2		B		L750

x	y	GPS_sec	fid	C7	C980	Cl7	Cl980	L7	L980	Line
514977.5	7225956	76061.4	4204.4	2.138908		4		C		L750
514840.8	7225843	76084.1	4227.1		7.231869		5		A	L750
514835.1	7225839	76084.7	4227.7	3.271671		4		D		L750
514579.3	7225690	76104.7	4247.7	5.032396		5		E		L750
513804.1	7225237	76187.5	4330.5	11.83545		6		F		L750
513450.8	7225037	76210.7	4351.7	13.47663		6		G		L750
513172.6	7224878	76229.9	4370.9	0.662219		2		H		L750
512864.6	7224687	76270.8	4411.8	4.222073		5		I		L750
512854.3	7224682	76272.1	4413.1		18.18164		7		B	L750
512728.3	7224441	76519.7	4657.7		12.66963		6		A	L760
512738.6	7224445	76520.7	4658.7	2.216147		4		A		L760
513550.5	7224916	76607.4	4745.4	2.277348		4		B		L760
513973.7	7225172	76639.5	4777.5	2.109127		4		C		L760
514916.9	7225718	76743.2	4880.2	2.557883		4		D		L760
514454.8	7225272	77558.2	5687.2	0.694322		2		A		L770
514110.4	7225068	77604.2	5733.2	0.446741		2		B		L770
513466.9	7224696	77669	5798	1.111439		3		C		L770
512125.7	7223930	77791.9	5917.9	8.966199		6		D		L770
512120.1	7223926	77792.2	5918.2		17.56035		7		A	L770
512433.4	7223940	78271.4	6395.4		96.39496		7		A	L780
512455.1	7223956	78272.4	6396.4	3291.133		8		A		L780
513363.6	7224478	78333.9	6455.9	0.588347		2		B		L780
514438.3	7224931	79088.3	7205.3	0.978395		2		A		L790
		79287	7400	2.845014		4		B		L790
512245	7223288	1199.3	1077.3	2.00764		4		A		L810
512105.5	7223209	1210.7	1088.7	1.309456		3		B		L810
512684.8	7223382	1320	1195	4.655277		5		A		L820
512723.2	7223220	1866	1730.5	3.589316		4		A		L830
512446	7223016	1878.9	1740.9	10.90742	16.46691	6	7	B	A	L830
		1925	1785	2.790139		4		A		L840
513050.7	7223239	1973.5	1831.5		8.29689		6		A	L840
513060.3	7223243	1973.9	1831.9	4.788358		5		B		L840
512615.9	7222645	2682.5	2484.5		6.057654		5		A	L860
512600.1	7222635	2684.3	2486.3	1.768244		3		A		L860
512928.5	7222670	2761.8	2561.8	3.403437		4		A		L870

Anomalies List - Gamma Block

x	y	GPS_sec	fid	C7	C980	Cl7	Cl980	L7	L980	Line
520501.6	7219220	5779.1	7994.1	0.519352		2		A		L20
521292.9	7219350	5528	7745	0.344849		2		A		L40
520600.6	7218933	5573.3	7789.3	1.293189		3		B		L40
		72923.3	1767.3	0.130093		2		A		L50
520874	7218743	72525.6	1373.6		0.996182		2		A	L60
521641.8	7219018	72311.9	1159.9	4.30432		5		A		L70
520783.2	7218360	72131.1	981.1		13.46165		6		A	L80
520704.7	7218147	77988.3	3472.3		11.05406		6		A	L90
520812.5	7218202	77997.7	3481.7		18.50175		7		B	L90
522148.4	7218789	77744.5	3231.5	3.344725		4		A		L100
520761.3	7217991	77878.9	3364.9		12.66417		6		A	L100
520794.9	7217824	77149.3	2661.3		4.190025		5		A	L110
522492.4	7218625	76931.3	2451.3	0.573732		2		A		L120
521001	7217609	76526.6	2076.6		2.063233		4		A	L130
523394.6	7218979	76710	2243	0.670984		2		A		L130
523558.4	7219077	76726.4	2257.4	0.787012		2		B		L130
523713.5	7218993	76287.1	1851.1	2.749676		4		A		L140
522449	7218273	76382	1942	0.801489		2		B		L140
521219.3	7217579	76446.6	2002.6	3.733534		4		C		L140
523870.7	7218590	79149.8	4625.8	0.957061		2		A		L170
524484.8	7218579	79674.2	5148.2	3.859843		4		A		L190
524196.3	7218421	79704	5177	0.522123		2		B		L190
522688.5	7217541	79832.7	5305.7	0.575869		2		C		L190
523008.6	7217561	79931.2	5403.2	2.280274		4		A		L200
524459.2	7218216	80211.4	5681.4	0.996622		2		A		L210
524406.9	7218194	80216.4	5686.4	0.807866		2		B		L210
523587.2	7217563	80471	5938	5.537258		5		A		L220
524462	7217717	6654.3	8858.3	0.48694		2		A		L240

Anomalies List - Geiger Block

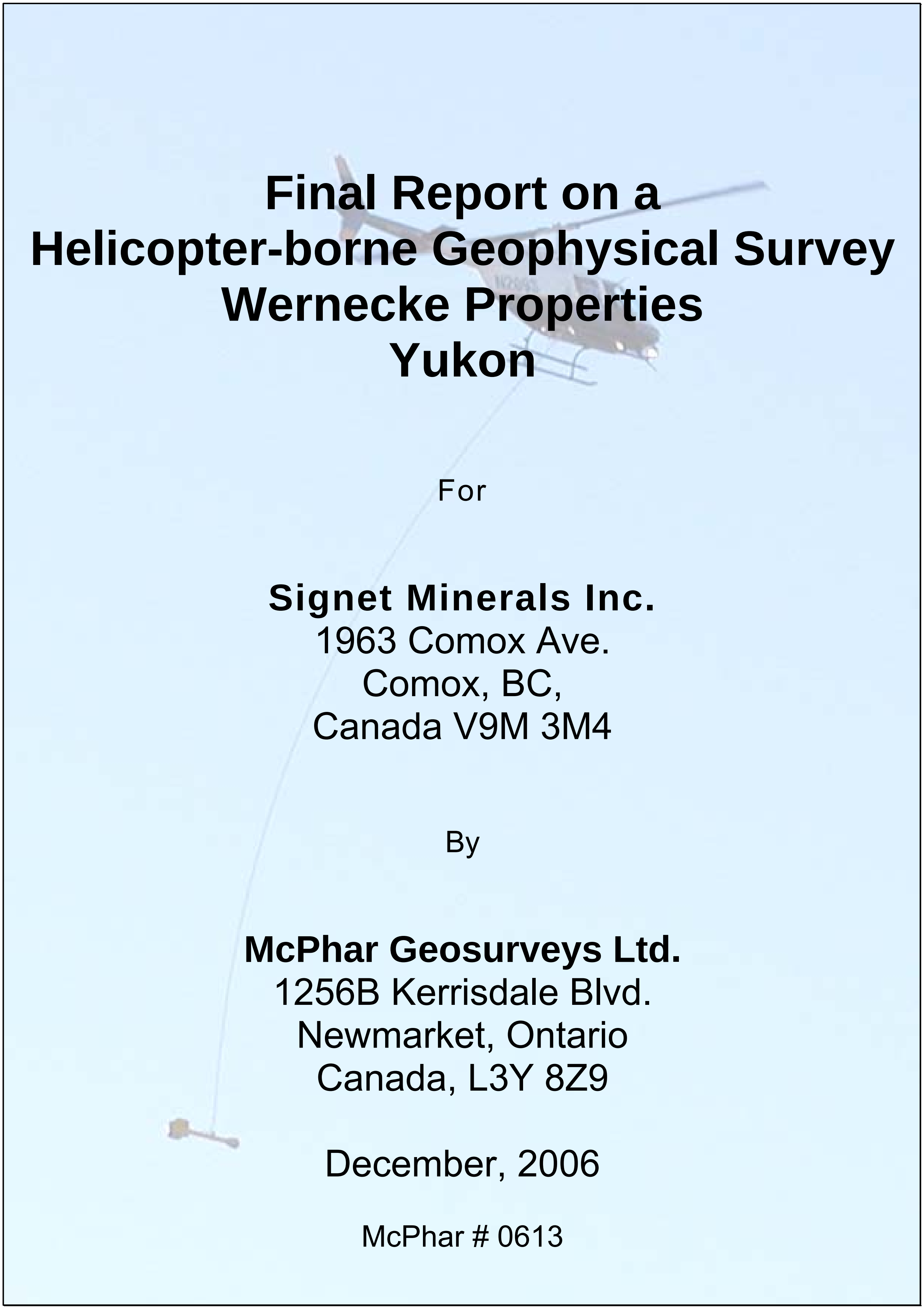
x	y	GPS_sec	fid	C7	C980	Cl7	Cl980	L7	L980	Line
526252.6	7215752	60946.7	1244.7		312.4937		7		A	L40
526243.7	7215746	60949.6	1247.6		901.4789		7		B	L40
526243.4	7215746	60949.7	1247.7	5.779211		5		A		L40
526673.5	7215640	61416.9	1714.9	2.643986		4		A		L60
526661.3	7215634	61419.6	1717.6		6.551451		5		A	L60
525972.5	7215245	61541.9	1839.9	3556.964		7		B		L60
525760.8	7215122	61567.9	1865.9	18.72068		7		C		L60
525805.8	7214963	61784.1	2082.1		20.96431		7		A	L70
525863.5	7214997	61795.7	2093.7	60929.91		8		A		L70
526017.3	7215093	61824.4	2122.4		39.81168		7		B	L70
527335	7215854	61944.7	2242.7	0.679547		2		B		L70
526279.4	7215058	62502.3	2797.3		11.90895		6		A	L80
525879.2	7214829	62540.2	2835.2	17.86727		7		A		L80
525572.8	7214664	62577	2872	15.54808		6		B		L80
525743.9	7214589	62727.8	3021.8	0.541091		2		A		L90
526650.8	7215125	62783.4	3076.4		6696.456		7		A	L90
526856.7	7215053	62964	3257		21.8885		7		A	L100
526335.2	7214596	63224.3	3514.3		88704.2		8		A	L110
526668.5	7214761	63247.7	3537.7	22.4372		7		A		L110
527088.3	7215012	63279.2	3569.2		1501.396		7		B	L110
527418.1	7215001	63352	3641	0.813885		2		A		L120
527293.9	7214920	63362.4	3651.4	0.418203		2		B		L120
527292.8	7214919	63362.5	3651.5		4359.699		7		A	L120
526256.9	7214374	63463.6	3752.6		3918.898		7		B	L120
526042.5	7214071	63596.5	3883.5	3.383819		4		A		L130
526204.2	7214167	63608.8	3894.8	0.955495		2		B		L130
526510.5	7214352	63629.5	3915.5		47322.84		8		A	L130
526631.2	7214406	63636.3	3921.3	613.992		7		C		L130
526698.6	7214436	63639.9	3924.9	0.21575		2		D		L130
527066.8	7214643	63660.5	3945.5	1.918148		3		E		L130
526560.6	7214045	63883.1	4162.1	0.442134		2		A		L150
526805.7	7214184	63897.9	4176.9	54012.04		8		B		L150
527001.2	7214285	63909.7	4188.7		19.57489		7		A	L150
527236.2	7214408	63925.5	4203.5		16437.42		7		B	L150

527259	7214234	63983.2	4256.2	0.203157	2	A	L160
527166.6	7214182	63989.3	4262.3	39.40083	7	B	L160

Anomalies List - Pike Block

x	y	GPS_sec	fid	C7	C980	Cl7	Cl980	L7	L980	Line
526023	7210420	14880.4	3469.4	0.298647		2		A		L20
526001.4	7210250	14831.2	3422.2	0.736728		2		A		L30
526186.9	7210179	14496.3	3093.3	0.004915		1		A		L40
526136	7209983	14290.8	2897.4	0.319706		2		A		L50
526286.9	7210065	14308.1	2912.1	1.241994		3		B		L50
526713.2	7210318	14340.7	2942.7	0.223411		2		C		L50
526904.1	7210412	14361.8	2962.8	0.001954		1		D		L50
526019.2	7209742	14224.9	2834.9	0.106865		2		A		L60
526662.3	7209907	14012.8	2633.4		227.7792		7		A	L70
526713.4	7209952	14017.5	2637.5	0.49343		2		A		L70
526780.3	7210003	14024.8	2643.8		162.7703		7		B	L70
526815.6	7210027	14029.5	2648.5		42.01839		7		C	L70
527088.2	7210171	14067.1	2684.1	0.416695		2		B		L70
527006.5	7209947	13818.4	2453.4	0.194492		2		A		L80
526816.4	7209855	13832.8	2466.8		5.498963		5		A	L80
526744.9	7209815	13837.8	2470.8	0.119315		2		B		L80
526734.9	7209811	13838.5	2471.5		96.9705		7		B	L80
526602.6	7209737	13847.7	2479.7	0.418074		2		C		L80
526481.1	7209666	13855.4	2487.2		6074.989		7		C	L80
526391.9	7209587	13861.9	2492.9		46.3635		7		D	L80
526323.1	7209536	13868.8	2498.8	0.04348		1		D		L80
526189.6	7209485	13887.5	2516.5	0.628449		2		E		L80
526496.1	7209483	13651.6	2291.6		35986.13		8		A	L90
526532.2	7209501	13654	2294	0.606593		2		A		L90
526273.8	7209176	13524.5	2168.5	0.070033		1		A		L100
526551.9	7209184	13250.1	1903.1		23.07106		7		A	L110
526581.1	7209204	13252.8	1905.8	0.927528		2		A		L110
526735.5	7209284	13269.6	1922.3	0.391095		2		B		L110
527415	7209686	13368.4	2017.7	0.215649		2		C		L110
527356.2	7209466	13016.7	1673.7	0.012854		1		A		L120
527127.9	7209322	13054.8	1711.8	0.429884		2		B		L120
526408.2	7208927	13131.1	1786.1	0.344632		2		C		L120
526525.9	7208810	12830.6	1489.6		42975.19		8		A	L130
526532.6	7208815	12831.1	1490.1	4.16256		5		A		L130

527103.3	7209145	12909.7	1568.7	0.08621		1		B		L130
527003.5	7208926	12542.3	1211.3	0.225112		2		A		L140
526814	7208805	12572	1236	0.25014		2		B		L140
526748.9	7208604	12198.5	880.5		141102.2		8		A	L150
526965.5	7208563	12105.8	791.8	0.137804		2		A		L160
526821.5	7208298	12720.6	1381.6		45.5511		7		A	L170
526828.9	7208301	12721.3	1382.3	1.09643		3		A		L170



Final Report on a Helicopter-borne Geophysical Survey Wernecke Properties Yukon

For

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SUMMARY

McPhar Geosurveys Ltd conducted an airborne geophysical survey on the Wernecke Mountain Properties, Yukon, on behalf of Signet Minerals, Vancouver, BC.

The project areas were located approximately 45 kms northwest of the Aurora Geoscience's camp at Copper point and was flown using a helicopter equipped with a high-resolution radiometric system.

The McPhar crew was in the survey area on August 11, 2006. Instrument calibration flights for spectrometer cosmic stripping coefficients, background effect and radar altimeter calibration (radar stack) were completed the same day, as well, the first production flight. A total of **1,837** line-kilometres of data were acquired, covering an area of approximately 270 square kilometres. The survey area was flown with a mean terrain clearance of 50 metres. Flight lines were flown at 60 degrees with spacing of 150 metres.

1. INTRODUCTION

A detailed high-resolution helicopter-borne radiometric survey was conducted during the period from August 11, 2006 to September 05, 2006 on behalf of Signet Minerals, ("Signet") by McPhar Geosurveys Ltd, ("McPhar"), over a portion of the Wernecke Mountains, Yukon.

The purpose of the survey was to acquire high-resolution geophysical data to map the geophysical characteristics of the geology and structure in an effort to provide an insight into geological and geophysical settings.

The geophysical system was mounted in the cabin of a Eurocopter AS-350B2 helicopter. Data acquisition utilized precision differential GPS positioning and a Pico-Envirotec GRS-410 multi channel gamma-ray spectrometer. This instrument has a 16.8 litres "downward looking" NaI sensor mounted in the cabin inside the side of the helicopter. Ancillary equipment included a differential GPS navigation and positioning system, barometric pressure transducer, temperature and relative humidity probe and a radar altimeter.

The survey area flown, comprised three blocks named as 'Currie', 'combined Beta, Gamma & Geiger (BGG)' and 'Pike'. The survey lines were flown in north-east direction (60°) at spacing of 150 metres. The survey comprised a total of 1,837 line kilometres of data acquisition.

Table 1: Survey Area Description

AREA NAME	APPROX AREA KM^2	LINE SPACING	LINE-KM	PRIMARY FLIGHT DIRECTION
Curie	132	150 m	878	60°
BGG	136	150 m	936	60°
Pike	2	150 m	23	60°
Totals	**270**		**1,837**	

Mobilization of the helicopter, equipment and personnel to Mayo, Yukon was completed on August 10, 2006. Final settlement in the Aurora camp at Copper point occurred on August 11, where fuel and accommodations were established. Pre-survey test and calibration flights for spectrometer cosmic stripping coefficients, aircraft background and for radar altimeter calibration (radar stack) were completed in the first week of arrival and final tests and calibrations were conducted on September 07, 2006 after the survey completed. The final survey flight was completed on September 05, 2006.

The final data processing, map compilation and report was completed by McPhar at its Newmarket, Ontario office.

2. SURVEY AREA

The survey consisted of three irregular shaped blocks, identified by Signet as 'Curie', 'BGG' and 'Pike'. These blocks are situated about 45 km northwest of the Aurora camp and approximately 180 km northeast of the town of Mayo. The primary objective of the survey was to acquire geophysical data in support of uranium exploration.

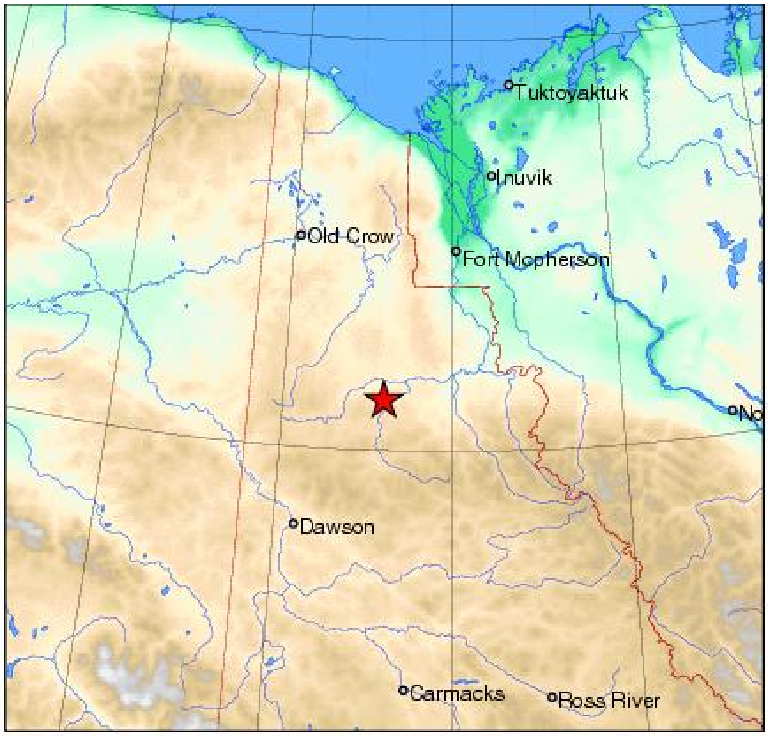

Figure 1: Location of the Signet Radiometric survey blocks, Yukon

Figure 2: Typical survey topography, Yukon

The elevation ranged from approximately 572 metres to over 1844 metres above sea level. Weather conditions were generally favourable, however some 'standby' days were incurred where survey flying was impossible as fog, rain and low ceiling prevailed. Temperature varied from anywhere from 10 to 20 degrees Celsius.

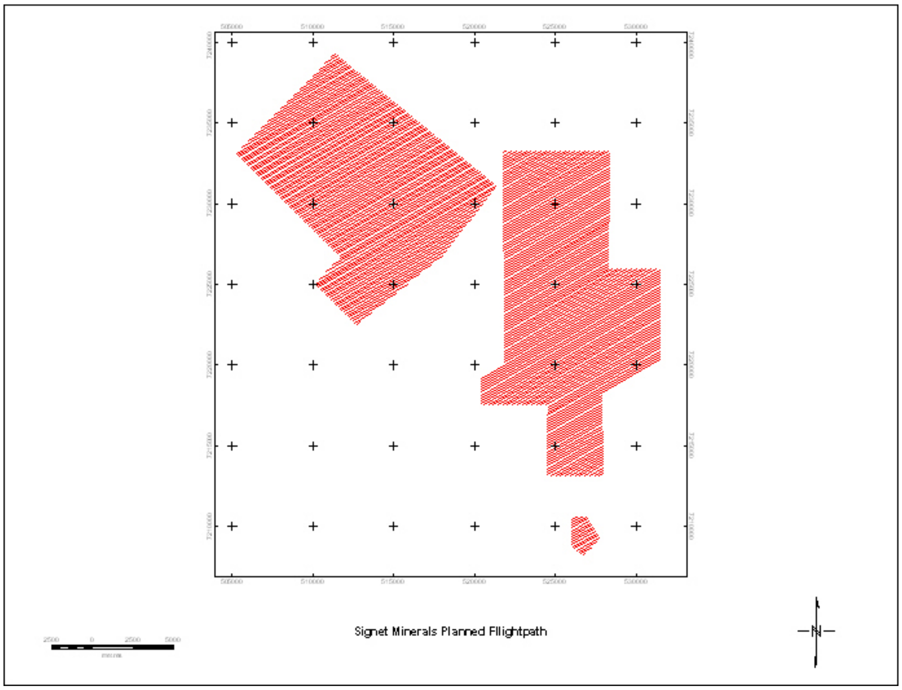

Figure 3: The planned path for 'BGG' Curie' and 'Pike' survey areas

Aurora Geoscience provided the survey block corner coordinates, in easting and northing, with projection NAD83, UTM zone 8N. The geographic location and corner coordinates follows.

Table 2: Survey Area Coordinates

BGG		CURIE		PIKE	
X	Y	X	Y	X	Y
520433	7219361	505252	7233120	526000	7210590
521865	7219361	511322	7239292	526910	7210630
521790	7233246	521362	7231072	527750	7209260
528346	7233255	517970	7226757	526770	7208220
528287	7225926	512732	7222501	526040	7208760
531469	7225935	510113	7225070		
531494	7224541	511750	7226690		
531452	7220243	505252	7233120		
527796	7220238				
527979	7213182				
524523	7213182				
524549	7217518				
520425	7217540				

3. SURVEY OPERATIONS

3.1 Operations Base

Survey operations were based from the Aurora Geoscience camp at Copperpoint, with daily pre/post flight calibrations performed at the cleared helipad, located adjacent to the camp and approximately 400m from the airstrip.

Figure 4: The camp at Copperpoint

All quality control and preliminary data processing were performed at the camp.

3.2 Survey Conditions

Weather conditions were not altogether a large factor although a few 'standby' days were incurred where the presence of rain, fog and cloud lingered at both low level and around the peaks of the survey areas. When survey conditions were fair, production was obtained. The average temperature over the course of the survey was approximately 18^{o}C.

3.3 Navigation

An air speed of approximately 150 kilometres per hour was maintained during data acquisition. The sampling rates for the spectrometer, radar, barometric altimeters and GPS navigation/positioning system occurred every 1.0 second. This resulted in spectrometric spatial sampling and position fixes every 41 metres along the flight path.

Navigation was assisted by a GPS receiver system that reported real-time differentially corrected GPS co-ordinates in WGS-84 latitude and longitude and directed the pilot over a pre-programmed two-dimensional (2-D) survey grid. The x-y position and ellipsoidal altitude of the aircraft, as reported by the GPS system, was recorded together with the terrain clearance as reported by the radar altimeter. The coordinates of the survey area were submitted as NAD83 but transformed into WGS84, UTM zone 08N coordinates for purposes of navigation.

Vertical navigation along flight lines was effectively controlled through the use of a radar altimeter. The optimum terrain clearance during normal survey flying was 50 metres for the helicopter. However, due to rugged terrain in some areas, and the pilot's judgment of safe flying conditions in these areas, these terrain clearances were not possible 100% of the time.

The final vertical and horizontal survey positions, as obtained with onboard real time differentially corrected GPS, had a precision of approximately +/- 1.5 metre.

3.4 Field Processing & Quality Control

The survey data was transferred to magnetic media on a flight-by-flight basis, and then copied to the field data processing workstation. In-field data processing included reduction of the data to GEOSOFT GDB database format and inspection of the data for adherence to contract specifications. Survey lines that exhibited excessive deviation or that were considered to be of inferior quality were designated to be reflown.

3.5 Survey Statistics and Project Diary

The survey was completed with a total of 23 flights; of which 20 were production flights. The first production flight was Flt # 03 on August 11, 2006, with the last production flight, Flt # 23 on September 05, 2006. Flights # 02 comprised of a series of tests and calibrations.

Table 3: Project Diary

Date	Flt #	Hours Flown	Line-Km Accepted	Comments
August 11	1,2 & 3	4.4	48.5	Crew mobilized by helicopter with equipment to the survey area camp. Helicopter ferried from Mayo to Aurora Camp. Flt# 02 comprised tests and calibrations. Flt# 03 was production flight at Curie block.
August 12	4,5 & 6	5.9	178	Due to poor weather shortened production flights at Curie block
August 13				Poor weather, standby day
August 14	7	1.7	75.6	Poor weather, partial production flight
August 15	8,9 & 10	6.6	393.4	Production flights at Curie block
August 16	11,12 & 13	5.8	299.1	Finished Curie block and started BGG block
August 17	14 & 15	3.9	262	Poor weather at morning, afternoon two production flights at BGG block
August 18				Released helicopter for maintenance
August 19				Released helicopter for maintenance
August 20				Released helicopter for maintenance
August 21				Released helicopter for maintenance
August 22				Got Helicopter back into camp
August 23	16	1.9	86.9	Poor weather at morning, afternoon one production flight at BGG block
August 24	17 & 18	3.7	213	Two production flights at BGG block
August 25				Poor weather, standby day
August 26				Poor weather, standby day
August 27				Poor weather, standby day
August 28				Mobilize fuel drums, no survey and no standby day
August 29				Helicopter maintenance
August 30				Helicopter maintenance
August 31				Installation of system in new helicopter
September 01	19	2.2		Poor weather, flight aborted, standby day
September 02				Poor weather, standby day
September 03	20	1.4	40.7	Poor weather, partial production flight, standby day
September 04	21 & 22	6.2	256.3	Two production flights at BGG block
September 05	23	1.8	28.5	Complete BGG and Pike blocks, standby day Survey Complete
Totals		**45.6**	**1,882**	

- Total are inclusive 45 line-kms of reflights

Title	Name	Days Onsite
Project Manager/QC/QA	Adam Barrett	26
Operator	Adam Barrett	26
Helicopter Pilots	Al Stannard/Doug Hladun	18/8

Table 4: Field Personnel

McPhar Geosurveys Ltd. of Newmarket, Ontario, Canada, was responsible for the field operations, all geophysical matters and the overall coordination and management of the survey.

4. HELICOPTER AND EQUIPMENT

4.1 The Helicopter

The survey was flown using two Eurocopter AS-350B2 A-Star model helicopters, with Canadian registration C-GTNT & C-GTNU provided by TransNorth Helicopters, Yukon. These helicopters featured up to 2.5 hours flight duration with the geophysical system and a crew of 2 persons onboard.

McPhar personnel, at the TransNorth base in Whitehorse, Yukon, did the installation of the geophysical and ancillary equipment. Final adjustments, calibration and testing were completed prior to production survey flights originating at the Copper point camp.

Figure 5: Helicopter C-GTNU fuelling at Lumina camp

Figure 6: Helicopter C-GTNT fuelling at Lumina camp

Table5: Survey Helicopters Specifications

Helicopter Model	Eurocopter AS-350 B2
Registration	C-GTNT
Engine	Turbomeca Arriel 1D1 - 732 shp
Gross Weight	4,991 lb
Empty Weight	2,561 lb
Useful Load	3,530 lb
Useful Fuel Capacity	143 gal /540 liters
Cargo-swing Load	2,557 lb / 1.160 kg
Typical Survey Speeds	45 – 60 knots/ 80 – 120 kph
Survey Fuel Consumption	47 gal/hour / 180 litres/hour
Flight Duration (no reserves)	3 hours
Cruise Speed - Ferry	122 knots
Cruise Range	371 nm / 688 km
Maximum Operating Altitude	18,700 ft / 5,700 m
H.I.G.E. (ISA)	13,450 ft / 4,100 m
H.O.G.E. (ISA)	11,300 ft / 3,450 m
Climb Performance	1,950 ft min / 594 m / min
Power Available for Equipment (28 VDC)	150 amps

The survey helicopter was flown at a nominal terrain clearance of 50 m. Nominal helicopter airspeed was approximately 150 km/hr but this may vary in the areas of rugged terrain. The sampling rates for the spectrometer, radar, barometric altimeters and GPS navigation/positioning system occurred every 1.0 second. This resulted in spectrometric data recorded at rate of 1 Hz and position fixes every 41 metres along the flight path.

4.2 The Survey Instrumentation

4.2.1 Survey System Overview

The equipment installed in the helicopter included:

- A Pico-Envirotec GRS-410 self-stabilizing multi-channel gamma-ray spectrometer with 16.8 litres “downward looking” NaI sensor.
- A navigation system, comprising an CSI Wireless DGPS-MAX and a Pico-Envirotec AGNAV GPS computer with pilot guidance unit (PGU)
- A SETRA model-276 digital barometric altimeter/pressure transducer
- A Campbell Scientific Model-CS500 Temperature and Relative Humidity Probe
- Pico-Envirotec AGIS Data Acquisition System
- A Terra TRA-3000/TRI-30 Radar Altimeter

The processing and base stations included:

- A Field Workstation, consisting of a portable Pentium PC, printer and full data processing software

4.2.2 Gamma-ray Spectrometer System

The gamma ray system included a Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 litres of "downward looking" NaI sensor with sampling rate of 1 second. The thermally insulated NaI crystal sensor was installed inside the cabin of the helicopter.

The GRS-410 is a 512 channel, self-stabilizing spectrometer that tracks and corrects for the spectral drift of the system by following a Thorium spectral peak. Standard regions of interest for Total Count (TC), Potassium (K), Uranium (U), Thorium (Th) and cosmic radiation were recorded for post survey processing. The averages recorded with window limits in MeV are shown in the following table:

Table 6: Standard Gamma-ray Spectrometer Data Acquisition Windows

Standard Gamma-ray Spectrometer Data Acquisition Windows		
Element	Lower Boundary (MeV)	Upper Boundary (MeV)
Total Count	0.41	2.81
Potassium	1.37	1.57
Uranium	1.66	1.86
Thorium	2.41	2.81
Cosmic	3.00	∞

The spectrometer was calibrated on a daily basis using standard calibration sources for Thorium (Th), Cesium (Cs) and Uranium (U).

The recommendations in the International Atomic Energy Agency – IAEA – TECDOC-1363 – *Guidelines for radioelement mapping using gamma ray spectrometry* were followed throughout the survey.

Gamma-ray spectrometer specifications are further described in Appendix 2.

4.2.3 Altimeter

A Terra TRA-3000/TRI-30 radar altimeter was used to record terrain clearance to an accuracy of about 1 ft (30 cm), over a range of 12 metres to 762 metres. The antenna was mounted beneath the bubble of the helicopter cockpit.

The altimeter was interfaced to the data acquisition system with an output repetition rate of 0.1 second, and digitally recorded.

A Setra model 276 Barometric Altimeter was utilized to measure height above sea level and barometric pressure changes. The barometric pressure transducer was connected directly to the data acquisition system with an output repetition rate of 1 second, and digitally recorded. The barometric altimeter has a resolution of approximately 30 cm (1 ft) and an accuracy of +/-0.02% full scale at 70^{o}F (19^{o}C).

System specifications are further described in Appendix 2.

4.2.4 Outside Air Temperature System

A Campbell Scientific CS500 Temperature & Relative Humidity Probe was used to record outside air temperature and humidity. The probe was attached to GRS-410 gamma ray sensor housing.

System specifications are further described in Appendix 2.

4.2.5 The GPS Satellite Navigation/Positioning System

A CSI-Wireless DGPS navigation system input to a Pico-Envirotec AGNAV navigation computer and pilot steering indicator (PGU) provided in-flight real-time navigation control. Mounted on top of the cockpit dashboard, in front of the pilot, it provided steering and cross-track guidance in conjunction with GPS and altimeter data.

This navigation system yielded a real-time positional accuracy of better than ± 2 metre.

Survey co-ordinates were set-up prior to commencement of the survey, the information fed into the airborne navigation system. The co-ordinate system employed in the survey design and digital recording was WGS-84 latitude and longitude. The real time differentially corrected GPS positional data was recorded at one-second intervals.

The GPS receiver is fully described in Appendix 2.

4.2.6 Data Acquisition/Recording System

A PC-based Pico-Envirotec AGIS data acquisition system was used to record the geophysical and ancillary survey data on an internal hard disk drive and comprised of a colour pilot guidance display. Data is displayed on an LCD screen as traces allowing the operator to monitor the integrity of the system. The system records temperature, barometric pressure and humidity by itself.

The Pico-Envirotec AGIS provides for the:

- System control and monitoring
- Data acquisition recording
- Real-time data processing
- Navigation processing, and
- Post flight data playback and analysis

All data collection routines, checking and verification, buffering and recording are software controlled for maximum flexibility both during and after the survey flight. The Pico-Envirotec AGIS is fully described in Appendix 2.

4.2.7 Field Computer Workstations

A Data Processing Field Workstation (FWS) comprised of a dedicated PC-based notebook computer for use at the technical base in the field, was used on this project. The FWS is designed for use with Geosoft OASIS Montaj Data Processing Software. The FWS has a data replot capability, and may be used to produce pseudo-analogue charts from the recorded digital data within less than 12 hours after the completion of a survey flight, if necessary. It is also capable of processing and imaging all the geophysical and navigation data acquired during the survey, producing semi-final, preliminary-levelled maps.

The FWS was used to accomplish the following:

- **Quality Control/Digital Data Verification -** flight data quality and completeness were assured by both statistical and graphical means on a daily basis
- **Flight Path Plots -** flight path plots were generated from the GPS satellite data to verify the completeness and accuracy of each day's flying
- **Preliminary Maps -** the Geosoft software system permitted preliminary maps to be quickly and efficiently created for noise and coherency checks.

The Montaj software is designed for airborne data editing, compilation, processing and plotting. The software reads the portable data media from the airborne system checks them for gaps, spikes or other defects and permits the data to be edited where necessary. GPS flight path plots are created and plotted for both flight planning and flight path verification.

4.2.8 Spares

A normal compliment of spare parts, tools, back-up software, and necessary test instrumentation was available at the field office.

5. INSTRUMENT CHECKS AND CALIBRATIONS

5.1 Airborne Gamma-ray Spectrometer System Tests and Calibrations

All gamma-ray spectrometer system tests and calibrations were carried out according to the standard procedures following the recommendations of
IAEA-TECDOC-1363 - Guidelines for radioelement mapping using gamma ray spectrometry data,
IAEA-TECDOC-323 – Airborne Gamma Ray Spectrometer Surveying,
GSC-TECPAEPER 90-23 – Transportable Calibration Pads for Ground and Airborne Gamma Ray Spectrometers

5.1.1 Spectrometer Calibration on Transportable Pads – Stripping Ratios

The stripping ratios for the gamma-ray spectrometer were determined as a part of seasonal calibration prior to the survey on July 18, 2006 using the Pico Envirotec calibration pads. These pads are stored at the Holland Landing Airpark nearby Newmarket, Ontario. The tests were performed with the crystal box placed on U, Th, K and background pads and data recorded over a minimum of 10 minutes for each pad.

The results of this calibration are included in Appendix 1.

5.1.2 Altitude Attenuation Coefficient

The exponential altitude attenuation coefficients were derived from test flights completed on September 07, 2006 in the survey area and on September 26, 2006 at the Holland Landing Airpark, Newmarket. This was accomplished by flying a test line at various altitudes of approximately 50, 100, 150, 200, 250 and 300 feet. A series of background measurements were made at the same time and same altitudes over the water body to determine the background due to cosmic radiation, radon decay products in the air and the radioactivity of the aircraft and equipment.

The closure altitude attenuation coefficients of this calibration are included in Appendix 1.

5.1.3 Spectrometer System Sensitivity

Sensitivity coefficients were determined during the post-survey seasonal test by hovering at different altitudes over McPhar's calibration spot at Holland Landing Airpark, Ontario on September 26, 2006. A series of background measurements were made at the same time at different altitudes over Lake Simcoe. These were to determine the background due to cosmic radiation, radon decay products in the air and the radioactivity of the aircraft.

The test flights served to determine system sensitivities through comparison of airborne data with data acquired on the ground, and to determine the variation of the window counts with aircraft altitude.
The ground measurements were made with an Exploranium portable gamma ray spectrometer by the Geological Survey of Canada. Measurements were acquired at 37 stations along 2 diagonal lines crossing the 300 x 300 m calibration spot. Measurements were also made with the portable spectrometer on the lake located near Holland Landing to determine background radiation due to

cosmic radiation, radon decay products in the air and any radioactivity of the equipment. The background was subtracted from the ground measurements. Next ground concentrations of potassium, uranium and thorium were determined by calibration of the portable spectrometer using the Pico Envirotec calibration pads located at Holland Landing Airport.

The sensitivities of the airborne system to potassium, equivalent uranium, and equivalent thorium were calculated by dividing the average count rates corrected to an effective height of 50 m above ground by the ground concentrations of the test spot.

The results of this calibration are included in Appendix 1.

5.1.4 Cosmic Stripping and Aircraft Background

Cosmic stripping coefficients and aircraft background for K, U, Th & TC windows were measured and calculated for the detector crystal packs prior to the survey on August 11, 2006 near Copper point camp and during the survey on September 07, 2006 over Fairchild Lake, Yukon. The coefficients were calculated from a sequence of passes flown at various high altitudes above the ground (approximately 1532, 1843, 2154, 2465, 2772 & 3083 metres and 1528, 1836, 2143, 2443, 2749, & 3051 metres respectively). Each altitude was flown for a minimum of 2 minutes.

Coefficients were determined by linear regression of cosmic counts versus each spectral window (TC, K, Th and U) as described in the IAEA Report 323 (1991).

The results of the calibration are presented in Appendix 1.

5.1.5 Radon Background

No self-sustaining test or calibrations for radon background were made. The radon background was removed using the ‘Full Spectrum’ method analyzing the survey and test line data.

5.1.6 Test Line

A test line was flown and recorded at survey altitude at the start and end of each survey day to test the repeatability of the gamma-ray spectrometer system and to monitor the effects of soil moisture. The statistics and average deviation of the radiometric data were calculated and inspected for repeatability. After live time, background, and height correction, the average Th window count rate over the test line should be within +/-5% of the mean Th window count rate for all previous flights. No flights were suspended following the criteria of this test.

The statistics of the data acquired on the test line is included in Appendix 1.

5.2 Altimeter & Barometer Calibration Checks

The altimeter and barometer test flight was performed on September 07, 2006. The calibrations were done by comparing the radar altitudes and barometric pressure with a suitable reading from the GPS navigation system, during radar "stack" flown over Fairchild Lake, Yukon. The ellipsoidal height at the lake was determined by GPS. This procedure involved having the helicopter hover for 30 seconds at various altitudes above the ground (69, 96, 118, 142, 180, 206 and 230 metres) and recording the values of the radar altimeter, GPS altimeter and barometric pressure, which were then plotted and compared. These calibrations were checked on a daily basis by completing a vertical calibration test flight during take off and landing.

The results of the test are included in Appendix 1.

6. QC AND DATA PROCESSING

Data quality control and processing were carried out in two stages.

Daily quality control, initial processing and archiving of the data were completed on-site at the base of operations using Geosoft MONTAJ software and a notebook PC computer. All data were verified upon receipt, and checked against the operator's flight logs.

The final data processing was completed in the data processing centre of McPhar in Newmarket, Ontario.

All processing of radiometric and ancillary data was undertaken according to the standard procedures incorporated in Geosoft Radiometric Data Processing and Praga3 software, following the recommendations of :
IAEA-TECDOC-1363 - Guidelines for radioelement mapping using gamma ray spectrometry data,
IAEA-TECDOC-323 – Airborne Gamma Ray Spectrometer Surveying

A summary of the basic actions conducted during each data-processing stage appears below.

Field data QC and pre-processing

a.) Data pre-processing and extraction with PicoEnvirotec PEIView Extractor software
b.) Transfer of extracted data into Geosoft Database
c.) QC and pre-processing of GPS and altimeter data
d.) Compilation of flight path
e.) QC and pre-processing and evaluation of test and calibration data
f.) QC and pre-processing of radiometric data

Final Processing

a.) Processing of GPS and altimeter data
b.) Final flight path compilation and Digital Terrain Model
c.) Processing of radiometric data
    - Principal component (NASVD and MNF) analysis and spectra processing
    - Window (ROI) extraction
    - Corrections and levelling of radiometric data
    - Conversion to radioelement concentration
    - Gridding
    - Calculation of radioelement ratios
d.) Production of radioelement, ratio and ternary maps
e.) Compilation of final report

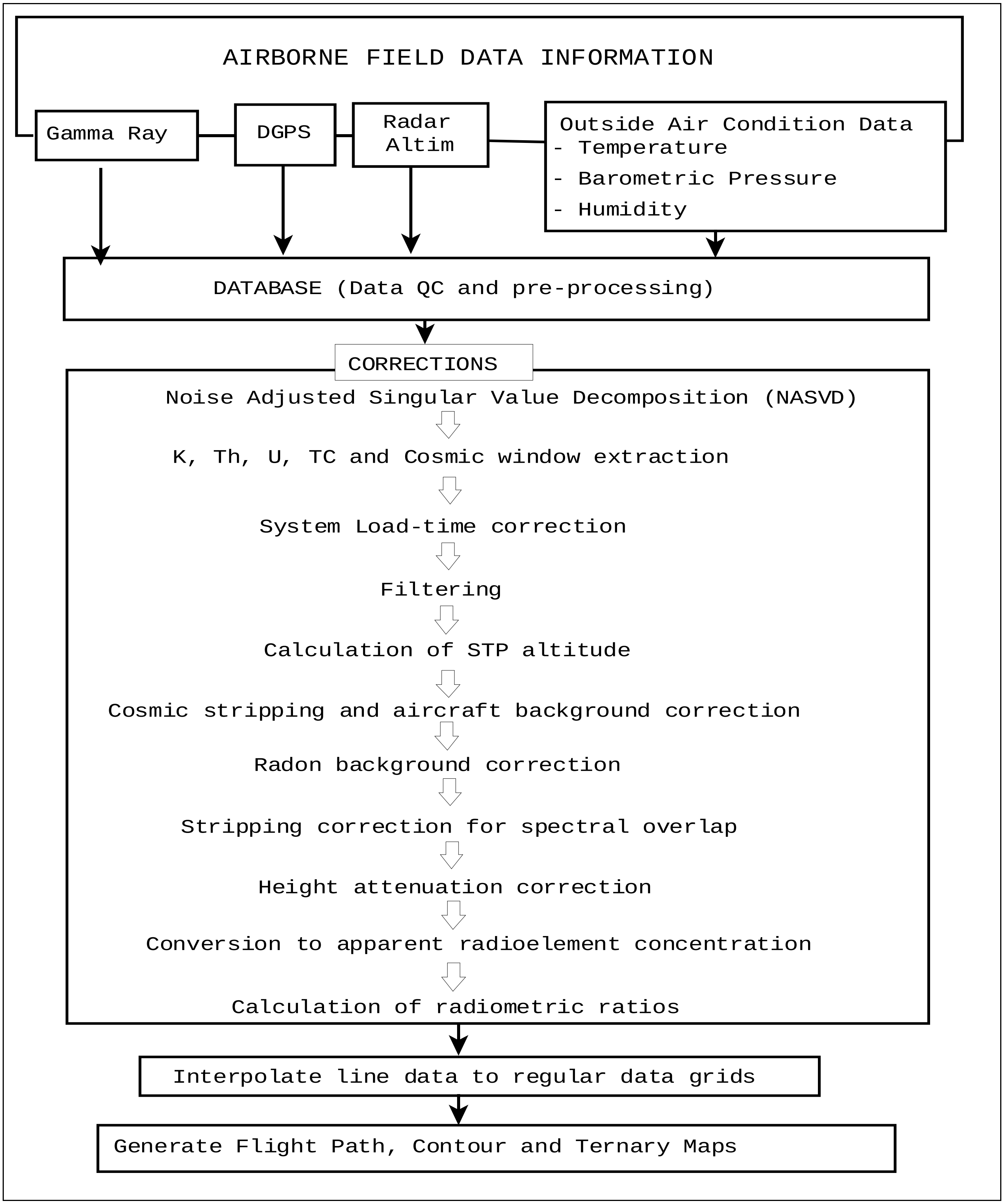

Figure 7: Data Processing Flow Chart

6.1 Data Management

Raw data in binary file format were recorded in the helicopter on portable media. Data duplication was carried out with DVD-ROM burning hardware and software and archived on DVD.

The raw file was comprised of:

- Real-time differentially corrected GPS data defined by WGS84 longitude and latitude, WGS84 ellipsoidal height and GPS time
- Radar Altimeter data
- Outside air condition data – temperature, barometric pressure and humidity
- Radiometric data recorded as gamma ray spectrum resolved into 256 channels over the energy detection range of 50 keV to 3000 keV and the cosmic channel over 3 MeV.

The binary raw file was pre-processed and extracted using PicoEnvirotec PEIView extractor software. The extracted data was loaded on a daily basis into a flight specific Geosoft database.

The pre-processing sequence included the following quality control measures:

a) Examination and checking of all incoming data to ensure completeness of data sets.
b) Production of preliminary flight path maps, speed checks, terrain clearance checks and evaluation of test and calibration data
c) Full profile quality control of all acquired traces for noise levels, data completeness, spike editing, and adherence to contract specifications.

Upon completion of the QA/QC process, the flight specific Geosoft database was merged into the project maser database.

Following the survey demobilization, the raw data binary files, daily and master Geosoft databases, flight logs and operational reports were shipped to the Newmarket, Ontario office of McPhar for final processing and archiving.

The project master database was used for basic and advanced data processing and for compilation of final maps and products. Final data processing, map compilation and report generation were completed by McPhar at the Newmarket, Ontario office.

6.2 Positional Data Processing and Flight Path Compilation

The flight path was derived from differentially corrected GPS positions using the recorded real-time airborne GPS data. A position was calculated each second (approx. every 39 meters along the flight path) to an accuracy of +/- 2-3 metres. This position data was merged with gamma ray spectrometry and ancillary data in the Geosoft GDB database.

As part of the QA/QC process, the following parameters were checked during a flight:

- Number of satellites under observation (average of 6, minimum of 4 allowed)

- PDOP (position dilution of precision; maximum value of 3 allowed)

Flight path deviation in position (maximum of +/-15 m over a linear distance of 2,000 metres) was checked on daily basis as a part of QA/QC process after the flight.

If the above specification was not met, a reflight was necessary.

All positional data (X,Y, Z) was recorded in WGS 84 (World) geographic coordinates and converted to the contract specified NAD83 UTM zone 08N projected coordinates.
Parameters for datum used on this project are as follows:

X,Y channels	Lon_deg,Lat_deg
Datum	WGS 84
Ellipsoid	WGS 84
MajAx,Eccen,PrimeMer	6378137,0.08181919084,0
Local datum transform	[WGS 84] World

X,Y channels	x,y
Length units	metre
Projection	UTM zone 8N
Type	Transverse Mercator
Lat0,Lon0,SF,FE,FN	0,-135,0.9996,500000,0
Datum	NAD83
Ellipsoid	GRS 1980
MajAx,Eccen,PrimeMer	6378137,0.08181919104,0
Local datum transform	[NAD83] Canada; Central America; Mexico; USA (

6.3 Altimeter Data and Digital Terrain Model

The radar altimeter data was recorded in feet at a frequency of 10 Hz. Data was converted to metres and filtered with a non-linear filter to remove spurious spikes. Additional smoothing of the radar altimeter data was achieved through application of low-pass filtering.

Altimeter data was inspected for criteria given by the contract (nominal 50 m terrain clearance above ground level based on the pilot's judgement of safe flying conditions around man-made structures or tall trees or in rugged terrain, or where prohibited by civil aviation authority regulations). The mean terrain clearance achieved over the entire survey was 47 m AGL.

Barometric pressure data was recorded in system units at a frequency of 1 Hz, and then converted to air pressure in mbar, following the results of barometric calibrations. Additional smoothing of the barometric data was achieved by low-pass filtering.

A digital terrain model (DTM) channel was calculated by subtracting the filtered radar altimeter data from the GPS elevation defined by the WGS84 ellipsoidal height. This model provided information on the topography for interpretation of the radiometric data.

The DTM channel was gridded using a minimum curvature algorithm with a grid cell size of 20 metres and inspected for continuity. Micro-levelling of the DTM was then completed accompanied by further smoothing utilizing three passes of a 3 x 3 cell Hanning filter prior to contouring and DTM map production.

6.4 Radiometric Data Processing

6.4.1 Background to Corrections and Processing

Gamma-ray spectrometer surveys are utilized for mapping the concentration and distribution of naturally occurring radio elements. The use of an airborne gamma-ray spectrometer allows for the in-situ analysis of radioelement concentrations of naturally occurring potassium (K), uranium (U) and thorium (Th) in the field.

For a geologist, maps showing concentrations of K, U, and Th can be diagnostic in the mapping of rocks and soils, which aid in geological mapping, and exploration for uranium, gold, tin and tungsten. With these deposits, the primary mineralization process is often related to K metasomatism or alteration.

Radioactivity measurements from an airborne platform are dependent upon the detection of gamma rays produced through radioactive decay of the nuclide to be detected. Only three natural radioactive elements emit sufficient gamma radiation to be measured by airborne methods. The three major sources are:

- Potassium-40 (^{40}K) which is 0.011% of all potassium
- Daughter products from the ^{238}U decay series,
- Daughter products from the ^{232}Th decay series.

High-energy cosmic rays of non-terrestrial origin can be detected by airborne gamma-ray spectrometer surveys. This cosmic radiation interacts with molecules in the atmosphere, the aircraft, and the NaI detectors resulting in the production of high-energy radiation. This radiation is detectable and increases exponentially with height above sea level. It must be compensated for to obtain reliable and repeatable measurements and the detection of terrestrial radiation sources.

The traditional energy windows used to detect gamma ray radiation from K, Th, and U sources have overlapping areas where the energy recorded for a given element contains some contribution from all three radio elements. A correction procedure, known as stripping, is applied to the data to compensate for this spectral overlapping.

The natural gamma ray spectrum over the range of 0 to approximately 3000 keV is resolved by the spectrometer into 256 or 512 channels, each channel ranging from 5 to 6.5 keV in width. A separate channel records all high-energy radiation above 3000 KeV, the cosmic radiation contribution. Within the defined radioelement windows, the counts recorded are summed over a given time period.

Care must be taken during the acquisition of gamma-ray spectrometer data because the contribution from radon gas, related to decay products in the atmosphere, can result in misleading count rates. Radon gas can also diffuse from the ground, but only one radon nuclide is directly related to the uranium decay series. In order to minimize the impact of radon "contamination", radiometric surveys are not completed during rain, which "washes" radon from the air, increasing ground concentrations. Also surveys are not carried out in fog conditions and for a period of not less than 2 hours after precipitation has finished, allowing for dispersion of radon gas to normal background levels.

Radiometric surveys have no depth penetration; most radioactive sources are recorded from the upper 1.5 metres of the ground. Over water bodies or snow-covered areas, these surveys are ineffective, as the presence of water (in either liquid or solid state) effectively masks the radiation.

Spectrometer data are recorded in counts per second. The instrumentation requires a fraction of a second to process the incoming data – during this time period no counts are recorded. This interval is referred to as "*equipment down time or system dead-time*". A correction is applied to compensate for this time period.

6.4.2 Processing Applied Using GEOSOFT Radiometric Processing System and Praga3

Please refer to Fig.7 for a summary of radiometric data processing.
The reduction of radiometric data follows standard processing steps implemented in the Geosoft Radiometric Processing System with the Praga 3 module, as outlined in the recommendations of IAEA-TECDOC-1363 - Guidelines for radioelement mapping using gamma ray spectrometry data.

The processing of radiometric data involved advanced full spectrum processing of downward looking detectors:

1. Principal component (NASVD and MNF) analysis and spectra processing
2. Extraction of uncorrected data accumulated in K, U, Th, TC and Cosmic windows from NASVD smoothed spectra
3. System dead-time correction
4. Filtering
5. Calculation of STP (Standard Temperature and Pressure) altitude.
6. Cosmic stripping and aircraft background correction
7. Radon background correction
8. Stripping correction for spectral overlap
9. Altitude attenuation correction
10. Reduction to apparent radio elemental concentrations
11. Calculation of radioelement ratios
12. Gridding
13. Production of radioelement, ratio and ternary maps

Principal component (NASVD and MNF) analysis

Principal component (NASVD and MNF) analysis tools allow us to investigate spectrum signatures included in the actual dataset. A spectrum dataset is converted into a limited set of spectral components (eigenvectors) which are ordered by variance (NASVD) or by signal to noise ratio (MNF). NASVD expects noise to be Poisson distributed, while MNF computes a noise model directly from the data. Higher order components can be explained as mixed nuclide responses collected at average survey altitude. They are followed by components that account for the altitude changes. Remaining components contain statistical and instrumental noise.

Principal components can be used for gamma-ray data processing. The approach is very similar to the spectrum fitting technique. However, instead of model responses, a subset of spectrum components, derived directly from the data, is used to replace the input spectrum.

Using ***Praga3***, an "*eigenvalue plot*" can be displayed, allowing the user to browse through the individual *components (eigenvectors)* to investigate their shape. C*ovariance matrices* can be displayed as well. Spectra can be *interactively composed* from the chosen number of components and compared with input spectra or alternatively, *residual spectra* can be displayed. In a situation where the user chooses to re-process data with another subset of components, there is no need to compute the eigenvectors again.

Energy Window Extraction

The uncorrected data accumulated in K, Th, U and TC energy windows was extracted from the spectra after the principal component analysis and full spectra processing completion. Further standard radiometric processing was applied following the guidelines defined by IAEA technical reports.
A summary of coefficients applied for corrections of radiometric data is presented in Appendix 1.
For this extraction, standard energy regions of interest (ROI) were used.

Dead-time Correction and filtering

A dead-time system correction of 10 micro seconds/pulse was applied to each window using the following equation:

$N = n / (1 – TC\ t)$

where:	N	- corrected count rate (counts/sec);
	n	- observed count rate (counts/sec);
	TC	- total count rate over all channels(counts/sec);
	t	- the equipment dead time per pulse.

The data was subjected to a suitable low pass filter to minimize the statistical noise and to improve the count statistics.

Calculation of the Effective Altitude above Ground Level

The low-pass pre-filtered radar altimetry, barometric pressure and temperature data was used to calculate the effective height AGL for standard temperature and pressure (STP) using the following equation:

$$H_{STP} = (273.15\ P\ H_s) / [101.325\ (T + 273.15)]$$

where:
- H_s - observed height above ground level (metres);
- H_{STP} - effective height at STP (metres);
- T - air temperature (°C);
- P - barometric pressure (kPa).

Cosmic stripping and aircraft background correction

Cosmic radiation and aircraft background radiation was removed from each spectral window using the cosmic coefficients and aircraft background radiation values determined from test flight data using the following equation:

$$N = a + bC$$

where:
- N - the combined cosmic and aircraft background in each spectral window,
- a - the aircraft background in the window,
- b - the cosmic stripping factor for the window, and
- C - the low-pass pre-filtered cosmic channel count.

Radon background correction

The presence of radon (^{222}Rn) gas in the atmosphere contributes to the measured spectrometric data which constitutes the 'Radon Background' component.

A 'Full Spectrum' method implemented in Praga 3 software was used as the radon detection and removal technique for this survey. The 'Full Spectrum' method is based on the difference in source–detector geometry for the radon spectrum. The atmospheric radon component of the spectrum is defined as the response due to close sources. The terrestrial radiation component of the spectrum is defined as the response due to distant sources. This difference in geometry produces relative differences in the amplitudes of the photo peaks of the uranium disintegration series and also in the contribution of scattered radiation.

Stripping correction for spectral overlap

The stripping correction was used to correct each of the K, U and Th window count rates for gamma rays not originating from their particular radioelement or decay series using the following equations:

$$n_{K,K} = [n_{Th}\ (\alpha\ \gamma - \beta) + n_U\ (a\ \beta - \gamma) + n_K\ (1 - a\ \alpha)] / A$$
$$n_{U,U} = [n_{Th}\ (g\ \beta - \alpha) + n_U\ (1 - b\ \beta) + n_K\ (b\ \alpha - g)] / A$$

$$n_{Th,Th} = [n_{Th}\,(1 - g\,\gamma\,) + n_U\,(b\,\gamma - a) + n_K\,(a\,g - b)]\,/\,A$$
$$A = 1 - g\,\gamma - a\,(\alpha - g\,\beta) - b\,(\beta - \alpha\,\gamma)$$

where: n_{Th}, n_U, n_K - unstripped counts in Th, U, K windows
$n_{Th,Th}$, $n_{U,U}$, $n_{K,K}$ - stripped counts in Th, U, K windows

Coefficients α,β,γ are forward stripping ratios and a, b, and g are reverse stripping ratios

Coefficients α, β, γ, a, b and g were determined by system experiments during the pad calibrations. Summary of the determined coefficients used for processing is presented in Appendix 1.

Altitude attenuation correction

This correction was used to normalize the data to a constant terrain clearance of 50 m above ground level (AGL) at standard temperature and pressure (STP). Attenuation coefficients for each of the energy windows were determined from test flights. The measured count rate is related to the actual count rate at the nominal survey altitude by the equation:

$$N_s = N\,e^{\mu(h-ho)}$$

where: N_S - the count rate normalized to the nominal survey altitude, h_o
N - the background corrected, stripped count rate at effective height
μ - the attenuation coefficient for that window,
h_o - the nominal survey altitude, and
h - the effective height.

Finally, de-corrugation and micro-levelling techniques were applied to minimize the fine line directional levelling noise.

Reduction to apparent radio elemental concentrations

The final corrected units of the count rates (cps) for each spectral radioelement window (K,Th,U) and Total Count (TC) were converted to “Apparent Radio Element Concentrations” and “Ground Level Dose Rate” using the following equation:

$$C = N\,/\,S$$

where: C - concentration of the radio element
N - count rate for the energy window after dead time, background, stripping and attenuation
S -sensitivity coefficient

Sensitivities were determined from test flight data and are indicated in Appendix 1.

Potassium concentration is expressed as a percentage, while thorium and uranium as parts per million of the accepted standards. Uranium and thorium are described as “equivalent” since their presence is inferred from gamma-ray radiation from daughter elements (^{214}Bi for uranium, ^{208}Tl for thorium). Total count is expressed as ground level dose rate in nGy/h.

Calculation of radioelement ratios

U/Th, U/K and Th/K ratios were calculated using the final reduced concentration of radio elements.

Gridding

The K, Th, U concentrations, TC dose rate and radio element ratios were gridded using a minimum curvature algorithm with a grid cell size of 20 metres and used for contouring and map compilation.

Ternary Radio Element Maps

Finally ternary radio element maps were produced. A ternary radio element map is a color composite image generated by modulating the red, green and blue colors in RGB color space in proportion to the radio element concentrations of K, Th and U grids. The standard display practice is to use red, green and blue for K, Th and U respectively. The radio element values are scaled to an equal range (0 to 1) to distribute the ranges of K, Th and U equally in RGB color space and the normalization is applied according to the following relations:

$$K_n = K_{01}/(K_{01}+eU_{01}+eTh_{01})$$
$$eU_n = eU_{01}/(K_{01}+eU_{01}+eTh_{01})$$
$$eTh_n = eTh_{01}/(K_{01}+eU_{01}+eTh_{01})$$

where subscript n refers to the normalized channel and the subscript 01 refers to the scaled values in (0, 1) range.

The normalization converts the radio element concentrations in to relative abundances and helps in reducing the effects of the attenuation of gamma rays by vegetation, soil and moisture. The ternary radio element maps are generated using the composite display of normalized grids in the RGB color model with histogram equalization stretching.

7. DELIVERABLE PRODUCTS

The survey data are presented as colour/contour maps on paper, for each block. A set of report-sized colour/contour images, on paper, is included in Appendix 5 of the report.

The deliverable items of this survey are:

7.1 Maps

For the Wernecke Properties, the following maps of each block were delivered in two (2) paper copies.

- Differentially Corrected GPS Flight Path
- Digital Terrain Model Calculated from survey data (DTM)
- Calculated Dose rate from Total Count
- Apparent Concentration of Uranium
- Apparent Concentration of Thorium
- Apparent Concentration of Potassium
- Uranium/Potassium Ratio Map
- Uranium/Thorium Ratio Map
- Thorium/Potassium Ratio Map
- Ternary Radio Element Map

7.2 Digital Data

The final processed line and grid data, in GEOSOFT format is also delivered in two (2) copies on CD/DVD-ROM. Full descriptions of the digital data formats are included in this final report.

7.3 Report

Two (2) copies of a survey report were delivered, complete with all final maps as page size maps. This report provides information about the acquisition, processing and presentation of the survey data.

Respectfully submitted,
McPhar Geosurveys Ltd.

Dr. Tomas Grand
Chief Geophysicist

APPENDICES

APPENDIX 1 **System Tests and Reports**

- Altimeter Calibration Test
- Barometric Calibration Test
- Cosmic Stripping and Aircraft Background Calibrations
- Spectrometer Calibration on Transportable PAD-Stripping Ratios
- Sensitivity Factors
- Summary of Processing Coefficients used in the reduction of Spectrometric Data
- Spectrometer Test Line Statistics
- Flight Logs
- Daily Reports

APPENDIX 2 **Equipment Documentation**

- Pico-Envirotec GRS 410 Gamma Spectrometer
- Pico-Envirotec AGIS Data Acquisition System
- Terra TRA-3000 / TRI-30 Radar Altimeter
- Stra Model 276 Barometric Pressure Transducer
- Campbell Temperature and Relative Humidity Probe
- CSI-Wireless DGPS Max positioning system
- Geosoft Montaj Processing Software
- Geosoft Montaj Plus Praga 3 Radiometrics
- Field Data Processing Workstations

APPENDIX 3 **Personnel Resumes**

- Dr. Tomas Grand
- Ramesh Acharya
- Adam Barrett
- Asif Mirza

APPENDIX 4 **Digital Data Specifications**

APPENDIX 5 **Page Size Maps**

- Differentially Corrected GPS Flight Path
- Digital Terrain Model Calculated from survey data (DTM)
- Calculated Dose rate from Total Count
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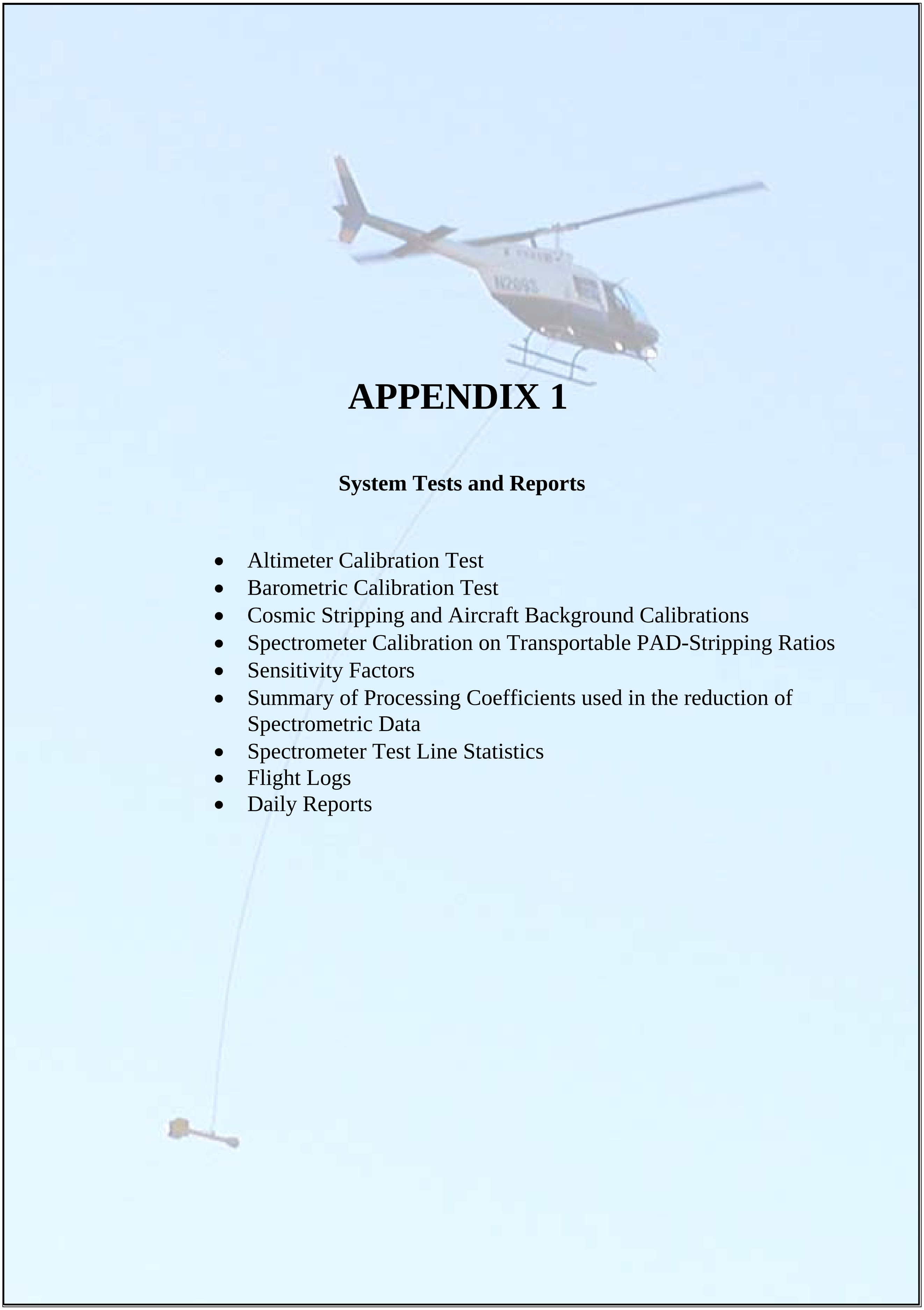
- Apparent Concentration of Thorium
- Apparent Concentration of Potassium
- Uranium/Potassium Ratio Map
- Uranium/Thorium Ratio Map
- Thorium/Potassium Ratio Map
- Ternary Radio Element Map



APPENDIX 1

System Tests and Reports

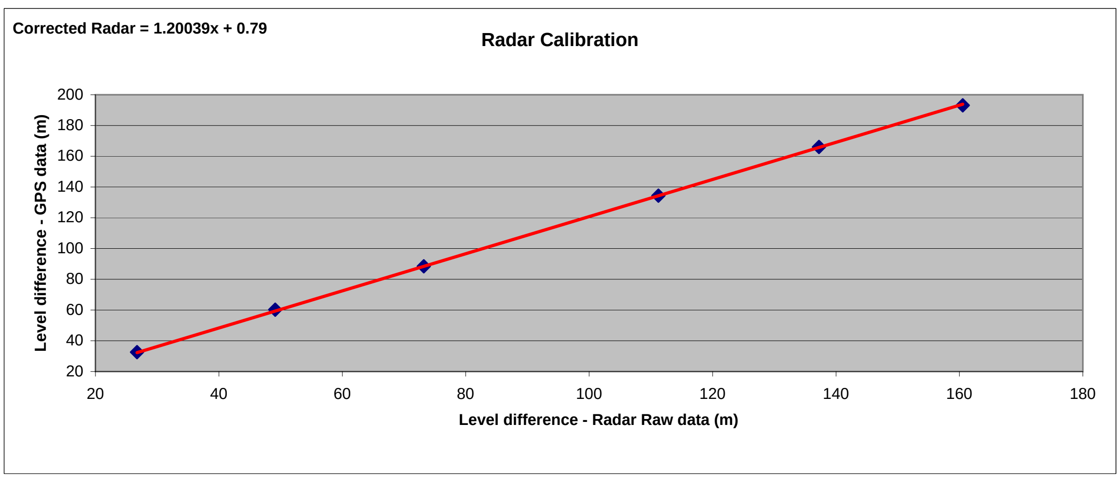
- Altimeter Calibration Test
- Barometric Calibration Test
- Cosmic Stripping and Aircraft Background Calibrations
- Spectrometer Calibration on Transportable PAD-Stripping Ratios
- Sensitivity Factors
- Summary of Processing Coefficients used in the reduction of Spectrometric Data
- Spectrometer Test Line Statistics
- Flight Logs
- Daily Reports

McPhar Geosurveys Ltd.
Altimeter Calibration Test

Project:	**0613 - Signet Minerals Inc.**
Location:	over Fairchild Lake
Date:	07-Sep-06
Flight:	15
Test No.	1
Aircraft:	Eurocopter AS-350B2 - C-GTNU

Radar Correction:

Line	Radar Altitude Raw data (ft)	Radar Altitude Raw Data (m)	GPS alt - sea level alt MSL (m)	Level Difference GPS data (m)	Level Difference Radar Raw Data (m)	Radar Altitude recalculated (m)
S200	226.9	69.16	768.1			83.81
S300	314.6	95.89	800.7	32.6	26.731	115.90
S400	388.1	118.29	828.3	60.2	49.134	142.79
S500	467.1	142.37	856.6	88.4	73.213	171.69
S600	591.8	180.38	902.5	134.4	111.222	217.32
S700	677.2	206.41	934.1	166.0	137.251	248.56
S800	753.6	229.70	961.2	193.1	160.538	276.52



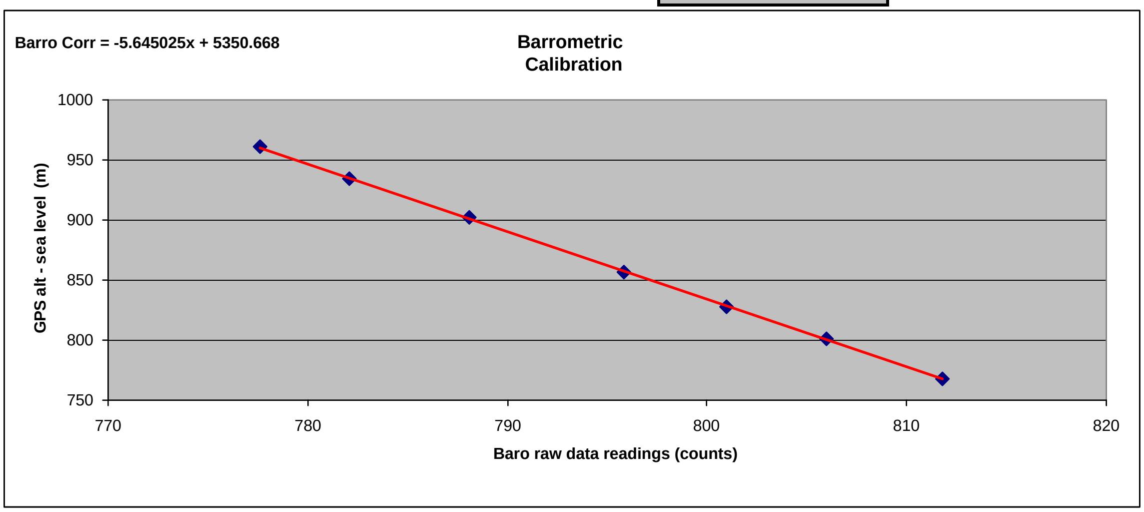
Pilot:	Doug Hladun	Approved:	Date:	30/09/2006
Operator:	Adam Barrett		Name:	Tomas Grand
QC:	Adam Barrett			
PM:				
Clients Rep.:				

McPhar Geosurveys Ltd.
Barometric Calibration Test

Project:	**0613 - Signet Minerals Inc.**
Location:	over Fairchild Lake
Date:	07-Sep-06
Flight:	15
Test No.	1
Aircraft:	Eurocopter AS-350B2 - C-GTNU

Barro Correction:

Line	Nominal Altitude above ground (m)	Nominal Altitude above ground (ft)	Barrometer Raw Data (counts)	GPS alt - sea level alt MSL (m)	Barrometric Altitude Recalculated (m)	Barrometric Pressure Recalculated (kPa)
S200	69.16	226.9	812	768.0	768.037	926.50
S300	95.89	314.6	806	800.7	800.778	922.97
S400	118.29	388.1	801	828.3	829.003	919.94
S500	142.37	467.1	796	856.6	858.244	916.81
S600	180.38	591.8	788	902.5	901.824	912.17
S700	206.41	677.2	782	934.1	935.694	908.57
S800	229.70	753.6	778	961.2	961.097	905.89



Pilot: Doug Hladun
Operator: Adam Barrett
QC: Adam Barrett
PM:
Clients Rep.:

Approved:

Date: 30/09/2006
Name: Tomas Grand

McPhar Geosurveys Ltd.
Cosmic Stripping and Aircraft Background Calibration

Project:	**0613 - Signet Minerals Inc.**
Location:	Copper Point camp
Date:	11-Aug-06
Flight:	Prior to Survey
Test No.	1
Aircraft:	Eurocopter AS - 350B2 C-GTNT

COSMIC ATTENUATION COEFFICIENT CALIBRATION

DATA SUMMARY : AVERAGED DATA AT INDICATED GPS ELEVATIONS

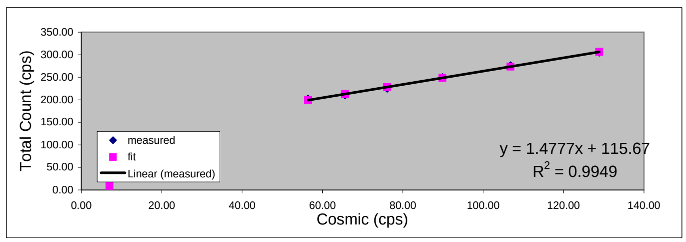
LINE	GPS ALT (m)	TC (cps)	K (cps)	U (cps)	TH (cps)	COSMIC (cps)
5000	1532.2	202.3	16.20	8.90	6.70	56.40
6000	1843.4	209.9	16.80	9.30	7.30	65.60
7000	2154.3	224.7	17.60	9.90	8.20	76.10
8000	2465.3	249.9	19.00	11.10	9.60	89.90
9000	2772.8	276.2	20.40	12.20	11.10	106.80
10000	3083.4	304.9	21.90	13.30	12.90	128.90

RESULTS OF LSQ FIT TO $N_n = a_n.COS + b_n$ **RELATION :**

	COEFFICIENTS	
	SLOPE (a_n)	INTERCEPT (b_n)
TC	1.47774	115.66774
K	0.08119	11.56388
U	0.06362	5.23001
Th	0.08769	1.64634

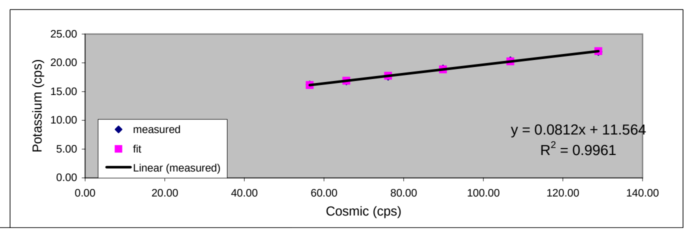
TOTAL COUNT COSMIC DEPENDENCE:

Cosmic	Measured	Fit
56.40	202.30	199.01
65.60	209.90	212.61
76.10	224.70	228.12
89.90	249.90	248.52
106.80	276.20	273.49
128.90	304.90	306.15



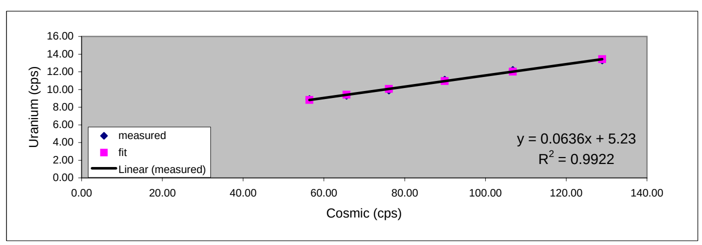
POTASSIUM COSMIC DEPENDENCE:

Cosmic	Measured	Fit
56.40	16.20	16.14
65.60	16.80	16.89
76.10	17.60	17.74
89.90	19.00	18.86
106.80	20.40	20.23
128.90	21.90	22.03



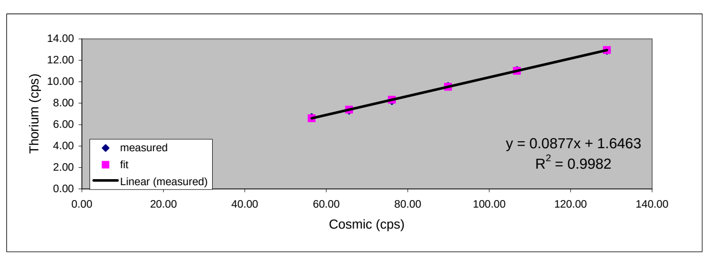
URANIUM COSMIC DEPENDENCE:

Cosmic	Measured	Fit
56.40	8.90	8.82
65.60	9.30	9.40
76.10	9.90	10.07
89.90	11.10	10.95
106.80	12.20	12.03
128.90	13.30	13.43



THORIUM COSMIC DEPENDENCE:

Cosmic	Measured	Fit
56.40	6.70	6.59
65.60	7.30	7.40
76.10	8.20	8.32
89.90	9.60	9.53
106.80	11.10	11.01
128.90	12.90	12.95



Pilot: Doug Hladun
Operator: Adam Barrett
QC: Adam Barrett
PM:

Approved:

Date:
Name:

McPhar Geosurveys Ltd.
Cosmic Stripping and Aircraft Background Calibration

Project:	**0613 - Signet Minerals Inc.**
Location:	Over Fairchild Lake, Yukon
Date:	07-Sep-06
Flight:	15
Test No.	2
Aircraft:	C-GTNU

COSMIC ATTENUATION COEFFICIENT CALIBRATION

DATA SUMMARY : AVERAGED DATA AT INDICATED GPS ELEVATIONS

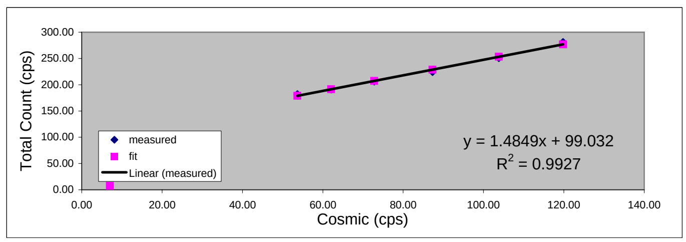
LINE	GPS ALT (m)	TC (cps)	K (cps)	U (cps)	TH (cps)	COSMIC (cps)
5000	1528.2	182.0	15.70	7.60	6.80	53.70
6000	1836.0	191.2	16.50	7.90	7.40	62.10
7000	2143.7	206.4	17.50	8.60	8.10	72.80
8000	2443.3	224.4	18.10	9.40	9.40	87.30
9000	2748.9	250.8	19.80	10.60	10.90	103.80
10000	3051.1	281.1	21.70	11.90	12.50	119.80

RESULTS OF LSQ FIT TO $N_n = a_n.COS + b_n$ **RELATION :**

	COEFFICIENTS	
	SLOPE (a_n)	INTERCEPT (b_n)
TC	1.48490	99.03239
K	0.08662	11.00593
U	0.06532	3.89537
Th	0.08640	1.99078

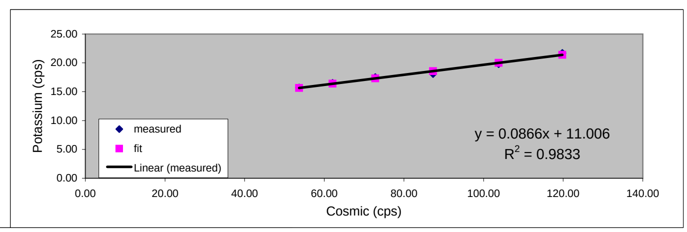
TOTAL COUNT COSMIC DEPENDENCE:

Cosmic	Measured	Fit
53.70	182.00	178.77
62.10	191.20	191.24
72.80	206.40	207.13
87.30	224.40	228.66
103.80	250.80	253.16
119.80	281.10	276.92



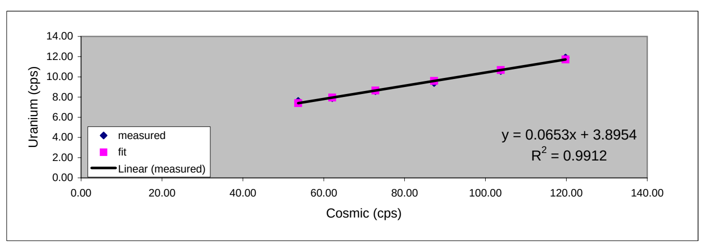
POTASSIUM COSMIC DEPENDENCE:

Cosmic	Measured	Fit
53.70	15.70	15.66
62.10	16.50	16.38
72.80	17.50	17.31
87.30	18.10	18.57
103.80	19.80	20.00
119.80	21.70	21.38



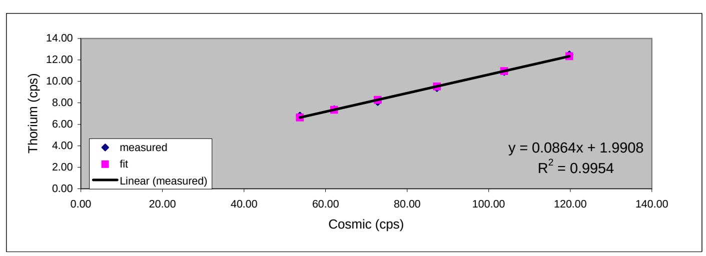
URANIUM COSMIC DEPENDENCE:

Cosmic	Measured	Fit
53.70	7.60	7.40
62.10	7.90	7.95
72.80	8.60	8.65
87.30	9.40	9.60
103.80	10.60	10.68
119.80	11.90	11.72



THORIUM COSMIC DEPENDENCE:

Cosmic	Measured	Fit
53.70	6.80	6.63
62.10	7.40	7.36
72.80	8.10	8.28
87.30	9.40	9.53
103.80	10.90	10.96
119.80	12.50	12.34



Pilot: Doug Hladun
Operator: Adam Barrett
QC: Adam Barrett
PM:

Approved:

Date:
Name:

McPhar Geosurveys Ltd.

SPECTROMETER CALIBARTION ON TRANSPORTABLE PADS

Project:	**0613 - Signet Minerals Inc.**
Test Location:	Holland Landing, Ontario, Canada
Altitude:	850 ft
Date:	July 18, 2006
Test No.	No. 1 for Season 2006

Calibration Pads Info

No. of PADS	**4**
	Constructed by Geological Survey of Canada
Owner:	Pico Envirotec Inc.
Date of Construction:	1994
Location:	Holland Landing, Ontario, Canada

Pad Concentrations

PAD	PAD Label	K %	U ppm	Th ppm
Background	B6-94	1.410 (SD 0.010)	0.97 (SD 0.030)	2.26 (SD 0.10)
K-Pad	K6-94	8.710 (SD 0.090)	0.32 (SD 0.02)	0.74 (SD 0.10)
U-Pad	U6-94	1.340 (SD 0.020)	52.9 (SD 1.00)	3.40 (SD 0.14)
Th-Pad	Th6-94	1.340 (SD 0.020)	2.96 (SD 0.06)	136.0 (SD 2.10)

Deadtime Corrected Accumulated Counts

PAD	Time seconds	K (cps)	U (cps)	Th (cps)	Geometric Correction Factors
Background	600	79697	6250	9019	
K-Pad	600	415642	3421	6369	1.17
U-Pad	600	157359	170518	21506	1.17
Th-Pad	600	135023	41151	301489	1.19

Calculated Stripping Ratios

Th into U	α =	0.098	SD = 0.0011
Th into K	β =	0.1899	SD = 0.0039
U into K	γ =	0.4903	SD = 0.0071
U into Th	a =	0.061	SD = 0.0025
K into Th	b =	0.0024	SD = 0.0010
K into U	g =	-0.0013	SD = 0.0005

Operator: Adam Barrett

QC: Tonia Bojkova

PM:

Clients Rep.:

Approved : Tomas Grand

McPhar Geosurveys Ltd.
Sensitivity Factors

Project:	**0613- Signet Minerals Inc.**	
Location:	Holland Landing Airport, Newmarket	
Date:	26-Sep-06	
Flight:	NA	
Test No.	1	
Aircraft:	C-GTNT	
Lines:		

Sensitivity Factors

Element	Sensitivity Factor at 50 m STP Height
K	0.018126232 %/cps
U	0.177164519 ppm eU/cps
Th	0.3050723318 ppm eTh/cps
Doserate	0.0473157437 nG/h/cps

Pilot:
Operator: Adam Barrett
QC: Ramesh Acharya
PM: Tomas Grand

Approved: Date:
Name:

McPhar Geosurveys Ltd

Project	**0613 - Signet Minerals Inc.**

Summary of Processing Coefficients used in the reduction of Spectrometric Data

Energy Windows (ROI)

Potassium (K) (KeV)		Uranium (U) (KeV)		Thorium (Th) (KeV)		Total Count (TC) (KeV)	
1370	1570	1660	1860	2410	2810	410	2810

Aircraft Background and Cosmic Stripping Ratios - (Helicopter C-GTNU)

	K	U	Th	TC
Aircraft Background (cps)	11	3.9	2	99
Cosmic Stripping Ratio	0.08662	0.06532	0.0864	1.4849

Aircraft Background and Cosmic Stripping Ratios - (Helicopter C-GTNT)

	K	U	Th	TC
Aircraft Background (cps)	11.5	5.2	1.6	115.6
Cosmic Stripping Ratio	0.08119	0.06362	0.08769	1.47774

Stripping Coefficients for Compton Scattering Overlap

Thorium into Uranium (Alpha)	0.098
Thorium into Potassium (Beta)	0.1899
Uranium into Potassium (Gamma)	0.4903
Uranium into Thorium (a)	0.061
Potassium into Thorium (b)	0.0024
Potassium into Uranium (g)	-0.0013

Height Attenuation Factors

Potassium (K)	-0.01
Uranium (U)	-0.0058
Thorium (Th)	-0.008
Total Count (TC)	-0.007

Sensitivity Factors at 50 m STP height for detector volume of 16.8 litres

Potassium (K)	0.018126232 (%/cps)
Uranium (U)	0.177164519 (ppm eU/cps)
Thorium (Th)	0.3050723318 (ppm eTh/cps)
Total Count (TC)	0.0473157437 (nGy/hr/cps)

McPhar Geosurveys Ltd

Project	0613 - Signet Minerals Inc.

Processed Thorium Statistics over the Test Line

Line	Date mm/dd/yy	Flt	Line Average (cps)	Total Average (cps)	Percentage Deviation (%)	RALTSTP (metres)
S010a:10	08/15/06	10	12.7	12.8	0.8	52.6
S010b:10	08/15/06	10	12.6	12.8	1.6	50.7
S011a:11	08/16/06	11	13.1	12.8	-2.3	52.7
S011b:11	08/16/06	11	13.1	12.8	-2.3	49.3
S012a:12	08/16/06	12	12.7	12.8	0.8	52.7
S013a:13	08/16/06	13	12.6	12.8	1.6	49.8
S013b:13	08/16/06	13	12.8	12.8	0.0	50.8
S014b:14	08/17/06	14	12.9	12.8	-0.8	49.5
S015a:15	08/17/06	15	12.3	12.8	3.9	51.2
S015b:15	08/17/06	15	13	12.8	-1.6	49.4
S016a:16	08/23/06	16	12.5	12.8	2.3	51
S016b:16	08/23/06	16	12.9	12.8	-0.8	47.8
S017a:17	08/24/06	17	12.3	12.8	3.9	49.9
S017b:17	08/24/06	17	13.2	12.8	-3.1	48.4
S018a:18	08/24/06	18	12.4	12.8	3.1	48.4
S018b:18	08/24/06	18	12.4	12.8	3.1	52
S03a:3	08/11/06	3	13.1	12.8	-2.3	60.2
S03b:3	08/11/06	3	12.8	12.8	0.0	60.1
S04a:4	08/12/06	4	12.9	12.8	-0.8	57.9
S04b:4	08/12/06	4	13.2	12.8	-3.1	57
S05a:5	08/12/06	5	12.8	12.8	0.0	56.7
S05b:5	08/12/06	5	13.3	12.8	-3.9	57.1
S06a:6	08/12/06	6	12.6	12.8	1.6	58.8
S06b:6	08/12/06	6	12.5	12.8	2.3	58.4
S07a:7	08/14/06	7	12.9	12.8	-0.8	51.1
S07b:7	08/14/06	7	13.1	12.8	-2.3	52.4
S08a:8	08/15/06	8	13	12.8	-1.6	55.3
S08b:8	08/15/06	8	12.5	12.8	2.3	52.6
S09a:9	08/15/06	9	12.7	12.8	0.8	52.1

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 1 Date (dd/mm/yr): 11/08/06 OPERATOR: Adam Barrett

PILOT: Steve Sloubiere O.A.T.: 20 / A/C REG: C-GTNT

DEPART TIME: 8:37 RETURN TIME: 9:37 TOTAL FLIGHT TIME: 0.9

SURVEY HEIGHT: 165' BASE MAG/GPS FILES: ______

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
				Ferry from Mayo to Aurora Camp

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______

Postsurvey Spec Calibration

Cs137 Peak Chan: ______

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 2 | Date (dd/mm/yr): 11/08/06 | OPERATOR: Adam Barrett

PILOT: Steve Sloubiere | O.A.T.: 20__/______________ | A/C REG: C-GTNT

DEPART TIME: 12:15 | RETURN TIME: 14:02 | TOTAL FLIGHT TIME: 1.8

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES: ________________________________

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
			8119.p14	Ground Cal
				Cosmic
-1840			5000'	
-1850			6000'	
-1860			7000'	
-1870			8000'	
-1880			9000'	
-1890			10000'	
				Attentuation
-1920			800'	
-1930			700'	
-1940			600'	
-1950			500'	
-1960			400'	
-1970			300'	
-1980			200'	
			8121.p00	test line

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: _______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: _______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:______________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 3 | Date (dd/mm/yr): 11/08/06 | OPERATOR: Adam Barrett

PILOT: Steve Sloubiere | O.A.T.: 19 / | A/C REG: C-GTNT

DEPART TIME: 16:47 | RETURN TIME: 18:29 | TOTAL FLIGHT TIME: 1.7

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES: ______

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1123.p47	Ground Cal
			1123.p52	test line
520				scrub
520				tough winds
530				
540				path?
550				
560				
				move further north to avoid winds
690				rain and wind an issue!
				abort flight for weather
			1201.p30	test line
			1201.p37	ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______

Postsurvey Spec Calibration

Cs137 Peak Chan: ______

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 4 Date (dd/mm/yr): 12/08/06 OPERATOR: Adam Barrett

PILOT: Steve Sloubiere O.A.T.: 13 / A/C REG: C-GTNT

DEPART TIME: 10:28 RETURN TIME: 13:04 TOTAL FLIGHT TIME: 2.6

SURVEY HEIGHT: 165' BASE MAG/GPS FILES: ______________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1217.p26	Ground Cal
			1217.p30	test line
570				scrub bad path
570				scrub bad path
1020				scrub!
1020				scrub!
1020				scrub
1010				scrub
1000				
990				don't use end bit
991				first bit again
980				
970				scrub last bit
971				use first bit
960				
950			910	
940			900	
930			890	
920			880	

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 5 | Date (dd/mm/yr): 12/08/06 | OPERATOR: Adam Barrett

PILOT: Steve Sloubiere | O.A.T.: 16 / | A/C REG: C-GTNT

DEPART TIME: 14:17 | RETURN TIME: 15:35 | TOTAL FLIGHT TIME: 1.3

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES: ____________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1221.p166	Ground Cal
			1221.p19	test line
780				scrub bad vis and wind
780				
870				scrub!
860				abort flight for weather
			1222.p38	test line

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:____________

Postsurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:____________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 6 | Date (dd/mm/yr): 12/08/06 | OPERATOR: Adam Barrett

PILOT: Steve Sloubiere | O.A.T.: 14 / | A/C REG: C-GTNT

DEPART TIME: 18:15 | RETURN TIME: 20:12 | TOTAL FLIGHT TIME: 2

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES:

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1301.p14	Ground Cal
			1301.p179	test line
850				altitude bust!
840				
830				
820				
810				abort flight for weather
800				
790				
770				
760				bad path at EOL
761				refly SW EOL
			1303.p16	test line
			1303.p23	ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ____________

Postsurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ____________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 7 **Date (dd/mm/yr):** 14/08/06 **OPERATOR:** Adam Barrett

PILOT: Al Stannard **O.A.T.:** _14__/____________ **A/C REG:** C-GTNT

DEPART TIME: 15:44 **RETURN TIME:** 17:27 **TOTAL FLIGHT TIME:** 1.7

SURVEY HEIGHT: 165' **BASE MAG/GPS FILES:** ______________________________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1422.p41	Ground Cal
			1422.p46	test line
750				
740				
730				
720				
710				
700				
690				
680				cloud cover over peaks
			1500.p32	test line
			1500.p39	ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: _______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:__________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: _______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:______________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 8 | Date (dd/mm/yr): 15/08/06 | OPERATOR: Adam Barrett

PILOT: Al Stannard | O.A.T.: 7 / | A/C REG: C-GTNT

DEPART TIME: 7:56 | RETURN TIME: 10:15 | TOTAL FLIGHT TIME: 2.3

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES:

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1514.p54	Ground Cal
			1515.p00	test line
670				
660				
650				
640				
630				
620				
610				
600				
590				
580				
570			1517.p22	test line
560			1517.p29	ground cal
550				

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 9 — Date (dd/mm/yr): 15/08/06 — OPERATOR: Adam Barrett

PILOT: Al Stannard — O.A.T.: 14 / — A/C REG: C-GTNT

DEPART TIME: 10:43 — RETURN TIME: 13:00 — TOTAL FLIGHT TIME: 2.3

SURVEY HEIGHT: 165' — BASE MAG/GPS FILES: ______

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1517.p42	Ground Cal
			1518.p00	test line
540				
530				
520				
510				
500				
490				
480				
470				
460				
450				
440				
430				
420				
410				
400				
390				

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______

Postsurvey Spec Calibration

Cs137 Peak Chan: ______

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 10 **Date** (dd/mm/yr): 15/08/06 **OPERATOR:** Adam Barrett

PILOT: Al Stannard **O.A.T.:** 18 / **A/C REG:** C-GTNT

DEPART TIME: 15:30 **RETURN TIME:** 17:30 **TOTAL FLIGHT TIME:** 2

SURVEY HEIGHT: 165' **BASE MAG/GPS FILES:**

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1522.p28	Ground Cal
			1522.p32	test line
380				
370				
360				
350				
340				
330				
320				
310				
300				
290				
280				
			1600.p33	test line
			1600.p40	ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 11 Date (dd/mm/yr): 16/08/06 OPERATOR: Adam Barrett

PILOT: Al Stannard O.A.T.: 18 / A/C REG: C-GTNT

DEPART TIME: 8:50 RETURN TIME: 11:10 TOTAL FLIGHT TIME: 2.3

SURVEY HEIGHT: 165' BASE MAG/GPS FILES:

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1615.p47	Ground Cal
			1615.p50	test line
270				
260				
250				
240				
230				
220				
210				
200				
190				
180				
			1618.p17	test line
			1618.p23	ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 12 | Date (dd/mm/yr): 16/08/06 | OPERATOR: Adam Barrett

PILOT: Al Stannard | O.A.T.: 18 / | A/C REG: C-GTNT

DEPART TIME: 11:40 | RETURN TIME: 13:25 | TOTAL FLIGHT TIME: 1.8

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES: ____________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1618.p34	Ground Cal
			1618.p50	test line
170				
160				
150				
140				
130				
120				
110				
100				
90				
80				needs to be reflown

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:____________

Postsurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:____________

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR McPHAR

CLIENT: Signet Minerals Inc.	BLOCK#: Curie	JOB: 613	PAGE 1 of 1

FLT #: 13 | Date (dd/mm/yr): 16/08/06 | OPERATOR: Adam Barrett

PILOT: Al Stannard | O.A.T.: 17 / | A/C REG: C-GTNT

DEPART TIME: 15:15 | RETURN TIME: 17:05 | TOTAL FLIGHT TIME: 1.8

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES: ____________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1622.p13	Ground Cal
			1622.p17	test line
80				
70				
60				
50				
40				
30				Finish 'Curie' block
20				Ferry to 'BGG' block
690				
680				
670				
660				plenty of altitude busts
650				
640				
630				
			1700.p07	test line
			1700.p13	ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ____________

Postsurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ____________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 14 **Date** (dd/mm/yr): 17/08/06 **OPERATOR:** Adam Barrett

PILOT: Al Stannard **O.A.T.:** 17 / **A/C REG:** C-GTNT

DEPART TIME: 13:55 **RETURN TIME:** 15:55 **TOTAL FLIGHT TIME:** 2

SURVEY HEIGHT: 165' **BASE MAG/GPS FILES:** ______________________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1720.p45	Ground Cal
			1720.p55	test line
620				
610				
600				
590				
580				
595				
605				
570				
560				
550				
540				
530				
			1722.p59	test line
			1723.p04	ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 15 | Date (dd/mm/yr): 17/08/06 | OPERATOR: Adam Barrett

PILOT: Al Stannard | O.A.T.: 17 / | A/C REG: C-GTNT

DEPART TIME: 16:20 | RETURN TIME: 18:10 | TOTAL FLIGHT TIME: 1.9

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES: ____

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			1723.p14	Ground Cal
			1723.p19	test line
520				
510				
500				
490				
480				
470				
460				
450				
440				
430				
420				
410				
			1801.p12	test line
				ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ____

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ____

Postsurvey Spec Calibration

Cs137 Peak Chan: ____

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ____

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 16 — Date (dd/mm/yr): 23/08/06 — OPERATOR: Adam Barrett

PILOT: Al Stannard — O.A.T.: 9 / — A/C REG: C-GTNT

DEPART TIME: 9:00 — RETURN TIME: 10:55 — TOTAL FLIGHT TIME: 1.9

SURVEY HEIGHT: 165' — BASE MAG/GPS FILES: ____________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			2315.p56	Ground Cal
				test line
400				
390				
380	*			
370	*			* - partials
360	*			
350	*			
340	*			
330	*			
320	*			
310	*		250	
300	*		240	
380			230	
370			70	much jumping around
360			60	to avoid fog/cloud
			50	
330			40	
350			30	
270			20	
260			80	
			90	

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ____________

Postsurvey Spec Calibration

Cs137 Peak Chan: ____________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ____________

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR McPHAR

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 17 **Date** (dd/mm/yr): 24/08/06 **OPERATOR:** Adam Barrett

PILOT: Al Stannard **O.A.T.:** _7__/______________ **A/C REG:** C-GTNT

DEPART TIME: 9:15 **RETURN TIME:** 11:10 **TOTAL FLIGHT TIME:** 1.9

SURVEY HEIGHT: 165' **BASE MAG/GPS FILES:** ______________________________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			2416.p11	Ground Cal
			2416.p15	test line
1360				
1350				
1340				
1330				
1320				
1310				
1300				
1290				
1280				
1270			1160	
1260			1150	
1250			1140	
1240			10	
1230				
1220				
1210			2418.p16	test line
1200			2418.p22	ground cal
1190				
1180				
1170				

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

McPHAR

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 18 **Date** (dd/mm/yr): 24/08/06 **OPERATOR:** Adam Barrett

PILOT: Al Stannard **O.A.T.:** _12__/______________ **A/C REG:** C-GTNT

DEPART TIME: 11:40 **RETURN TIME:** 13:30 **TOTAL FLIGHT TIME:** 2.1

SURVEY HEIGHT: 165' **BASE MAG/GPS FILES:** ______________________________

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			2418.p36	Ground Cal
			2418.p40	test line
1130				
1120				
1110				
1100				
1090				
1080				
1070				
1060				
1050				
1040				
1030				
1020				
1010				
1000				
990				
980			2420.p34	test line
			2420.p40	ground cal

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: _______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: _______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:______________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 19 | Date (dd/mm/yr): 01/09/06 | OPERATOR: Adam Barrett

PILOT: Doug Hladun | O.A.T.: 5 / | A/C REG: C-GTNU

DEPART TIME: 9:00 | RETURN TIME: 11:25 | TOTAL FLIGHT TIME: 2.25

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES:

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
				Ground Cal
			0116.p19	test line
				Poor weather in BGG block
				area
				no Survey

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 20 Date (dd/mm/yr): 03/09/06 OPERATOR: Adam Barrett

PILOT: Doug Hladun O.A.T.: 3 / A/C REG: C-GTNU

DEPART TIME: 15:49 RETURN TIME: 17:15 TOTAL FLIGHT TIME: 1.4

SURVEY HEIGHT: 165' BASE MAG/GPS FILES: ______

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
970				Tough weather (cloud) over top
				of range
920				
910				
900				
890				more bad weather
880				
870				
				abort survey production in BGG
				block

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______

Postsurvey Spec Calibration

Cs137 Peak Chan: ______

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name: ______

AIRBORNE GEOPHYSICAL FLIGHT LOG

McPHAR

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 21 | Date (dd/mm/yr): 04/09/06 | OPERATOR: Adam Barrett

PILOT: Doug Hladun | O.A.T.: 3 / | A/C REG: C-GTNU

DEPART TIME: 8:30 | RETURN TIME: 11:25 | TOTAL FLIGHT TIME: 2.9

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES:

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			0415.p27	ground cal
			0415.p35	test line
970				
960				
950				
940				
930				
860				
850				
840				
830				
820				
810				
800				
790				
780				
770				
760				go for fuel @ Copperpoint
750				
740				
730				
720				

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: BGG	JOB: 613	PAGE 1 of 1

FLT #: 22 | Date (dd/mm/yr): 04/09/06 | OPERATOR: Adam Barrett

PILOT: Doug Hladun | O.A.T.: 9 / | A/C REG: C-GTNU

DEPART TIME: 11:53 | RETURN TIME: 15:12 | TOTAL FLIGHT TIME: 3.2

SURVEY HEIGHT: 165' | BASE MAG/GPS FILES: ______________________________

LINE #	FIDUCAL		BINARY FILE NAME	COMMENTS
	START	END		
710				
700				
350				
340				
320				
310				
300				
290				
280				
220				
210				
200				
190			0422.p06	test line
180			0422.p13	
170				
160				
150				
140				
130				
120				
840				

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

AIRBORNE GEOPHYSICAL FLIGHT LOG

CLIENT: Signet Minerals Inc.	BLOCK#: Pike	JOB:	PAGE 1 of 1

FLT #: 23 Date (dd/mm/yr): 05/09/06 OPERATOR: Adam Barrett

PILOT: Doug Hladun O.A.T.: 15 / A/C REG: C-GTNU

DEPART TIME: 12:44 RETURN TIME: 14:33 TOTAL FLIGHT TIME: 1.8

SURVEY HEIGHT: 165' BASE MAG/GPS FILES:

LINE #	FIDUCAL START	FIDUCAL END	BINARY FILE NAME	COMMENTS
			0519.p49	ground cal
			0520.p01	test line
110				2 lines from BGG
90				
160				
150				
140				
130				
120				
110				
100				
90				
80				
70				
60				
50				
40				
30				
20				
10				

ANY LINE REFLOWN SHOULD HAVE THE LINE NUMBER INCREMENTED BY 1 EACH TIME

SPECTROMETER SAMPLE CALIBRATION CHECKS

Presurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:________________________

Postsurvey Spec Calibration

Cs137 Peak Chan: ______________

	Start	End	Comments
BKG			
Cs 137			
U			
Th			
BKG			

Binary File Name:_____________________

Project #:	613	Daily Field Production Report						
Report Date:	11-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL		
Report Number:	1	Ops Base:	Copperpoint Camp			Pilot		Steven Soubliere
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:		Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:		Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician		Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician		
Km flown today:		48.5				Systems Engineer:		
Accumulated km:		48.5				Project Manager		Adam Barrett
Percent Completed:		5.52%				Client Supervisor		

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
1	8:37		Ferry from Mayo to Aurora Camp		9:37		1:00
2	12:15				14:02		1:47
3	16:47				18:29		1:42

Weather: Overcast, sunny breaks						Hours Flown Today:	4.4
Accum. Standby:		Survey Day: 1	Non Survey Day:		Accum on site: 1	Accumulated Project Hours:	4.4

COMMENTS:

Arrive to Aurora camp mid morning
Proceed to perform calibrations and tests on flight #2
Start production on Curie block on flight #3

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS	OBSERVATIONS.	LINES REFLOWN
Rejected km		
Kms today		
Accumulated km		
Percent Completed		

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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MCPHAR

*Please note that kilometres flown are estimates.
*Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries

Project #:	613	Daily Field Production Report						
Report Date:	12-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	2	Ops Base:	Copperpoint Camp			Pilot	Steven Soubliere
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:		178.0				Systems Engineer:	
Accumulated km:		226.5				Project Manager	Adam Barrett
Percent Completed:		25.80%				Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
4	10:28				13:04		2:36
5	14:17				15:35		1:18
6	18:15				20:12		1:57

Weather: Overcast, periodic rain showers						Hours Flown Today:	5.9
Accum. Standby:		Survey Day: 2	Non Survey Day:		Accum on site: 2	Accumulated Project Hours:	10.3

COMMENTS:

Poor weather throughout the day causes temporary delays and shortened flights
Flying predominantly in 'Curie' block, but evaluate 'BGG' block as possible alternative.

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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MCPHAR

*Please note that kilometres flown are estimates.
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Project #:	613	Daily Field Production Report						
Report Date:	13-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL		
Report Number:	3	Ops Base:	Copperpoint Camp			Pilot		Steven Soubliere
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:		Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:		Adam Barrett

	Curie	BGG	Pike	TOTAL		
					Operator/Technician	Adam Barrett
Project Km:	878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:					Systems Engineer:	
Accumulated km:	226.5				Project Manager	Adam Barrett
Percent Completed:	25.80%				Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather:	Overcast, periodic rain showers, low ceiling					Hours Flown Today:	
Accum. Standby:	1	Survey Day:	2	Non Survey Day:		Accum on site: 3	Accumulated Project Hours: 10.3

COMMENTS:

Low ceiling and rain all day - no possibility of survey flight -
Trans North crew change forces heli to navigate back to Mayo during standby day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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McPHAR

Please note that kilometres flown are estimates.
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Project #:	613	Daily Field Production Report							
Report Date:	14-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	4	Ops Base:	Copperpoint Camp			Pilot	Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:		75.6				Systems Engineer:	
Accumulated km:		302.1				Project Manager	Adam Barrett
Percent Completed:		34.41%				Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
7	15:44				17:27		1:43

Weather: Overcast, fog, low ceiling					Hours Flown Today:		1.7
Accum. Standby: 1	Survey Day:	3	Non Survey Day:		Accum on site: 4	Accumulated Project Hours:	12.0

COMMENTS:

After finishing crew change in Mayo, await break in weather before returning to Copperpoint.
Get partial survey flight in.

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Please note that kilometres flown are estimates.
Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries

Daily Field Production Report

Project #:	613						
Report Date:	15-Aug-06	***Aircraft:***	Astar B2	Reg. #	C-GTNT		
Report Number:	5	***Ops Base:***	Copperpoint Camp				
Client:	Signet Minerals Inc.	***Location***	Wernecke Range				
Survey Type:		**Helicopter RADIOMETRIC Survey**					
			Curie	BGG	Pike	**TOTAL**	
Project Km:			878.0	936.0	23.0	1,837.00	
Km flown today:			393.4				
Accumulated km:			695.5				
Percent Completed:			79.21%				

SURVEY PERSONNEL	
Pilot	Al Stannard
AME:	Darren Shipman
Field Data QC:	Adam Barrett
Operator/Technician	Adam Barrett
Operator/Technician	
Systems Engineer:	
Project Manager	Adam Barrett
Client Supervisor	

Flight #	**Take off Time**	**First line start**		**Last line end**	**Land Time**		**Hours Flown**
8	7:56				10:15		2:19
9	10:43				13:00		2:17
10	15:30				17:30		2:00

Weather: Clear, scattered showers, windy						***Hours Flown Today:***	6.6
Accum. Standby:	1	***Survey Day:***	4	***Non Survey Day:***		***Accum on site:*** 5	
						Accumulated Project Hours:	18.6

COMMENTS:

Continue with survey 'Curie' block

CONTROL			***Flight date:***	
POST FLIGHT	***Accepted km***	***Rejected km***	***Reasons for Rejection***	

REFLIGHTS		**OBSERVATIONS.**	**LINES REFLOWN**
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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MCPHAR

****Please note that kilometres flown are estimates.***
****Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries***

Project #:	613	Daily Field Production Report					
Report Date:	16-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	6	Ops Base:	Copperpoint Camp			Pilot	Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:		230.7	68.36			Systems Engineer:	
Accumulated km:		926.2	68.36			Project Manager	Adam Barrett
Percent Completed:		105.49%	7.30%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
11	8:50				11:10		2:20
12	11:40				13:25		1:45
13	15:15				17:05		1:50

Weather: periodic rain showers, capped peaks						Hours Flown Today:	5.8
Accum. Standby:	1	Survey Day:	5	Non Survey Day:		Accum on site: 6	Accumulated Project Hours: 24.4

COMMENTS:

Accumulated 'Curie' block totals include 48 kms as reflights (lines 520 - 560 reflown with second pilot)
Finish 'Curie' block proceed to 'BGG'

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS	OBSERVATIONS.	LINES REFLOWN
Rejected km		
Kms today		
Accumulated km		
Percent Completed		

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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*Please note that kilometres flown are estimates.
*Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries

Project #:	613	Daily Field Production Report							
Report Date:	17-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT		SURVEY PERSONNEL		
Report Number:	7	Ops Base:	Copperpoint Camp				Pilot		Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range				AME:		Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey					Field Data QC:		Adam Barrett
			Curie	BGG	Pike	TOTAL	Operator/Technician		Adam Barrett
Project Km:			878.0	936.0	23.0	1,837.00	Operator/Technician		
Km flown today:				261.96			Systems Engineer:		
Accumulated km:			926.2	330.32			Project Manager		Adam Barrett
Percent Completed:			105.49%	35.29%			Client Supervisor		

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
14	13:55				15:55		2:00
15	16:20				18:10		1:50

Weather: periodic rain showers, capped peaks						Hours Flown Today:	3.9
Accum. Standby:	1	Survey Day:	6	Non Survey Day:		Accum on site:	7
						Accumulated Project Hours:	28.3

COMMENTS:

Miserable start to the day with low ceiling, fog and rain.
Clearing by early afternoon, manage 2 flights in block 'BGG' before ferry to Mayo for helicopter maintenance.

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS	OBSERVATIONS.	LINES REFLOWN
Rejected km		
Kms today		
Accumulated km		
Percent Completed		

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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*Please note that kilometres flown are estimates.
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Project #:	613	Daily Field Production Report						
Report Date:	18-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	8	Ops Base:	Copperpoint Camp			Pilot	Al Stannard
Client:	Signet Minerals	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:						Systems Engineer:	
Accumulated km:		926.2	330.32			Project Manager	Adam Barrett
Percent Completed:		105.49%	35.29%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather: clearing in afternoon							Hours Flown Today:		
Accum. Standby:	1	Survey Day:	6	Non Survey Day:	1	Accum on site:	8	Accumulated Project Hours:	28.3

COMMENTS:

Release helicopter for maintenance

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report							
Report Date:	19-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL			
Report Number:	9	Ops Base:	Copperpoint Camp			Pilot	Al Stannard		
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman		
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett		
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett		
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician			
Km flown today:						Systems Engineer:			
Accumulated km:		926.2	330.32			Project Manager	Adam Barrett		
Percent Completed:		105.49%	35.29%			Client Supervisor			

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather: clear							Hours Flown Today:	
Accum. Standby:	1	Survey Day:	6	Non Survey Day:	2	Accum on site:	9	Accumulated Project Hours: 28.3

COMMENTS:

Released helicopter for maintenance

CONTROL		Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report						
Report Date:	20-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	10	Ops Base:	Copperpoint Camp			Pilot	Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett

	Curie	BGG	Pike	TOTAL		
					Operator/Technician	Adam Barrett
Project Km:	878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:					Systems Engineer:	
Accumulated km:	926.2	330.32			Project Manager	Adam Barrett
Percent Completed:	105.49%	35.29%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather: clear							Hours Flown Today:	
Accum. Standby:	1	Survey Day:	6	Non Survey Day:	3	Accum on site:	10	Accumulated Project Hours:	28.3

COMMENTS:

Released helicopter for maintenance

CONTROL		Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report						
Report Date:	21-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL		
Report Number:	11	Ops Base:	Copperpoint Camp			Pilot	Al Stannard	
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman	
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett	
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett	
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician		
Km flown today:						Systems Engineer:		
Accumulated km:		926.2	330.32			Project Manager	Adam Barrett	
Percent Completed:		105.49%	35.29%			Client Supervisor		

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather: clear							Hours Flown Today:	
Accum. Standby:	1	Survey Day:	6	Non Survey Day:	4	Accum on site:	11	Accumulated Project Hours: 28.3

COMMENTS:

Released helicopter for maintenance

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report							
Report Date:	22-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	12	Ops Base:	Copperpoint Camp			Pilot	Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:						Systems Engineer:	
Accumulated km:		926.2	330.32			Project Manager	Adam Barrett
Percent Completed:		105.49%	35.29%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather: clear							Hours Flown Today:	
Accum. Standby:	1	Survey Day:	6	Non Survey Day:	5	Accum on site:	12	Accumulated Project Hours: 28.3

COMMENTS:

Got helicopter back into camp late in day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report				
Report Date:	23-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL
Report Number:	13	Ops Base:	Copperpoint Camp			
Client:	Signet Minerals Inc.	Location	Wernecke Range			
Survey Type:		Helicopter RADIOMETRIC Survey				

	Curie	BGG	Pike	TOTAL
Project Km:	878.0	936.0	23.0	1,837.00
Km flown today:		86.84		
Accumulated km:	926.2	417.16		
Percent Completed:	105.49%	44.57%		

SURVEY PERSONNEL	
Pilot	Al Stannard
AME:	Darren Shipman
Field Data QC:	Adam Barrett
Operator/Technician	Adam Barrett
Operator/Technician	
Systems Engineer:	
Project Manager	Adam Barrett
Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
16	9:00				10:55		1:55

Weather: rain and low ceiling, abundent fog						Hours Flown Today:	1.9
Accum. Standby:	1	Survey Day:	7	Non Survey Day:	5	Accum on site: 13	Accumulated Project Hours: 30.2

COMMENTS:

Get a partial break in the weather in the AM but gets worse by mid-morning
Lots of ferrying on this flight to find possible production 'holes' in the clouds/fog

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Daily Field Production Report

Project #:	613						
Report Date:	24-Aug-06	***Aircraft:***	Astar B2	Reg. #	C-GTNT	**SURVEY PERSONNEL**	
Report Number:	14	***Ops Base:***	Copperpoint Camp			***Pilot***	Al Stannard
Client:	Signet Minerals Inc.	***Location***	Wernecke Range			***AME:***	Darren Shipman
Survey Type:		**Helicopter RADIOMETRIC Survey**				***Field Data QC:***	Adam Barrett
		Curie	BGG	Pike	**TOTAL**	***Operator/Technician***	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	***Operator/Technician***	
Km flown today:			213.02			***Systems Engineer:***	
Accumulated km:		926.2	630.18			***Project Manager***	Adam Barrett
Percent Completed:		105.49%	67.33%			***Client Supervisor***	

Flight #	**Take off Time**	**First line start**		**Last line end**	**Land Time**		**Hours Flown**
17	9:15				11:10		1:55
18	11:40				13:30		1:50

Weather: cloudy							***Hours Flown Today:***	3.7
Accum. Standby:	1	***Survey Day:***	8	***Non Survey Day:***	5	***Accum on site:*** 14	***Accumulated Project Hours:***	33.9

COMMENTS:

Cloudy in the AM but high ceiling. Accomplish 2 survey flights before midday.
Oil leak on helicopter forces afternoon survey scrub as it's ferried back to Mayo for quick fix.

CONTROL			***Flight date:***	
POST FLIGHT	***Accepted km***	***Rejected km***	***Reasons for Rejection***	

REFLIGHTS		**OBSERVATIONS.**	**LINES REFLOWN**
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report					
Report Date:	25-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	15	Ops Base:	Copperpoint Camp			Pilot	Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:						Systems Engineer:	
Accumulated km:		926.2	630.18			Project Manager	Adam Barrett
Percent Completed:		105.49%	67.33%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
Weather: fog, rain, low ceiling					Hours Flown Today:		
Accum. Standby: 2	Survey Day: 8	Non Survey Day: 5	Accum on site: 15		Accumulated Project Hours:		33.9

COMMENTS:

With poor weather here in Copperpoint and in Mayo, helicopter unable to return to camp.

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report						
Report Date:	26-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	16	Ops Base:	Copperpoint Camp			Pilot	Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:						Systems Engineer:	
Accumulated km:		926.2	630.18			Project Manager	Adam Barrett
Percent Completed:		105.49%	67.33%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather: fog, rain, low ceiling							Hours Flown Today:		
Accum. Standby:	3	Survey Day:	8	Non Survey Day:	5	Accum on site:	16	Accumulated Project Hours:	33.9

COMMENTS:

no survey.
Plenty of fog and drizzle. Low ceiling

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
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Project #:	613	Daily Field Production Report					
Report Date:	27-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	17	Ops Base:	Copperpoint Camp			Pilot	Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:						Systems Engineer:	
Accumulated km:		926.2	630.18			Project Manager	Adam Barrett
Percent Completed:		105.49%	67.33%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather:	fog, rain, low ceiling							Hours Flown Today:	
Accum. Standby:	4	Survey Day:	8	Non Survey Day:	5	Accum on site:	17	Accumulated Project Hours:	33.9

COMMENTS:

no survey
Low ceiling, drizzle.

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report							
Report Date:	28-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL			
Report Number:	18	Ops Base:	Copperpoint Camp			Pilot			Al Stannard
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:			Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:			Adam Barrett
			Curie	BGG	Pike	TOTAL	Operator/Technician		Adam Barrett
Project Km:			878.0	936.0	23.0	1,837.00	Operator/Technician		
Km flown today:							Systems Engineer:		
Accumulated km:			926.2	630.18			Project Manager		Adam Barrett
Percent Completed:			105.49%	67.33%			Client Supervisor		

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather:	overcast						Hours Flown Today:	
Accum. Standby:	4	Survey Day:	8	Non Survey Day:	6	Accum on site:	18	Accumulated Project Hours: 33.9

COMMENTS:

Mobilize fuel drums
Cloudy, no survey and no standby day

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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**Please note that kilometres flown are estimates.*
**Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries*

Project #:	613	Daily Field Production Report					
Report Date:	29-Aug-06	Aircraft:	Astar B2	Reg. #	C-GTNT	SURVEY PERSONNEL	
Report Number:	19	Ops Base:	Whitehorse			Pilot	Al Stannard
Client:	Signet Minerals Inc.	Location	Murphy Block			AME:	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:						Systems Engineer:	
Accumulated km:		926.2	630.18			Project Manager	Adam Barrett
Percent Completed:		105.49%	67.33%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather:	overcast							Hours Flown Today:	
Accum. Standby:	4	Survey Day:	8	Non Survey Day:	7	Accum on site:	19	Accumulated Project Hours:	33.9

COMMENTS:

Helicopter maintenance

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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1256B Kerrisdale Boulevard, Newmarket, Ontario, Canada L3Y 8Z9
Tel: (905) 830-6880, Fax: (905) 898-0336, E-mail: info@mgssurveys.com

McPHAR

***Please note that kilometres flown are estimates.**
***Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries**

Project #:	613	Daily Field Production Report					
Report Date:	30-Aug-06	*Aircraft:*	Astar B2	Reg. #	C-GTNT	**SURVEY PERSONNEL**	
Report Number:	20	*Ops Base:*	Whitehorse			*Pilot*	Al Stannard
Client:	Signet Minerals Inc.	*Location*	Murphy Block			*AME:*	Darren Shipman
Survey Type:		Helicopter RADIOMETRIC Survey				*Field Data QC:*	Adam Barrett
		Curie	BGG	Pike	TOTAL	*Operator/Technician*	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	*Operator/Technician*	
Km flown today:						*Systems Engineer:*	
Accumulated km:		926.2	630.18			*Project Manager*	Adam Barrett
Percent Completed:		105.49%	67.33%			*Client Supervisor*	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather:	overcast							*Hours Flown Today:*	
Accum. Standby:	4	*Survey Day:*	8	*Non Survey Day:*	8	*Accum on site:*	20	*Accumulated Project Hours:*	33.9

COMMENTS:

Helicopter maintenance

CONTROL			*Flight date:*	
POST FLIGHT	*Accepted km*	*Rejected km*	*Reasons for Rejection*	

REFLIGHTS	OBSERVATIONS.		LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	***Daily Field Production Report***						
Report Date:	31-Aug-06	***Aircraft:***	Astar B2	Reg. #	C-GTNU	**SURVEY PERSONNEL**		
Report Number:	21	***Ops Base:***	Lumina Camp			***Pilot***	Doug Hladun	
Client:	Signet Minerals Inc.	***Location***	Wernecke Range			***AME:***	Doug Hladun	
Survey Type:		Helicopter RADIOMETRIC Survey				***Field Data QC:***	Adam Barrett	
			Curie	BGG	Pike	**TOTAL**	***Operator/Technician***	Adam Barrett
Project Km:			878.0	936.0	23.0	1,837.00	***Operator/Technician***	
Km flown today:							***Systems Engineer:***	
Accumulated km:			926.2	630.18			***Project Manager***	Adam Barrett
Percent Completed:			105.49%	67.33%			***Client Supervisor***	

Flight #	**Take off Time**	**First line start**		**Last line end**	**Land Time**		**Hours Flown**

Weather: overcast rain patches — ***Hours Flown Today:***

Accum. Standby:	4	***Survey Day:***	8	***Non Survey Day:***	9	***Accum on site:***	21	***Accumulated Project Hours:***	33.9

COMMENTS:

Finish installation of the system in new helicpoter and ferry to Lumina camp

CONTROL			***Flight date:***	
POST FLIGHT	***Accepted km***	***Rejected km***	***Reasons for Rejection***	

REFLIGHTS		**OBSERVATIONS.**	**LINES REFLOWN**
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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****Please note that kilometres flown are estimates.***
****Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries***

Project #:	613	Daily Field Production Report						
Report Date:	1-Sep-06	Aircraft:	Astar B2	Reg. #	C-GTNU	SURVEY PERSONNEL	
Report Number:	22	Ops Base:	Lumina Camp			Pilot	Doug Hladun
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Doug Hladun
Survey Type:	Helicopter RADIOMETRIC Survey					Field Data QC:	Adam Barrett

	Curie	BGG	Pike	TOTAL		
					Operator/Technician	Adam Barrett
Project Km:	878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:					Systems Engineer:	
Accumulated km:	926.2	630.18			Project Manager	Adam Barrett
Percent Completed:	105.49%	67.33%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
19	9:00				11:25		2:25

Weather:	Fog, cloud low ceiling							Hours Flown Today:	2.3
Accum. Standby:	5	Survey Day:	8	Non Survey Day:	9	Accum on site:	22	Accumulated Project Hours:	36.2

COMMENTS:

Attempt to fly 'BGG' block fails.
Poor weather over block. Return to camp

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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MCPHAR

****Please note that kilometres flown are estimates.***
****Exact kilometres will be calculated upon completion of survey, and will be based on GPS observations & contractual boundaries***

Project #:	613	Daily Field Production Report						
Report Date:	2-Sep-06	Aircraft:	Astar B2	Reg. #	C-GTNU	SURVEY PERSONNEL	
Report Number:	23	Ops Base:	Lumina Camp			Pilot	Doug Hladun
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Doug Hladun
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
			Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:			878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:							Systems Engineer:	
Accumulated km:			926.2	630.18			Project Manager	Adam Barrett
Percent Completed:			105.49%	67.33%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown

Weather:	Fog, cloud low ceiling							Hours Flown Today:	
Accum. Standby:	6	Survey Day:	8	Non Survey Day:	9	Accum on site:	23	Accumulated Project Hours:	36.2

COMMENTS:

No survey. Poor weather in the area

CONTROL			Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection	

REFLIGHTS	OBSERVATIONS.	LINES REFLOWN
Rejected km		
Kms today		
Accumulated km		
Percent Completed		

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	Daily Field Production Report							
Report Date:	3-Sep-06	Aircraft:	Astar B2	Reg. #	C-GTNU	SURVEY PERSONNEL	
Report Number:	24	Ops Base:	Lumina Camp			Pilot	Doug Hladun
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Doug Hladun
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:			40.75			Systems Engineer:	
Accumulated km:		926.2	670.93			Project Manager	Adam Barrett
Percent Completed:		105.49%	71.68%			Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
20	15:49				17:15		1:26

Weather: cloud, fog						Hours Flown Today:	1.4
Accum. Standby:	7	Survey Day:	8	Non Survey Day:	9	Accum on site:	24
						Accumulated Project Hours:	37.6

COMMENTS:

Wait most of the day. Attempt flight in late afternoon whicj was aborted after only a few lines

CONTROL			Flight date:
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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***Please note that kilometres flown are estimates.**
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Project #:	613	Daily Field Production Report					
Report Date:	4-Sep-06	*Aircraft:*	Astar B2	Reg. #	C-GTNU	**SURVEY PERSONNEL**	
Report Number:	25	*Ops Base:*	Lumina Camp			*Pilot*	Doug Hladun
Client:	Signet Minerals Inc.	*Location*	Wernecke Range			*AME:*	Doug Hladun
Survey Type:		**Helicopter RADIOMETRIC Survey**				*Field Data QC:*	Adam Barrett
		Curie	BGG	Pike	TOTAL	*Operator/Technician*	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	*Operator/Technician*	
Km flown today:			256.31			*Systems Engineer:*	
Accumulated km:		926.2	927.24			*Project Manager*	Adam Barrett
Percent Completed:		105.49%	99.06%			*Client Supervisor*	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
21	8:30				11:25		2:55
22	11:53				15:12		3:19

Weather: cloud, fog								*Hours Flown Today:*	6.2
Accum. Standby:	7	*Survey Day:*	9	*Non Survey Day:*	9	*Accum on site:*	25	*Accumulated Project Hours:*	43.8

COMMENTS:

Fly the remaining portion of block 'BGG' (save for 2 lines)
Hours flown has time spent ferrying Aurora Geologist 'Derek' out to Deer Camp

CONTROL			*Flight date:*	
POST FLIGHT	*Accepted km*	*Rejected km*	*Reasons for Rejection*	

REFLIGHTS	OBSERVATIONS.	LINES REFLOWN
Rejected km		
Kms today		
Accumulated km		
Percent Completed		

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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Project #:	613	**Daily Field Production Report**					
Report Date:	5-Sep-06	Aircraft:	Astar B2	Reg. #	C-GTNU	SURVEY PERSONNEL	
Report Number:	26	Ops Base:	Lumina Camp			Pilot	Doug Hladun
Client:	Signet Minerals Inc.	Location	Wernecke Range			AME:	Doug Hladun
Survey Type:		Helicopter RADIOMETRIC Survey				Field Data QC:	Adam Barrett
		Curie	BGG	Pike	TOTAL	Operator/Technician	Adam Barrett
Project Km:		878.0	936.0	23.0	1,837.00	Operator/Technician	
Km flown today:			9.1	24.4		Systems Engineer:	
Accumulated km:		926.2	936.34	24.4	1,886.94	Project Manager	Adam Barrett
Percent Completed:		105.49%	100.04%	106.09%		Client Supervisor	

Flight #	Take off Time	First line start		Last line end	Land Time		Hours Flown
23	12:44				14:33		1:49

Weather:	cloud, fog							Hours Flown Today:	1.8
Accum. Standby:	8	Survey Day:	9	Non Survey Day:	9	Accum on site:	26	Accumulated Project Hours:	45.6

COMMENTS:

Fly the last 2 lines of the 'BGG' block
Complete 'Pike' block
Complete SIGNET contract

CONTROL		Flight date:	
POST FLIGHT	Accepted km	Rejected km	Reasons for Rejection

REFLIGHTS		OBSERVATIONS.	LINES REFLOWN
Rejected km			
Kms today			
Accumulated km			
Percent Completed			

Operations Personnel

General Manager:	Tim Bodger	905-830-6880
President:		
Project Manager:	Adam Barrett	905-830-6880
Systems Engineer		
QC	Adam Barrett	905-830-6880
Operator:	Adam Barrett	905-830-6880

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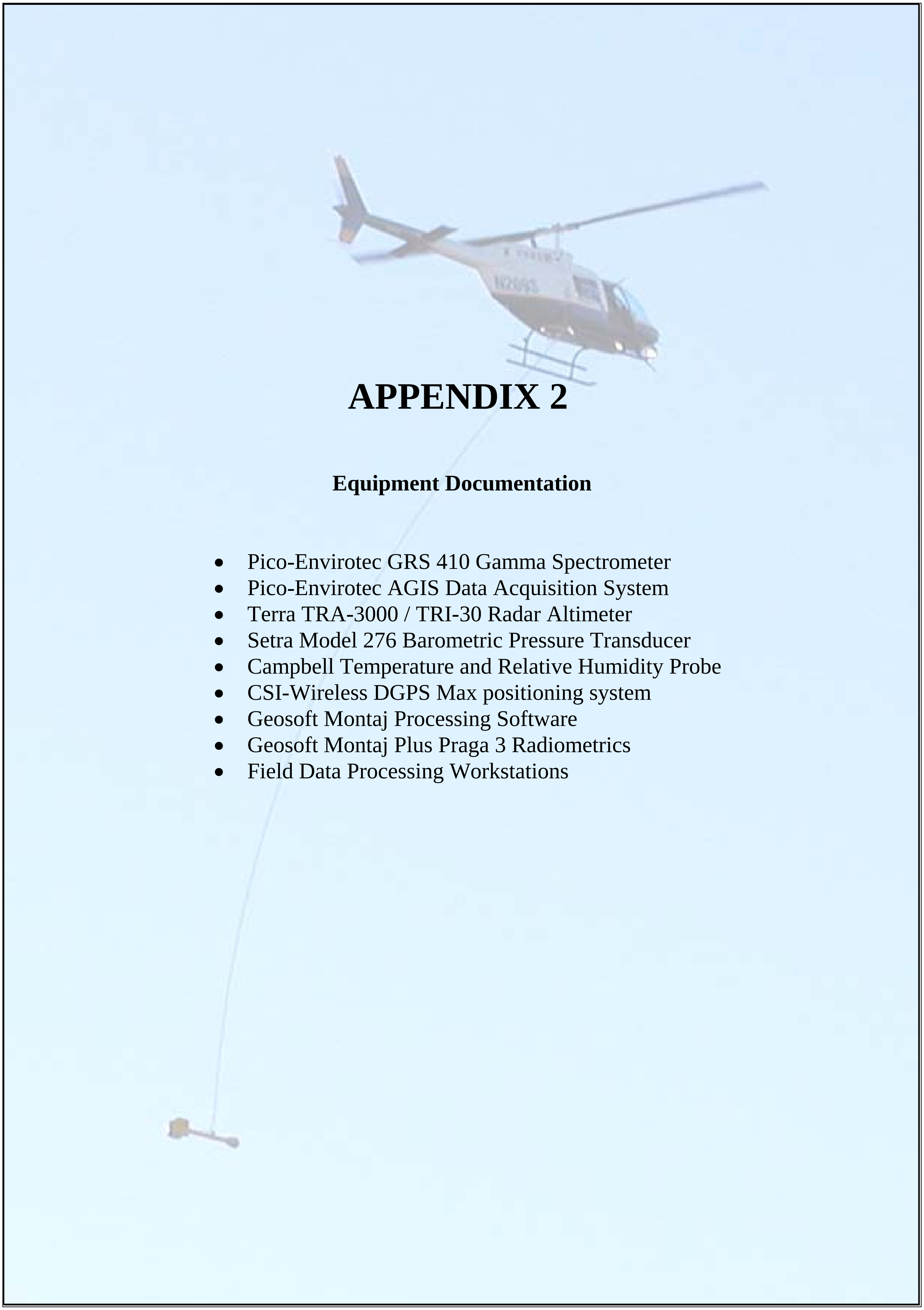

APPENDIX 2

Equipment Documentation

- Pico-Envirotec GRS 410 Gamma Spectrometer
- Pico-Envirotec AGIS Data Acquisition System
- Terra TRA-3000 / TRI-30 Radar Altimeter
- Setra Model 276 Barometric Pressure Transducer
- Campbell Temperature and Relative Humidity Probe
- CSI-Wireless DGPS Max positioning system
- Geosoft Montaj Processing Software
- Geosoft Montaj Plus Praga 3 Radiometrics
- Field Data Processing Workstations

GRS410 Intelligent Gamma Spectrometer

The GRS410 Gamma spectrometer is an advanced Spectrometer utilizing the NaI(Tl) detectors with the newest technology. It is hardware-software designed system, exhibiting simplicity, easy interfacing and substantial versatility. It is based on the experience with the individual detector signal processing reducing potential hazards (or complex circuitry) of "zero base shift" and practically eliminating the "dead time". It is achieved through a special design feature almost completely eliminating the decaying part of each detected and eliminating any internal DC coupling and completely digital peak detector unit.
New - natural peak detection algorithm provides safe and fast system stabilization without temperature stabilization of the detector housing and without implanted radioactive sources in the detector housing. No implanted sources (usually Cs137) for stabilization means no spectra pollution on low energies and therefore better sensitivity of the system for low energies - mostly for man-made sources.
When calibrated (with Th source about once a year) linearity of the each detector is measured and linearity correction coefficients are calculated. When operating in real time, collecting data, the linearity of each detector is mathematically corrected for each measurement.
Individual detector tracking (tuning) and linearity correction provides better fit of the individual spectra that are being summed and therefore sharper (better resolution) spectrum is obtained.
Optionally the GRS410 system can be controlled by the altitude of the aircraft and calculate absolute values of contamination by individual radionuclei related to the ground and provide the dose rate related to 1meter above the ground.
Interfacing via single RS232 communication channel makes the system very flexible.

Technical parameters:

Spectra resolution:	256/512 channels Individual spectra recording in 256 or 512 channels
Data sampling:	1sec and longer, 0.5sec optional
Energy spectra:	50keV to 3MeV with threshold adjustable from 50keV 300keV. All energies above 3MeV are detected as Cosmic Rays.
Anticoincidence:	For improvement peak-valley ratio on lower energies, Coincidental pulses detected among neighboring

© Pico Envirotec Inc.

	detectors are removed and placed in a special channel.
Spectra tracking:	Individual detectors. with recorded status of tuning
Time to stabilization:	Automatic on natural radionuclei. Usually less than 30 sec on the ground and less than 2minutes in the air at 100 m altitude. In case of a system failure old tracking because of low counts, parameters (not more than 15 minutes) are used till new tracking is re-established.
Spectra linearization:	Automatic after system calibration. Calibration is required once a year or when a detector or electronics are replaced.
Windows (ROIs):	Additionally to the full spectra up to 22 special windows can be collected (4 are IAEA standard windows, 8 are optional activities altitude related).
Detector Box:	For logical distribution of detectors one detector box may contain up to six individual detectors served by one concentrator. Physically the detectors may be packaged differently.
Recommended Detectors:	4x4x16inch NaI(Tl);
Max. number of detectors	
With one Concentrator:	Ten (10)
With a Superconcentrator:	Four (4) Concentrators or Forty(40) detectors. Any of the detectors may used as down or up looking.
Signal sampling:	20 MHz by an internal 12bit A to D for each detector.
Peak detector:	Digital - time resolution 50nsec.
Dead time:	Negligible for up to 60000 pulses/sec/detector
Pulse rate per detector:	> 60000 pulses per second with negligible dead time.
Channel capacity:	65500 counts/sampling period.
Communication:	Serial among all units (Detector,Concentrator, Superconcentrator and Host).
Test programs:	Supplied with hardware
Interfacing:	Supplied with the hardware
Operating temperature:	-10 to 55 deg. C.

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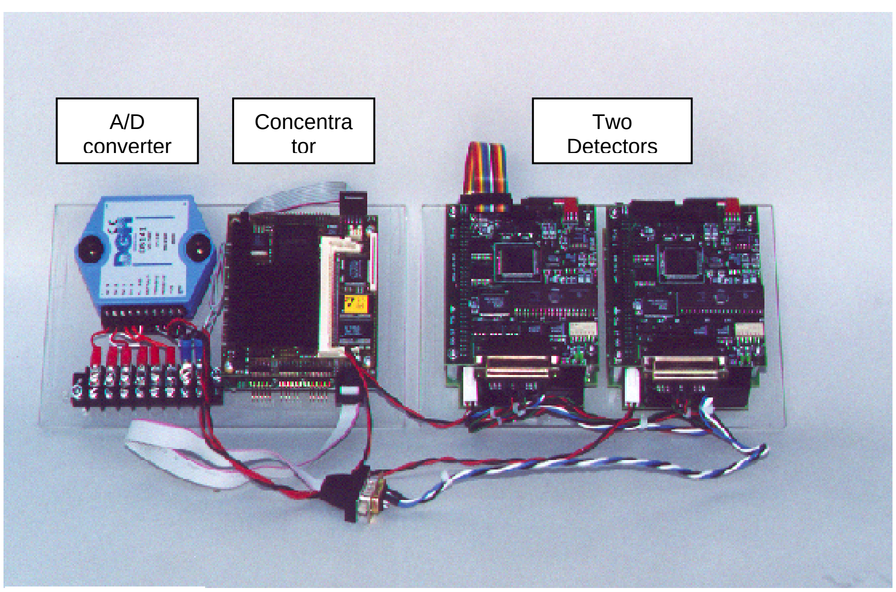
Two-detector GRS4 Gamma Spectrometer with IRIS (Integrated Radiation Information System).



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AGIS AIRBORNE GEOPHYSICAL INFORMATION SYSTEM

PICO ENVIROTEC INC.

Real Time Data Acquisition, Navigation and man machine communication tasks are integrated into a single unit that can be easily installed in a wide variety of mobile platforms without need for a permanent installation in the carrying vehicle.

AGIS is designed to operate using Pico Envirotec "intelligent sensors". Special processors dedicated to each sensor handle tasks required by individual sensors with the main CPU concentrates on "housekeeping" chores such as data recording, navigation, pilot display information, and data presentation for the system operator.

The use of common processors for different sensor modules reduces maintenance and spares requirements.

Software standardization and modularity shortens and simplifies the learning curve of service personnel

Interfacing of individual sensors is accomplished via standard RS-232 serial communication channels

AGIS Main Features

- **High brightness color display** displaying navigation and acquired data in a variety of user configurations
- **Available Touch Screen** eliminates frustration of keyboard entries under stressful or turbulent sea states
- **User friendly Man-machine interface**
- AGIS design increases reliability and reduces complexity. Mean time between failures is increased and mean repair time is decreased. This has a direct positive impact on the cost of data acquisition and system readiness
- Modularity of the system lends itself to be used universally either as a complete system, or as a unique instrument
- AGIS data format is easily converted into Geosoft –Oasis or ASCII formats by a supplied conversion program (PEI View)
- Easy connection to "Intelligent Sensors" via standard serial communication link

System Consists of:

NAVIGATION
- Aircraft guidance
- Operator information
- Data synchronization to GPS position
- Pilot Guidance Unit (PGU)
- UTM, UPS, Lambert, and ADRG support

DATA ACQUISITION
- High Capacity Data storage
- Data integrity verification Special data algorithms

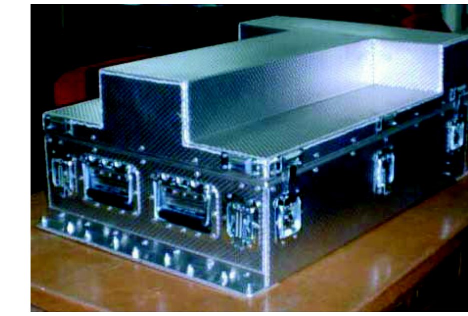
DATA INPUTS / OUTPUTS
- Navigation data to other instruments
- Sun readable color operators display
- Touch screen and / or keyboard
- Standard serial data protocols
- Multiple asynchronous communication links

Optional outputs
- Video overlay information
- Digital video flight path recording system

Specifications, *Continued*

Intelligent sensors
- Pico Envirotec Intelligent Gamma Spectrometer with optional recalculation to absolute units
- Pico Envirotec magnetometer processor with optional compensation
- Pico Envirotec intelligent multi-channel analog processor
- Other supported instruments
  - Exploranium Gamma Spectrometer
  - RMS magnetometer and compensation
  - Special interfaces to user developed instruments

PEi Crystal Detector Array

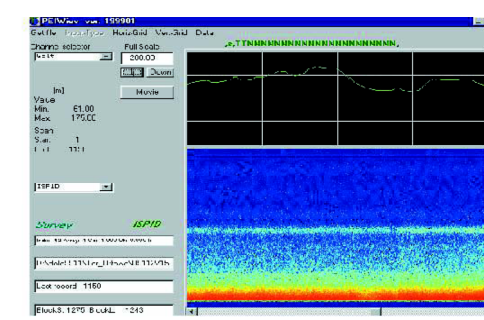


Software
- A complete survey program consisting of navigation, pilot guidance and data acquisition for all supported sensors
- A map conversion program allowing calibration and display of any scanned map or picture
- A data replay / verification program allowing for instant selected data replay after data collection termination
- A conversion program allowing data export to ASCII or Geosoft GBN files
- Support software for intelligent sensors for calibration, testing, firmware upgrades

Pilot Navigation Display (PGU)

Main Features:
- PC compatible embedded processor
- VGA TFT daylight readable LCD touch screen display 640 x 480 pixels (supports 1024 x 768)
- Color pilot Guidance Display (PGU)
- High capacity storage on compact flash cards
- +/- 10 volt 16 bit analog inputs
- PCMCIA III port
- Multiple RS-232 serial communication ports
- Operating temperature -10 to +55 C
- Operating Altitude range to 3000 meter (exclusive of radar altimeter)
- Power 10 to 30 VDC at 60 watts typical

PEIView Data QC Tool



PICO ENVIROTEC INC.

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Email: picoenv@bellnet.ca
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Dealer Info:

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WebSite: www.mgssurveys.com

TERRA TRA-3000 / TRI-30 Radar Altimeter

The Terra TRA-3000 Radar Altimeter unit provides AGL (Above Ground Level) altitude information from 40 feet (12.3 m) up to 2,500 feet (769 m). The system consists of a single TRA-3000 receiver/transmitter/antenna unit and a TRI-30 indicator.

SPECIFICATIONS

TRA-3000 Unit

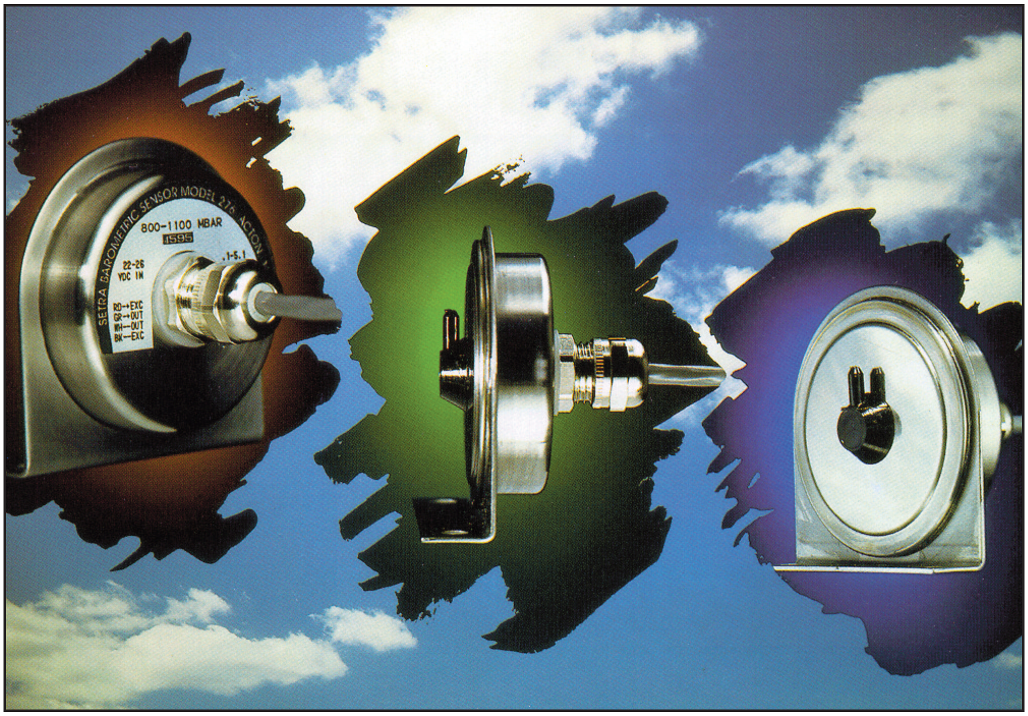
Type:	Single antenna, FMCW
Altitude Range:	40 to 2,500 ft
System Accuracy:	
• 40 to 100 ft	+/- 5 ft
• 100 to 500 ft	+/- 5%
• 500 to 2,500 ft	+/- 7%
Frequency Range:	100 MHz sweep within 4,200 to 4,400 GHz range
Input Voltage:	Approx. 20 VDC from indicator
Input Current:	600 ma
Altitude Output:	Digital
Self-Test:	Ground or flight, initiated at indicator
Transmitter/Receiver/Antenna:	All solid-state, microstrip antenna,
Physical:	Size - 1" H x 5" W x 7.625" L, Weight - 1.5 lb.
Environment:	-40^{o} C to + 70^{o} C
Unlock display:	Altitude – 45,000 ft

TRI-30 Indicator

Power Supply:	Input voltage – 27.5 VDC +/- 20%
Environment:	Power – 16 watts nominal (includes power to T/R/A unit
Physical:	Size – 3.25" H x 3.25" W x 4" L, Weight – 1 lb.
Mounting:	Front panel mounting; requires a 3" ATI mounting space
Altitude range:	40 ft. to 2,500 ft (linear); 40 – 500 ft (enlarged linear)
Analog display:	Servo; pointer and dial type Needle will go off scale on the high-end
Decision height:	Bug, continuous setting from 40 to 2,500 ft.
Display update rate:	continuous
Analog output:	2.5 mv/ft., 100 mv = 40 ft.
Display disable:	One strut switch input, ground to enable
Altitude accuracy:	
• 40 to 100 ft	+/- 5 ft
• 100 to 500 ft	+/- 5%
• 500 to 2,500 ft	+/- 7%
Aural Decision Height alert:	1 KHz tone for 2 sec. (500 ohms) adjustable audio level
Self-test:	Indicates 40 ft., DH operates normally
Visual alert:	Amber lamp with automatic adjustable intensity; internal LED standard; external lamp operation available.

Model 276
Low Cost Barometric Pressure Transducer

Featuring the SETRACERAM™ Sensor
Barometric Pressure: 600-1100, 800-1100 hPa/mb
Absolute Pressure: 0-20 psia



Setra Systems has been a technology leader in Environmental Pressure Measurement for over three decades. The Model 276 is an extremely accurate and stable transducer based on the proven Setraceram™ sensing element. The glass fused ceramic capacitive sensing capsule is the heart of Setra's environmental pressure transducers because of its inherent thermal stability, low hysteresis and fundamentally simple design.

Another major feature of the 276 is Setra's custom Application Specific Integrated Circuit (ASIC). The ASIC works hand-in-hand with the Setraceram™ sensor to achieve long-term stability and high accuracy, unmatched by other manufacturers - even at a much higher cost. The ASIC circuit allows the 276 to operate with an excitation as low as 5 VDC for remote battery or solar powered applications.

The 276 is designed specifically to give maximum flexibility to system integrators and OEM's. The standard unit has a convenient mounting bracket and simple 1/8" tube fitting for quick installations. Its low cost, small size and available options make it application configurable.

If your OEM environmental application requires low cost, combined with superior performance, specify Setra's Model 276 and apply the savings to the bottom line.

NOTE: Setra quality standards are based on ANSI-Z540-1.
The calibration of this product is NIST traceable.

U.S. Patent Nos. 4168518; 4054833

Type of Pressure	Pressure Range	Maximum Pressure
Barometric	600-1100 mb 800-1100 mb	20 PSIA 20 PSIA
Absolute	0-20 PSIA	30 PSIA

Applications

- Environmental Monitoring Systems
- Weather Measurement Systems
- Weather and Environmental Data Logging
- Barometric Pressure Compensation for Internal Combustion Engine Performance
- Cleanroom Barometric Pressure Compensation
- Automotive Emissions Test Equipment

Features

- Proven SETRACERAM™ Sensor
- 0.25% FS Accuracy
- Environmentally Rugged
- <±0.25% FS, 6 Month Stability
- Compact Size (2" dia. x 1")
- Excellent Long-Term Stability
- Low Power Consumption (for Solar or Battery Power)
- Fast Response
- Meets CE Conformance Standards

When it comes to a product to rely on - choose the Model 276. When it comes to a company to trust - choose Setra.

ISO 9001: 2000 Certified

Visit Setra Online:
http://www.setra.com

setra

800-257-3872

159 Swanson Rd., Boxborough, MA 01719/Telephone: 978-263-1400/Fax: 978-264-0292

Model 276 Specifications

Performance Data

Accuracy RSS* (at constant temp)	±0.25% FS**
Thermal Effects***	
Compensated Range °F(°C)	+30 to +130 (0 to +55)
Zero Shift (Over Compensated Range)	1% FS
Span Shift (Over Compensated Range)	1% FS
Resolution	Infinite, limited only by output noise level (0.0005% FS)
Time Constant	10 milliseconds to reach 90% final output with step function pressure input.
Long Term Stability	0.25% FS/6 months

*RSS of Non-Linearity, Hysteresis and Non-Repeatability.
**FS = 300mb for 800-1100mb range; 500 for 600-1100mb range; and 20 PSI for 0 to 20 PSIA.
***Units calibrated at nominal 70°F. Maximum thermal error computed from this datum.

Environmental Data

Temperature	
Operating* °F (°C)	0 to +175 (-18 to +79)
Storage °F (°C)	-65 to +250 (-55 to +121)
Vibration	2g from 5 Hz to 500 Hz
Shock	50g (Operating, 1/2 sine 10 ms)
Acceleration	10g

*Operating temperature limits of the electronics only. Pressure media temperatures may be considerably higher or lower.

Physical Description

Case	Stainless Steel
Electrical Connection	2ft. Multiconductor Cable
Pressure Fitting	1/8" Tube Fitting

Electrical Data (Voltage)

Circuit	3-Wire* (Exc, Out, Com)
Specify One:	
Excitation	Output
12 VDC (9.0 to 14.5)	0.1 to 5.1 VDC**
24 VDC (21.6 to 26.0)	0.1 to 5.1 VDC**
5 VDC (4.9 to 7.1)	0.5 to 4.5 VDC**
Power Consumption	0.2 Watts (24 VDC)
Output Impedance	5 ohms
Output Noise	<200 microvolts RMS (0 to 100 Hz)

*There are separate leads for +Exc, -Exc, +Out, -Out. The -Exc and -Out are commoned internally. The shield is connected to the case. For best performance, either the -Exc or -Out should be connected to the case. Unit is calibrated at the factory with the -Exc connected to the case. The insulation resistance between all signal leads tied together and case ground is 100 megohms minimum at 25 VDC.

**Zero and Full Scale Outputs are factory set to within ±0.25% Full Scale.

Pressure Media

Non-condensing air or gas compatible with stainless steel, alumina ceramics, gold and elastomer.

Available Options

Performance Options

Option #715	0.1% FS (RSS) Accuracy

Mechanical Options

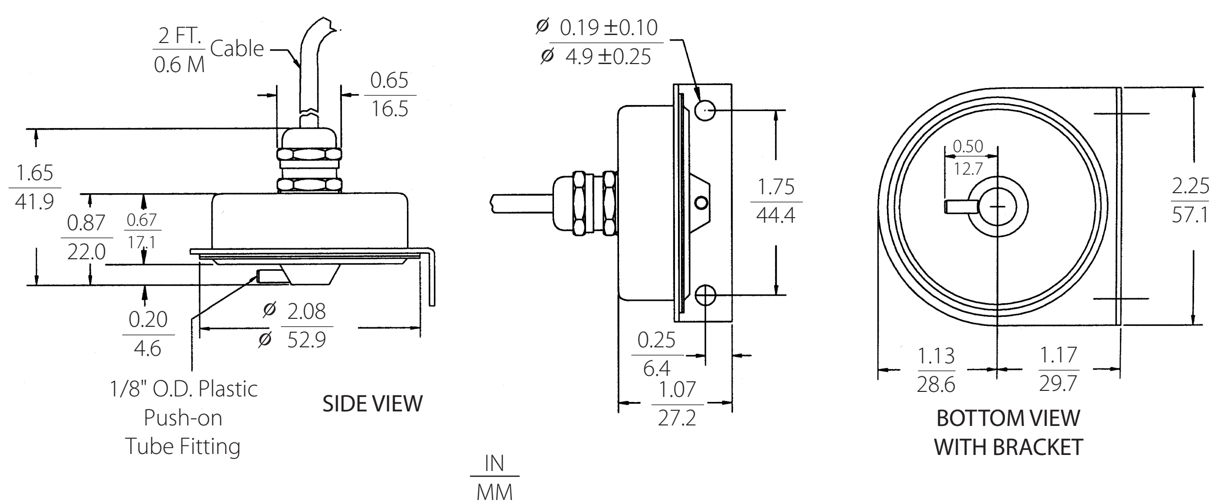
Option #803-825	Up to 25 ft. of cable can be supplied. Specify cable length when ordering (i.e., 805 for 5 ft. cable). Consult factory for cable lengths longer than 25 ft.
Option #839	1/8" NPT Pressure Connection

Calibration Certificate Option

Option #901	11-point Calibration Certificate

Specifications subject to change without notice.

Outline Drawings



SSP276 Rev.C 07/14/04

ORDERING INFORMATION

Example: Order as a Model 276, specify Pressure Range, Excitation, Electrical Output and Options.

While we provide application assistance on all Setra products, both personally and through our literature, it is the customer's responsibility to determine the suitability of the product in the application.

159 Swanson Road, Boxborough, MA 01719/Tel: 978-263-1400;
Toll Free: 800-257-3872; Fax: 978-264-0292; email: sales@setra.com

Temperature and Relative Humidity Probe

Model CS500

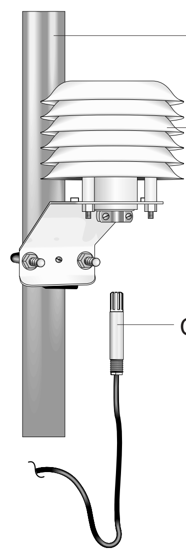
The CS500 is a modified version of Vaisala's 50Y Humitter. The CS500 measures air temperature with a 1000 ohm platinum resistance thermometer (PRT); RH is measured by a laser-trimmed INTERCAP capacitive chip. The chip is field-replaceable, as needed, and eliminates the downtime typically required for the recalibration process.

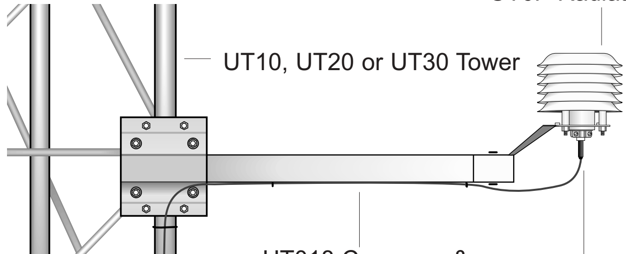
Sensor Mounts

When exposed to sunlight, the CS500 must be housed in a radiation shield. If the CS500 is mounted to a CM6/CM10 tripod or a UT10 tower, a model 41303 6-plate radiation shield is used. If the CS500 is mounted on a UT20 or UT30 tower, a UT018 Crossarm and Mounting Bracket and a UT6P 6-plate radiation shield are used.

Ordering Information

CS500-L6	6 ft lead length for use with CM6/CM10 tripods or a UT10 tower.
CS500-L9	9 ft lead length for use with a UT10, UT20 or UT30 tower and a UT018
L9598	Replacement chip for the CS500.
UT018	Crossarm and Mounting Bracket; required for mounting the CS500 to a UT20 or UT30 tower





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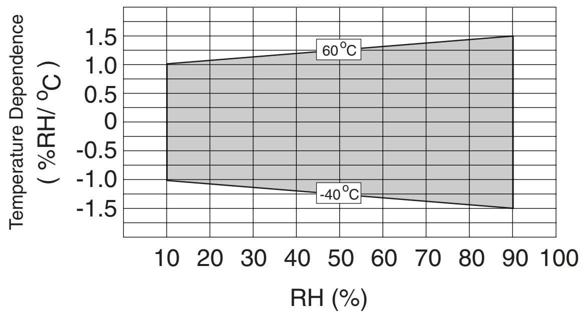
Specifications

Relative Humidity

Operating Range: 0 to 100% RH

Accuracy: 0-10% range: unspecified
10-90% range: ±3.0%
90-100% range: ±6.0%

Temperature Dependence of Relative Humidity Measurement:

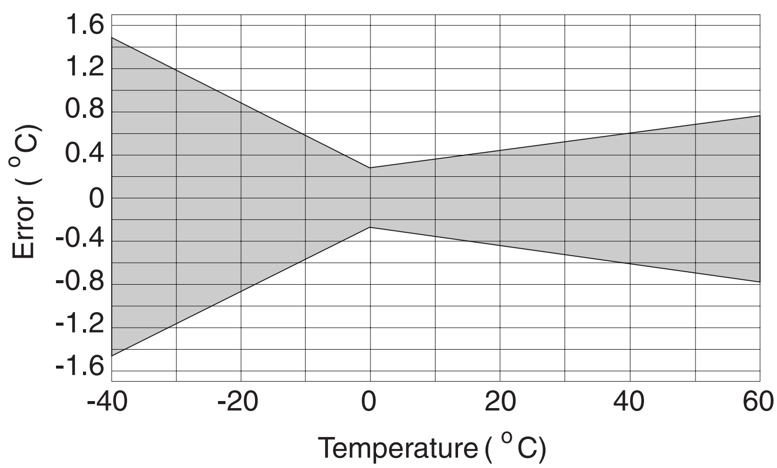


Typical Long-Term Stability: Better than ±1% RH per year

Temperature

Measurement Range: -40° to +60°C

Temperature Accuracy:



General

Supply Voltage: 7-28 Vdc (typically powered by datalogger's 12 V supply)

Current Consumption: < 2 mA typical

Diameter: 0.47" (12 mm)

Length: 2.66" (67.5 mm)

Housing Material: ABS plastic

CAMPBELL SCIENTIFIC
CANADA CORP.
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tel 780.454.2505 fax 780.454.2655
www.campbellsci.ca

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DGPS MAX

Feature-packed sub-meter GPS positioning

DGPS MAX

- Receives GPS, SBAS, OmniSTAR, and beacon signals
- Automatic dual channel SBAS tracking for more reliable reception
- Sub-meter positioning at rates of up to 5 Hz
- Raw measurement data for post-processing applications
- COAST™ technology allows use of corrections for up to 40 minutes without significant performance loss
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- User-defined profiles save receiver configurations for later use

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www.csi-wireless.com

DGPS MAX

Feature-packed sub-meter GPS positioning

GPS Sensor Specifications

Receiver Type:	L1, C/A code, with carrier phase smoothing
Channels:	12-channel, parallel tracking (10-channel when tracking WAAS)
WAAS Tracking:	2-channel, parallel tracking
Update Rate:	1 Hz default, 5 Hz max
Horizontal Accuracy:	<1 m 95% confidence (DGPS*) <5 m 95% confidence** (autonomous, no SA)
Cold Start:	1 min typical
Antenna Input Impedance:	50 Ω

L-band Sensor Specifications

Frequency Range:	1525 to 1559 MHz
Sensitivity:	-120 dBm for $<10^{-3}$ BER
Tuning Mode:	Manual or automatic
Adjacent Channel Rejection:	50 kHz spacing >25 dB, 1 MHz spacing >60 dB

Beacon Sensor Specifications

Channels:	2-channel, parallel tracking
Frequency Range:	283.5 to 325 kHz
Channel Spacing:	500 Hz
MSK Bit Rates:	50, 100, and 200 bps
Operating Modes:	Manual, automatic, semi-automatic
Cold Start Time:	< 1 minute typical
Reacquisition Time:	< 2 seconds typical
Demodulation:	Minimum shift keying (MSK)
Sensitivity:	2.5 μV/m for 6 dB SNR @ 200 bps
Dynamic Range:	100 dB
Frequency Offset:	± 8 Hz (~ 27 ppm)
Adjacent Channel Rejection:	61 dB ± 1 dB @ f_o ± 400 Hz

Communications

Serial ports:	1 full duplex, 1 RTCM input
Interface Level:	RS-232C
Baud Rates:	4800, 9600, 19200
CAN Bus:	CAN 2.0B
Correction Input / Output Protocol:	RTCM SC-104
Data Input / Output Protocol:	NMEA 0183
Raw Measurement Data:	Proprietary binary (RINEX utility available)
Timing Output:	1 PPS (HCMOS, active high, rising edge sync, 10 kΩ, 10 pF load)
Event Marker Input:	HCMOS, active low, falling edge sync,10 kΩ, 10 pF load

Environmental

Operating Temperature:	-32°C to +74°C
Storage Temperature:	-40°C to +85°C
Humidity:	95% non-condensing
EMC:	FCC Part 15, Subpart B, Class B CISPR 22

Power

Input Voltage Range:	9.2 to 48 VDC
Reverse Polarity Protection:	Yes
Power Consumption:	< 4.8 W
Current Consumption:	< 400 mA @ 12 VDC
Load Dump Protection:	Up to 86 VDC
Antenna Voltage Output:	5 VDC
Antenna Short Circuit Protection:	Yes

Mechanical

Enclosure:	Powder-coated aluminum
Dimensions:	203 mm L x 125 mm W x 51 mm H (8.0" L x 4.9" W x 2.0" H)
Weight:	0.80 kg (1.76 lb)
Display:	2-line x 16-character LCD
Keypad:	3-button
Power Switch:	Push-button
Power Connector:	2-pin miniature
Data Connector:	DB9-socket
Antenna Connector:	TNC-socket

Pin-out

Main Port

Pin 2	Transmit data (TXD)
Pin 3	Receive data (RXD)
Pin 5	Signal ground

RTCM Input Port

Pin 2	Transmit data (TXD)
Pin 3	Receive data (RXD)
Pin 5	Signal ground
Pin 6	Event marker input
Pin 9	1 PPS

CDA-3 Antenna

GPS Freq. Range:	L1 (1575 MHz ± 20 MHz)
GPS LNA Gain:	27 dB
L-band Freq. Range:	1525 to 1585 MHz
L-band LNA Gain:	28 dB
Beacon Freq. Range:	283.5 to 325 kHz
Beacon LNA Gain:	34 dB
Dimensions:	141 mm dia x 127 mm H (5.57" dia 5.00" H)
Weight:	0.478 kg (1.1 lb)
Antenna Connector:	TNC-socket
Enclosure:	polycarbonate
Mounting Thread:	1-14-UNS-2B
Input Voltage:	5.0 to 15.0 VDC
Input Current:	50 to 60 mA
Operating Temp.:	-40°C to +85°C
Storage Temp.:	-40°C to +85°C
Relative Humidity:	100% condensing

* SVs > 5, HDOP < 2, RTCM SC-104 correction data from a dual frequency reference station, short baseline, and low multipath environment.

** Dependent upon ionospheric activity and multipath

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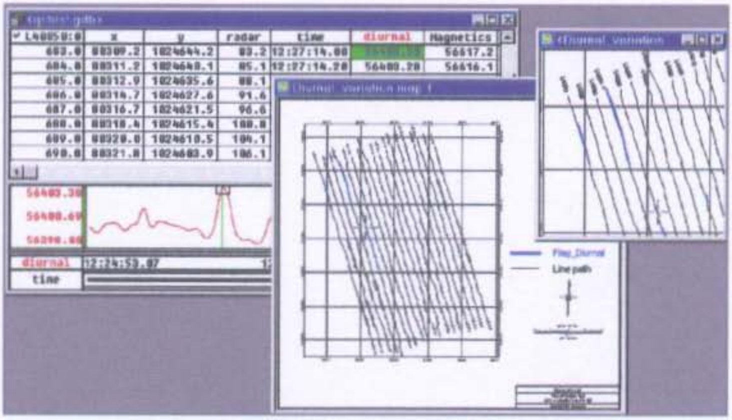
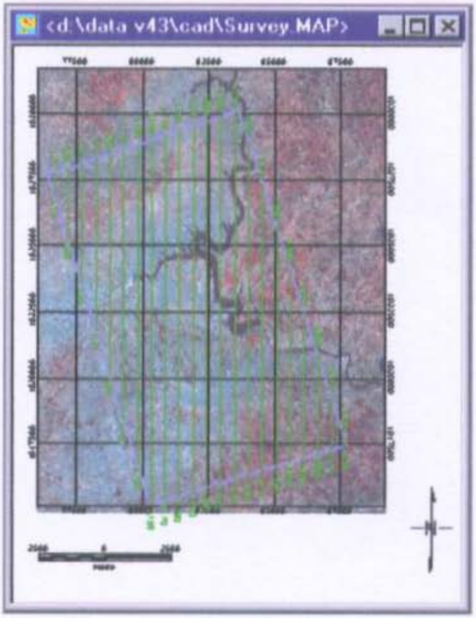
Airborne Quality Control Toolkit

product description



The Airborne Quality Control toolkit offers the productivity tools to plan an airborne survey, and meet basic tender specifications. This provides flight path planning tools, the ability to monitor the survey progress, and streamlined quality control (QC) tools. A built-in mapping wizard automatically displays QC results.

The Airborne Quality Control toolkit provides the tools to accomplish the tasks below:



- Generate flight path map of planned survey
- Display survey statistics
- Display survey line distance
- Perform altitude deviation QC test
- Perform flight path deviation QC test
- Perform flight line separation QC test
- Perform sample spacing QC test
- Perform diurnal drift QC test
- Perform magnetic noise QC test
- Map and print QC results

This tool can be added to any Geosoft application to offer you a more complete data processing and analysis solution. For more information about specialized data processing and analysis tools, please contact your local Geosoft representative.

product capabilities

This tool includes the following capabilities:

- Map Creation
- Importing
- Symbol plots
- Survey line plots
- Quality Control
- Grid Compression
- Database compression
- Coordinate Utilities and Warping

Aiborne Quality Control Toolkit capabilities

Map Creation

Map creation capabilities consist of the "Mapping Wizard" which simplifies the mapmaking process. The wizard uses a series of dialog boxes in which the user can define each specification for the map. The Mapping Wizard uses an existing grid or database to define the extent (area) and scale of the map. The first step in mapping data is to create a new map, which is a blank map with the size, scale and name defined. Once a blank map has been created, plot data, grids or other information can then be added. Map surrounds, north arrows, coordinates and titles can also be add to a map.

Importing

Oasis montaj provides seamless access to both original spatial data and processed information (grids, images and plots).

Spatial data import formats include:

- ASCII data files
- Database table files (single or all tables)
- Geosoft XYZ data files
- Geosoft binary data files
- Flat archive data files
- Blocked binary data files
- ODBC data files
- RMS data files
- Picodas PDAS data files
- USGS data files

Processed data import formats include:

- Geosoft plot (PLT)
- AutoCAD DXF (DXF)
- MapInfo TAB files
- ArcView shape files

Database Compression

Oasis montaj (v4.3 or later) features a database compression option that can reduce file size and improve the performance of Geosoft database files (*.gdb). Processing speed is improved by compressing files because the computer takes less time to read and write to disk. Power users will especially benefit from using compressed databases.

Grid Compression

Oasis montaj (v4.3 or later) features a grid compression option that can reduce the file size and improve the performance of Geosoft grids files (*.grd). Processing speed is improved by compressing files because the computer takes less time to read and write to disk. Power users will especially benefit from using compressed grids.

Symbol Plots

The symbol plotting function can draw symbols on a map at all data points along all selected lines in a database. Symbol plotting methods include adding:

- Symbols
- Proportionally scaled symbols
- Zoned colored symbols (symbols can be a fixed size, or sized in proportion to data values)
- Range classified symbols

Survey Line Plots

The survey line path plots and labels survey line locations.

Quality Control (Airborne)

Airborne Quality Control includes three main functions:

- The Flight Path Planning creates a flight line plan tailored to the shape and size of the survey area. Boundary maps of the survey area can be imported from an AutoCAD DXF file or digitized as polygon files. Planning controls specify the direction, starting reference point, and distance between flight lines for the airborne survey area. The software plots both regular flight lines and tie lines. The flight planning utility produces a database and a map of the flight lines that can be viewed, printed or exported.
- Database Statistics extends the statistical reporting tools included in the basic **Oasis montaj** system. The QC statistical tool generates and prints a statistical report for specific channels or an entire database. The statistical report provides the number of dummies, minimum, maximum, mean and total distance flown for each channel and for the whole database. The survey line distance tool displays the total distance flown for a specific flight line.
- Airborne Quality Control Tool identifies line sections that do not meet survey specifications. Examples include evaluating the diurnal variation, altitude deviation, flight path deviation, and flight line separation of each point along the flight lines to ensure they are within specification. Points that do not meet specifications are identified by a coloured symbol using a colour that corresponds to the type of error. These results are plotted to a map so that the user can visualize the sections of the survey that must be re-flown.

Warping & Coordinate Utilities

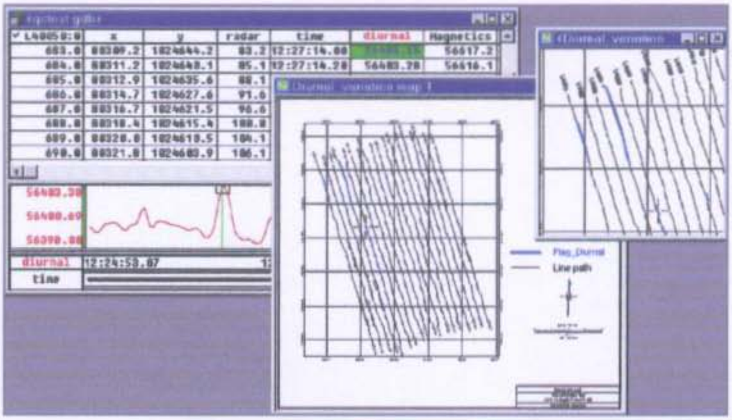
Warping is the process of re-projecting or moving data coordinates numerically, instead of using standard analytical methods for projecting to UTM, longitude/latitude and other coordinate systems. **Oasis montaj** warping defines a polygonal outline (either in a file or interactively) by defining a maximum of four control points. Then data can be warped (creating new X and Y channels) or an entire grid can be warped based on this polygonal outline.

Warping and coordinate utilities include capabilities to do the following:

- Change coordinates
- Backup current X, Y channels
- Restore backup X, Y channels
- Translate coordinates
- Rotate coordinates
- Interpolate X, Y channels
- Convert longitude, latitude to local X, Y
- Convert local X, Y to longitude, latitude
- Define a warp
- Apply a warp

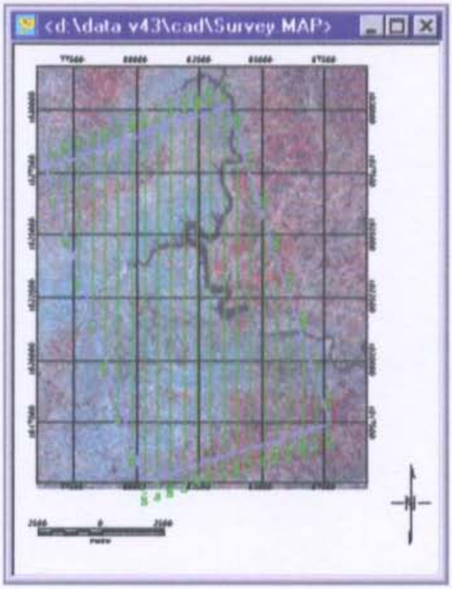
Airborne Geophysics

product description



Geosoft's **Airborne Geophysics** application for the **Oasis montaj**™ software platform provides field geophysicists with the ability to process, filter, grid, and map data from airborne geophysical surveys.

This application includes **Oasis montaj** the core software platform for working with large volume spatial data. The core software platform consists of an Interface and a Processing engine. For detailed information on the system and its capabilities, see the **Oasis montaj** Core software platform information page.



In addition to the features provided in the core platform, the **Airborne Geophysics** application provides a variety of gridding methods and 1-D filters for processing your data. Perform quality control tasks on airborne data including levelling survey lines and correcting IGRF, lag, heading, and base station errors. Several map-creation capabilities are also provided to present your processed data for interpretation.

product capabilities

The **Airborne Geophysics** application includes the following capabilities:

- Basic grid utilities
- Advanced grid utilities
- Basic 1-D Filters
- 1D Non-linear Filters
- Line levelling
- Line intersections
- Lag, heading, and base station corrections
- IGRF
- Picodas (PDAS) import
- C3NAV support
- Profile Plotting
- Symbol plotting
- Posting (label) plotting
- Contouring
- Line gridding (Bigrid)
- Minimum curvature gridding
- Tinning
- Target Picking
- Survey line plotting
- Quality Control
- Trend gridding (**GeoStrike**™ Tool)

Airborne Geophysics capabilities

Basic Grid Utilities

The following functions can be performed with the basic grid utilities:

- Display grid as a terenary image
- Display grids as two, three or four grid composites
- Grid windowing (create a grid from a window of a larger grid)
- Colour shaded grid (apply shading to create a quick shaded relief grid)
- Display statistics (display header and grid details on screen)
- Import ASCII grid
- Point grid value (the grid value at a selected location from up to four grid files)
- Grid outline (find edge points in a grid image and either save the edges in a polygon file or draw the edges on the current map)
- Sample a grid (sample a grid at specified X,Y locations and create a new channel that contains the sampled grid data)
- Grid profile (extract a data profile from a grid and place it in a new line of the current database)
- Transpose a grid by swapping the grid rows with the grid columns
- Save grid to database (import grid data into new or existing databases)
- Shaded relief grid (create a shaded relief image from a grid)

Advanced Grid Utilities

The following functions can be performed with advanced grid utilities:

- Trend enforcement (**GeoStrike**)
- Remove regional trends and gradients (remove a regional trend or gradient from a grid)
- Locate grid peaks
- Grid masking (insert placeholder values based on a polygonal area you specify in a file)
- Grid expansion and filling
- Grid volume (calculate the volume of space defined by a grid surface, above and below a base of reference)
- Grid peak (find peaks in a grid file)
- Apply a 3 X 3 convolution filter such as hanning, laplace, horizontal derivative (X direction), horizontal derivative (Y direction), horizontal derivative (45 degree direction)
- Apply a 5x5 symmetric convolution filter
- Apply a vertical derivative convolution filter
- Create and apply user defined filters
- Horizontal gradient (calculate the grid gradient amplitude in a specified direction)
- AGC (apply automatic gain compensation to a grid)
- Use Boolean operators to merge overlapping grids or display the parts of grids which overlap
- Expressions: mathematical operations such as remove base, multiply by factor, add grids, subtract grids, multiply grids, ratio grids and general expressions

Basic 1D Filters

Basic one dimensional filters are commonly used to smooth data, with or without non-linear filtering. The following are descriptions of the different 1D filters:

- High-pass filter applies a high-pass (sharpening) filter to a channel.
- Low-pass filter applies a low-pass (smoothing) filter to a channel.
- Bandpass filter applies a filter that removes features longer than the long wavelength cutoff and shorter than the short wavelength cutoff.
- Convolution filter applies space-domain averaging filter to a channel. The filter can be defined in a filter file or in a comma delimited string.
- Difference filter calculates differences between values in a channel. The common fourth difference can be calculated by specifying four differences, which is useful for identifying noise.
- Polynomial filter calculates n'th (maximum nine) order trend of a data channel by (least square) best-fit polynomial. The trend is then evaluated and placed in a new channel. An optional residual channel (input trend) may also be created.
- B-Spline filter calculates a B-spline interpolation of data in a channel. A B-spline allows you to control the smoothness of the spline and the tension applied to the ends of the spline.
- Linear Regression filter fits a least-square linear regression to a set of marked data in a channel and reports the slope and intercept.

1D Non-Linear Filters

The 1D Non-Linear Filter is ideal for removing very short wavelength, but high amplitude features from data. It is often thought of as a noise spike-rejection filter, but it can also be effective for removing short wavelength geological features, such as signal from surficial features.

The 1D Non-Linear Filter is used to locate and remove data that is recognized as noise. The algorithm is 'non- linear' because it looks at each data point and decides if that data is noise or a valid signal. If the

— continued on next page

point is noise, it is simply removed and replaced by an estimate based on surrounding data points. Parts of the data that are not considered noise are not modified at all.

Line Levelling

Statistical levelling corrects for intersection errors (miss ties) that follow a specific pattern or trend. The algorithm calculates a least-squares trend line through an error channel to derive a trend error curve, which is then added to the channel to be levelled.

The objective of full line levelling is to adjust the survey lines so that all lines match the trended tie lines exactly at each intersection that has been included in the process.

The line levelling system:

- Identifies potential errors in data sets
- Applies systematic corrections including magnetic base station, lag and heading corrections and select line direction
- Performs conventional levelling using simple (tie line and full levelling) and careful levelling methods

Line Intersections

The output intersection table file tabulates every intersection between tie lines and regular survey lines. It includes the exact ground location of the intersection point, the tie line and survey line numbers, the recorded value on each line, and the horizontal gradient of the data at that location. The line intersection system can find and edit intersection between any lines in a data set (lines can either be regular survey lines or tie lines).

Lag, Heading and Base Station Corrections

Correction routines include applying a:

- Lag correction to a channel of data by shifting the start fiducial by a specified lag amount
- Heading correction to data for a systematic shift (in the data) that is a function of the direction of travel for a survey line
- Magnetic base station correction to a magnetic channel

IGRF

The International Geomagnetic Reference Field **IGRF** or the Definitive International Geomagnetic Reference Field **DGRF** correction (field strength, inclination and declination) can be calculated from a geographic coordinate channel or a single geographic point.

Picodas import

Picodas is an airborne instrument data acquisition system that records multi-parameter airborne survey data. The system produces a set of files for each survey flight. The files include an ASCII header file and a number of binary data files that contain the data for each survey flight. The ASCII header file fully documents the contents of the binary data files and includes a list of the binary files for that flight.

C3NAV

C3Nav software corrects errors caused by the difference between recorded GPS location and the true ground loaction.

C3Nav matches the ground GPS and moving GPS readings at the same time, and uses the data only from the common set of satellites that both are observing at that time. C3Nav produces a listing file that contains the GPS time (seconds from the start of the week), and the differentially corrected location of the moving GPS receiver.

Profile Plots

The profile plotting capability features the ability to draw profiles of channel values for all selected lines in a database.

Posting Plots

Posting plots means the user can post the data values for a channel on a map.

Symbol Plots

The symbol plotting function can draw symbols on a map at all data points along all selected lines in a database. Symbol plotting methods include adding:

- Symbols
- Proportionally scaled symbols
- Zoned colored symbols (symbols can be a fixed size, or sized in proportion to data values)
- Range classified symbols

Contouring

Contouring is the capability to draw contours on a map using a specified grid.

— continued on next page

Airborne Geophysics capabilities

Line Gridding

Line gridding is the capability to create a new grid file (.GRD) using the bi-directional gridding method (BIGRID).

The BIGRID method uses a two step process:

1. Each line is interpolated along the original survey line to yield data values at the intersection of each required grid line with the observed value.
2. The intersected points from each line are then interpolated in the across-line direction to produce a value at each required grid node.

The BIGRID GX has the following capabilities:

- Unlimited line based data
- LP, HP filters
- Data presort options
- Enhanced trended gridding
- Output any grid size

Minimum Curvature Gridding

Minimum curvature gridding uses a minimum curvature gridding algorithm (RANGRID) to create a new grid file (.GRD).

The RANGRID method fits a minimum curvature surface to the data points. A minimum curvature surface is the smoothest possible surface that will fit the given data values and settings.

The RANGRID GX also has the capability to:

- Access unlimited number of input observation points
- Adjust internal tension
- Apply de-aliasing filter
- Apply linear and logarithmic gridding
- Blank un-sampled areas
- Output grids up to any size

Tinning

The Triangular Irregular Network (TIN) method, utilizes the Sweepline algorithm implemented by Steven Fortune of Bell Laboratories. The Sweepline algorithm calculates the X,Y (Z-optional) values to create a binary (*.TIN) file.

When Z values are included in the (*.TIN) file, a TIN grid can be created using the TINGRID GX. The TINGRID GX applies the Natural Neighbour algorithm (Sambridge, Brown & McQueen 1995) to the Z values in the (*.TIN) file to create a grid.

Survey Line Plots

The survey line path plots and labels survey line locations.

Quality Control (Airborne)

Airborne Quality Control includes three main functions:

1 **The Flight Path Planning** which creates a flight line plan tailored to the shape and size of the survey area. Boundary maps of the survey area can be imported from an AutoCAD DXF file or digitized as polygon files.

- Planning controls specify the direction, starting reference point, and distance between flight lines for the airborne survey area.
- The software plots both regular flight lines and tie lines. The flight planning utility produces a database and a map of the flight lines that can be viewed, printed or exported.

2 **Database Statistics** extends the statistical reporting tools included in the basic **OASIS montaj**™ system.

- The QC statistical tool generates and prints a statistical report for specific channels or an entire database. The statistical report provides the number of dummies, minimum, maximum, mean and total distance flown for each channel and for the whole database.
- The survey line distance tool displays the total distance flown for a specific flight line.

3 **Airborne Quality Control Tool** identifies line sections that do not meet survey specifications. Examples include evaluating the diurnal variation, altitude deviation, flight path deviation, flight line separation of each point along the flight lines to ensure they are within specification. Points that do not meet specifications are identified by a coloured symbol using a colour that corresponds to the type of error. These results are plotted to a map so that the user can visualize the sections of the survey that must be re-flown.

Trend Gridding (GeoStrike™)

Trend Gridding (GeoStrike™) alleviates the aliasing problem that results when there are more samples "along the lines" than across lines — a traditional problem in gridding geophysical data. This problem leads to undesirable effects including ellipsoids or ellipsoidal "beads" between lines in gridded data. The Trend Gridding (GeoStrike™) algorithm is designed to provide a solution that preserves the character of local trends while eliminating aliasing effects.

— continued on next page

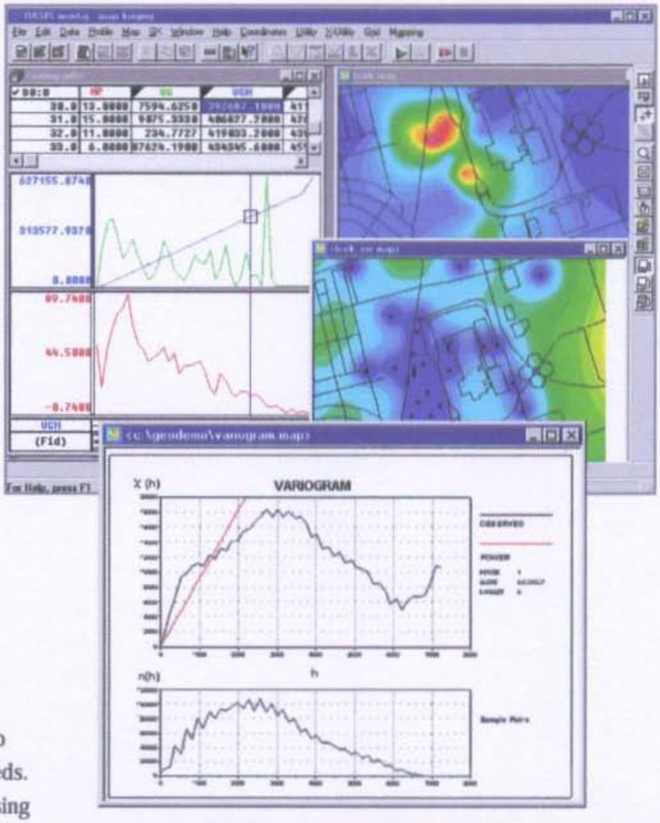
Target Picking

Two new target-picking capabilities have been added to the Geophysics application:

- The new Pick anomalies option, located on the X-Utility menu, enables the users to pick anomalies from one or multiple channels based on the channel(s) values and the amplitude of the troughs on either side of the anomaly in the channel(s) profile. The target results will be stored in a new "targets" line using the actual values of the input channel or with alphabetical or numerical numbering.
- The Select target option, located on the profile window popup menu, enables individual targets to be picked directly from the profile window. The selected targets are appended to the "targets" line and, optionally, can be plotted simultaneously to the current map using user-defined symbols.

Advanced Gridding Toolkit

product description

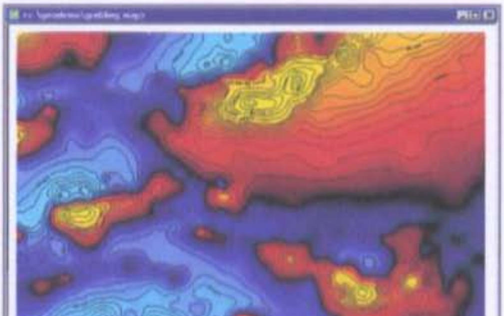


Geosoft's **Advanced Gridding Toolkit** expands your **Oasis montaj™** core system to enable advanced gridding capabilities, including four proven gridding routines and basic grid analysis methods.

The **Advanced Gridding Toolkit** enables you to interpolate data and produce a grid using any of Geosoft's four gridding routines; Minimum Curvature (Random) Gridding, Line (Bi-Directional) Gridding, TIN Gridding using the Natural Neigbours method, and Kriging. Basic grid utilities provide processing and grid enhancement tools, including:

- Grid outline
- Grid windowing
- Point grid value
- Apply shading to create a shaded relief grid
- Display and update standard grid statistics

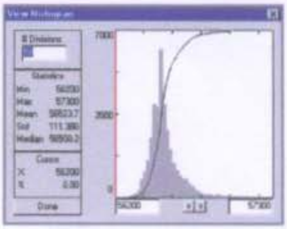
This tool can be added to any Geosoft application to meet your specific data processing and analysis needs. For more information about specialized data processing and analysis tools, please contact your local Geosoft representative.



product capabilities

This tool includes the following capabilities:

- Basic Grid Utilities
- Line gridding
- Minimum curvature gridding
- Tinning
- Kriging



Advanced Gridding Toolkit capabilities

Basic Grid Utilities

The following functions can be performed with the basic grid utilities:

- Display grid as a terenary image
- Display grids as two, three or four grid composites
- Grid windowing (create a grid from a window of a larger grid)
- Colour shaded grid (apply shading to create a quick shaded relief grid)
- Display statistics (display header and grid details on screen)
- Import ASCII grid
- Point grid value (the grid value at a selected location from up to four grid files)
- Grid outline (find edge points in a grid image and either save the edges in a polygon file or draw the edges on the current map)
- Sample a grid (sample a grid at specified X,Y locations and create a new channel that contains the sampled grid data)
- Grid profile (extract a data profile from a grid and place it in a new line of the current database)
- Transpose a grid by swapping the grid rows with the grid columns
- Save grid to database (import grid data into new or existing databases)
- Shaded relief grid (create a shaded relief image from a grid)

Line Gridding

Line gridding is the capability to create a new grid file (.GRD) using the bi-directional gridding method (BIGRID). The BIGRID method uses a two step process:

1. Each line is interpolated along the original survey line to yield data values at the intersection of each required grid line with the observed value.
2. The intersected points from each line are then interpolated in the across-line direction to produce a value at each required grid node.

The BIGRID GX has the following capabilities:

- Unlimited line based data
- LP, HP filters
- Data presort options
- Enhanced trended gridding
- Output any grid size

Minimum Curvature Gridding

Minimum curvature gridding uses a minimum curvature gridding algorithm (RANGRID) to create a new grid file (.GRD). The RANGRID method fits a minimum curvature surface to the data points. A minimum curvature surface is the smoothest possible surface that will fit the given data values and settings. The RANGRID GX also has the capability to:

- Access unlimited number of input observation points
- Adjust internal tension
- Apply de-aliasing filter
- Apply linear and logarithmic gridding
- Blank un-sampled areas
- Output grids up to any size

Tinning

The Triangular Irregular Network (TIN) method, utilizes the Sweepline algorithm implemented by Steven Fortune of Bell Laboratories. The Sweepline algorithm calculates the X,Y (Z-optional) values to create a binary (*.TIN) file.

When Z values are included in the (*.TIN) file, a TIN grid can be created using the TINGRID GX. The TINGRID GX applies the Natural Neighbour algorithm (Sambridge, Brown & McQueen 1995) to the Z values in the (*.TIN) file to create a grid.

Kriging

The Kriging Tool provides you with the capability to:

- Apply de-aliasing filter
- Apply linear and logarithmic gridding options
- Blank un-sampled areas
- Calculate a variogram from the input data channel
- Output grids up to any size
- Process unlimited number of input observation points
- Support linear, power, spherical, Gaussian, exponen-

GEOSOFT

PICO ENVIROTEC INC.

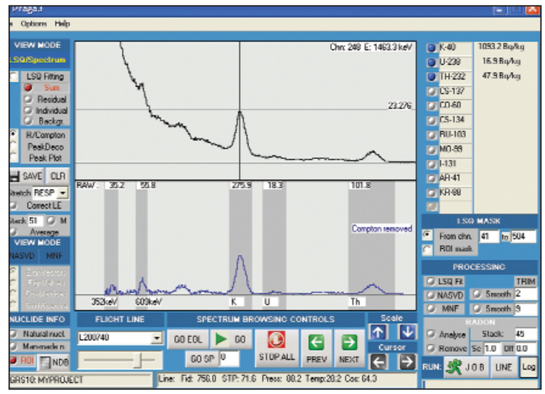
SPECTRONICA

montaj plus Praga3 Radiometrics

Feature Sheet

Praga3 Radiometrics provides an advanced solution for the mapping and processing of airborne and ground gamma-ray spectrometry data acquired by modern spectrometers using NaI(Tl) detectors.

This feature-rich, GUI-oriented software was specifically developed to perform whole spectrum gamma-ray data processing. The use of whole-spectrum information is consistent with the latest developments in the theory and instrumentation of gamma-ray spectrometry. The full-spectrum technique includes a complete system of spectrum background removal. Aircraft, cosmic and radon background components can be separately adjusted by the user with the control of experimental calibration constants.



The integration of Praga3 within Oasis montaj provides geoscientists with a complete solution, and a seamless workflow for principle component analysis and advanced full-spectrum processing.

Use of Praga3 Radiometrics

Praga3 Radiometrics is suited for high quality mineral or soil mapping applications as well as for environmental studies where monitoring of man-made radiation is required.

As Praga3 is a full-spectrum processing system, it is especially well-suited for the processing of man-made (artificial) radiation data. It uses a weighted least-squares fitting algorithm to find the contributions of individual radionuclides to the input spectra. The algorithm uses model detector responses derived by the Monte Carlo photon transport simulation code.

Key Functionality

- Spectrum browser with tools for peak identification
- Window (ROI) based processing following IAEA standards
- Advanced full-spectrum processing using least-squares fitting technique
- Principal component (NASVD or MNF) analysis and spectrum processing
- Advanced support for radon removal including extended spectral-ratio and full-spectrum techniques

Spectrum Browser

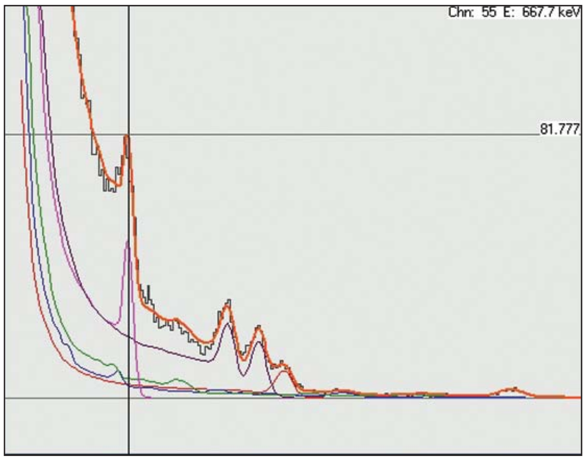
Visual control over various spectrum operations is an important feature of Praga3 Radiometrics. Using the spectrum browser, the user can view spectra, advance one spectrum at a time or to go quickly through a range of spectra. Spectra can be stacked or averaged to reduce statistical noise. Peak identification tools include Compton continuum removal, identification of individual peak positions and scatter-plot of peak positions for the selected range of spectra. Residual spectra can be displayed to assess the quality of input spectra approximation by model responses or by principal components.

Window based processing

Praga3 Radiometrics provides window based processing functionality for: background removal, stripping, live-time, altitude and sensitivity corrections. The user is required to enter correct experimental calibration constants for the actual project using a dedicated program dialog. Processing methodology adheres to industry standards recommended by the IAEA .

Advanced full-spectrum processing

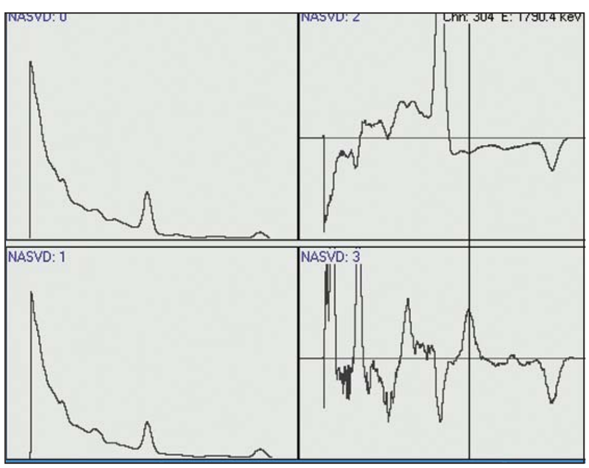
The software's full-spectrum processing was specifically designed for the processing of man-made (artificial) radiation data. It uses weighted least-squares fitting algorithm to find contributions of individual radionuclides into input spectra. The Praga3 technique uses model detector responses derived by the Monte Carlo photon transport simulation code.



New model responses allow for the contribution of the secondary radiation and for the peak resolution to fit characteristics of the real spectrometer system. Using these detector responses, **Praga3** is able to process spectrum information from 0.2 to 3.0 MeV. Background removal for aircraft, cosmic and radon background components can be separately adjusted by the user with the control of experimental calibration constants.

Principal component (NASVD and MNF) analysis

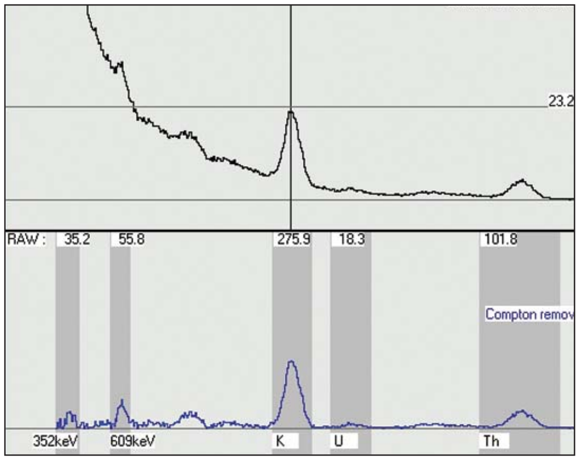
Praga3 Radiometrics provides principal component analysis tools for the investigation of spectrum signatures included in the actual dataset. The spectrum dataset is converted into a limited set of spectrum components (eigenvectors) which are ordered by variance (NASVD) or by signal to noise ratio (MNF). NASVD expects noise to be Poisson distributed, while MNF computes a noise model directly from the data.



Higher order components can be explained as mixed nuclide responses collected at average survey altitude. They are followed by components that account for the altitude changes.The remaining components contain statistical and instrumental noise.

Principal components can be used for gamma-ray data processing. The approach is very similar to the spectrum fitting technique. However, instead of model responses, a subset of spectrum components, derived directly from data, is used to replace the input spectrum.

Using Praga3 Radiometrics, the eigenvalue plot can be displayed. Users can browse through the individual components (eigenvectors) to investigate their shape. Covariance matrices can be displayed as well. Spectra can be interactively composed from the selected number of components and compared with input spectra or alternatively, residual spectra can be displayed. Once the eigenvectors are computed, there is no need to compute them again, for subsequent re-processing of data with another subset of components.



Advanced support for radon removal

Radon removal can be completed using the extended 'spectral-ratio' or full spectral technique. The window based, 'spectral-ratio' method compares count rates of low and high-energy uranium peaks. The full-spectrum technique uses the full spectrum difference in responses of the radon and ground uranium sources. The window based 'spectral-ratio' method has the option to use low-energy ^{214}Pb (0.352 MeV) photopeak instead of commonly used ^{214}Bi (0.609 MeV) photopeak. This approach is beneficial in areas with substantial ^{137}Cs fall-out (Northern hemisphere) or for data with extreme Th/U ratio.

Interactive mode

Praga3' Radiometric's GUI oriented software enables analysis and interactive control of the dataset prior the final processing. Using the spectrum browser, spectra can be investigated on spectrum-by-spectrum basis, and the proper function of the spectrum-fitting or principal component process can be assessed. Spectra displayed can be saved in an ASCII file.

Processing mode

Actual processing is done using a special processing mode where the spectrum display is disabled to speed-up processing tasks. All tasks needed for a given project including standard window, full-spectrum fitting, principal component analysis and processing can be done within the single processing run. Data output has range of options, there is a choice of relative (window count rate) or absolute (activity, exposure and dose rates) units for all, window, spectrum-fitting and principal component/window techniques. In addition, results can be multiplied and offset by user defined constants if it is required. Output is currently provided in the form of ASCII delimited files.

The Pico-Radiation-Air-to-Ground-Algorithm (PRAGA3) software was developed by Pico Envirotec and Spectronica. Geosoft licenses Praga3 Radiometrics as a montaj plus™ extension to Oasis montaj.

GEOSOFT

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FIELD DATA PROCESSING WORKSTATIONS

Our Field Data Processing Workstations (FWS) are dedicated PC-based microcomputer systems for use at the technical base in the field. The workstations are designed for use with Geosoft OASIS, MPS and MONTAJ, ENCOM, and other data processing software, as well as in-house developed software and utilities.

The FWS has a data replot capability, and may be used to produce pseudo analog charts from the recorded digital data within less than 12 hours after the completion of a survey flight, if this is necessary. It is also capable of processing and imaging all the geophysical and navigation data acquired during the survey, producing semi-final, preliminary-levelled maps in either black-line contours on Mylar or full colour contours on paper.

FWS FEATURES

- **Portability** - the workstations can be packaged and transported to the field with a minimum of effort
- **Digital Data Verification** - flight data quality and completeness can be assured by both statistical and graphical means
- **Flight Path Plots** - flight path plots can be quickly generated from the GPS satellite data to verify the completeness and accuracy of a day's flying
- **Versatility** - the FWS can be used in both the field and the office. Data pre-processed in the field can be up-loaded to the computers at the Data Processing Centre to speed data turnaround.
- **QC and Preliminary Maps** - the software will permit preliminary maps of the magnetic and gamma-ray spectrometer data to be quickly and efficiently created in the field, providing a quick and efficient method to undertake QC Verification of newly acquired data.

THE HARDWARE

The workstations are PC-compatible PENTIUM microcomputers with a 2GHz or faster processor, 512 MB of memory, a large capacity hard disk drive, an extended VGA graphics card with VGA monitor and a colour inkjet plotter for generating maps and/or profiles, and ZIP, JAZZ and writeable CD-ROM drives to backup data.

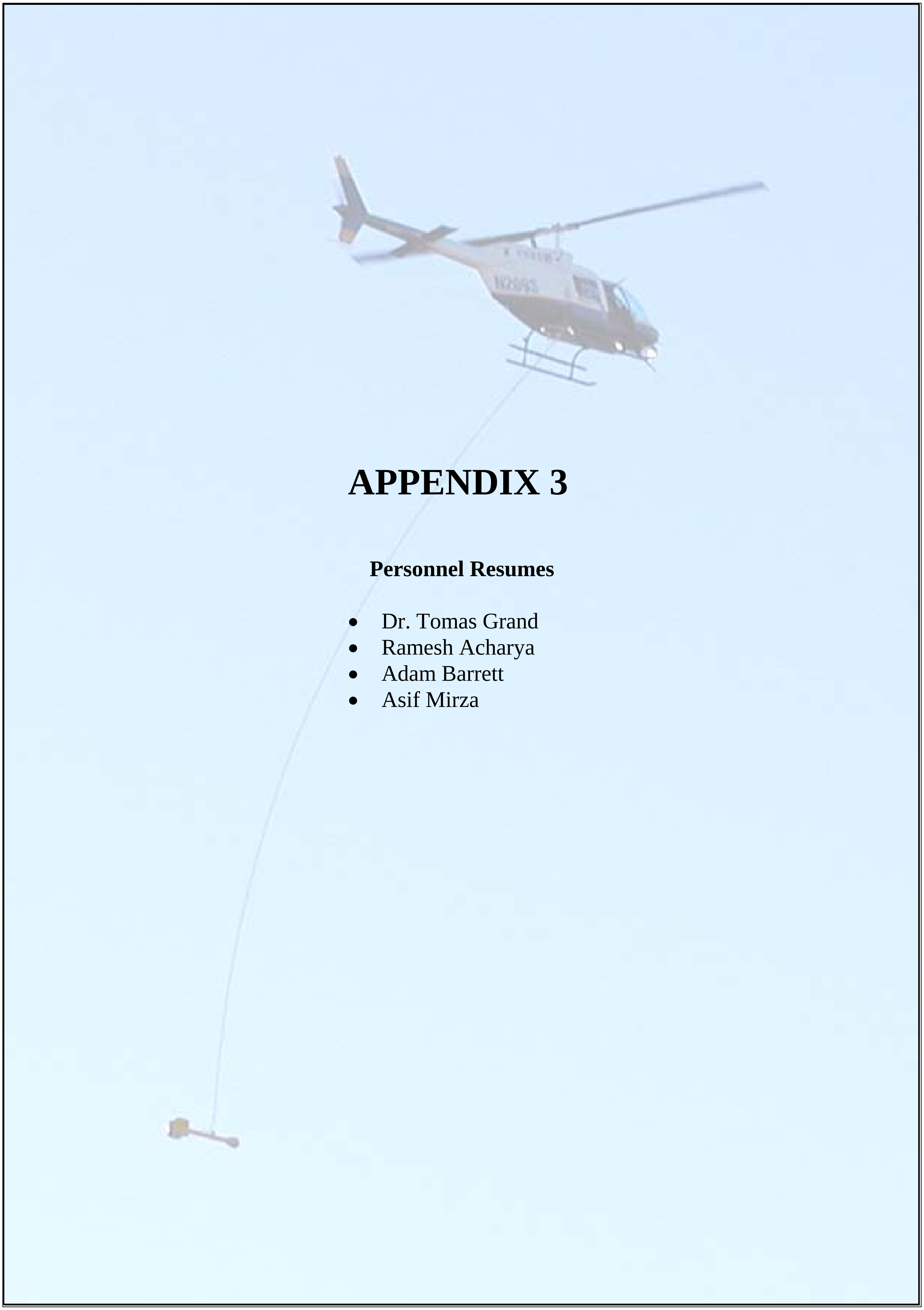
THE SOFTWARE

The FWS software enables the user to read the FLASH cards, ZIP cartridges or PCMCIA removable hard disks from the airborne system, check the data for gaps, spikes or other defects and permits editing where necessary.

The base station GPS/magnetometer data is checked and edited, and where necessary merged with the airborne data. Post-survey differential GPS corrections are made using either C^{3}NAV and/or WAYPOINT software. GPS flight path plots may be created and plotted. Multi-channel stacked profiles of the recorded and edited data may be produced on the dot-matrix printer.

The Software includes:

- Geosoft OASIS/Montaj Airborne Processing Software
- PC-based airborne data compilation and binary database system for in-field processing and compilation of large volumes of time or fiducial based airborne data
- Proprietary data for processing HEM data
- GrafNAV GPS processing/differential GPS correction software
- McPhar's proprietary software and utilities
- General Utility software (WINDOWS 200 PRO, Norton Utilities, Norton Anti-virus, Xtree Gold, LapLink, etc.)



APPENDIX 3

Personnel Resumes

- Dr. Tomas Grand
- Ramesh Acharya
- Adam Barrett
- Asif Mirza

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RÉSUMÉ

Name:	Tomas Grand
Profession:	Chief Geophysicist
Education:	Dr. (Ph.D.), Geophysics (1988) Comenius University, Bratislava, Czechoslovakia

Experience:

2005 — **McPhar Geosurveys Ltd., Newmarket, Ontario, Canada - Chief Geophysicist -** supervising all geophysical activities of the company, including research and development of instrumentation and software; training and workshops, data processing, interpretation and reporting. Project Management and QC of field surveys.

2003 to 2005 — **Senior Geophysicist/Projects Manager, McPhar Geosurveys Ltd., Newmarket, Ontario, Canada -** responsible for processing of airborne geophysical data in the field; on-site quality control (QC) of acquired geophysical data; installation of ground base station geophysical instruments; operational logistics and client liaison report writing.

1995 to 1996 — **Aero Surveys Inc., Uxbridge, Ontario, Canada – Geophysicist** – field QC and data processing on HEM/MAG surveys, Voisey's Bay, Labrador.

1994 to 2003 — **Zebra Earth Sciences Ltd**., **Vice-President and Geophysicist -** an agency based in Czech Republic providing geotechnical services and representing several Canadian manufacturers of geotechnical equipment. Since 2000 associated with AEA Technology PLC of U.K., acting as training manager and consultant for EU geological and environmental projects conducted in Central and Eastern Europe. Various projects, surveys and/or processing and interpretation of geophysical data; mineral exploration, coal exploration, geothermal energy exploration, engineering and environmental geophysics, undertaken in Europe, North and Central America, Asia.

1988 -1994 — **Geofyzika Brno (in 1992 transformed to Geocomplex a.s. Bratislava, Slovakia) - Senior Geophysicist, Project Manager**. Responsible for managing and conducting of gravity surveys, data processing, interpretation and development of geophysical software for mineral exploration, coal exploration, oil and gas exploration, regional geology studies and geotechnical surveys

Languages: English, German, Russian, Slovak

Relevant Work Experience (geophysical surveys and training/ data processing of geophysical data) :

Gravity

Responsible for managing and conducting of more than 50 gravity surveys, data processing, interpretation (mineral exploration, coal exploration, oil and gas exploration, geothermal energy exploration, geotechnical and environmental projects) - surveys in Czech and Slovak Republics, Turkey, United Arab Emirates, Mexico, Thailand.

Induced Polarization/Resistivity

Surveys in Thailand, Philippines, Slovak Republic, U.A.E. Training programs conducted in Philippines Yemen, Costa-Rica, Mexico.

Magnetics

Mineral exploration, environmental and geotechnical surveys conducted in Czech and Slovak Republics, Philippines

Ground and Airborne Data Processing

Responsible for managing and conducting of data processing (gravity, ground and airborne magnetic/EM/radiometric, IP/Resistivity and GPR data) in various projects undertaken in Czech and Slovak Republics, Denmark, Mexico, Canada, South-eastern Asia, Russia, Turkey, U.A.E., Mexico.

Data processing and data interpretation training programs undertaken in Europe, Canada, USA, Costa Rica, Mexico, Yemen, Turkey and Saudi Arabia.

Major Clients for whom the surveys and geophysical/geological compilations have been performed include:

Geological Survey of Slovakia, Ministry of Environment of Slovakia, H&O Consulting (Denmark), AEA Technology plc. (U.K), European Commission, Geonika, G-Impulz Inset and GHE (Czech Republic), TIMCO (U.A.E), RTZ Mining, KACST (Saudi Arabia), Ministry of Agriculture of Yemen, Ban Pu Coal (Thailand), Birlik Co. Ltd (Turkey), Pemex (Mexico), Scintrex Ltd., Geosoft Inc., Quantec, GEM Systems, Inc (Canada)

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WebSite: www.mgssurveys.com

RÉSUMÉ

NAME: G. Ramesh Acharya

PROFESSION: Geophysicist

EDUCATION: M.Sc.(Tech) Geophysics from Center of Exploration Geophysics, Osmania University , Hyderabad , India (First class with distinction).

TRAINING:

i) Airborne geophysical data processing on Geosoft Oasis Montaj DPA platform, image processing & GIS with ERMapper, PICODAS airborne geophysical data acquisition system software, SCINTREX, Ontario, CANADA for 18 weeks (7/1998-11/1998) and a refresher training course by SCINTREX experts for 6 weeks (1/2000 – 2/2000) at Bangalore, India.

ii) Intensive course on methods of geophysical data interpretation - at GSI training institute, Hyderabad, India for 6 weeks in 1994.

iii) Training on Arc GIS by NIIT-GIS, Bangalore from 9/2004

WORK EXPERIENCE:

2005 - **Alcock, McPhar, Geotech (Pvt) Ltd., Kolkata, India (subsidiary office of McPhar), Senior Geophysicist/Data Processor - -** responsible for processing and interpretation of airborne geophysical data in the field and office; on-site quality control (QC) of acquired geophysical data; installation of ground base station geophysical instruments; operational logistics and client liaison report writing.

1989 - 2004 **Airborne Mineral Surveys & Exploration Wing, Geological Survey of India, Bangalore, India, Senior Geophysicist -** responsible for processing of airborne geophysical data in the field and at AMSE's data processing centre in Bangalore. Performed on-site quality control (QC) of acquired geophysical data; installation of ground base station geophysical instruments; operational logistics reports. Performed detailed geophysical and geological interpretation of airborne geophysical data.

PROFESSIONAL EXPERIENCE:

- 16 years of continuous experience in airborne geophysics.
- Management of all phases of numerous airborne magnetic and/or EM/magnetics/ radiometric programs in India

- Familiar with a wide variety of processing, interpretation and mapping software, including Geosoft MONTAJ, ERMapper, ArcGIS.

PUBLICATIONS:

- Structural features of Bundelkhand Granite Complex delineated by aeromagnetic expression around Jhansi, Madhya Pradesh, India by D.Ghosh and G.Ramesh Acharya. (paper accepted for publication in Journal of Geological Society of India)

- Prognostication for Kimberlite Clan Rocks in Kandakur-Raichur-Mantralayam area from airborne magnetic and radiometric maps by C.Ramachandran, G.S.R.Umasankar, Ch.V.V.S.Murty, G.Ramesh Acharya, H.Rajaram and P.Ramasastry. Geol. Surv.India spl. Publication no.75,2002.pp: 97-110

- Aeromagnetic anomaly interpretation and correlation with geological features of central India by H.M.Ramachandra, M.P.Mathew, G.Ramesh Acharya, H.C.Gouda and R.K.Singh. Geol. Surv.India spl. Publication no.64,2001.pp: 163-176

- Report on interpretation of multisensor airborne geophysical anomaly maps of block CHB-II, Chattisgarh basin and adjoining areas, M.P. & Orissa, India by A.U.S.Sarma, G.Ramesh Acharya. Unpublished GSI report, Dec 1999, F.S.1998-99.sl.no. 19

LANGUAGES:

English, Hindi

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RESUMÉ

NAME: Adam Barrett

PROFESSION: Technician/Operator

EDUCATION: Conestoga College of Technology, Computer Science 1989 - 1992
University of Western Ontario, Geophysics

WORK EXPERIENCE:

2005 - **McPhar Geosurveys Ltd., Operator/Geophysical Technician**

- Maintaining and operating airborne geophysical systems in the field
- In-field Quality Control and preliminary data processing
- GEOSOFT and in-house software applications used for data analysis and presentation (gridding, leveling, contour/TMI maps)
- experienced in operating fixed-wing magnetometer and multi-sensor systems.

2003 – 2005 **Waste Management, Houston, Texas, USA – Logistics Analyst**

- Routing and logistics analyst for major North American reroute
- Collaborated on an initiative to provide monthly cost savings to Southwest Ontario market
- Utilize proprietary web based GIS routing application for statistical data analysis
- GPS data tracking/cleansing (hardware/software), driver evaluations, vehicle inventory
- Scheduling changes/container upgrades, benchmark analysis (KPI’s)
- Work with region/district/city officials to implement new routing strategy
- Lead Commercial/Residential routing education/training classes

2002 – 2003 **Franklin County, Pasco, Washington, USA – Logistics Analyst**

- County map maintenance for 911 Computer Aided Dispatch system
- Create and maintain database information for street centerlines, Census Bureau records and data sets related to E911 operation such as deployment plans, equipment lists and unit information (Master Street Address Guide)
- Provide instruction and documentation for dispatchers in the E911 situation room on modifications and upgrades
- Utilize Intergraph’s I/CAD software suite as well as GEOMEDIA to enhance information interchange with GIS department i.e. anomalies in accordance with county address policies
- Experience with RDBMS (Oracle, ACCESS), schema organizations across NT platform
- Map verification/graphic linkages confirmed with both MICROSTATION and Intergraph’s integrated CADTOOLS software
- Diagnostic troubleshooting of GPS systems on board county owned Police and Emergency response vehicles

1999 – 2002 **Schlumberger, Calgary, Alberta - Geophysical Technician**

- Implementation of VTS (Vehicle Tracking System) for seismic crews working in the Arctic
- Documenting and maintaining equipment distribution databases for over 100 vehicles
- Configuration of RACAL GPS receivers and associated components receiving Real-time differential corrections across a VHF network
- Field Support/Installation/Troubleshooting ALL components
- Configure interface of seismic Vibrators with 'corrected' GPS data for Center of Gravity analysis
- Custom developed software installation for use on Windows NT operating systems as well as for mounted Palm Pilots and portable laptops
- Map verification and GPS data integration using MAPINFO, AutoCAD including importing/exporting files, JPEG/TIF layer editing and database management
- Geo-referencing, spatial analysis for delivery of final hard-copy reporting, maps and graphs to be referenced within seismic vehicles
- Working principally autonomously within measured cost/time constraints in remote locations
- Initiated field staff procedure/operational training through user guides and classroom participation; familiar with Datum translations, map projections, coordinate systems

1997 - 1999 **Spectra Exploration, Calgary, Alberta – Technician/Operator/Dataman-**

- Field project coordinator for Airborne Surveys throughout Canada and U.S.
- Installation/calibration/operation of aircraft Magnetometers and Spectrometers for data acquisition system
- Working with various map coordinate systems and datum translations for integration with operating software (pre/post flight planning/recovery using topographic and photo mosaic maps)
- GEOSOFT and in-house software applications used for data analysis and presentation (gridding, leveling, contour/TMI maps)
- Euler Deconvolution for anomaly depth/location analysis
- Experience with GPS navigational software/hardware including Novatel and Ashtech receivers (including real-time differential)
- Board level repairs and maintenance
- Development of in-house training procedures and related documentation

1995 – 1997 **Scintrex Ltd, Toronto, Ontario - – Technician/Operator/Dataman-**

- Participation in Airborne Surveys throughout Canada, U.S, South America and Mexico
- Experience as listed in aforementioned job description including unique involvement in Pipeline Detection Surveys
- In-field processing using GEOSOFT and related PICODAS software.

1993 – 1995 **Tech-Know, Toronto, Ontario**

- Provider of hardware/software solutions for personnel and business applications
- System setup and configuration in both a single and multi-user environment
- Network installations (LAN,WAN) and development of custom written RDMS
- Experience on DOS, Windows and UNIX operating systems and various industry applications including FOXPRO, AutoCAD and Visual Basic

LANGUAGES: English, some Spanish

McPhar Geosurveys Ltd.
1256B Kerrisdale Blvd., Newmarket
Ontario, Canada L3Y 8Z9
Tel: (905) 830-6880, Fax: (905) 898-0336
E-Mail: info@mgssurveys.com
WebSite: www.mgssurveys.com

RÉSUMÉ

NAME: **ASIF M. MIRZA**

PROFESSION: **Geophysicist**

EDUCATION:

- M.Sc., Applied Environmental Measurement Techniques, Chalmers University of Technology, Sweden
- M.Sc., Applied Geophysics, Dept. of Earth Science, Quaid-I-Azam University, Islamabad, Pakistan
- B.Sc., Applied Geology, Institute of Geology, University of the Punjab, Lahore, Pakistan

TRAINING:

Internship

- Seismic Data Processing, OGDCL, Islamabad, Pakistan

Technical Courses

- Evaluation of Aggregates as constructional material, Course arranged by the Kent State University, Ohio, USA and Institute of Geology, University of the Punjab, Lahore, Pakistan
- Course on Geographical Information System (GIS), Course arranged by the National University of Science and Technology, Islamabad, Pakistan
- Course on Seismic Stratigraphy and Tectonics (Basin Analysis and Computer Modelling), Course arranged by Petroleum Geology Investigators ApS, Copenhagen, Denmark and the Dept. of Earth Sciences, Quaid-i-Azam University, Islamabad, Pakistan
- Well Logging interpretation, course arranged by Petroleum Geology Investigators ApS, Copenhagen, Denmark and the Dept. of Earth Sciences, Quaid-i-Azam University, Islamabad, Pakistan

PROFESSIONAL EXPERIENCE:

2004 McPhar Geosurveys Ltd, Newmarket, Ont, Canada - Geophysicist

- Airborne geophysical field data management and preliminary processing, of different projects, using Geosoft Oasis Montaj
- Quality control decisions of survey data within the specification laid down with clients and McPhar's standards
- Gridding, contouring and leveling of magnetic and electromagnetic geophysical data to produce profiles and contours maps
- Set up and operate ground base station system, comprising magnetometer and GPS system
- Producing of backup CD-ROM's of the processed data for forwarding to clients via internet or company network site
- Making final reports of the processed geophysical data for clients

2000 – 2001 SEFEC (Pvt.) Ltd, Karachi, Pakistan - Field Geophysicist

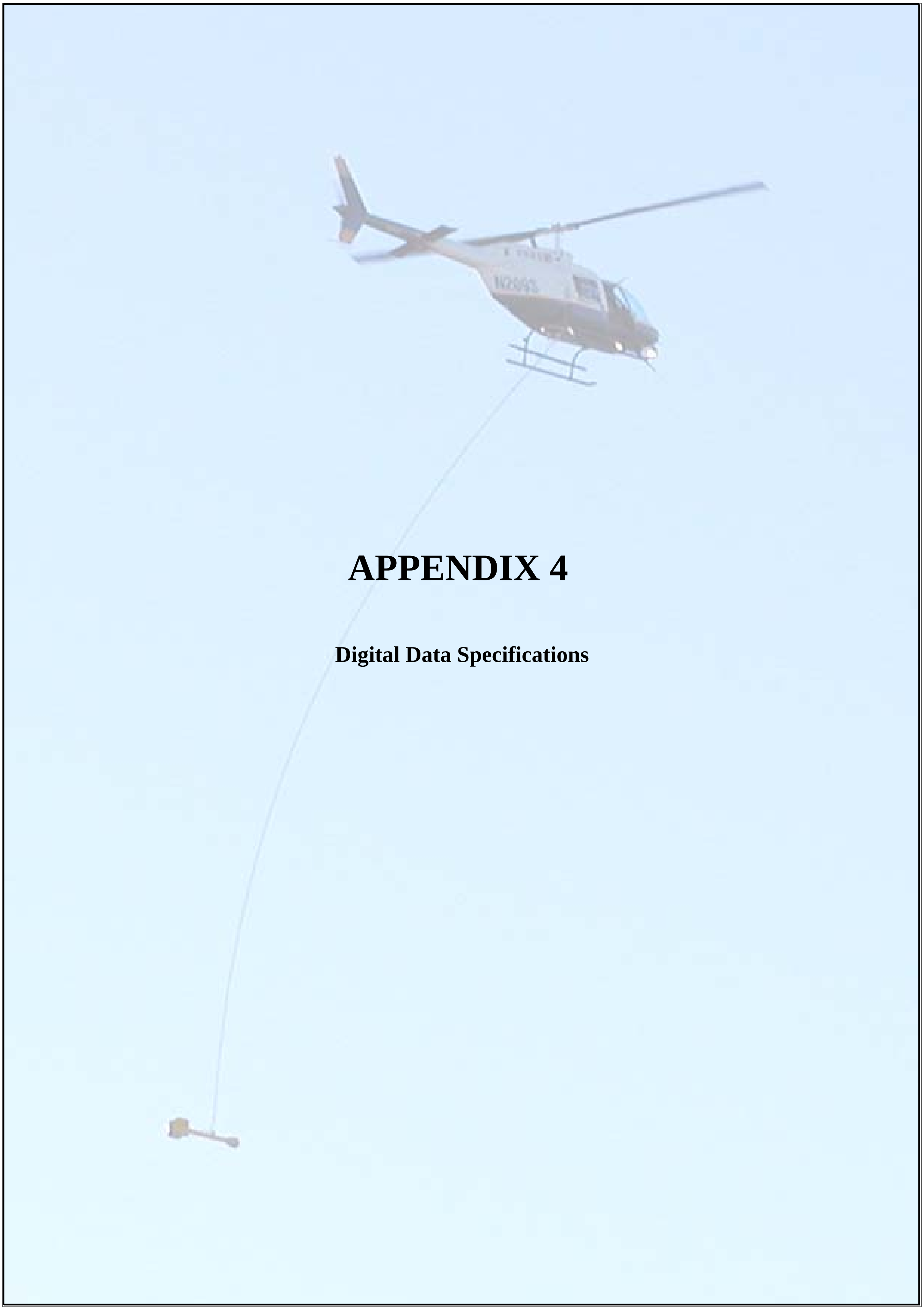
- Seismic reflection data acquisition with the help of dynamite in Attock Area, Pakistan
- Seismic reflection data recorded in the field using well-defined field parameters, i.e. source and spread configuration
- Seismic spread and geophone arrays designed using walk away test and spectral analysis
- Performed field seismic data processing Attock Area, Pakistan

HIGHLIGHTS OF QUALIFICATIONS:

- Experience as a field geophysicist
- Airborne geophysical data management and processing
- Seismic reflection data processing experience in Geophysical Investigations for the demarcation of overburden from the bedrock and concerning oil resources
- Extensive experience in 2-D seismic reflection data interpretation
- Experience in seismic data interpretation with the help of Seismic Straitigraphy, Borehole logging, Gravity and Resistivity methods
- Data acquisition with the help of different environmental instruments
- Research about new environmental issues
- Risk assessments and cost estimates related to environmental clean up
- Evaluation of groundwater potential along sea shoreline, environmental investigations, remedial activities
- Master’s in Environmental Science, Master’s in Geophysics and Bachelor of Applied Geology
- Knowledge and work experience of the software's, Geosoft Montaj, DOS, Windows XP/NT/2000, M.S.Office, Corel DRAW 9, Arc view GIS

LANGUAGES

- English, Urdu, Hindi and Punjabi



APPENDIX 4

Digital Data Specifications

McPhar Geosurveys Ltd.

Digital File Organization

Directory Structure:

Digital data is arranged on the DVD_ROM in the following structure:

Report:

Report

- Signet Minerals_Final_Report.pdf

Appendices

- Appendices.pdf

Appendix 1: System Tests and Reports

- Altimeter Calibration Test
- Barometric Calibration Test
- Cosmic Attenuation Coefficient Calibration Tests
- Summary of Processing Coefficients used in the reduction of Spectrometric Data
- PAD Calibration
- Sensitivity Factors
- Spectrometer Test Line Statistics
- Flight Logs
- Daily Reports

Appendix 2: Technical Information

- Pico-Envirotec GRS 410 Gamma Spectrometer
- Pico-Envirotec AGIS Data Acquisition System
- Terra TRA-3000 / TRI-30 Radar Altimeter
- Stra Model 276 Barometric Pressure Transducer
- Campbell Temperature and Relative Humidity Probe
- CSI-Wireless DGPS Max positioning system
- Geosoft Montaj Processing Software
- Geosoft Montaj Plus Praga 3 Radiometrics
- Field Data Processing Workstations

Appendix 3: McPhar Personnel Resumes

- Dr. Tomas Grand
- Ramesh Acharya
- Adam Barrett
- Asif Mirza

Appendix 4: Digital Data Specifications

Appendix 5: Page Sized Maps of Three Blocks

- Differentially Corrected GPS Flight Path
- Digital Terrain Model Calculated from survey data (DTM)
- Calculated Dose rate from Total Count
- Apparent Concentration of Uranium
- Apparent Concentration of Thorium
- Apparent Concentration of Potassium
- Uranium/Potassium Ratio Map
- Uranium/Thorium Ratio Map
- Thorium/Potassium Ratio Map
- Ternary Radio Element Map

Geosoft Grid Files for Three Blocks:

- **DTM.grd**- Digital Terrain Model Calculated from survey data (DTM)
- **TCdoserate.grd**- Calculated Dose Rate from Total Count
- **Ucon.grd**- Apparent Concentration of Uranium (eU)
- **Thcon.grd**- Apparent Concentration of Thorium (eTh)
- **Kcon.grd**- Apparent Concentration of Potassium (K %)
- **THKratio.grd –** Thorium ratio Potassium (Th/K)
- **UKratio.grd –** Uranium ratio Potassium (U/K)
- **UTHratio.grd –** Uranium ratio Thorium (U/Th)

Packed Geosoft Map Files:

BGG Block:

- **Beta Gamma Geiger_FP.map** - Differentially Corrected GPS Flight Path
- **Beta Gamma Geiger_DTM.map** - Digital Terrain Model Calculated from survey data (DTM)
- **Beta Gamma Geiger_TC.map** – Calculated Dose Rate from Total Count (TC)
- **Beta Gamma Geiger_U.map** - Apparent Concentration of Uranium (U)
- **Beta Gamma Geiger_Th.map** - Apparent Concentration of Thorium (Th)
- **Beta Gamma Geiger_K.map** - Apparent Concentration of Potassium (K)
- **Beta Gamma Geiger_ThratioK.map** - Thorium/Potassium Ratio Map (Th/K)

- **Beta Gamma Geiger_UratioK.map** - Uranium/Potassium Ratio Map (U/K)
- **Beta Gamma Geiger_UratioTh.map** - Uranium/Thorium Ratio Map (U/Th)
- **Beta Gamma Geiger_Ternary.map** – Ternary Radio Element Map

Curie Block:

- **Curie_FP.map** - Differentially Corrected GPS Flight Path
- **Curie_DTM.map** - Digital Terrain Model Calculated from survey data (DTM)
- **Curie_TC.map** – Calculated Dose Rate from Total Count (TC)
- **Curie_U.map** - Apparent Concentration of Uranium (U)
- **Curie_Th.map** - Apparent Concentration of Thorium (Th)
- **Curie_K.map** - Apparent Concentration of Potassium (K)
- **Curie_ThratioK.map** - Thorium/Potassium Ratio Map (Th/K)
- **Curie_UratioK.map** - Uranium/Potassium Ratio Map (U/K)
- **Curie_UratioTh.map** - Uranium/Thorium Ratio Map (U/Th)
- **Curie_Ternary.map** – Ternary Radio Element Map

Pike Block:

- **Pike_FP.map** - Differentially Corrected GPS Flight Path
- **Pike_DTM.map** - Digital Terrain Model Calculated from survey data
- **Pike_TC.map** – Calculated Dose Rate from Total Count (TC)
- **Pike_U.map** - Apparent Concentration of Uranium (U)
- **Pike_Th.map** - Apparent Concentration of Thorium (Th)
- **Pike_K.map** - Apparent Concentration of Potassium (K)
- **Pike_ThratioK.map** - Thorium/Potassium Ratio Map (Th/K)
- **Pike_UratioK.map** - Uranium/Potassium Ratio Map (U/K)
- **Pike_UratioTh.map** - Uranium/Thorium Ratio Map (U/Th)
- **Pike_Ternary.map** – Ternary Radio Element Map

Databases:

Geosoft gdb files:

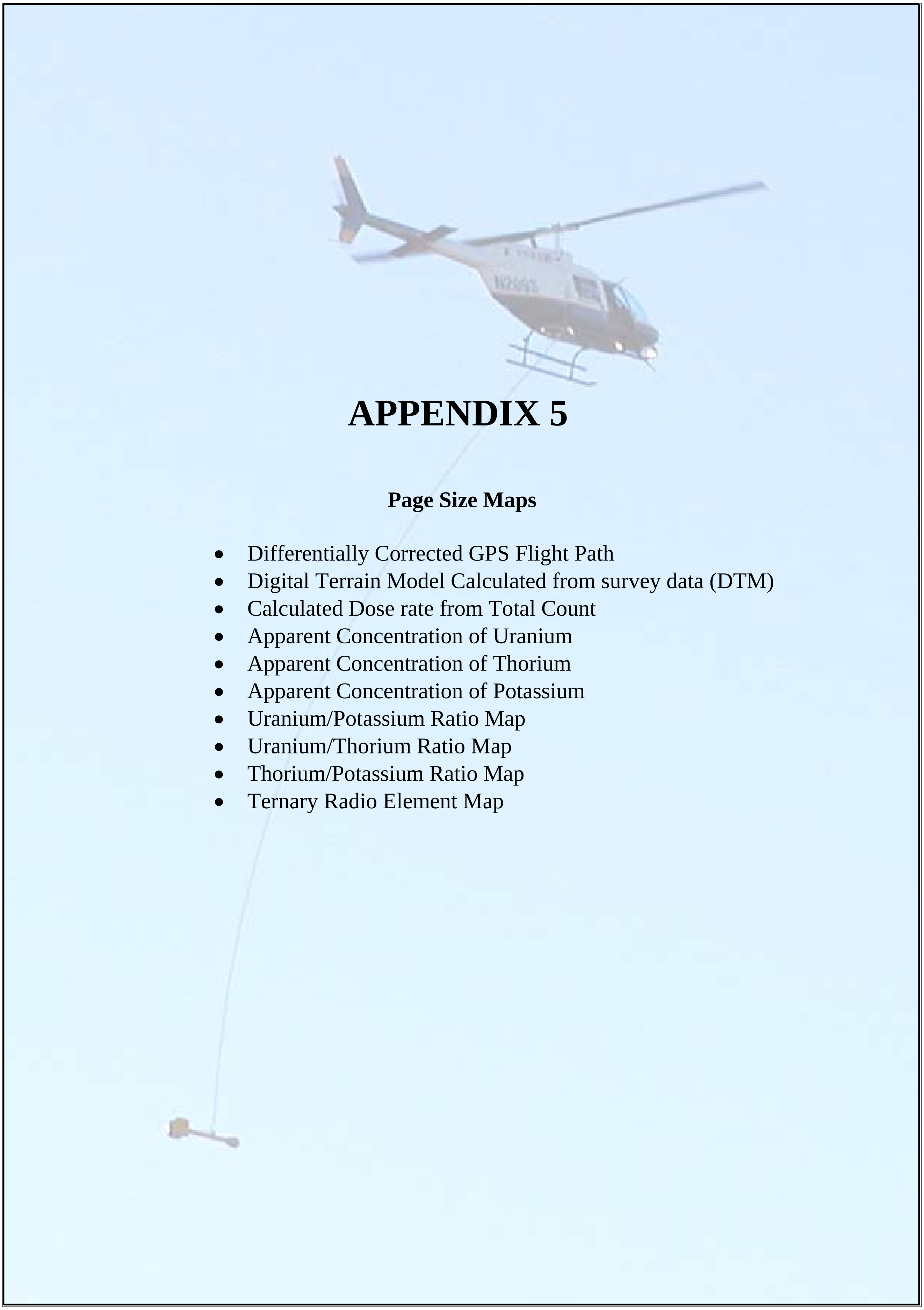
- **0613_BGG.gdb**
- **0613_Curie.gdb**
- **0613_Pike.gdb**

Free Viewer:

- **Geosoft Oasis Montaj 6.3 free viewer for viewing maps**

CLIENT: Signet Minerals Inc. Project # 0613			PAGE 1 OF 1
DATABASE DESCRIPTION	Databases: 0613_BGG 0613_Curie 0613_Pike	QC: Adam Barrett Proc: Ramesh Acharya Rev.: T.Grand	

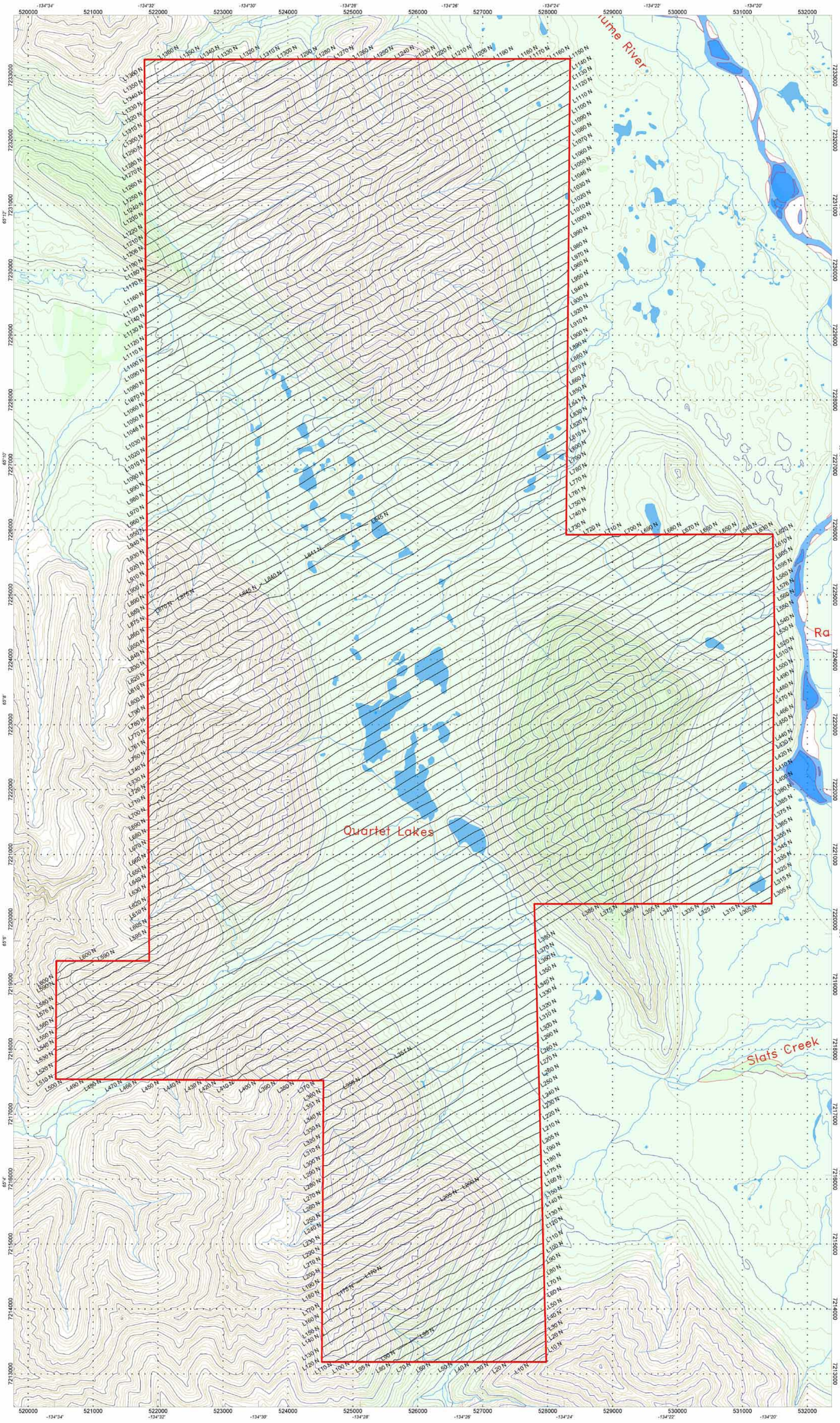
Channel	Type	Units	Description
Identifiers			
Line	RAW		line no.
Fid	RAW		fiducial
flt	RAW		flight number
date	RAW	YYYY/MM/DD	date
GPStm_sec	RAW	Secods of Day	GPS Time
positional data			
Lat_deg	RAW	degrees decimal	Latitude - NAD83 - Real Time DGPS
Lon_deg	RAW	degrees decimal	Latitude - NAD83 - Real Time DGPS
x	RAW/PROC	metre	Easting - projected to UTM zone 8 N / NAD83
y	RAW/PROC	metre	Northing - projected to UTM zone 8 N / NAD83
altitudes			
Galt_m	RAW	metre	Measured helicopter GPS Altitude - WGS84 - Real Time DGPS
Ralt_m	RAW/PROC	metre	Radar altitude of the Helicopter AGL - after calibration correction Despiked and filtered
RALTSP	PROC	metre	Radar altitude of the Helicopter AGL -corrected to standard temperature and pressure
dtm	PROC	metre	digital terrain model calculated from GPS and radar data
air condition data			
Baro_mbar	PROC	mbar	Outside Barometric Pressure
Temp_deg	PROC	degree Celsius	Outside Air Temperature
spectrometry data			
ISP1D	RAW	cps	Raw 256 channel spectra - Downward
PsvdSpec	PROC	cps	Processed 256 channel spectra - Downward - NASVD smoothed
PTcrawN	PROC	cps	Total Count (TC) extracted from NASVD smoothed spectra
PKrawN	PROC	cps	Potassium (K) extracted from NASVD smoothed spectra
PUrawN	PROC	cps	Uranium (U) extracted from NASVD smoothed spectra
PThrawN	PROC	cps	Thorium (Th) extracted from NASVD smoothed spectra
PcosrawN	PROC	cps	Cosmic gamma ray extracted from NASVD smoothed spectra
Kcon	PROC	%	Apparent concentration of Potassium (K)
Ucon	PROC	ppm	Apparent concentration of equvalent Uranium (U)
Thcon	PROC	ppm	Apparent concentration of equivalent Thorium (Th)
TC_doserate	PROC	nGy/h	Apparent dose rate calculated from Total Count (TC)
UKRATIO	PROC	10^{-4}	equivalent Uranium / Potassium ratio; U/K ratio
UTHRATIO	PROC		equvalent Uranium/ equivalent Thorium ratio ; U/Th ratio
THKRATIO	PROC	10^{-4}	equivalent Thorium / Potassium ratio ; Th/K ratio



APPENDIX 5

Page Size Maps

- Differentially Corrected GPS Flight Path
- Digital Terrain Model Calculated from survey data (DTM)
- Calculated Dose rate from Total Count
- Apparent Concentration of Uranium
- Apparent Concentration of Thorium
- Apparent Concentration of Potassium
- Uranium/Potassium Ratio Map
- Uranium/Thorium Ratio Map
- Thorium/Potassium Ratio Map
- Ternary Radio Element Map



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

- Major Contour
- Minor Contour
- Dry River
- Water Course
- Wetland
- Water Body
- Vegetation

Scale 1:25000

500 0 500 1000 1500

metres

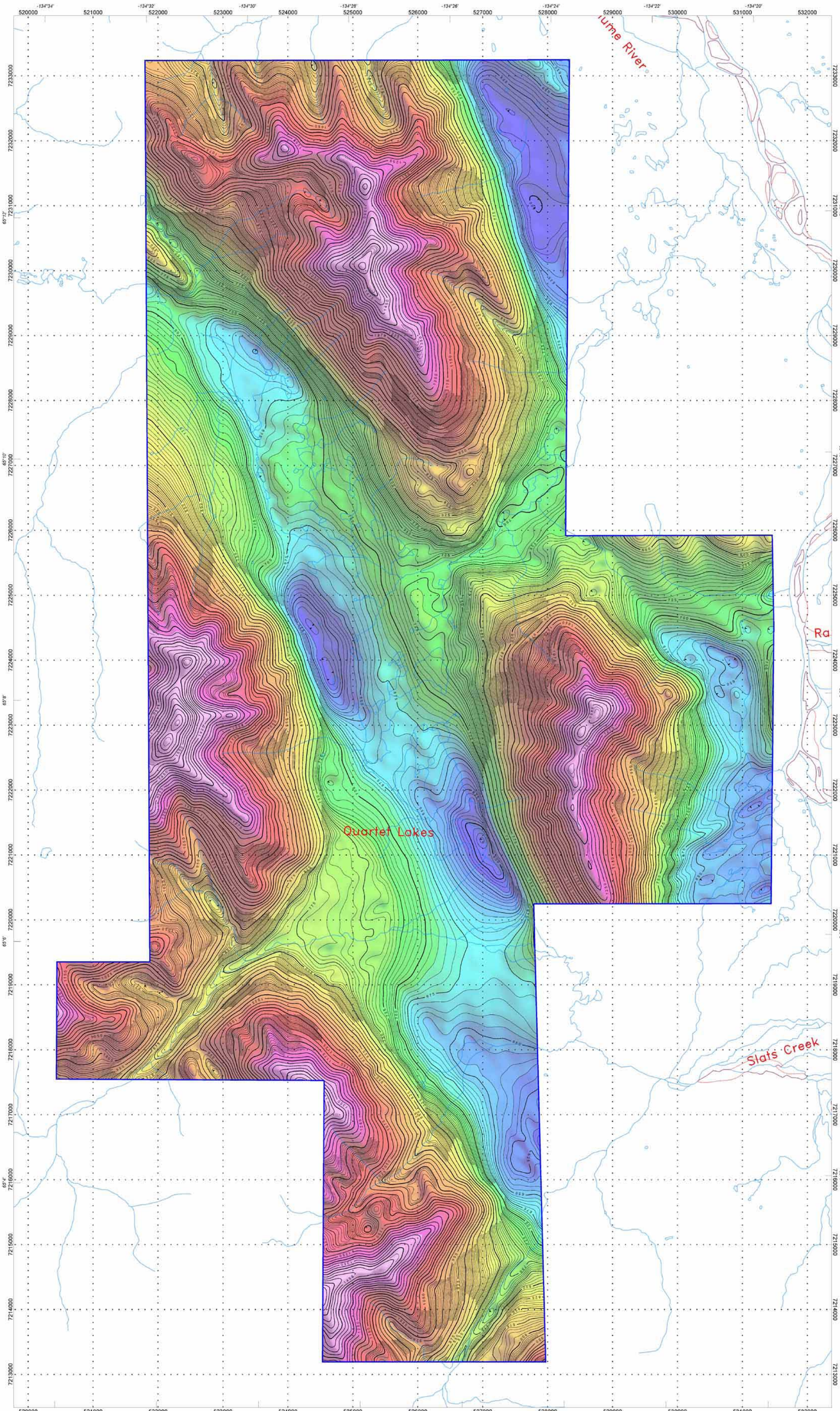
NAD83 / UTM zone 8N

Signet Minerals Inc.

Differentially Corrected GPS Flight Path
Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

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AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Dry River
Water Course
Water Body

Contour Legend

5 m
25 m
100 m

Scale 1:25000

metres

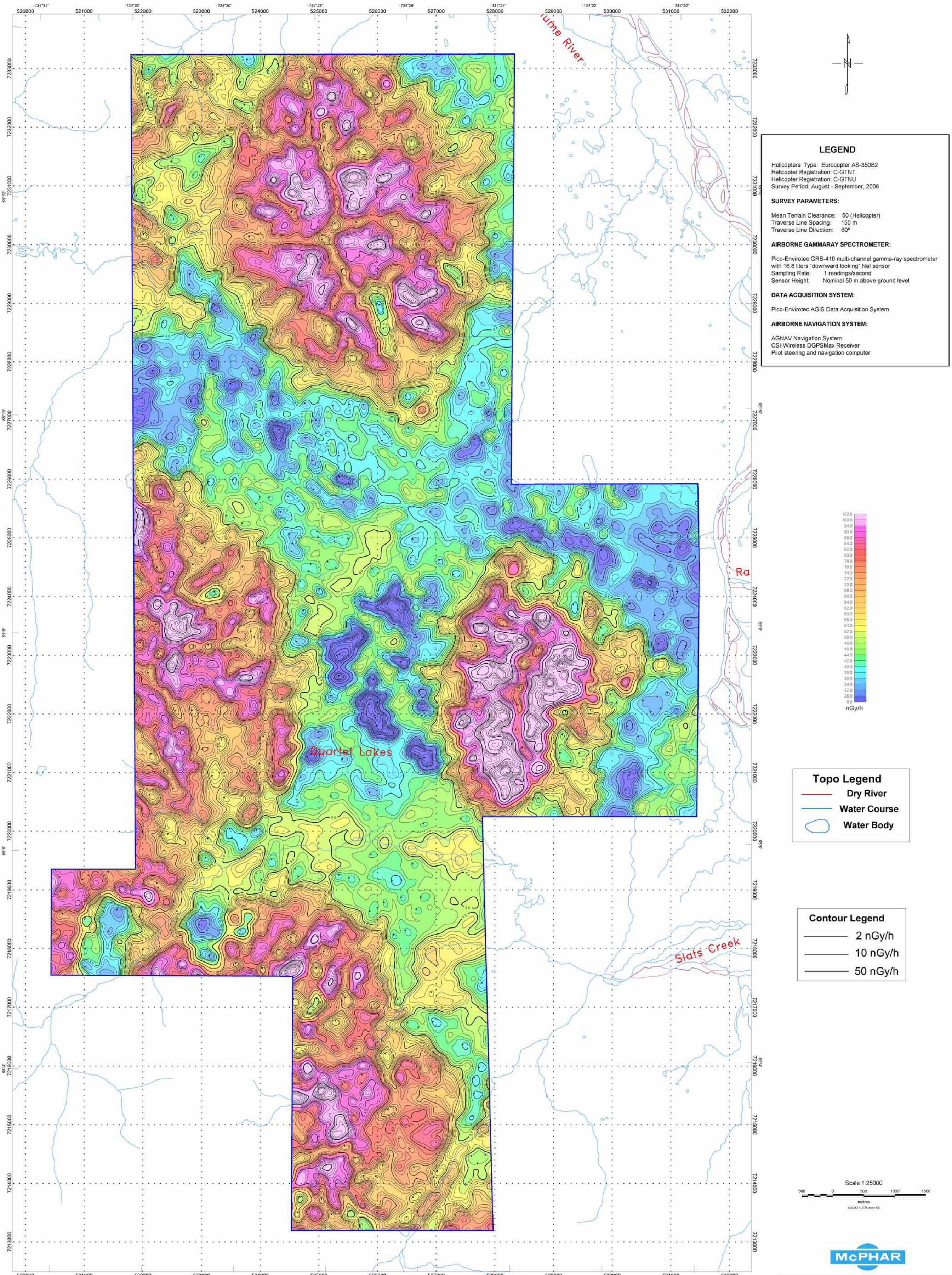
NAD83 / UTM zone 8N

Signet Minerals Inc.

Digital Terrain Model Calculated from Survey Data
Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

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Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

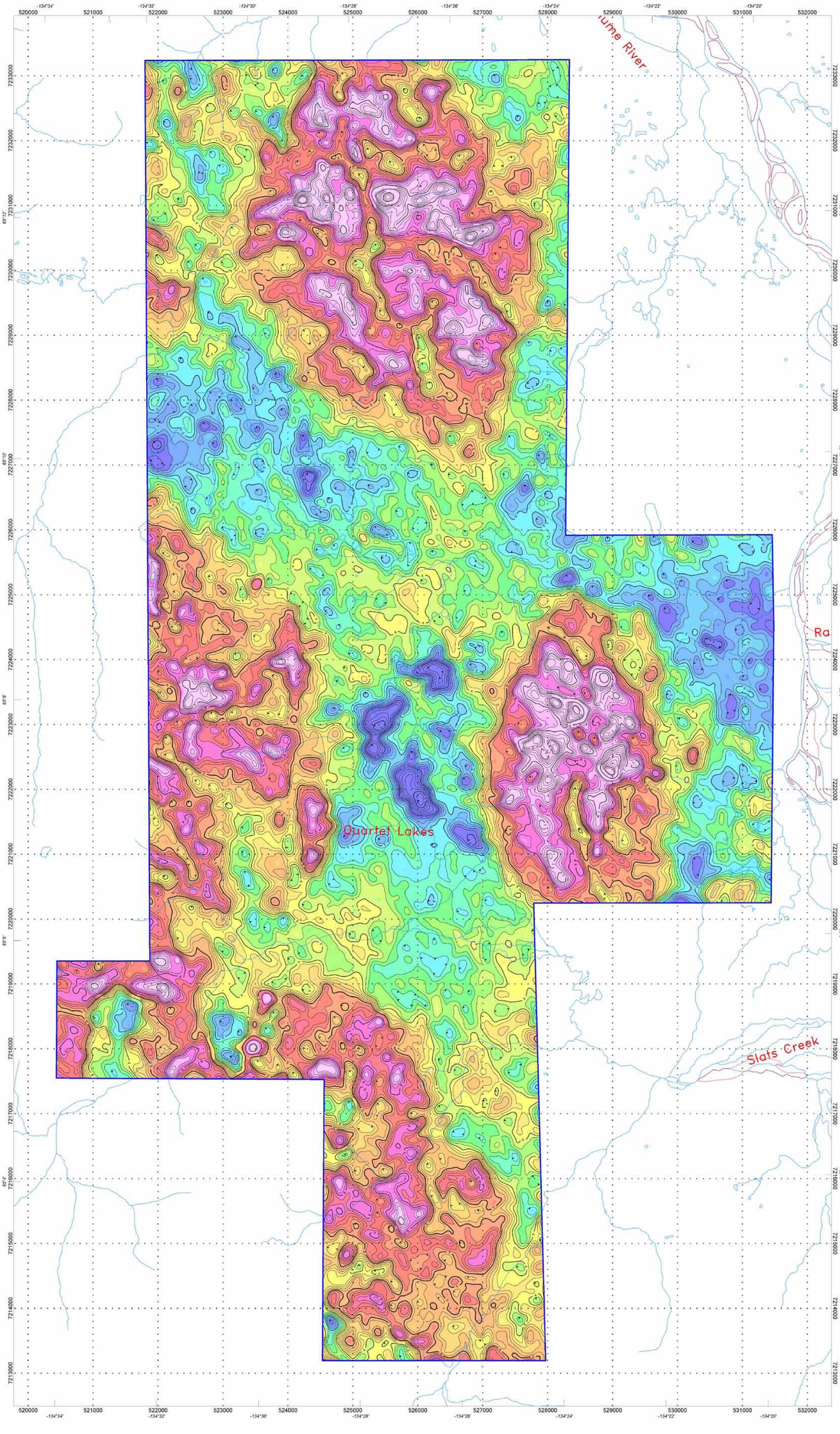
AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Signet Minerals Inc.

Apparent Dose Rate Calculated from Total Count (TC) Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



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DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

10.5
6.8
6.4
6.2
5.8
5.6
5.4
5.2
5.0
4.8
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
0.7
ppm eU

Topo Legend

Dry River
Water Course
Water Body

Contour Legend

0.2 ppm eU
1 ppm eU
5 ppm eU

Scale 1:25000

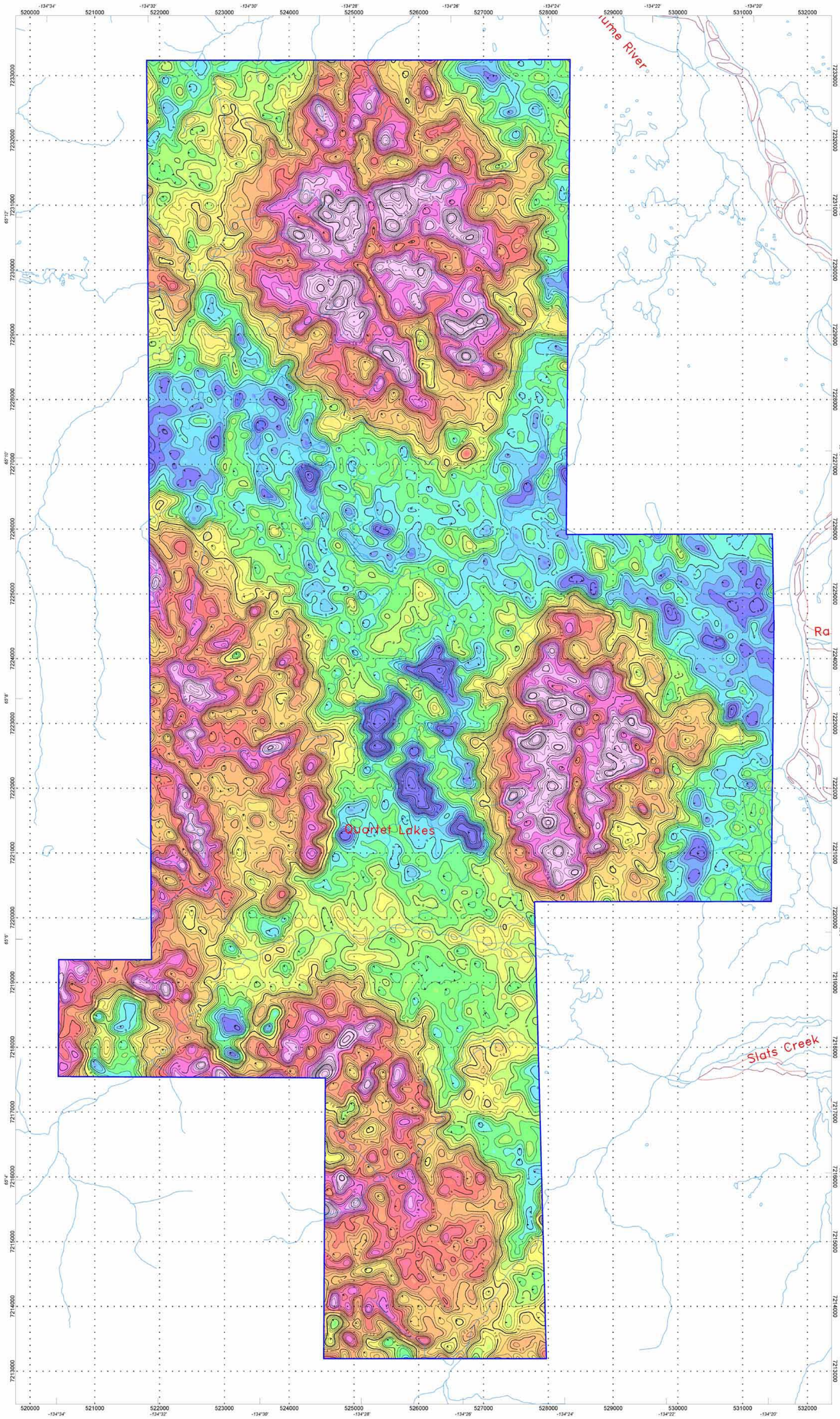
500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Apparent Concentration of Uranium (U)
Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

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AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

23.9
18.0
17.0
16.0
15.5
15.0
14.5
14.0
13.5
13.0
12.5
12.0
11.5
11.0
10.5
10.0
9.5
9.0
8.5
8.0
7.5
7.0
6.5
6.0
5.5
5.0
4.5
0.2
ppm eTh

Topo Legend

Dry River
Water Course
Water Body

Contour Legend

0.5 ppm eTh
2 ppm eTh
10 ppm eTh

Scale 1:25000

500 0 500 1000 1500
metres

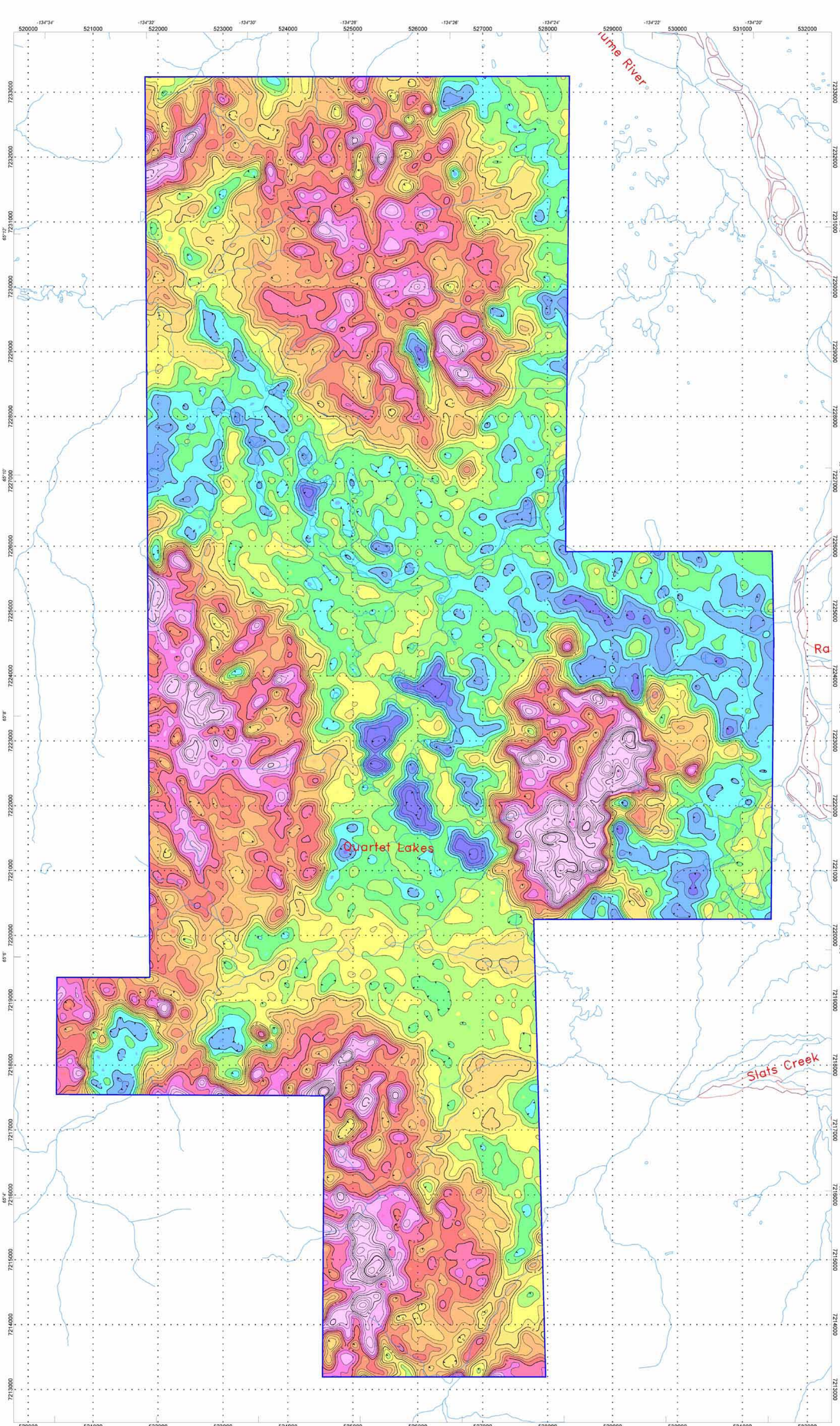
McPHAR

Signet Minerals Inc.

Apparent Concentration of Thorium (Th)
Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

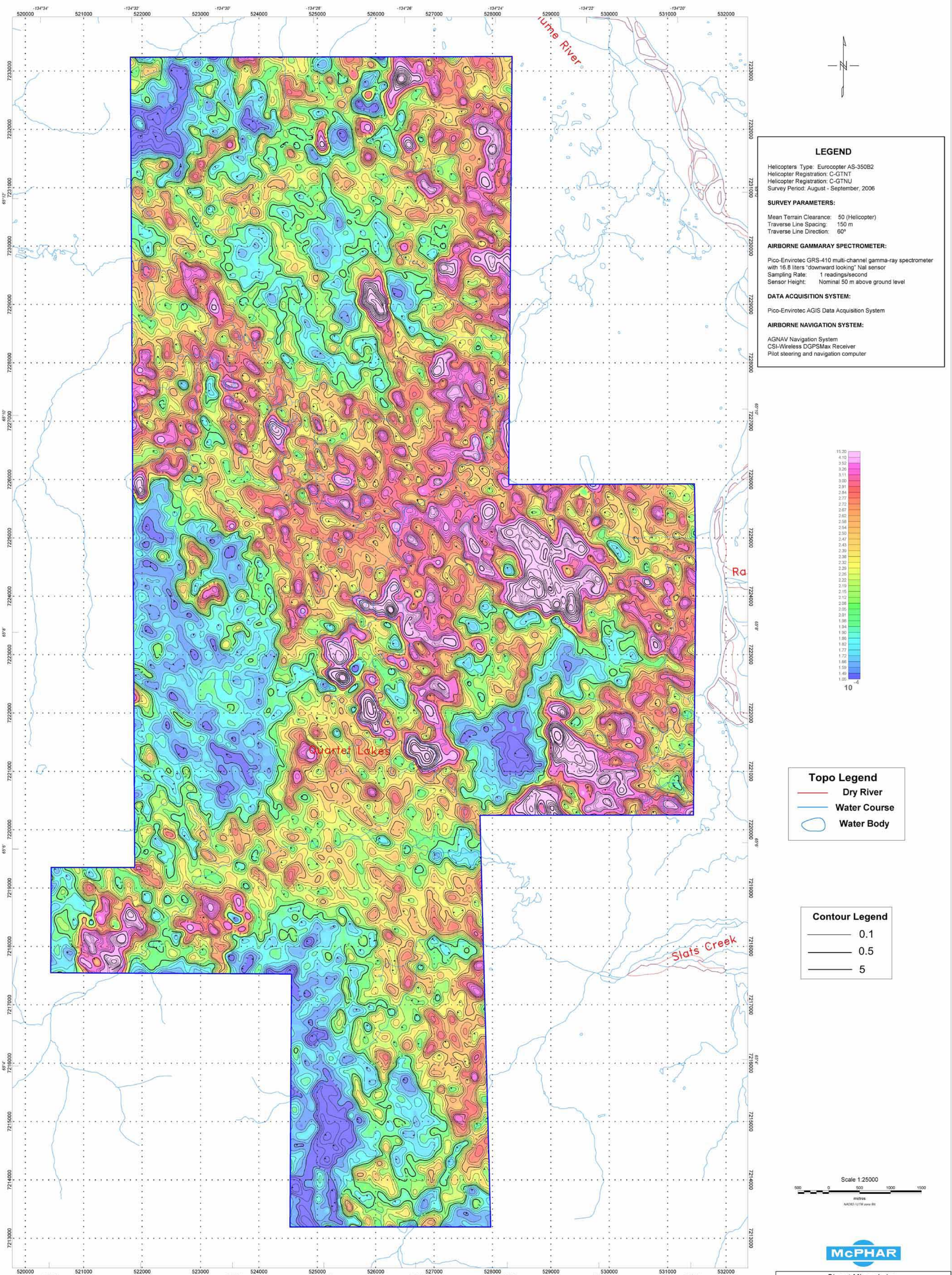
AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Signet Minerals Inc.

Apparent Concentration of Potassium (K)
Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.

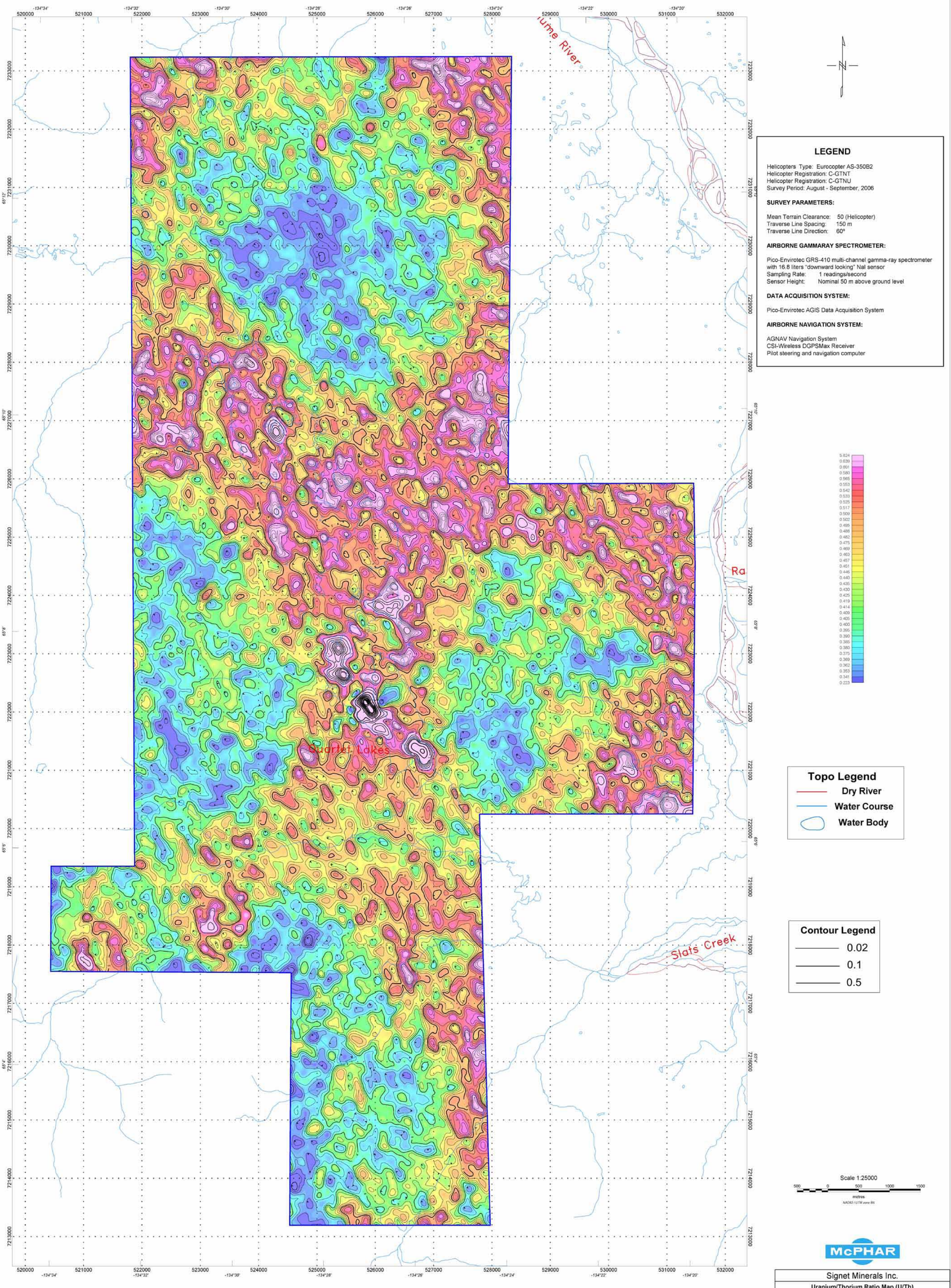


Signet Minerals Inc.

Uranium/Potassium Ratio Map (U/K)
Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.

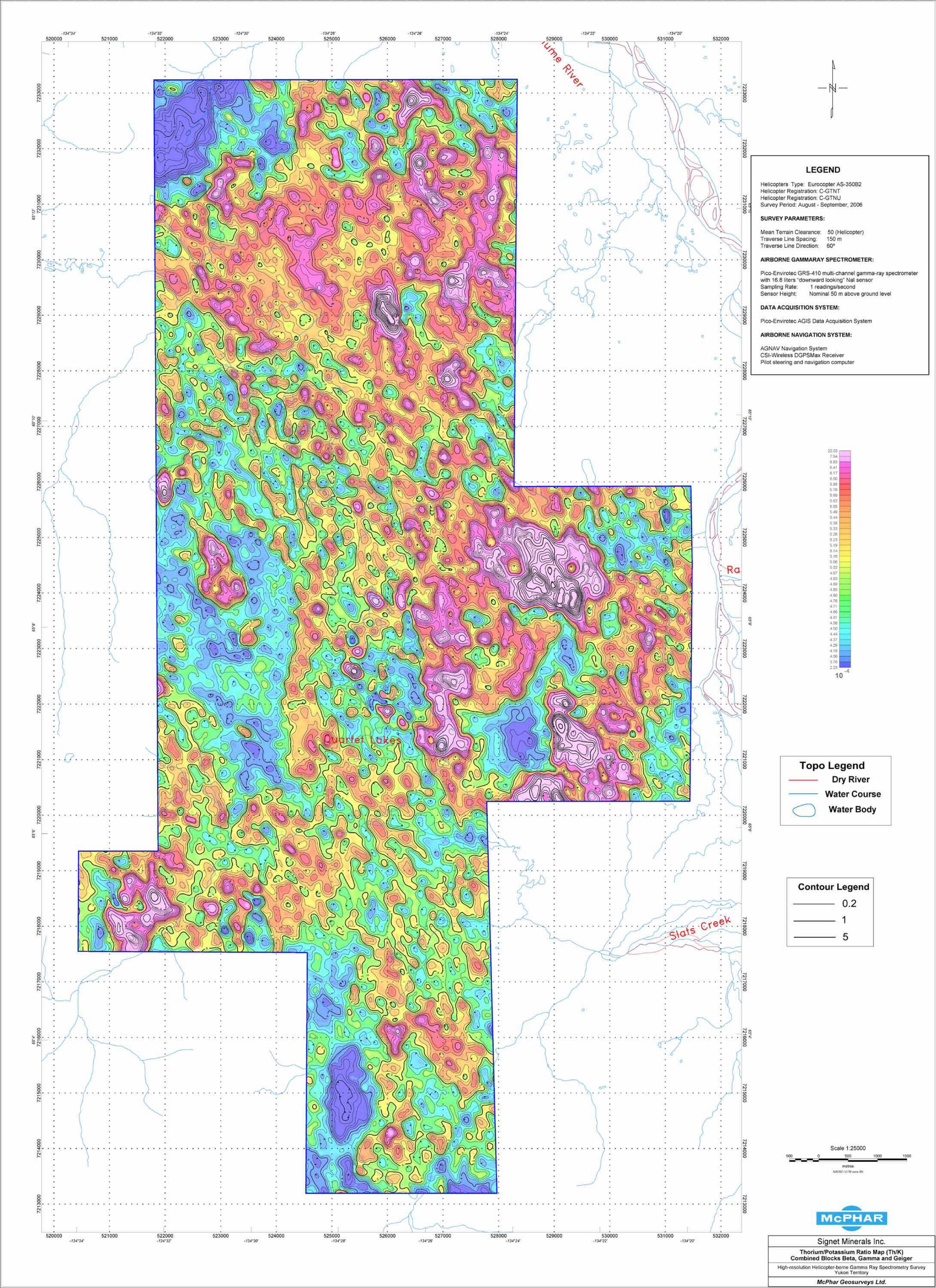


Signet Minerals Inc.

Uranium/Thorium Ratio Map (U/Th)
Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.


Quartet Lakes
Slats Creek
LEGEND
Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
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Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level
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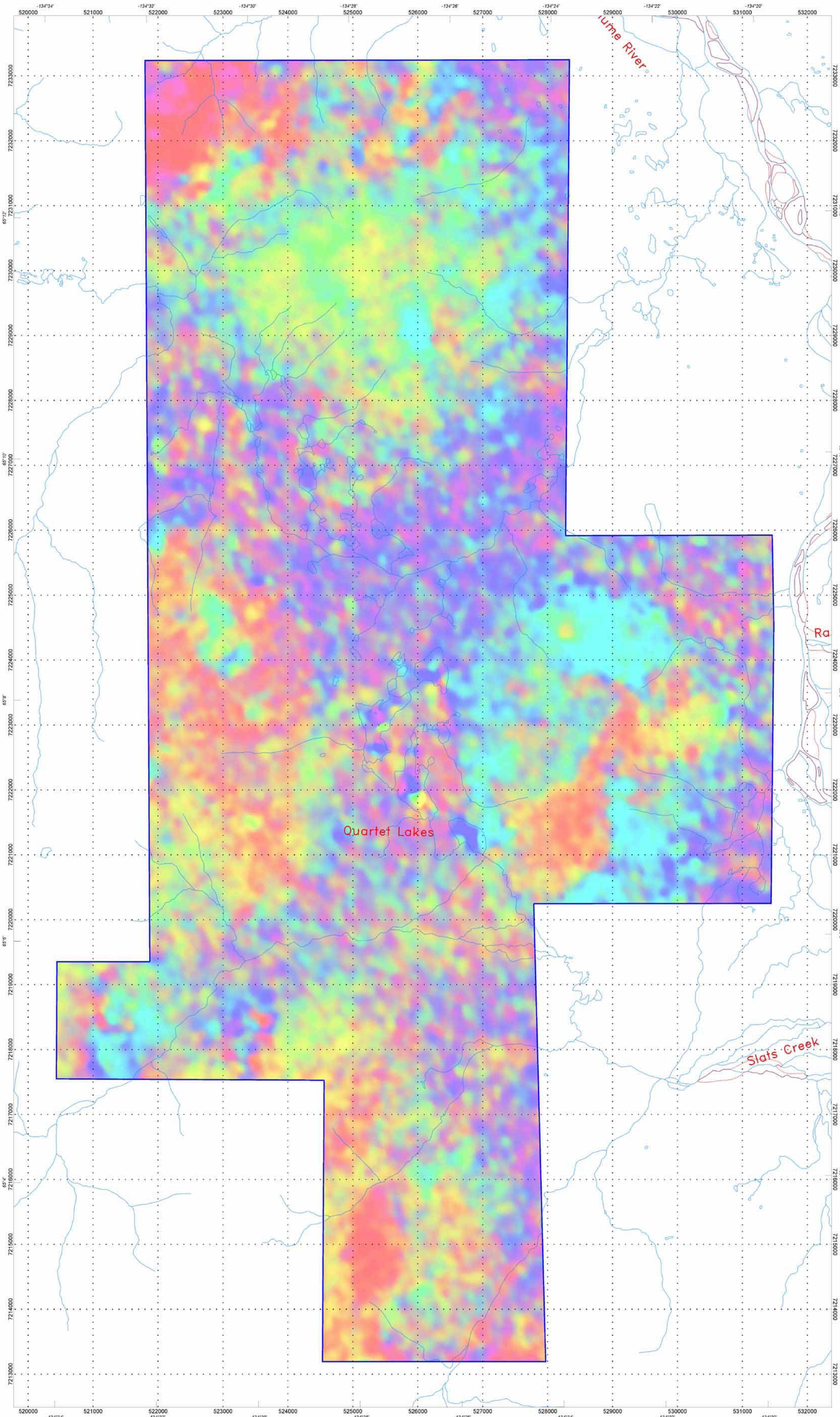
AIRBORNE NAVIGATION SYSTEM:
AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer
Topo Legend
Dry River
Water Course
Water Body
Contour Legend
0.2
1
5
Scale 1:25000
metres
Signet Minerals Inc.
Thorium/Potassium Ratio Map (Th/K)
Combined Blocks Beta, Gamma and Geiger
High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory
McPhar Geosurveys Ltd.



LEGEND

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Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

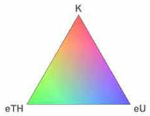
Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer



Topo Legend

Dry River
Water Course
Water Body

Scale 1:25000

500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

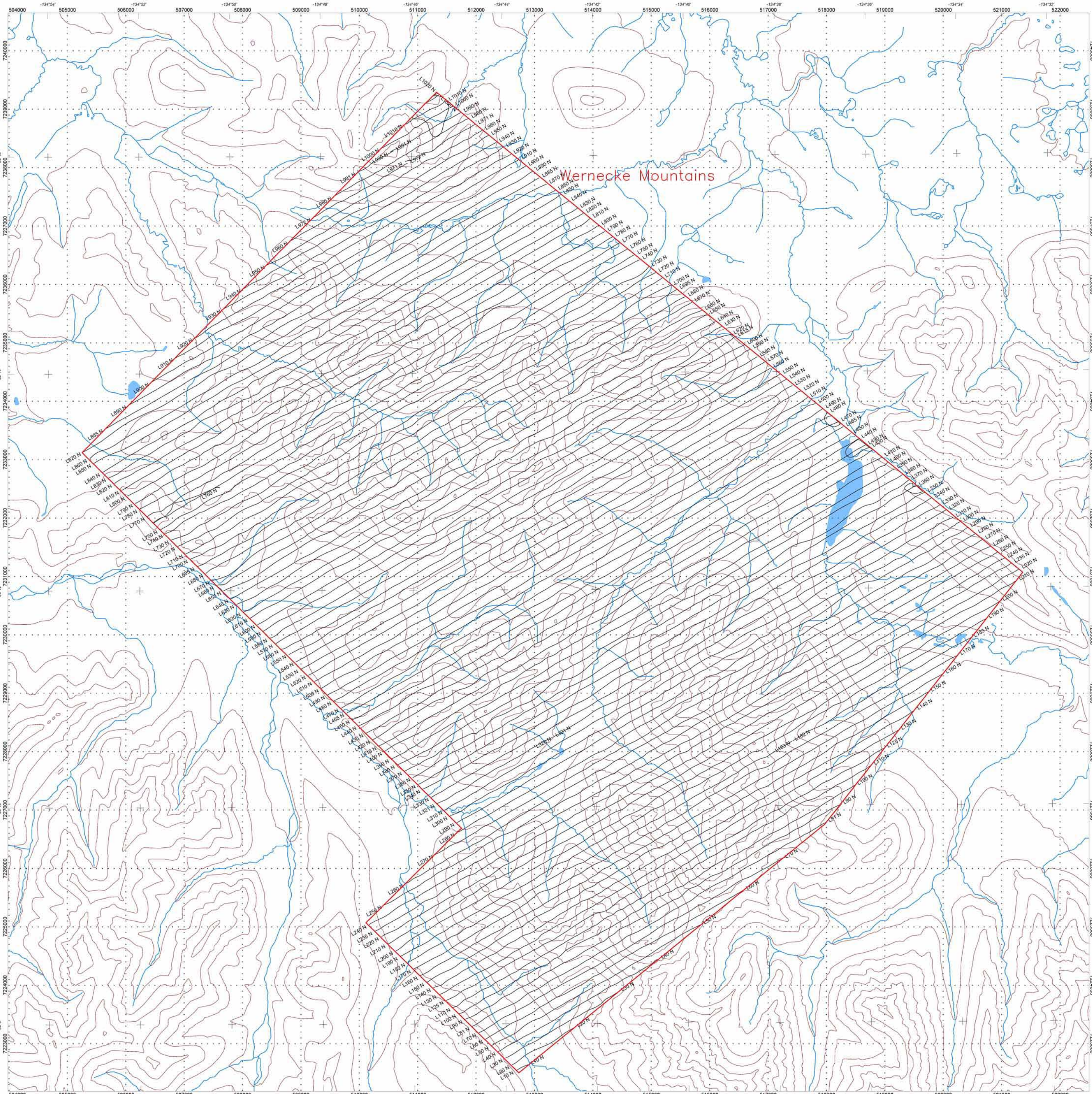
McPHAR

Signet Minerals Inc.

Ternary Radio Element Map
Combined Blocks Beta, Gamma and Geiger

High-resolution Helicopter-bome Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer
with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Contour
Water Course
Water Body

Scale 1:25000

500 0 500 1000 1500
metres

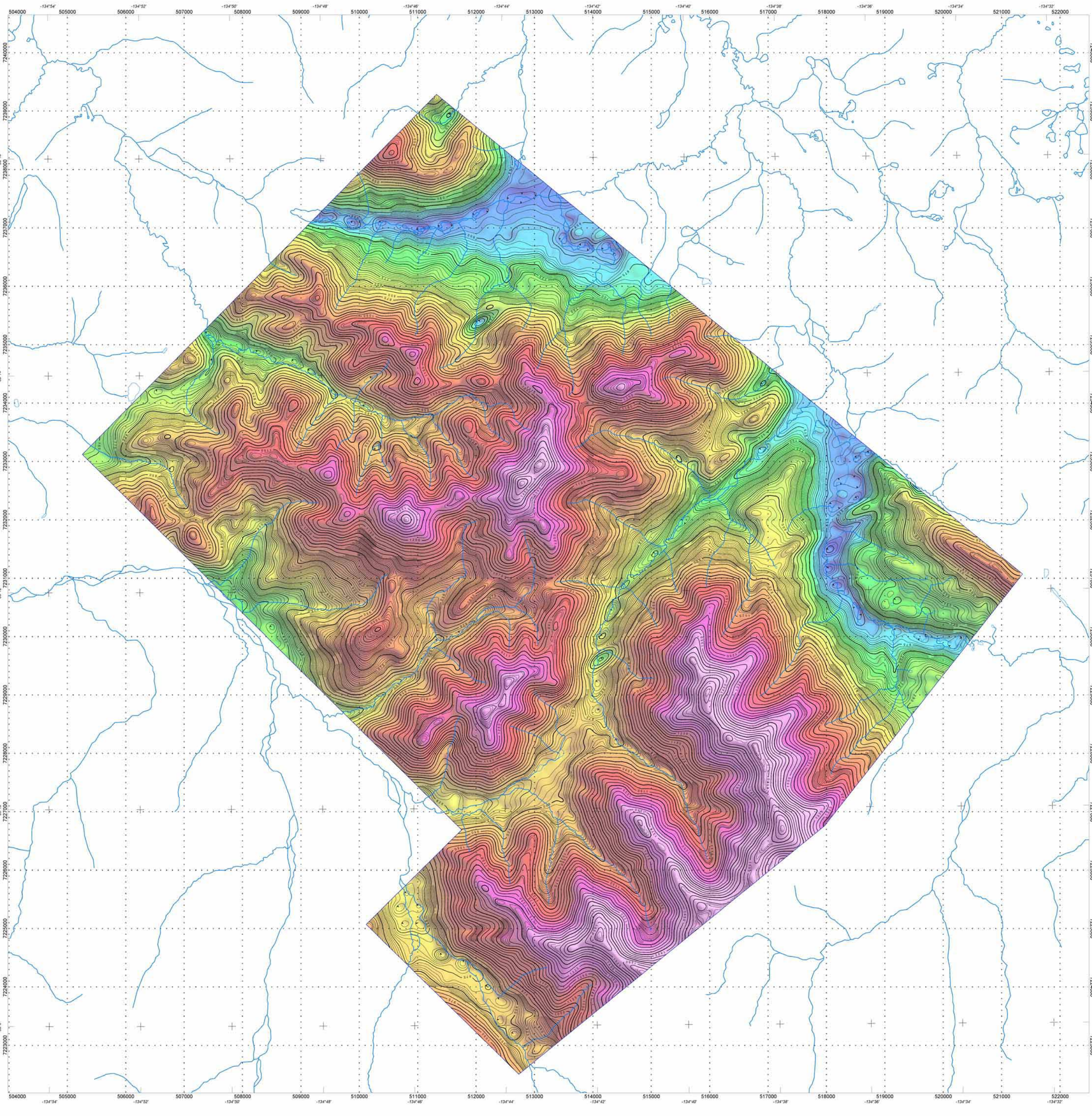
McPHAR

Signet Minerals Inc.

Differentially Corrected GPS Flight Path
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
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AIRBORNE GAMMARAY SPECTROMETER:

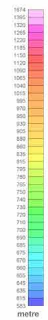
Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer



Topo Legend

Water Course
Water Body

Contour Legend

5 m
25 m
100 m

Scale 1:25000
500 0 500 1000 1500
metres

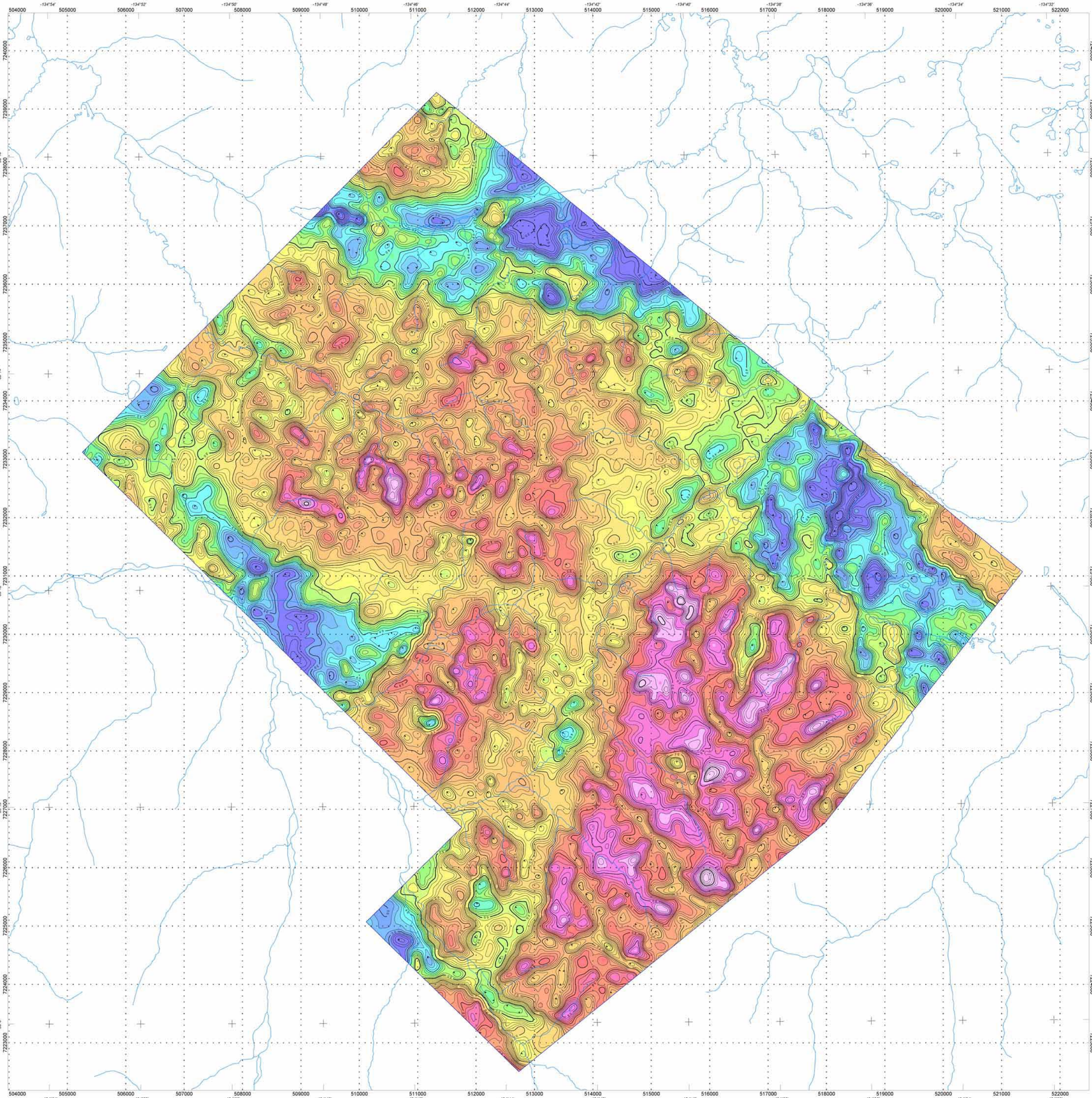
McPHAR

Signet Minerals Inc.

Digital Terrain Model Calculated from Survey Data
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

nGy/h

Topo Legend

Water Course
Water Body

Contour Legend

2 nGy/h
10 nGy/h
50 nGy/h

Scale 1:25000

500 0 500 1000 1500

metres

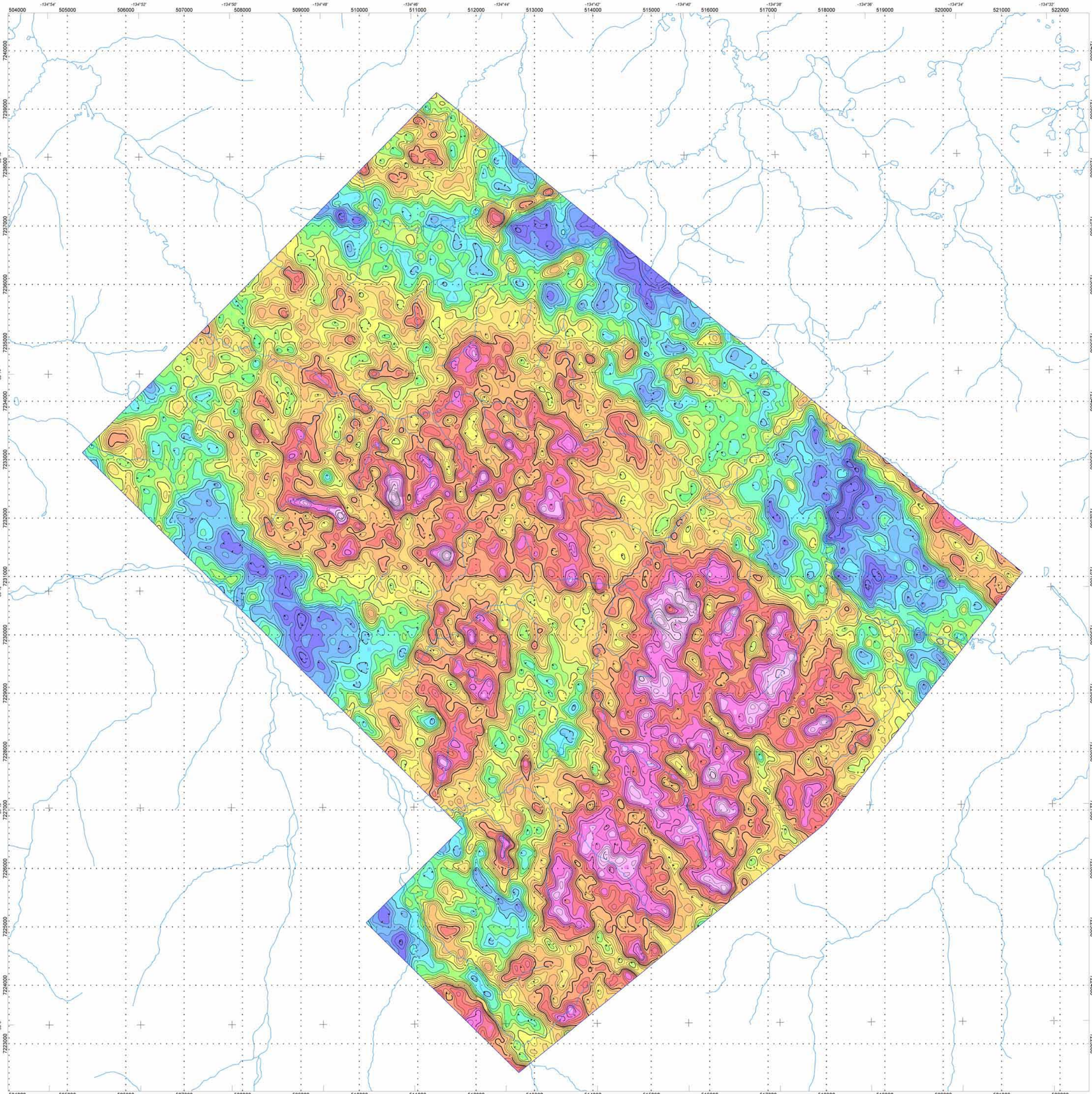
McPHAR

Signet Minerals Inc.

Apparent Dose Rate Calculated from Total Count (TC)
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

ppm eU

Topo Legend

Water Course
Water Body

Contour Legend

0.2 ppm eU
1 ppm eU
5 ppm eU

Scale 1:25000
500 0 500 1000 1500
metres

McPHAR

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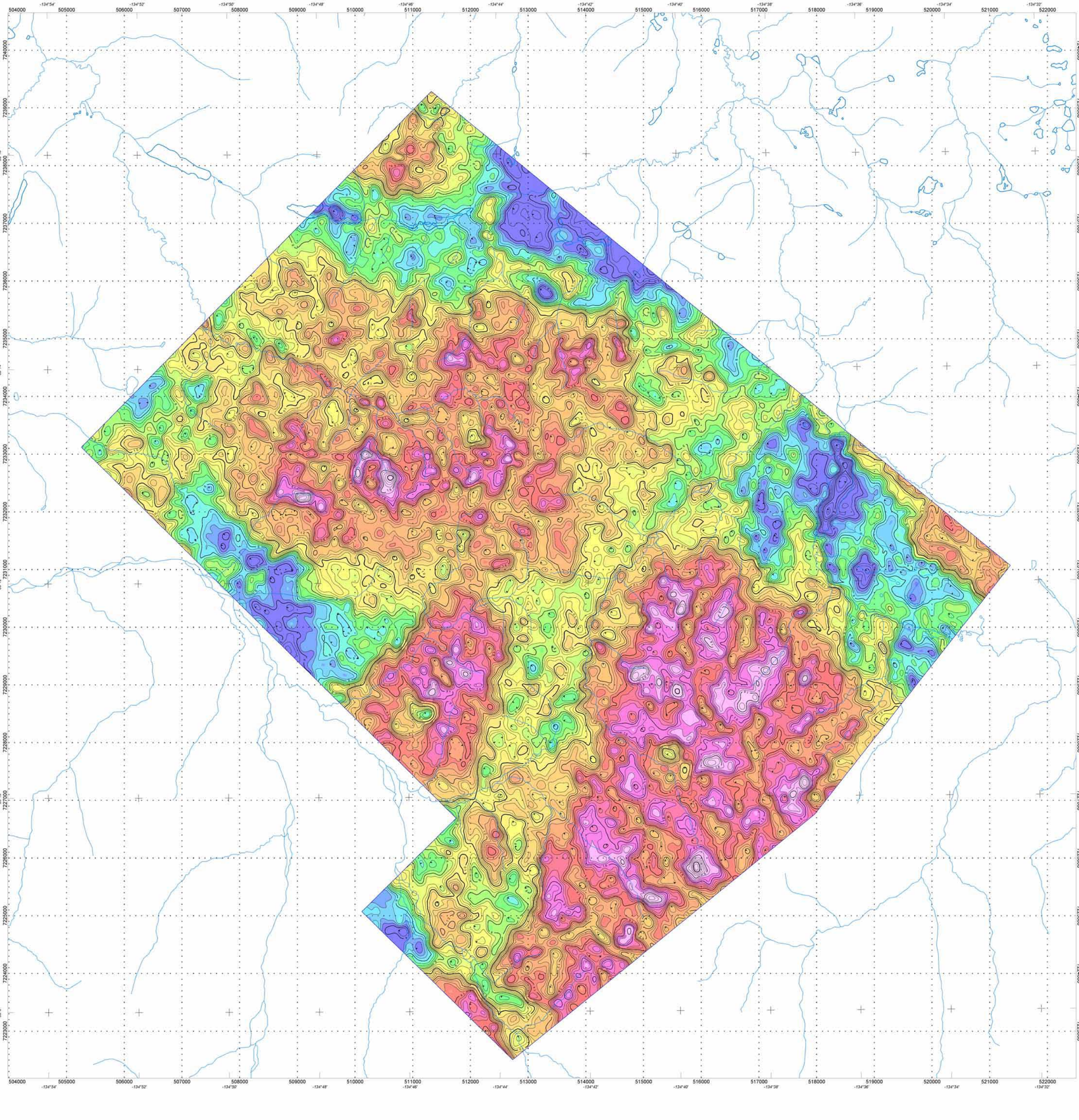
Apparent Concentration of Uranium (U)
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course
Water Body

Contour Legend

0.5 ppm eTh
2 ppm eTh
10 ppm eTh

Scale 1:25000

500 0 500 1000 1500
metres

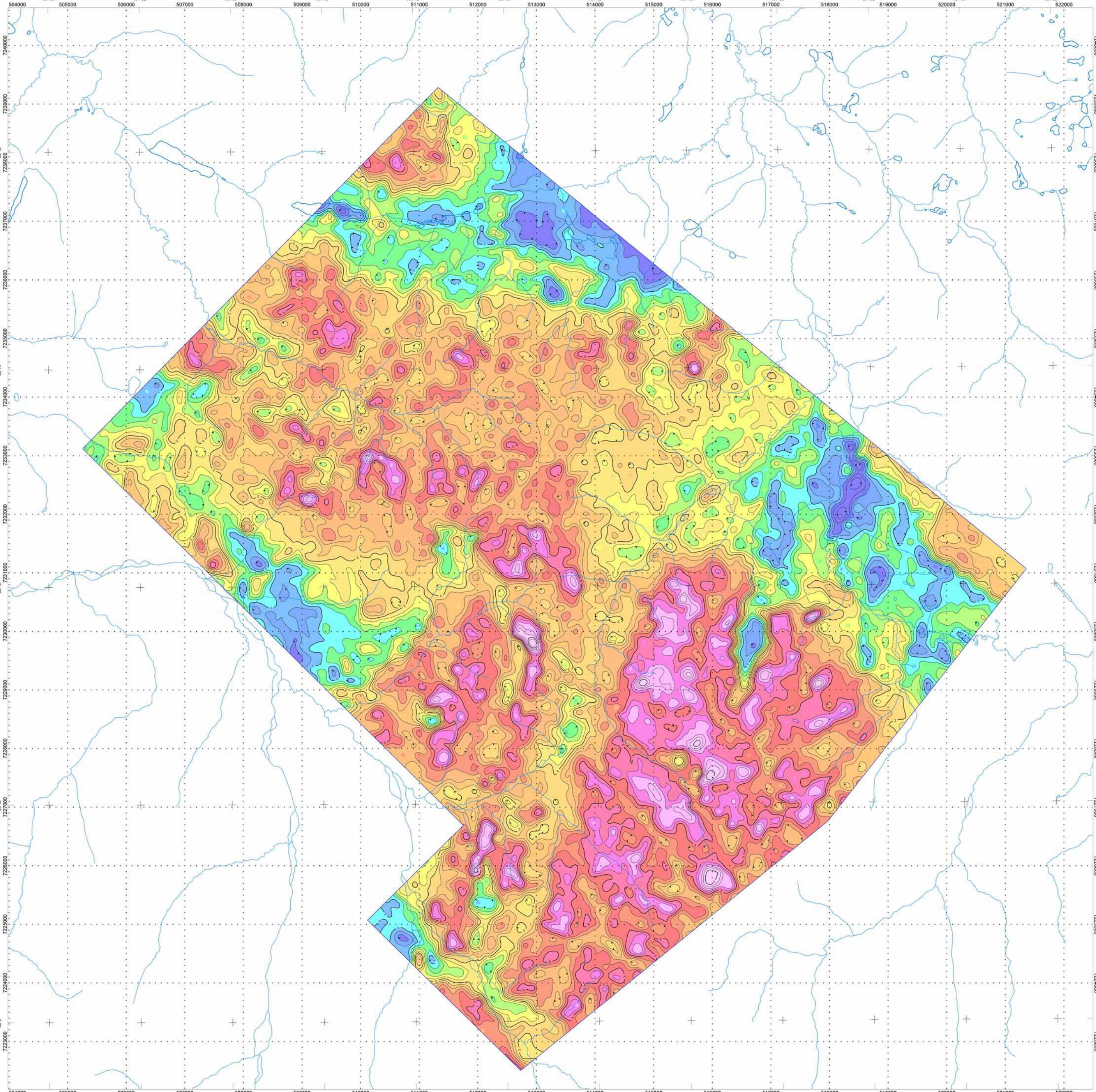
McPHAR

Signet Minerals Inc.

Apparent Concentration of Thorium (Th)
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

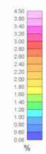
Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer
with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer



Topo Legend

Water Course
Water Body

Contour Legend

0.2 %
1 %
5 %

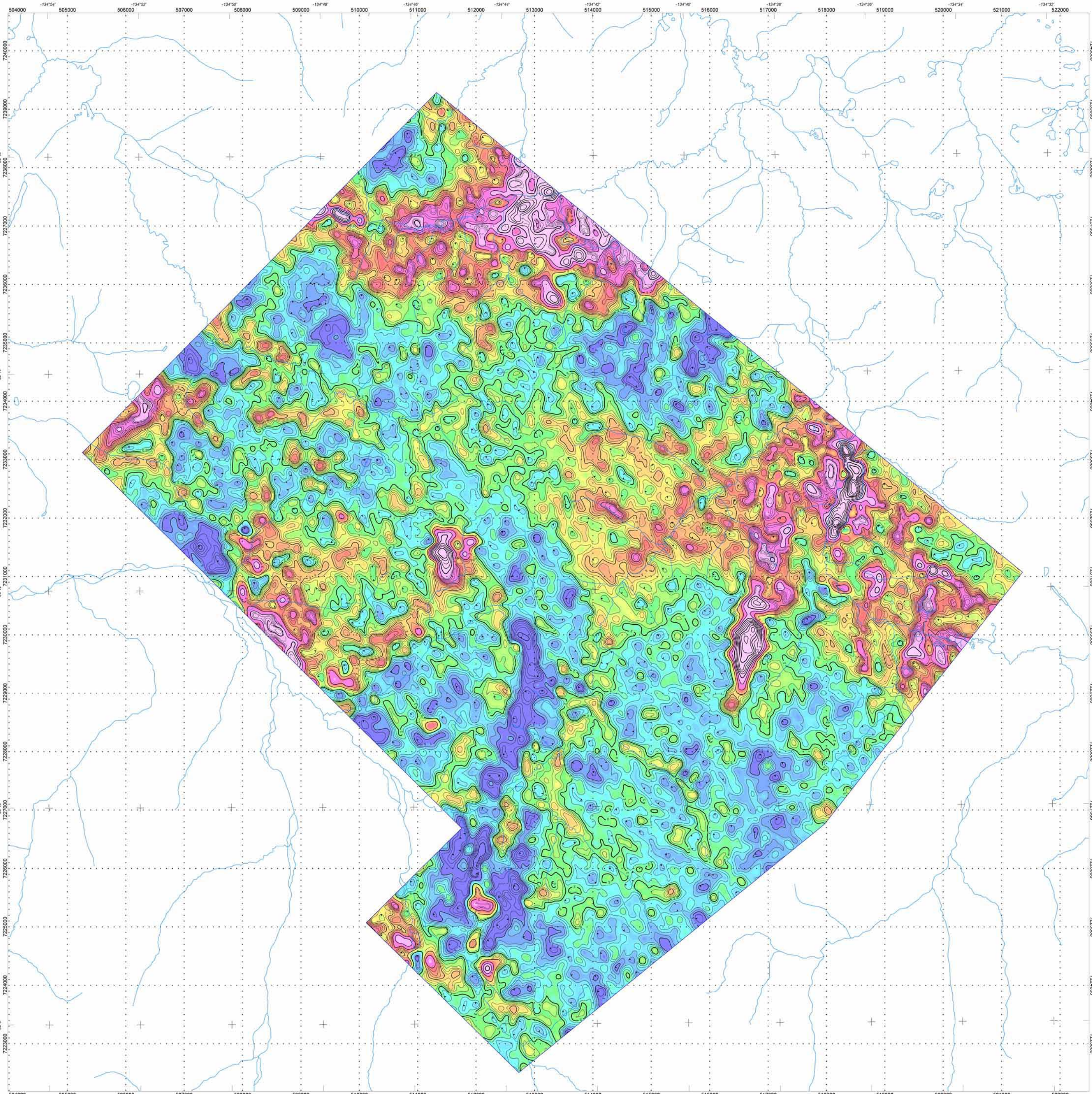
Scale 1:25000
500 0 500 1000 1500
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Apparent Concentration of Potassium (K)
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

10.11
4.10
3.52
3.26
3.11
3.00
2.91
2.84
2.77
2.72
2.67
2.62
2.58
2.54
2.50
2.47
2.43
2.39
2.36
2.32
2.29
2.26
2.22
2.19
2.15
2.12
2.08
2.05
2.01
1.98
1.94
1.90
1.86
1.82
1.77
1.72
1.66
1.59
1.49
0.67
10^{-4}

Topo Legend

Water Course
Water Body

Contour Legend

0.1
0.5
2

Scale 1:25000
500 0 500 1000 1500
metres

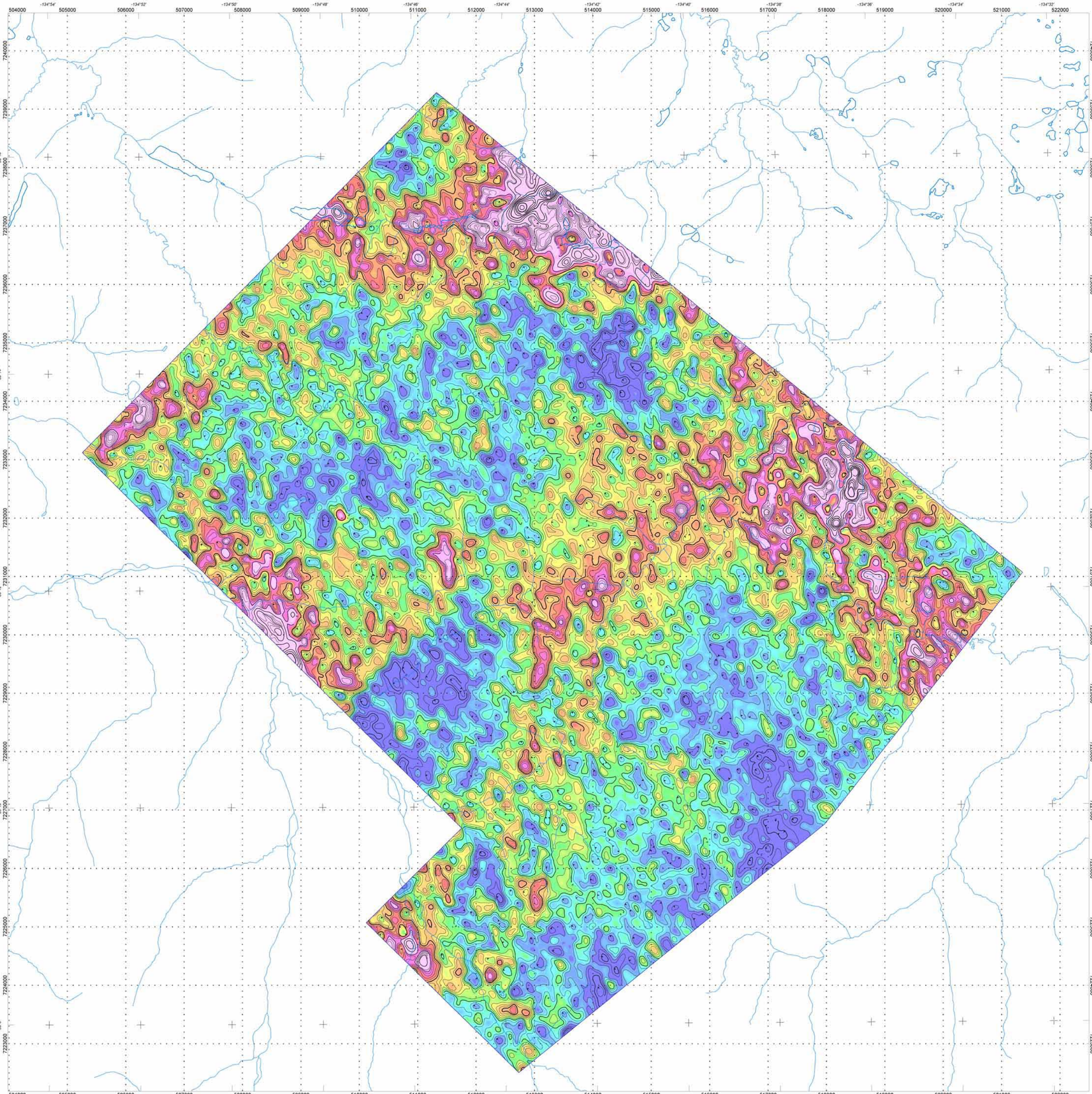
McPHAR

Signet Minerals Inc.

Uranium/Potassium Ratio Map (U/K)
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course
Water Body

Contour Legend

0.02
0.1
0.5

Scale 1:25000

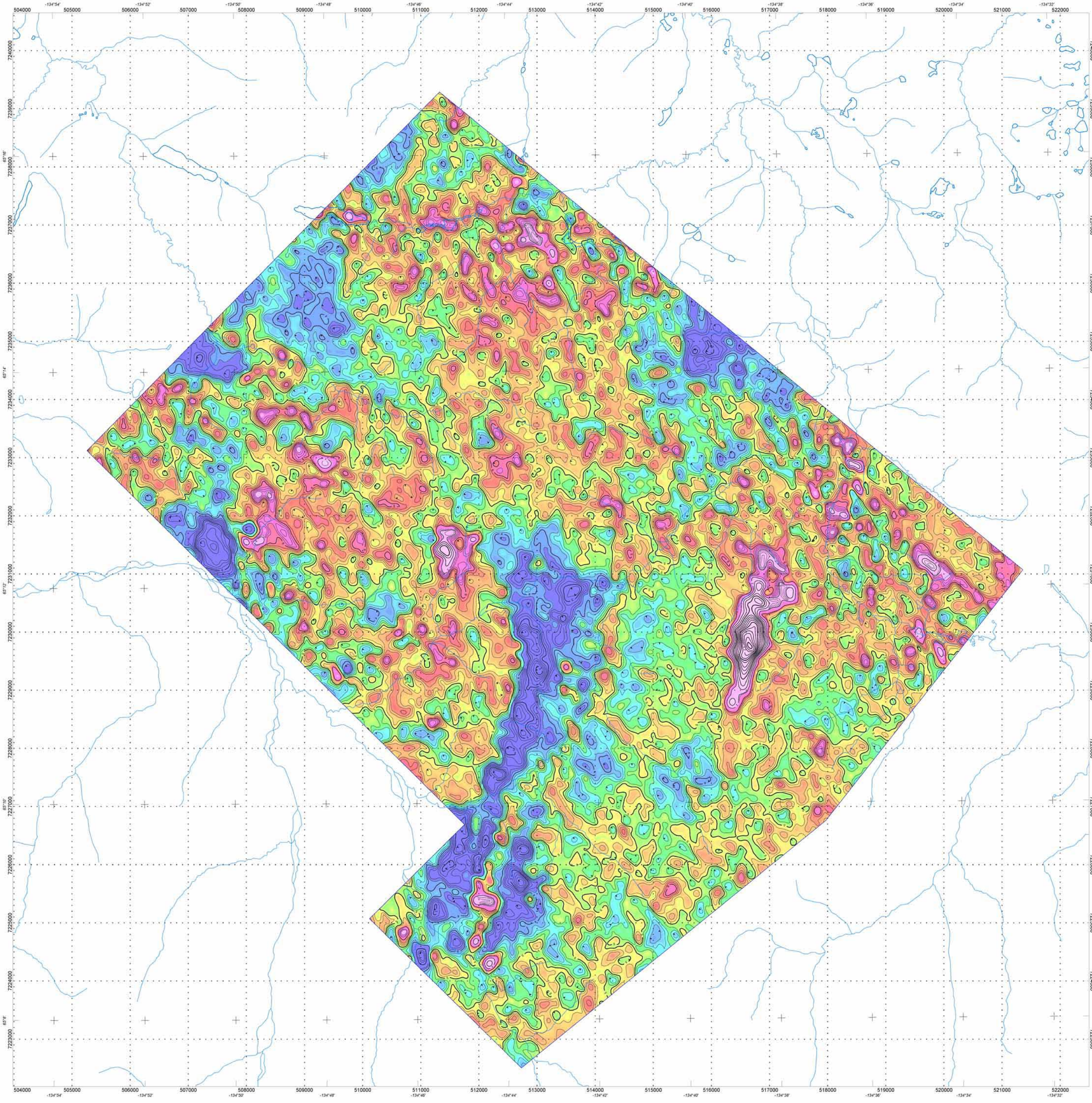
metres

Signet Minerals Inc.

Uranium/Thorium Ratio Map (U/Th)
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer
with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

McPHAR

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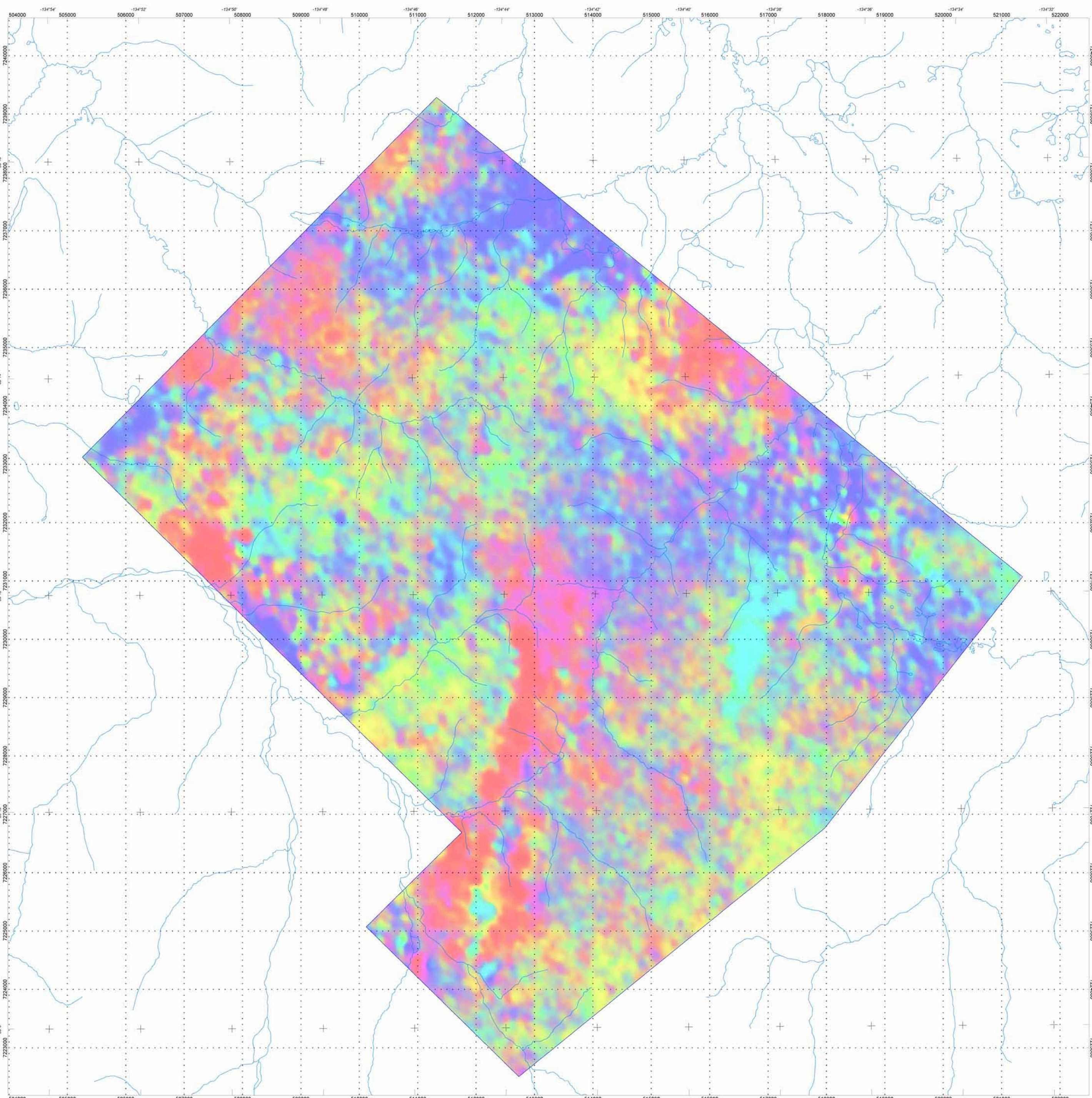
Thorium/Potassium Ratio Map (Th/K)
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60°

AIRBORNE GAMMARAY SPECTROMETER:

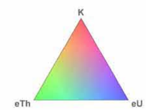
Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer
with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer



Topo Legend

Water Course
Water Body

Scale 1:25000

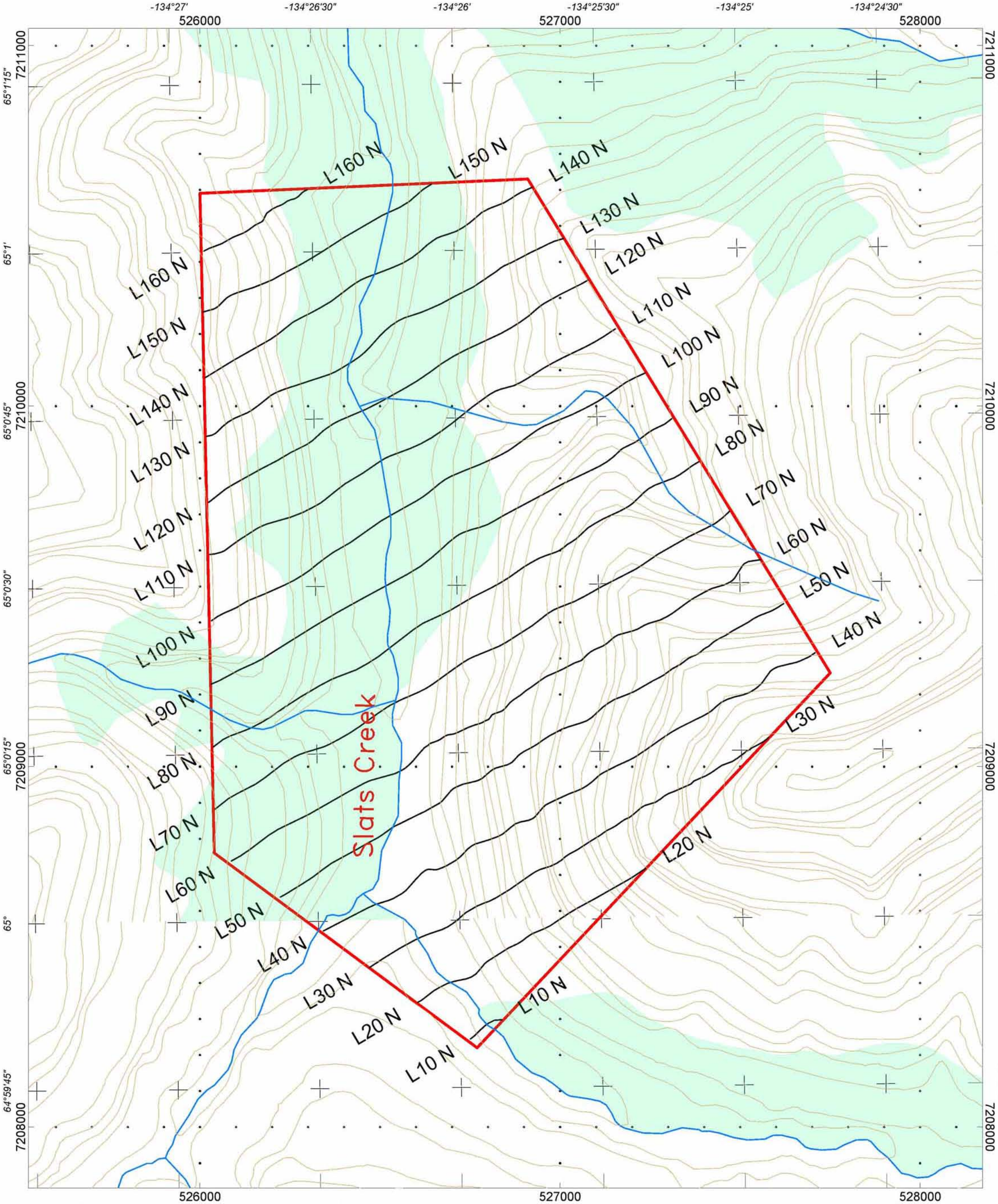
500 0 500 1000 1500
metres

Signet Minerals Inc.

Ternary Radio Element Map
Block Curie

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

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AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Contour
Water Course
Vegetation

Scale 1:10000

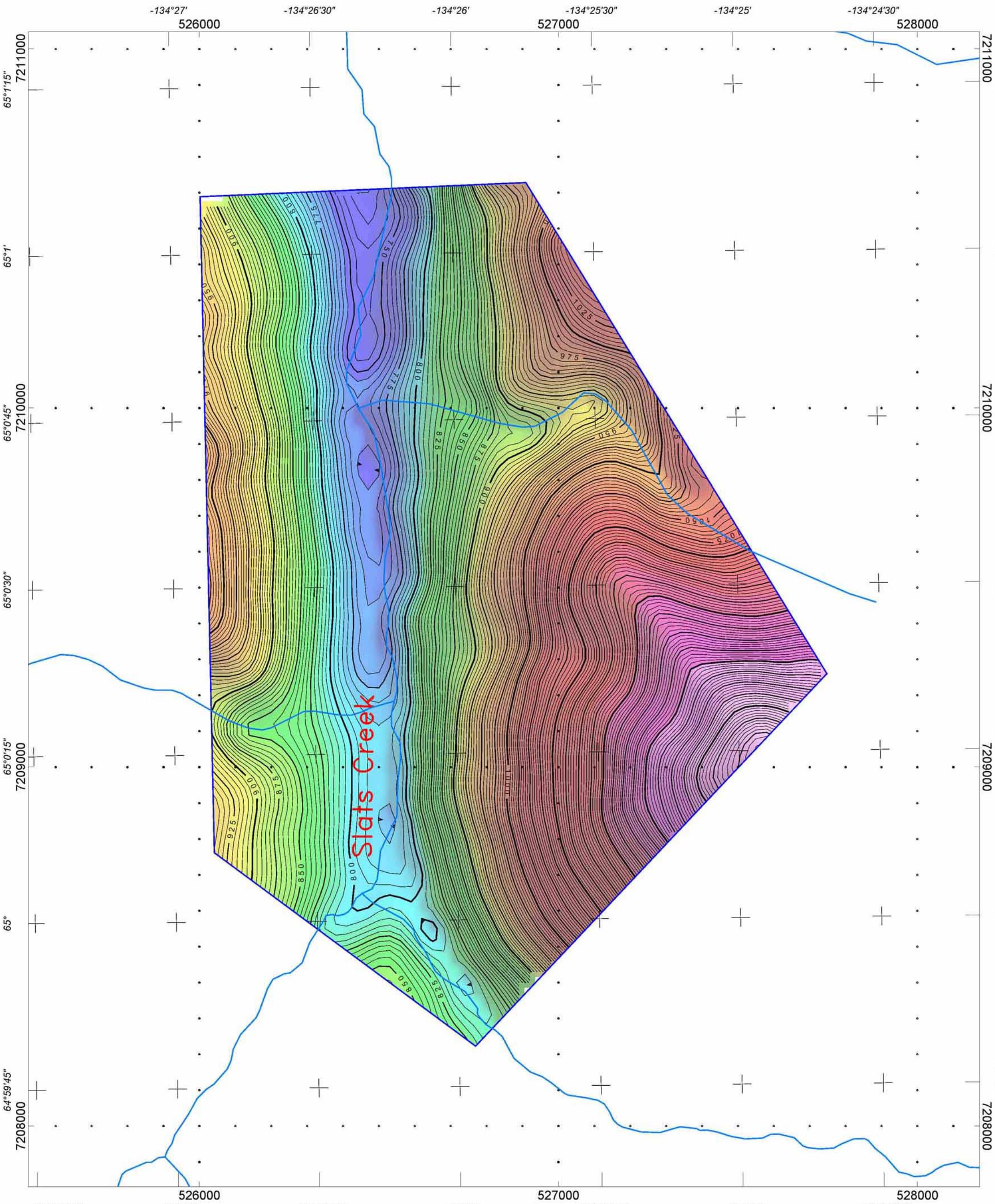
100 0 100 200 300 400 500 600 700
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Differentially Corrected GPS Flight Path
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
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AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

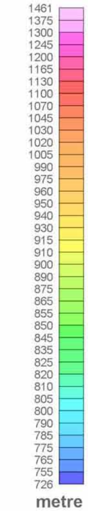
AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course

Contour Legend

5 m
25 m
100 m



Scale 1:10000

100 0 100 200 300 400 500 600 700
metres
NAD83 / UTM zone 8N

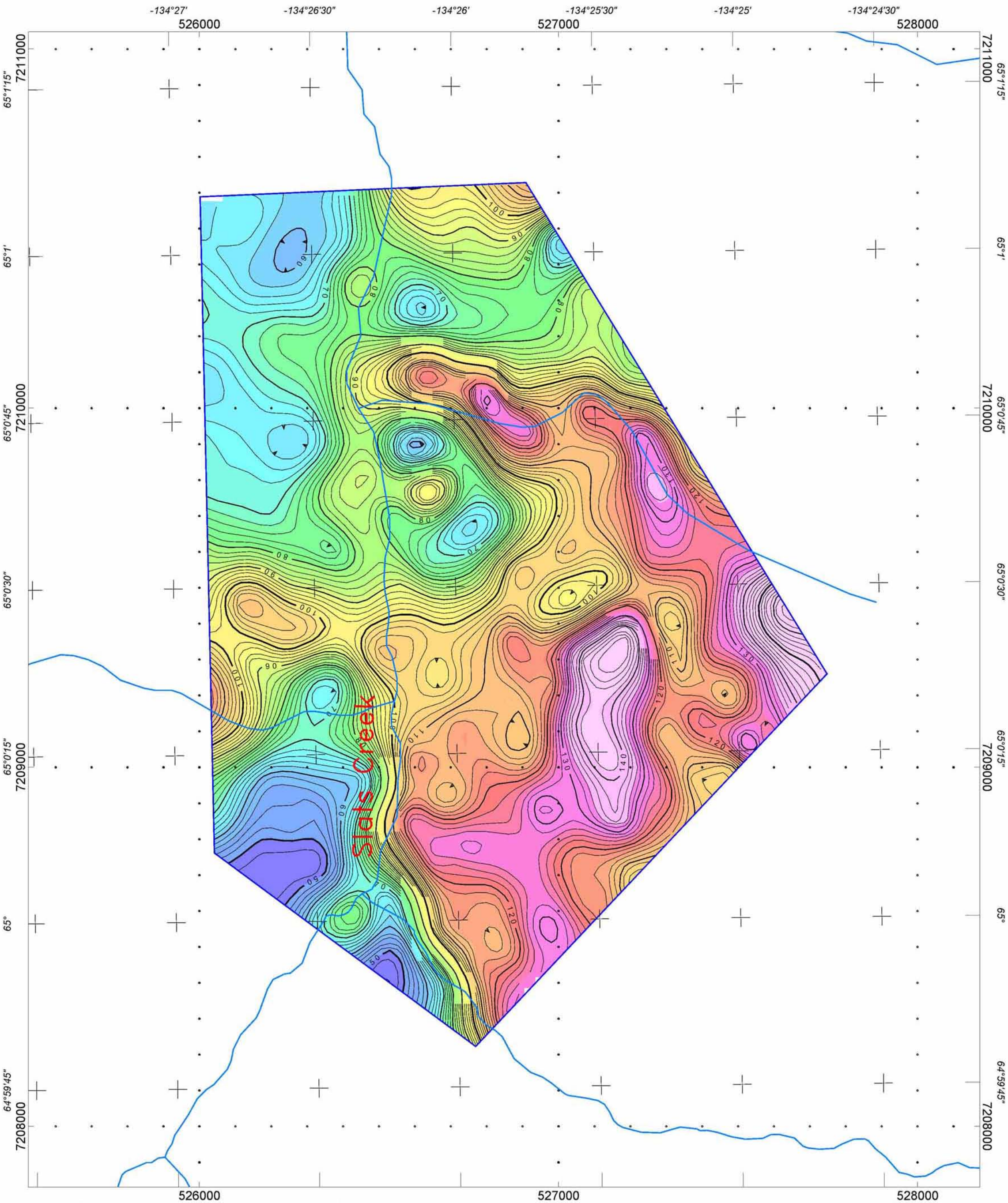
McPHAR

Signet Minerals Inc.

Digital Terrain Model Calculated from Survey Data
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

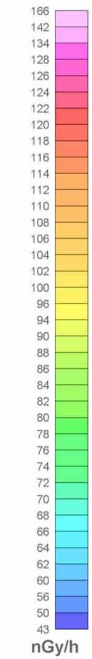
AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course

Contour Legend

2 nGy/h
10 nGy/h
50 nGy/h



Scale 1:10000

100 0 100 200 300 400 500 600 700
metres
NAD83 / UTM zone 8N

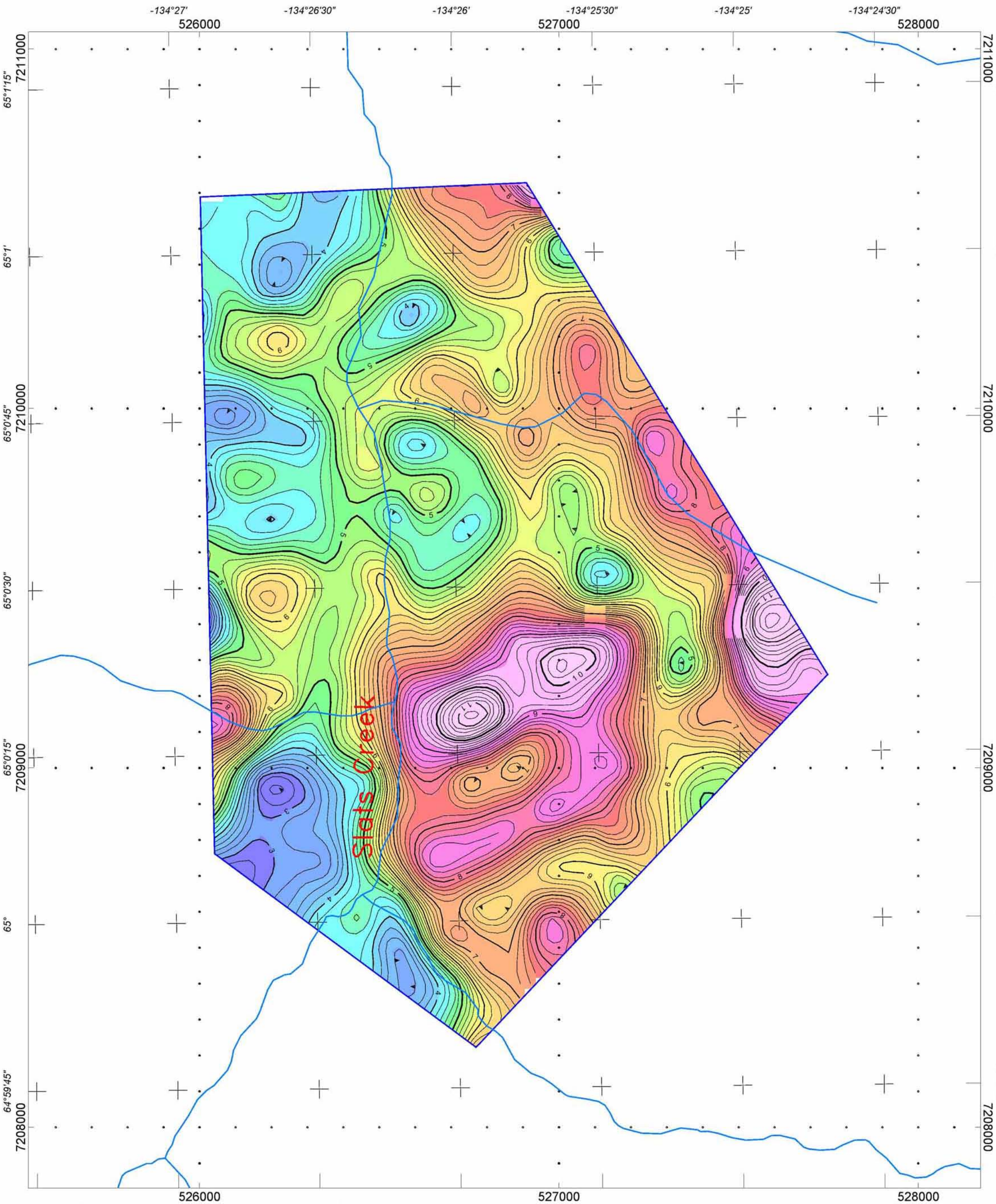
McPHAR

Signet Minerals Inc.

Apparent Dose Rate Calculated from Total Count (TC)
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

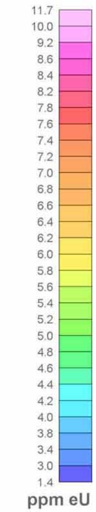
AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

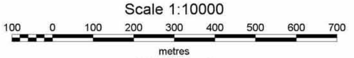
Water Course

Contour Legend

0.2 ppm eU
1 ppm eU
5 ppm eU



Scale 1:10000



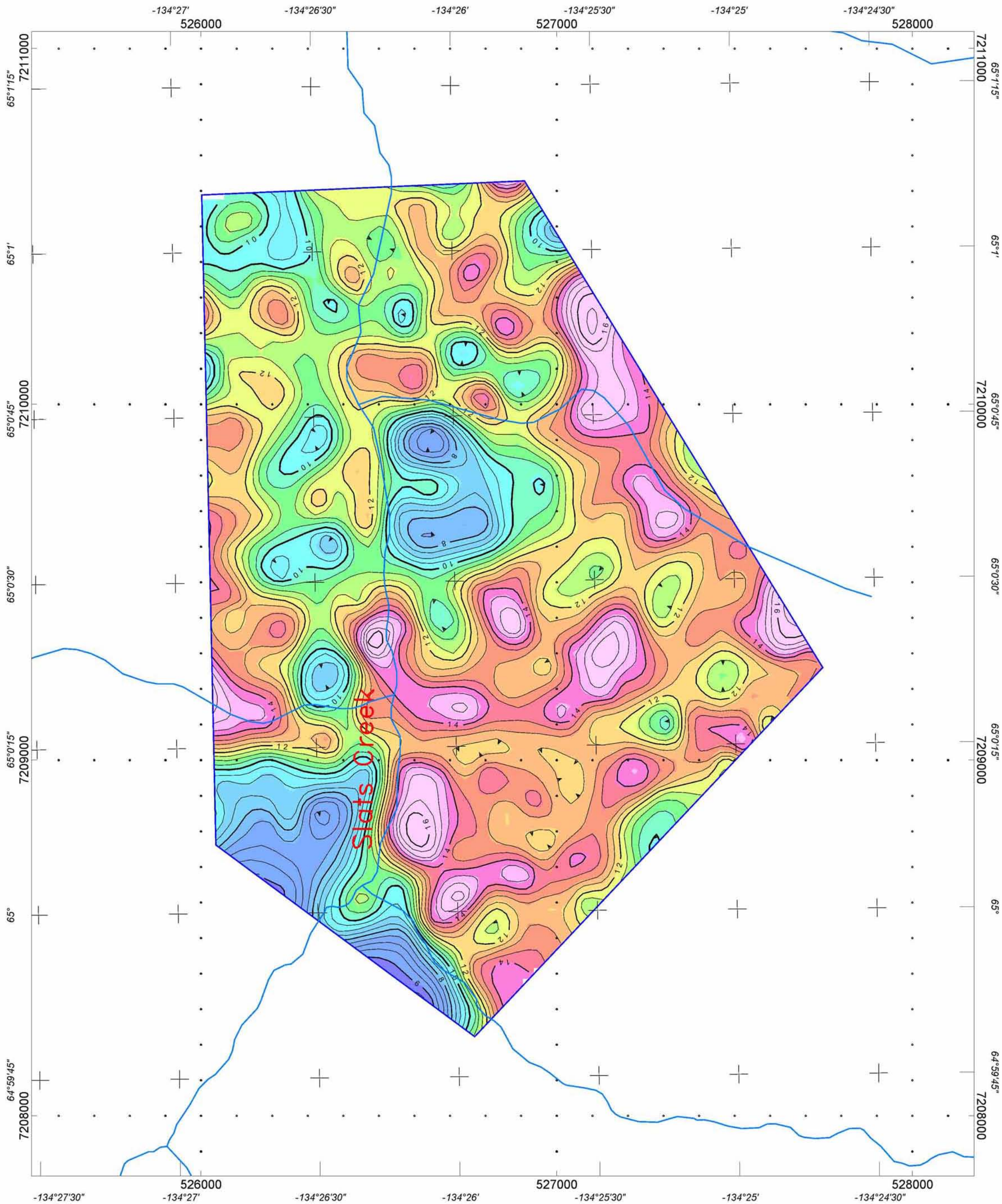
McPHAR

Signet Minerals Inc.

Apparent Concentration of Uranium (U)
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

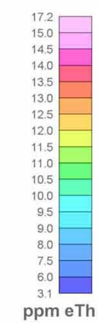
AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course

Contour Legend

0.5 ppm eTh
2 ppm eTh
10 ppm eTh



Scale 1:10000

100 0 100 200 300 400 500 600 700
metres
NAD83 / UTM zone 8N

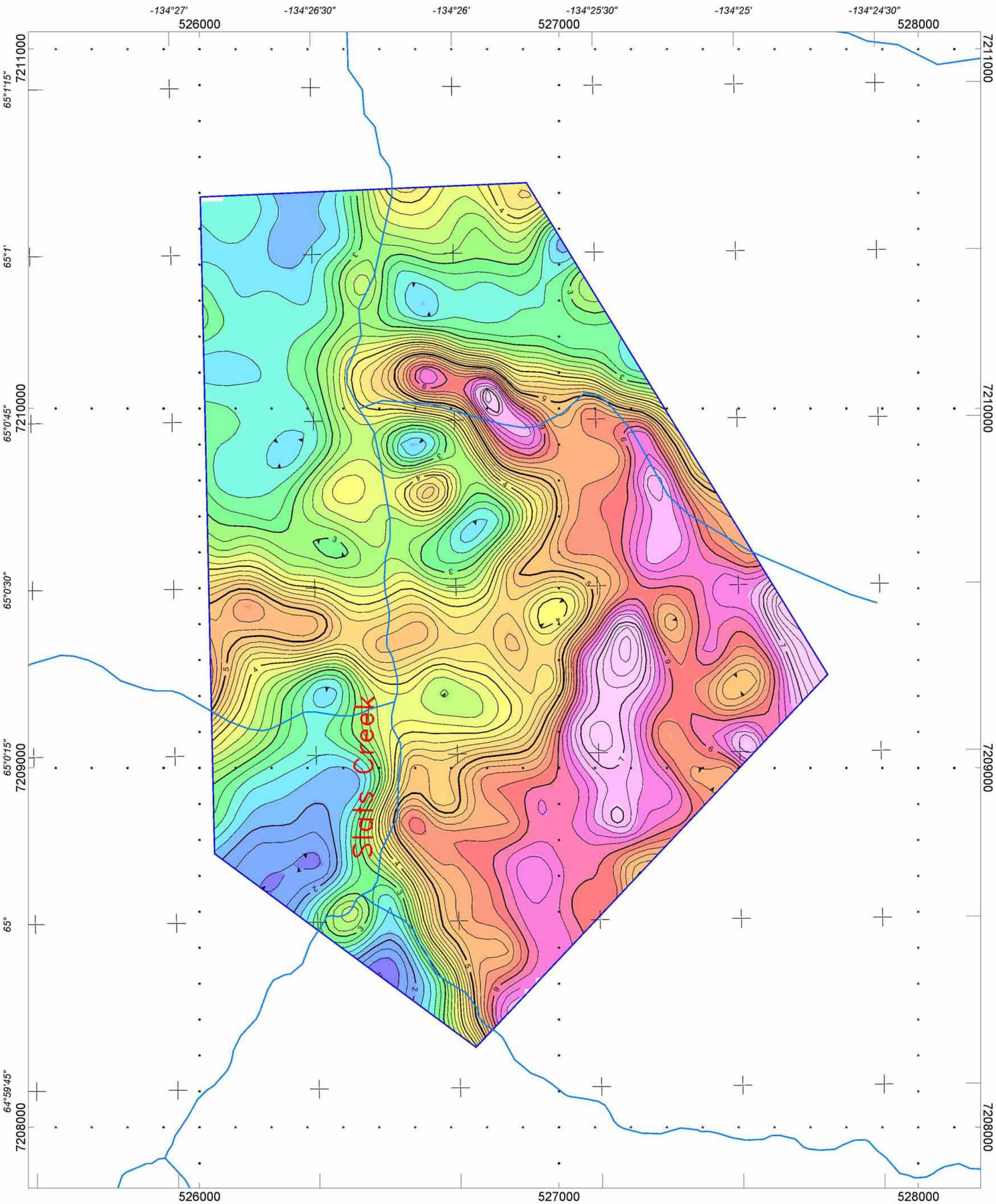
McPHAR

Signet Minerals Inc.

Apparent Concentration of Thorium (Th)
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course

Contour Legend

0.2 %
1 %
5 %

8.1
7.0
6.6
6.4
6.2
6.0
5.8
5.6
5.4
5.2
4.8
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
3.0
2.8
2.6
2.4
2.2
2.0
1.6
1.3
%

Scale 1:10000

100 0 100 200 300 400 500 600 700
metres
NAD83 / UTM zone 8N

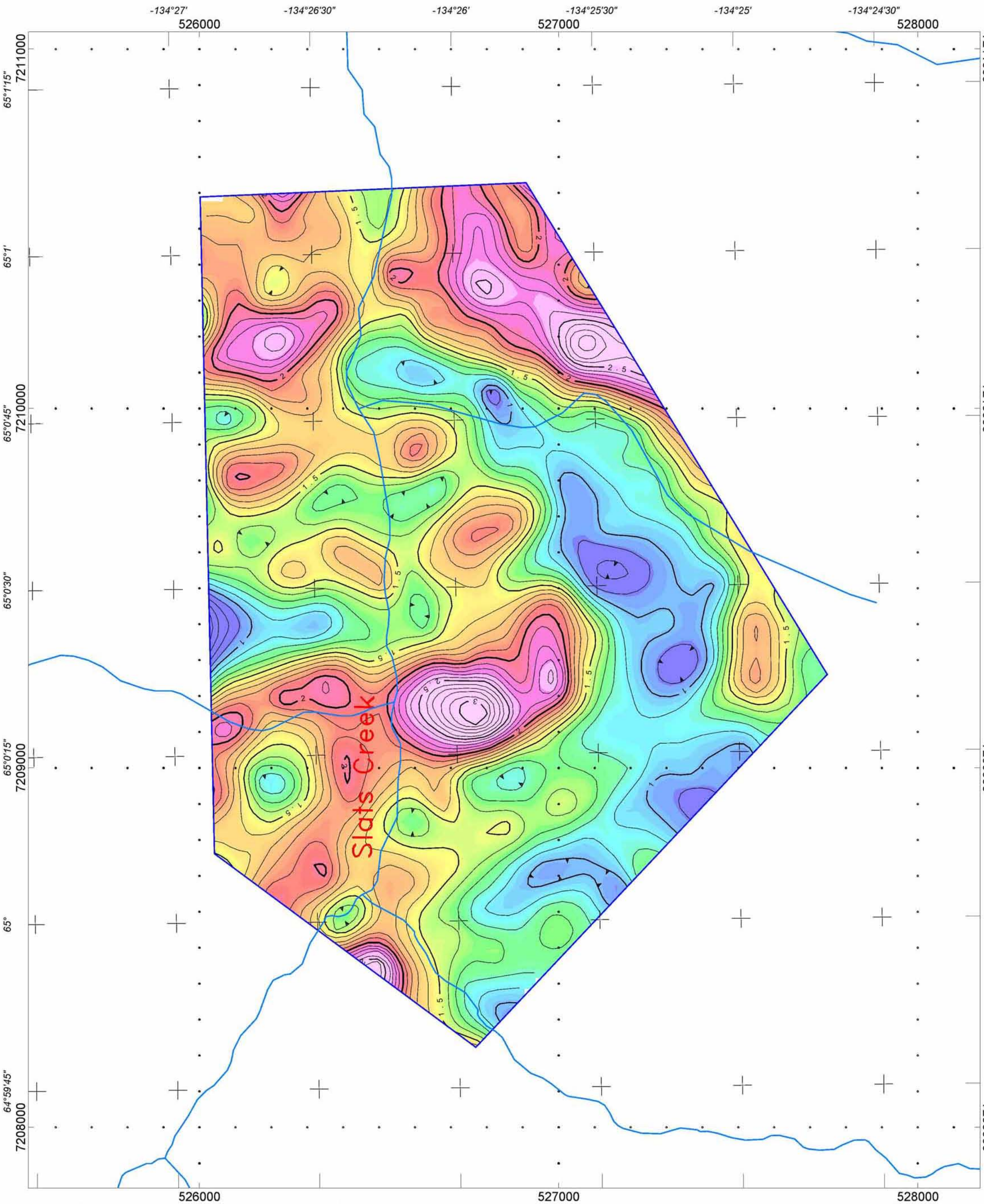
McPHAR

Signet Minerals Inc.

Apparent Concentration of Potassium (K)
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

SURVEY PARAMETERS:

Mean Terrain Clearance: 50 (Helicopter)
Traverse Line Spacing: 150 m
Traverse Line Direction: 60º

AIRBORNE GAMMARAY SPECTROMETER:

Pico-Envirotec GRS-410 multi-channel gamma-ray spectrometer
with 16.8 liters "downward looking" NaI sensor
Sampling Rate: 1 readings/second
Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

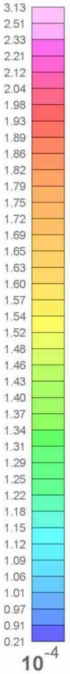
AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course

Contour Legend

0.1
0.5
2



Scale 1:10000

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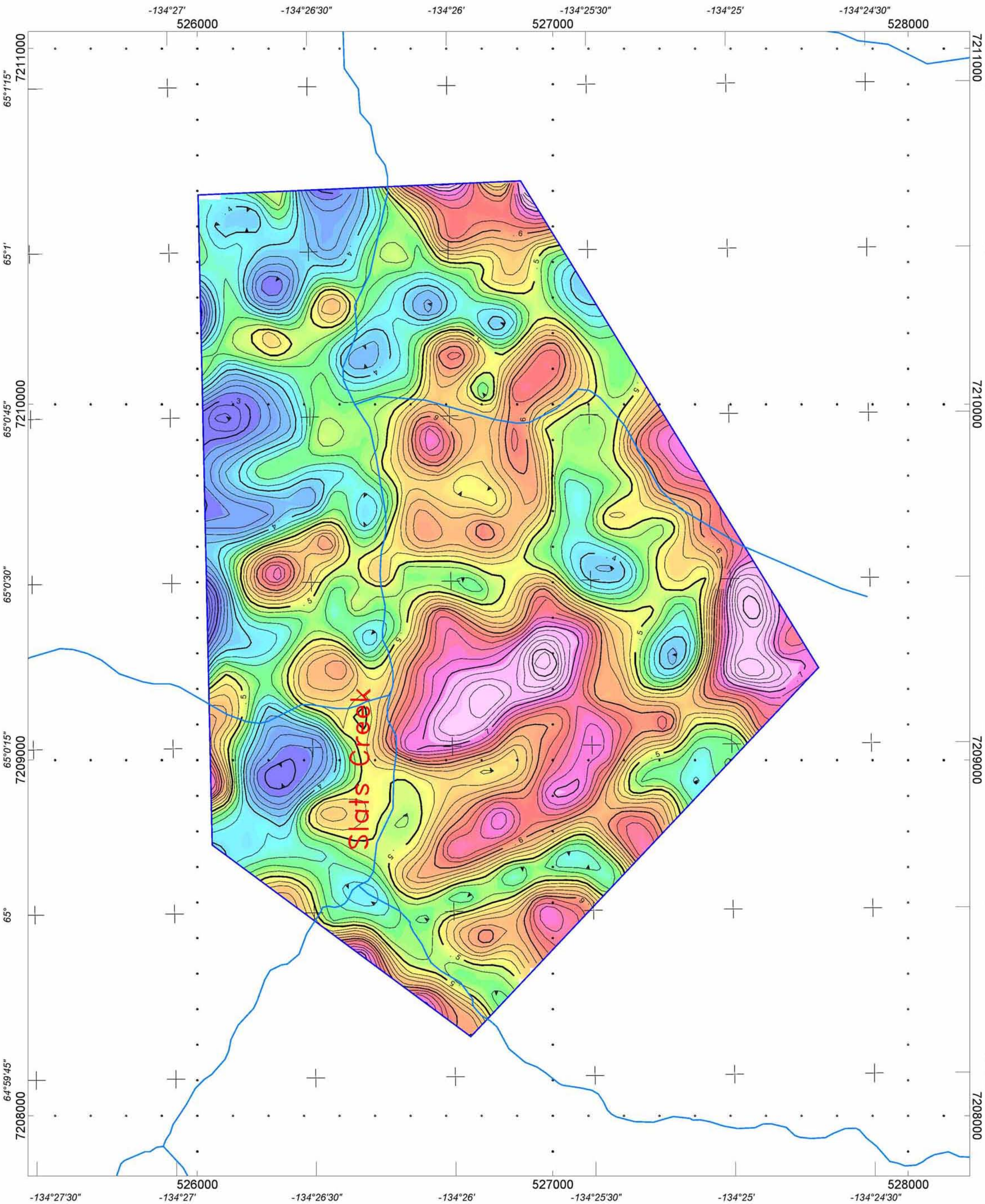
metres
NAD83 / UTM zone 8N

Signet Minerals Inc.

Uranium/Potassium Ratio Map (U/K)
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

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Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

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Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course

Contour Legend

0.02
0.1
0.5

0.91
0.74
0.70
0.68
0.67
0.65
0.63
0.62
0.61
0.60
0.59
0.58
0.57
0.56
0.55
0.54
0.53
0.52
0.51
0.50
0.49
0.48
0.47
0.46
0.45
0.44
0.43
0.42
0.41
0.40
0.39
0.37
0.35
0.31
0.10

Scale 1:10000

100 0 100 200 300 400 500 600 700
metres
NAD83 / UTM zone 8N

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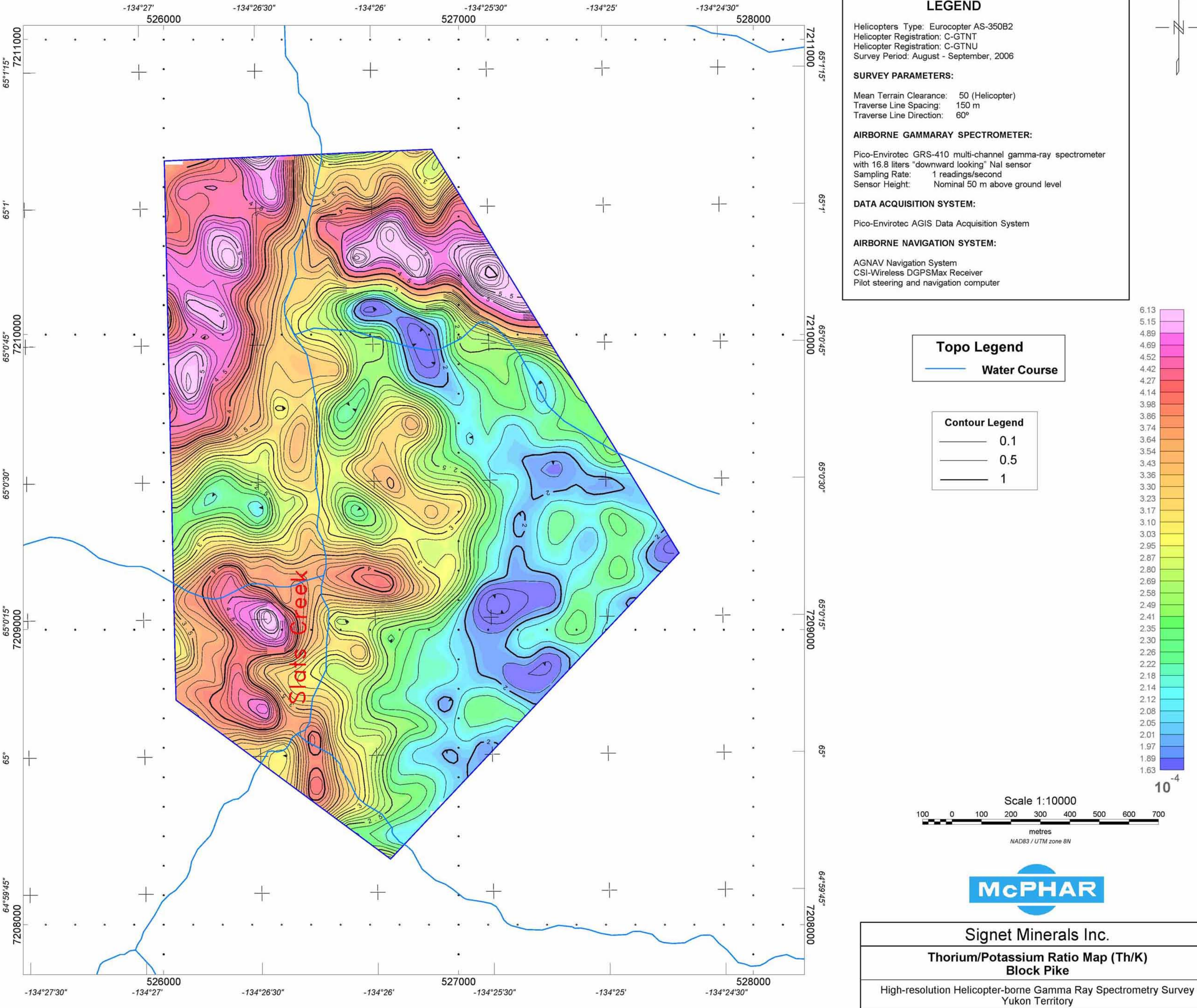
Uranium/Thorium Ratio Map (U/Th)
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



LEGEND

Helicopters Type: Eurocopter AS-350B2
Helicopter Registration: C-GTNT
Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

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Sensor Height: Nominal 50 m above ground level

DATA ACQUISITION SYSTEM:

Pico-Envirotec AGIS Data Acquisition System

AIRBORNE NAVIGATION SYSTEM:

AGNAV Navigation System
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

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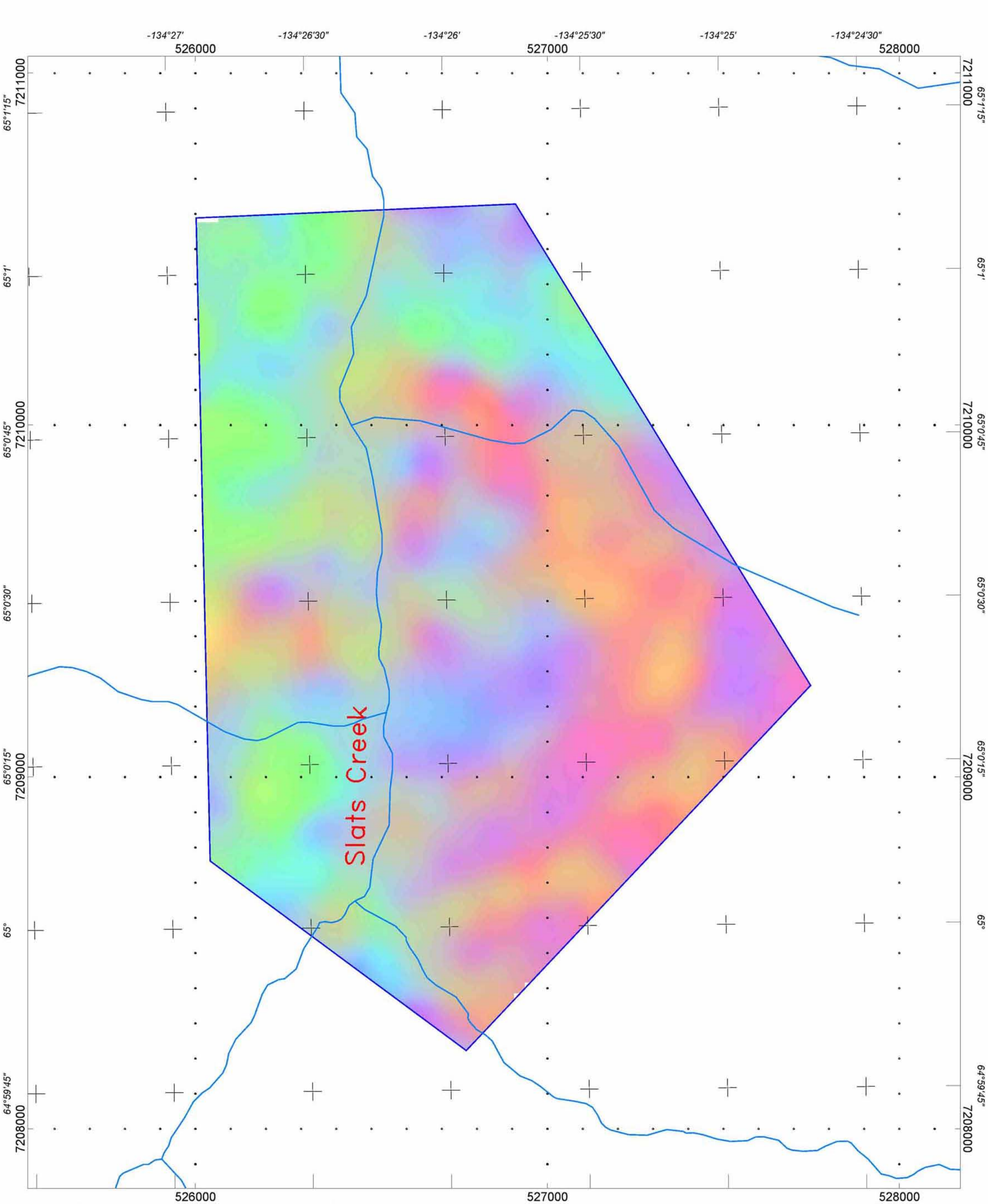
Thorium/Potassium Ratio Map (Th/K)
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.



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Helicopter Registration: C-GTNU
Survey Period: August - September, 2006

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Pico-Envirotec AGIS Data Acquisition System

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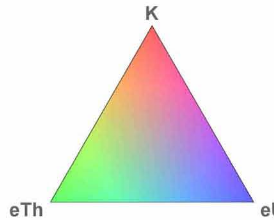
CSI-Wireless DGPSMax Receiver
Pilot steering and navigation computer

Topo Legend

Water Course



Scale 1:10000

100 0 100 200 300 400 500 600 700
metres
NAD83 / UTM zone 8N

McPHAR

Signet Minerals Inc.

Ternary Radio Element Map
Block Pike

High-resolution Helicopter-borne Gamma Ray Spectrometry Survey
Yukon Territory

McPhar Geosurveys Ltd.