

# MAR 20070027: COLD LAKE

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## **2006 Mineral Exploration Activities on the Cold Lake Project, East-central Alberta**

**An assessment Report Prepared for Sandswamp Exploration Ltd.  
by Diamondex Resources Ltd.**

### **Part "B"**

Permit Number: 093 9305090639

Location:  
NTS: 73L/09  
ATS: Twp 65-66, Rg 1-2, W4th

Author: Karen-Jane Weir, MSc. &  
David B. Clarke, P.Geol

Date: October 17<sup>th</sup> 2006

## **Part “B”**

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Note: Appendix E has been added to the original Diamondex report

## **Summary**

The Cold Lake Project area is located in east-central Alberta, Canada, approximately 250 km northeast of Edmonton, and 20 km north of the city of Cold Lake. The permit falls between 54.59° – 54.70°N latitude and 110.31° - 110.13°W longitude on NTS map sheets 73L/09.

Diamondex Resources Ltd. entered in to an option agreement with Sandswamp Exploration Ltd. to potentially acquire a 100% interest in the permit. The Cold Lake Project is comprised of a single permit covering an area of 9,216 hectares.

The Cold Lake Project 2006 field program was conducted between May through June 2006. A 1,083 line-km fixed-wing high resolution airborne magnetics (HRAM) survey was completed over the permit between 22 May through 25 June 2006. No kimberlite prospective anomalies were returned from this survey. Diamondex Resources Ltd. currently has no further work planned for the Cold Lake Project.

Expenditures for the 2006 exploration program total \$22,242.86.



## **Introduction**

This report is a summary of the exploration activities undertaken by Diamondex Resources Ltd on permit 93050219001, referred to as the Cold Lake Project. Exploration activities included limited indicator mineral sampling and a fixed-wing airborne magnetics survey. This survey was completed between May and June 2006, and focussed on locating prospective kimberlite anomalies within the project area.

## **Location**

The Cold Lake Project is located in east-central Alberta. The permits are located on NTS map sheet 73L/09. The legal locations of the permits are Tp 65-66, Rg 1-2, West of the 4<sup>th</sup> Meridian. The coordinates that encompass the permits are 54.59 – 54.70°N latitude and 110.31 – 110.13°W longitude (Figure 1,2).

The project area is accessible by road and air. The airborne geophysical survey was based out of Calgary and Bonnyville, AB.

## **Work Performed and Results**

### **Fixed-wing Airborne Geophysics**

A high-resolution, high-sensitivity aeromagnetics survey (HRAM) was completed over the Cold Lake Project area between 22 May 2006 and 25 June 2006. A total of 1,083 line-kilometers of high resolution magnetics were flown over the project area (Figure 3). The fixed-wing survey was flown with a Piper PA-31 Navajo aircraft by Firefly Aviation Ltd., with field operations based out of Bonnyville, AB. The survey line-spacing was 100m, flown at an average altitude of 60m above ground. Survey details and parameters are contained in Appendix A. Survey results are contained in Appendix B.

### **Geophysical Survey Results**

No high-priority kimberlite prospective anomalies were obtained from the airborne geophysical survey completed over the Cold Lake Project area. A total of 16 low priority anomalies were found with the survey, and are located in Appendix C (Figure 4). These low priority anomalies are not considered to be indicative of kimberlite by Diamondex Resources' geophysicists, hence no further work on these anomalies is currently planned.

### **Indicator Mineral Sampling**

A single indicator mineral sample was obtained from the Cold Lake Project area in June 2006 (Figure 5). The sample consisted of ~4 kg of garnet-rich beach sand from the eastern shore of Marie Lake. The sample was sieved in the field at the sample site using a 2mm screen. Garnet-rich layers at the sample site were preferentially collected for the sample. Once collected, the sample was sealed in a plastic tub and shipped to Saskatchewan Research Council's (SRC)

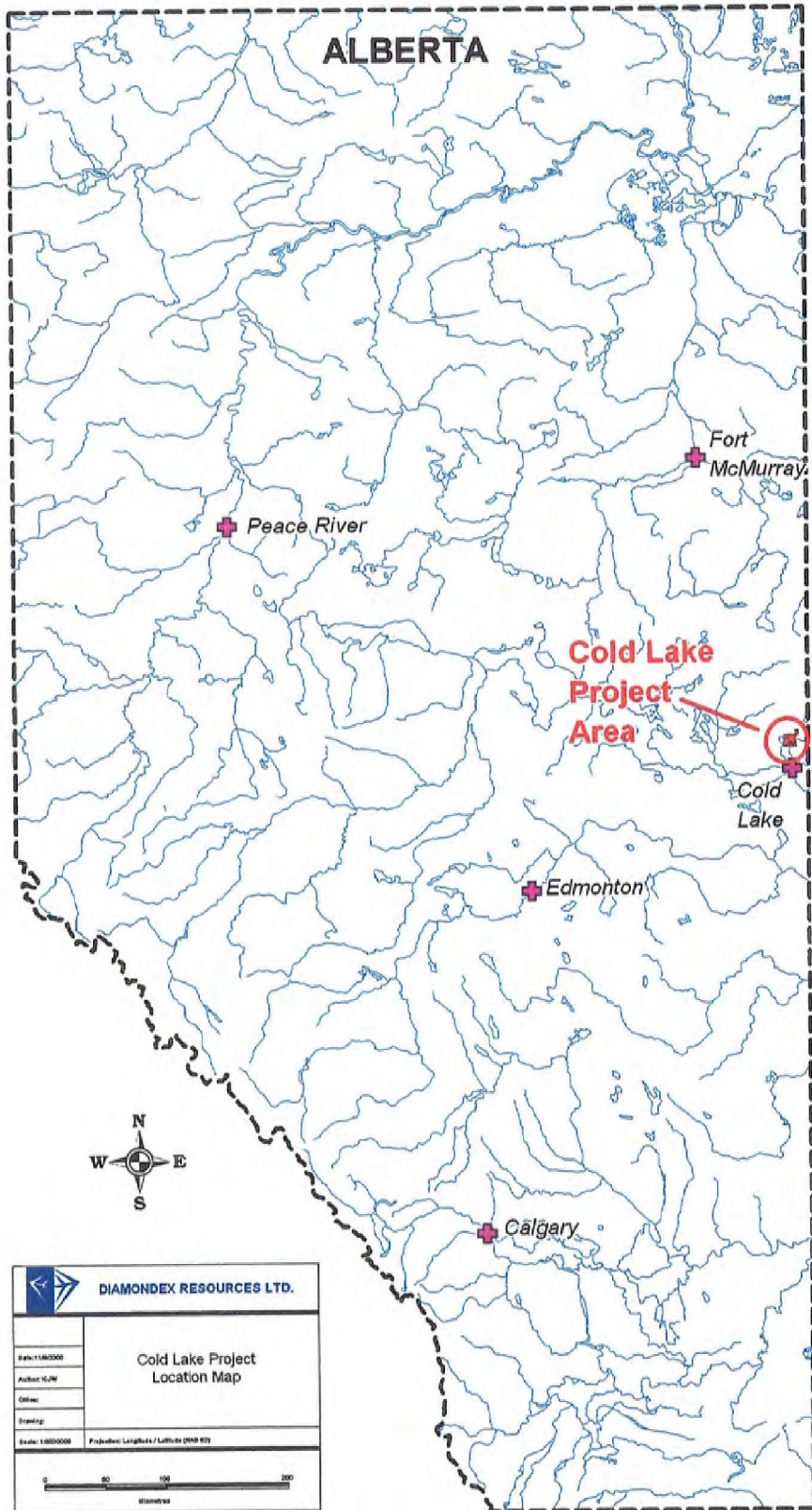


Figure 1: Cold Lake Project Location Map

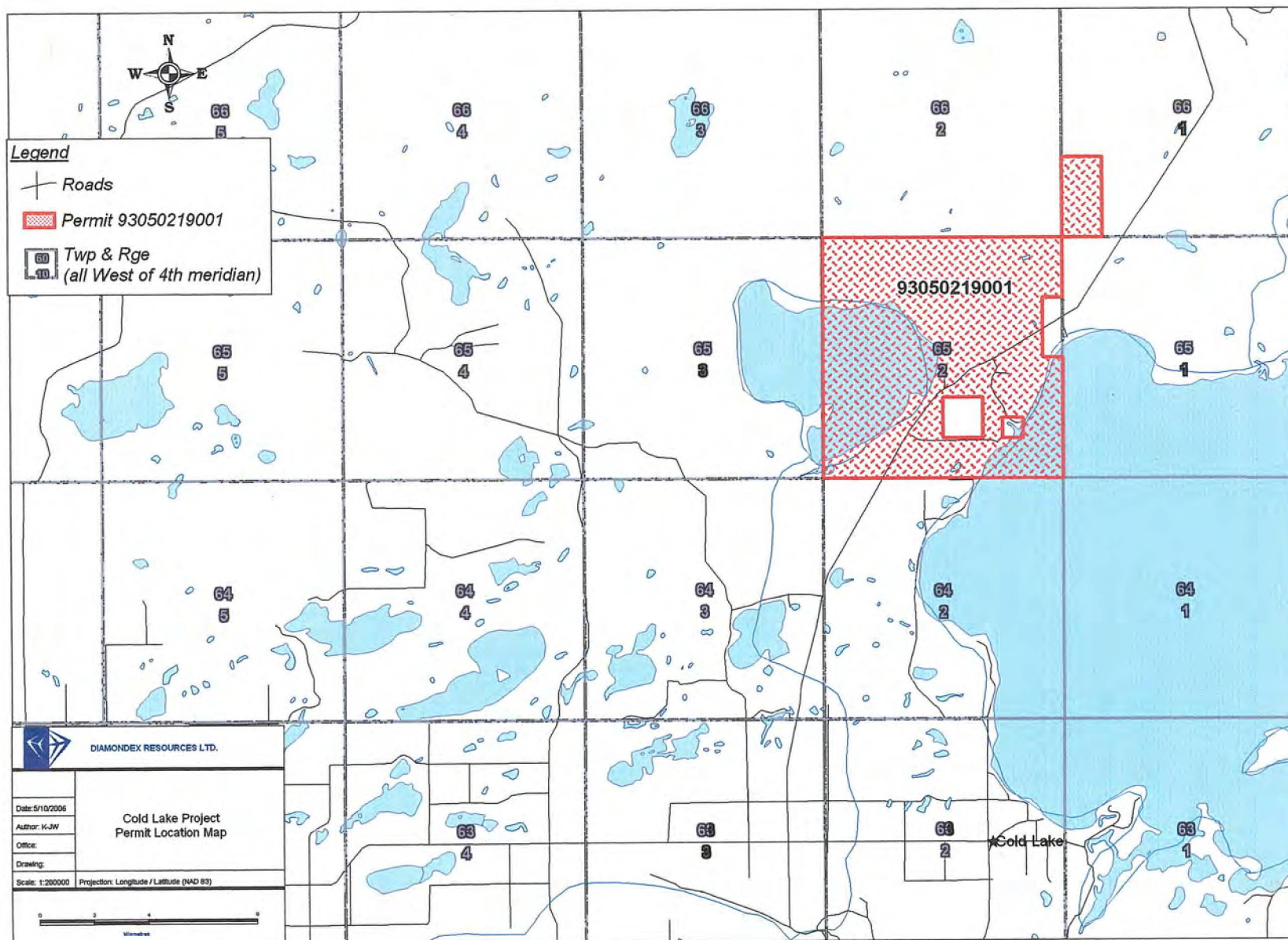


Figure 2: Cold Lake Project Permit Location Map



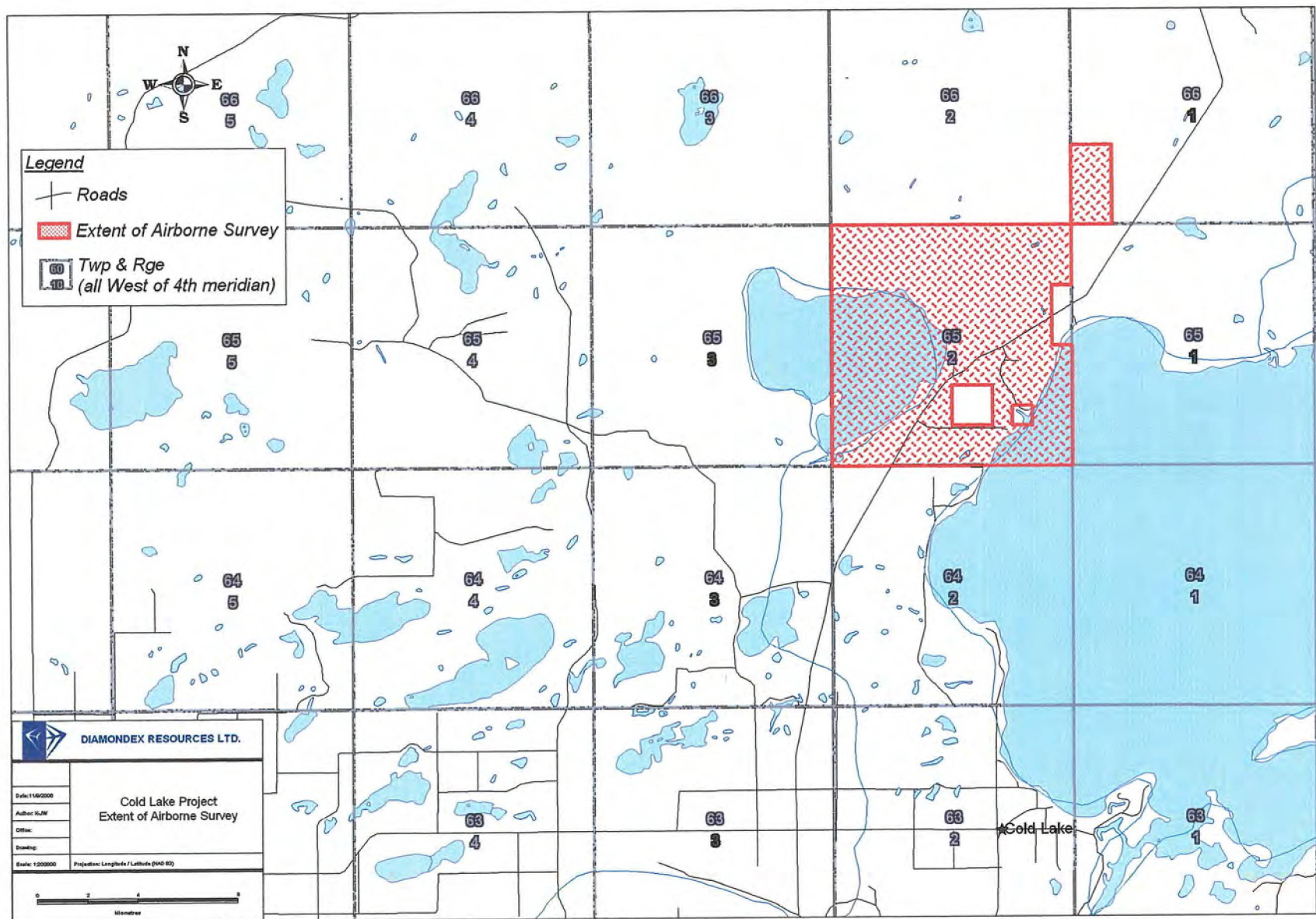


Figure 3: Cold Lake Project Airborne Magnetics Survey Extent

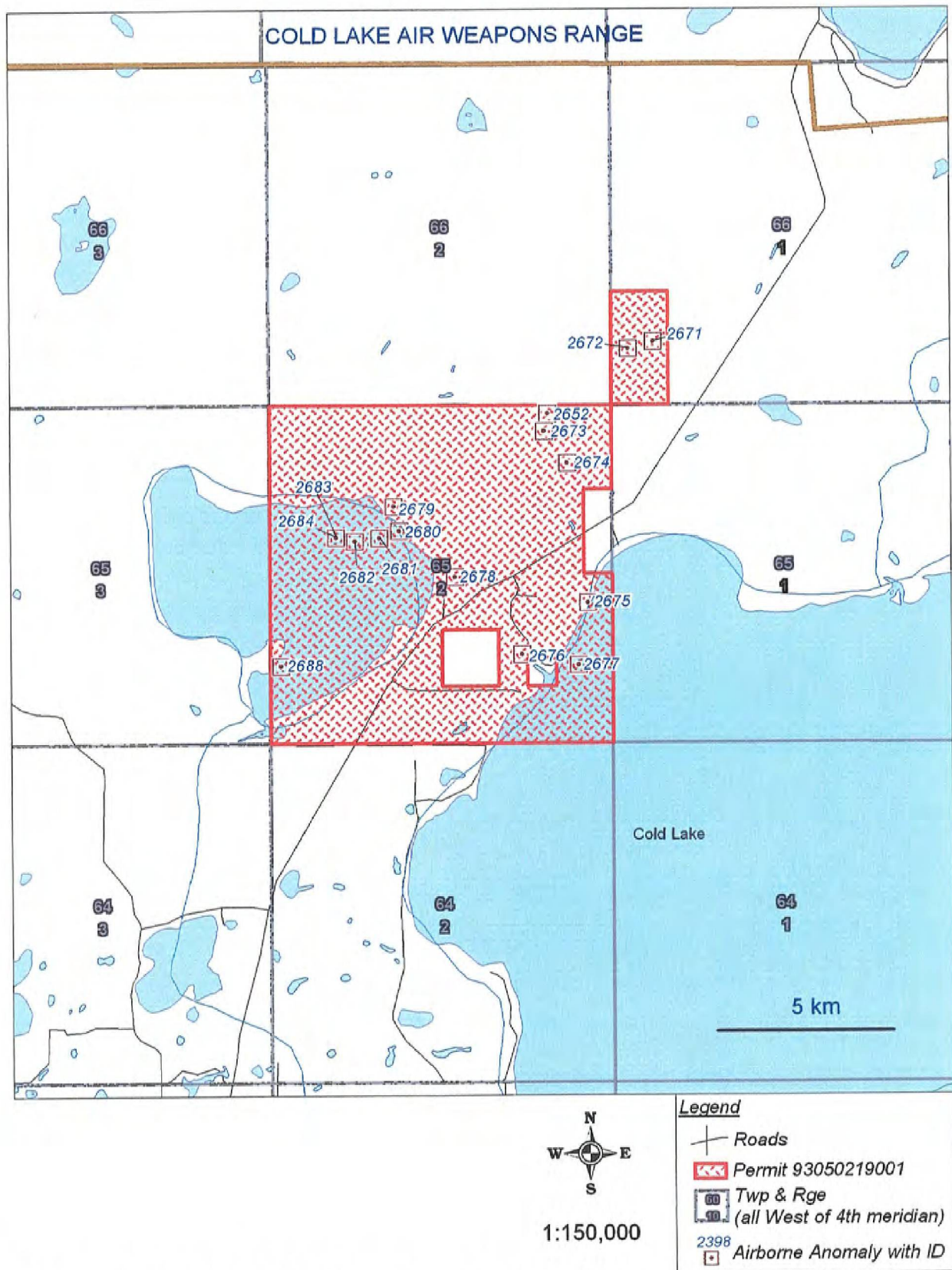


Figure 4: Cold Lake Project Airborne Anomaly Location Map



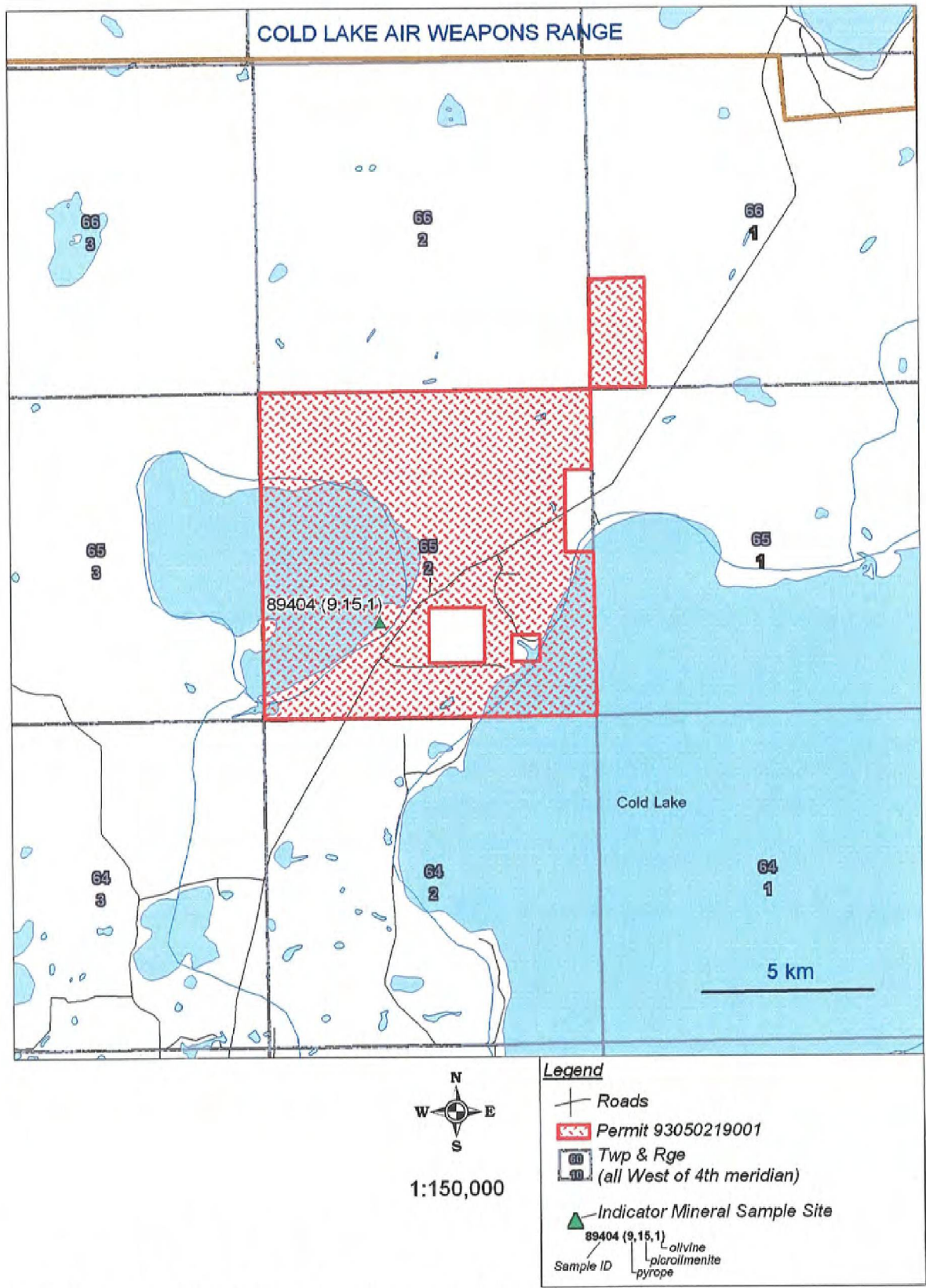


Figure 5: Cold Lake Project Indicator Mineral Sample Map

laboratory in Saskatoon for processing. Due to the high abundance of garnet in the sample, the sample was halved prior to processing, with only a fraction of the returned heavy mineral concentrate observed for kimberlitic indicator minerals. In-house staff of Diamondex Resources Ltd. observed the sample concentrate for pyrope, picroilmenite, chromite, chrome-rich diopside and olivine.

**Indicator Mineral Sampling Results**

Within the observed fraction of the heavy mineral concentrate, a total of 9 pyropes, 15 picroilmenites and 1 olivine were identified.

Sample ID	Easting NAD83	Northing NAD83	Pyrope	Picroilmenite	Chromite	Chrome Diopside	Olivine
89404	548,129	6,052,052	9	15	0	0	1

**Conclusions**

Exploration to date for kimberlite prospective targets on the Cold Lake Project has been limited to a fixed-wing aeromagnetics survey (HRAM) geophysical survey evaluation and sparse indicator mineral sampling. No kimberlite prospective targets were generated from the aeromagnetics survey or the indicator mineral sampling. No further work is planned for at this time for the Cold Lake Project area.

**References**

Evans, B.T. (2006): *Pegasus Project Primrose-Cold Lake Area, Alberta. High resolution aeromagnetic survey (HRAM) Logistical Report.* Prepared for Diamondex Resources Ltd.

## **Author of the Report/Qualifications**

### **STATEMENT OF QUALIFICATIONS – KAREN-JANE WEIR**

I, Karen-Jane Weir, of 1410-650 West Georgia Street, Vancouver, V6B 4N8 in the Province of British Columbia, do hereby certify:

- a) I am currently employed as Project Geologist with Diamondex Resources Ltd., 1410 – 650 West Georgia St., Vancouver, B.C., V6B 4N8.
- b) I am a graduate of the University of Western Ontario, London, Ontario, with a B.Sc. (with Honours) in Geology in 1993, and Queen’s University, Kingston, Ontario, with an M.Sc. in Geology in 1999. I have been employed in the mineral exploration industry since graduation in 1993.
- c) I most recently visited the project area in June 2006.
- d) D. Clarke and myself are responsible for the preparation and compilation of all sections of this report.
- e) I have been involved with the project since 2005.

**Dated “6 October 2006”**

**K-J Weir, M.Sc.**

**Signed “Karen-Jane Weir”**

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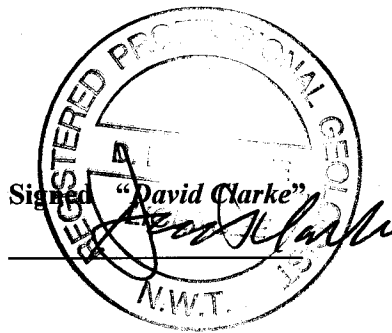


## STATEMENT OF QUALIFICATIONS – DAVID B. CLARKE

I, David B. Clarke, of 1410-650 West Georgia Street, Vancouver, V6B 4N8 in the Province of British Columbia, do hereby certify:

- a) I am presently employed as Vice President of Exploration by Diamondex Resources Ltd., 1410-650 West Georgia St., Vancouver, B.C., V6B 4N8.
- b) I am a graduate of the University of Alberta, Edmonton, Alberta, with a B.Sc. in Geology (1990), and of Queen's University, Kingston, Ontario with a M.Sc. in Mineral Exploration (1996). I have been employed in the mineral exploration industry since 1991 and have practiced my profession since graduation. I am a registered licensee with the Association of Professional Engineers, Geologists and Geophysicists of the Northwest Territories.
- c) I most recently visited the subject project area in November 2005.
- d) K-J Weir and myself are responsible for the preparation and compilation of all sections of this report
- e) I have been involved with the project since 2005.

Dated "6 October 2006"  
D.B.Clarke P.Geol.



Part "C"

**APPENDIX A Airborne Geophysical Survey Logistics Report**

**PEGASUS PROJECT  
PRIMROSE-COLD LAKE AREA, ALBERTA**

**HIGH RESOLUTION AEROMAGNETIC  
SURVEY (HRAM)  
LOGISTICAL REPORT**

**For**

**DIAMONDEX RESOURCES LTD.**

**August 2006**

**By**

**Bruce T. Evans, P.Geol.  
Firefly Aviation Ltd.  
Calgary, Alberta, Canada**

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## 1.0 INTRODUCTION

This report describes the specifications and operations of an airborne geophysical survey carried out for Diamondex Resources Ltd. on the Primrose and Cold Lake Property area by Firefly Aviation Ltd., during May and June 2006. The Firefly Aviation Ltd. Offices are located at Unit #4 550 Hurricane Drive, Springbank Airport, Calgary, Alberta T3Z 3S8. Telephone (403) 246-8083, fax (403) 202-1493.

The purpose of a survey of this type was to acquire high resolution, high sensitivity aeromagnetic data over an area located east of Bonnyville, Alberta. The end result of the HRAM data processing was to provide detailed data to assess the area for anomalies and magnetic features pertaining to their relevance in the local geology.

To achieve this purpose, the survey area was systematically traversed by an aircraft carrying geophysical instruments along parallel flight lines (traverses) spaced 100 meters apart in a north south alignment. The lines were flown normal to the traverses spaced at 1000 meters. The nominal flying height was a best-fit draped 60 meters above the terrain surface. Between 8 June 2006 and 24 June 2006 the total number of line kilometres flown and accepted are 4,240 km.

## 2.0 SURVEY AREA

The survey area is located in St. Paul - Bonnyville area, approximately 50 kilometres north east of the town of Bonnyville, Alberta, and immediately north of the town of Cold Lake. The survey was conducted over an area as defined by Diamondex Resources Ltd. The area of the survey is outlined by the co-ordinates included in the appendices of this report.

## 3.0 EQUIPMENT SPECIFICATIONS

### 3.1 AIRCRAFT

The survey was carried out using a Cessna U206G aircraft, registration C-GWAS, configured with a specially designed rigid-mount tail boom for geophysical survey operations. The aircraft is equipped with a high sensitivity magnetometer and a full on-board real time compensation recording computer, and related equipment. It is a single engine aircraft with full avionics, including real time differential 3D GPS navigation.

The aircraft has been modified to conduct airborne geophysical surveys. Considerable effort has been made to remove all ferruginous materials near the sensor and to ensure that the aircraft electrical systems do not create any noise.

The following table lists the relevant aircraft flight parameters for conducting HRAM surveys.

TYPE	Registration	TSOH HOURS	FUEL CAPACITY	CRUISE (kts)	SURVEY ENDURANCE
Cessna U206G	C-GWAS	~1400.0 hours	130 gallons, AVGAS 100/130	110 knots Survey: 110 kts	9.0 hours

Normal Climb/Descent Gradient 1,000 FPM \*\*

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Survey Fuel Consumption        ~ 15.0 gph

\* TSOH = Time Since Overhaul

\*\* This is best rate of climb at SL at gross weight as indicated in the U206G pilots' operating manual; short duration rate of climb is much higher, dependent on outside temperature.

### 3.2 AIRBORNE GEOPHYSICAL EQUIPMENT

The airborne geophysical system has one high sensitivity, cesium vapor magnetometer. Ancillary support equipment include tri-axial fluxgate magnetometer, radar altimeter, barometric altimeter, GPS receiver and a navigation system which includes a left/right indicator and a screen showing the survey area with real time flight path. All data are collected and stored by the data acquisition system. The following provides the detailed equipment specifications.

#### Cesium Vapor Magnetometer:

Manufacturer	Geometrics
Model	G-822
Resolution	0.001 nT counting @ 0.1 per second
Sensitivity	+/-0.005 nT
Dynamic Range	15,000 to 100,000 nT
Fourth Difference	0.02 nT

#### Tri-Axial Magnetic Field Sensor (for compensation, mounted in the tail boom proximal to the CS-2 pod):

Manufacturer	Billingsley Magnetics
Model	TFM 1000
Internal Noise	at 1 Hz - 1 kHz; 0.6 nT rms
Bandwidth	0 to 1 kHz maximally flat, -12 dB/octave roll off beyond 1 kHz
Frequency Response	1 Hz - 100 Hz: +/- 0.5% 100 Hz - 500 Hz: +/- 1.5% 500 Hz - 1 kHz: +/- 5.0%
Calibration Accuracy:	+/- 0.5%
Orthogonality	+/- 0.5% worst case
Package Alignment	+/- 0.5% over full temperature range
Scaling Error	absolute: +/- 0.5% between axes: +/- 0.5%

#### Radar Altimeter:

Manufacturer	King
Model	KRA-10A
Accuracy	5% up to 2,500 feet
Calibrate Accuracy	1%
Output	Analog for pilot; Converted to digital for data acquisition

#### Differential 3D GPS Receiver

Manufacturer	Novatel
Model	ProPack LB Plus
Differential Source	CDGPS
Type	Continuous tracking, L1 frequency, C/A code (SPS), 12 channel (independent)
Position Sensitivity	twice per second

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Accuracy	position (differentially corrected) ~1.0 meter position (SA implemented) 100 meters, position (no SA) 30 m, velocity 0.1 knot, time recovery 1 pps, 100 nsec pulse width
Data Recording	all GPS data and positional data logged by onboard DGR33A on compact flash

Navigation Interface (with pilot and operator readouts):

Manufacturer	AG-NAV Inc.
Model	P141
Data Input	Real time processing of GPS output data
Pilot Readout	Left/Right indicator / forward line projection screen
Operator Readout	Screen modes: map, survey and line
Data Recording	All data recorded in real time on Compact Flash disk via DGR33A

Data Acquisition System :

Manufacturer	RMS Instruments
Model	DGR33A with Chart Recorder
Operating System	MS-DOS
Microprocessor	RMS4183A
Memory	On board up to 128 MB, via SCSI Compact Flash Interface
Clock	real time; hardware implementation of MC14618 in the integrated peripherals controller
I/O Slots	5 AT and 3 PC compatible slots
Display	Electro – luminescent 640x400 pixels
Graphic Display	Scrolling analog chart simulation with up to 5 windows operator selectable; freeze display capability to hold image for inspection
Recording Media	128 MB SCSI Compact Flash Drive
Sampling	Programmable. Rate for this program set at 1 Hz.
Inputs	32 differential analog inputs
Serial Ports	2 RS-232/RS422
Parallel Ports	4 channel Serial I/O; 4 channel ARINC

Magnetometer Processor

Manufacturer	Geometrics
Model	
Input Range	20,000 - 100,000 nT
Resolution	0.001 nT
Bandwidth	0.7, 1 or 2 Hz
Input Signal	TTL, CMOS, Open collector compatible or sine wave with decoupler
Input Impedance	TTL > 1K Ohm

Magnetic compensation for aircraft and heading effects is done in real time. Raw magnetic values are also stored and thus if desired, compensation with different variables can be run at a later time.

Magnetic Compensation System:

Manufacturer	RMS Instruments
Model	AADCII
Operating System	MS-DOS
Inputs	1 to 4 high sensitivity magnetometers
Input Frequency Range	70khz to 350khz



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Magnetic Field Range	20,000 to 100,000 nT
Front End Counter	100 MHz
Resolution	1 pT
Compensation Perf.	Improvement ratio 10 to 20 typical for total field
Accuracy of Compens.	0.035 nT standard deviation for the entire aircraft flight envelope in the bandwidth 0 to 1 hz typical
Data Output Rate	10 hz maximum
Internal System Noise	less than 1 pT
Vector Magnetometer	3-Axis Fluxgate over sampled, 16 bit resolution
Outputs	3 Serial RS232C ports, max rate 19.2 Kbaud Magnetometer data output Direct Interface with GR33A Parallel output port, 16 bit with full handshaking 4 Analog outputs with 12 bit resolution.

Power Supplies:

- 1) Power Distribution Unit manufactured by Analytic Systems Ltd. interfaces with the aircraft power and provides filtered and continuous power at 27.5 VDC to all components.

### 3.3 MAGNETOMETER BASE STATION

High sensitivity base station data are provided by a GEM GSM-19 Overhauser magnetometer, data logging onto a dedicated PC module.

Magnetic Sensor:

GEM	GSM-19
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Magnetic Processor:

Manufacturer	GEM
Model	GSM-19 Overhauser Mag
Input Range	15,000 - 100,000 nT
Resolution	0.1 nT
Bandwidth	1 or 2 Hz
Input Signal	TTL, CMOS, Open collector compatible or sine wave with decoupler
Input Impedance	TTL > 1K Ohm

Logging Software:

Logging software by GEM-Terraplus Ltd. Compatible to PC with RS 232 input; supports real time graphics, automatic startup, compressed data storage, selectable start/stop times, automatic disk swapping, plotting of data to screen or printer at user selected scales, and fourth digital difference and diurnal quality flags set by user.

### 3.4 GPS BASE STATION

Ground GPS data was collected to perform any required post-flight differential correction to the flight path. The ground GPS base station equipment is described below:

Manufacturer	Novatel
Model	Novatel OEM2 Card

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Type	Continuous tracking, L1 frequency, C/A code (SPS), 10 channel WAAS Enabled
Position Update	once per second
Accuracy	with SA implemented 100 meters, no SA 30 meters, velocity 0.1 knot, time recovery 1 pps, 100 nsec pulse width
Data Recording	all GPS raw and positional data logged by PC based data logger

#### 4.0 SURVEY SPECIFICATIONS

##### 4.1 LINES AND DATA

Survey area coverage	A total of 4,240 survey line kilometers were collected.
Traverse Line Direction	270 and 090 degrees true azimuth.
Line Interval	100 m
Tie Line Interval	1000 m flown orthogonal to survey lines.
Terrain Clearance	60 meters drape mode.
Average ground speed	60 meters/second
Data point interval:	Magnetic: 6.0 meters relative ground spacing per sample point.

##### 4.2 TOLERANCES

- a) Line spacing: At no point did the traverse or control lines deviate more than one third of the designated flight line spacing over a period of one kilometer of line flown.
- b) Terrain clearance: All flight lines were within tolerance of the planned drape surface.
- c) Diurnal magnetic variation: As per spec, with data not acquired during magnetic storms or short term disturbances which exceeded survey spec.
- d) Missing data: Any lines with channels or portions of channels missing from the database were reflown.

##### 4.3 NAVIGATION AND RECOVERY

The satellite navigation system was used to ferry to the survey site and to survey along each line using UTM coordinates. The survey coordinates of the survey outline for navigation purposes and flight path recovery were calculated from the project area coordinates listed above.

The navigation accuracy is variable depending on the number and condition of the satellites, however with use of the real time differential 3D GPS navigation it is generally less than five meters and typically in the 1 to 3 meter range. Post-flight differential correction of the flight path, which corrects for satellite range errors, improves the accuracy of the flight path recovery to approximately within one to three meters.

##### 4.4 OPERATIONAL LOGISTICS

The main base of operations for the Pegasus Project HRAM survey was the community of Bonnyville (CYBF). The base station magnetometer and GPS equipment were located in a magnetically quiet location at the airport.

Fuel for the aircraft was purchased on site from the Bonnyville Flying Club. Accommodations for the field crew were secured in Bonnyville.

The field crew consisted of:           Olivier Nayet – Survey Pilot  
  Travis Reed/Jesse Jacobs – Equipment Operator

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Jeremy Weber – Field Data Processor

The processing crew was: Bruce Evans – Project Manager  
Jeremy Weber – Senior Processor, Quality Control  
Christopher Campbell (Intrepid Geophysics) – Final Processing and Map Production.

Field operations were conducted at the Pegasus project, Primrose – Cold Lake Property, between 8 June 2006 and 24 June 2006. The aircraft and crew mobilized to the project on 22 May 2006, and conducted initial calibration and compensation flights 22 May 2006. The aircraft and crew demobilized from the project area on 25 June 2006 and arrived back at the Calgary base the same day. The final acquisition flight was completed on 24 June 2006. There were a total of 11 accepted survey flights, including ferry and survey flights, compensation, and reflights. Unacceptable mission data flights are not included in this total.

## 5.0 DATA PROCESSING

After each mission the flight data was fully field processed and quality-checked. Each line of data was viewed on-screen, displaying raw mag, compensated mag, ground mag, noise, radar altitude, Lat./Long, flight path, and in-grid/out-of-grid. These, with the digital review, were the basis for the data QC. Any flight lines that exceeded the survey specifications due to aircraft positioning, diurnal variations or noise were noted for reflight, and forwarded to the flight crew for re-collection.

The generalized processing procedure during the survey consisted of the following:

- 1) Import all flight and base data into Geosoft.
- 2) Edit DIURNAL channel to remove any uncharacteristic spikes and linearly interpolate across any gaps.
- 3) Establish table of mean terrain clearances at intersection locations from tie line data to provide elevation guidance for survey line navigation. Grid differences in elevations at intersections of tie and survey lines to provide quality check on elevation control and tag any for reflight.
- 4) Edit flight path channels to remove any false spikes and linearly interpolate gaps.
- 5) Edit RAWMAG channel to remove any false spikes and linearly interpolate gaps.
- 6) Create new channel as  $MAGDC = (MAG1 - BASEMAG) + \text{base constant } (59656)$ .
- 7) Perform lag correction and heading correction to MAGDC channel.
- 8) Perform tie line leveling using all the survey line data to level the tie lines.
- 9) Perform preliminary survey line leveling using the leveled tie lines; preliminary leveled channel is labeled MAG\_PRELEV.
- 10) All data were viewed on the screen on a line-by-line basis using the interactive Geosoft Oasis Montaj database to inspect for quality, required tolerances and data integrity.
- 11) Produce preliminary flight path map and gridded magnetic intensity map including shadowing.
- 12) Plot survey line and tie line flight paths and profiles for quality control inspection.

## 5.1 DATA PRODUCTS

For the purposes of the Diamondex Resources Ltd. Pegasus Project, Ashmont Property Area, Firefly has been contracted to provide a complete data set which includes final micro-leveling, processing and

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plotting. Plotted products include a) *Total Magnetic Intensity* b) *Calculated 1<sup>st</sup> Vertical Derivative* and c) *Flightpath*.

Survey data has been provided on CD-ROM in a Geosoft Oasis Montaj XYZ database format.

## **6.0 SUMMARY**

An airborne high sensitivity, high-resolution magnetic survey has been carried out at 60 meter drape mode elevation, 100 meter line intervals and with data sample stations at ~6.0 meters along the lines. Tie lines were spaced at 1000 meters. A high sensitivity base magnetic station recorded the diurnal activity throughout the survey and a base GPS station was used to correct range errors in the GPS flight path recovery. Airborne recorded data included one fully compensated magnetometer located in a tail boom mounted pod, radar altimeter and all attendant GPS data. The magnetic data have been processed, gridded and provided on CD-ROM.

FIREFLY AVIATION LTD.

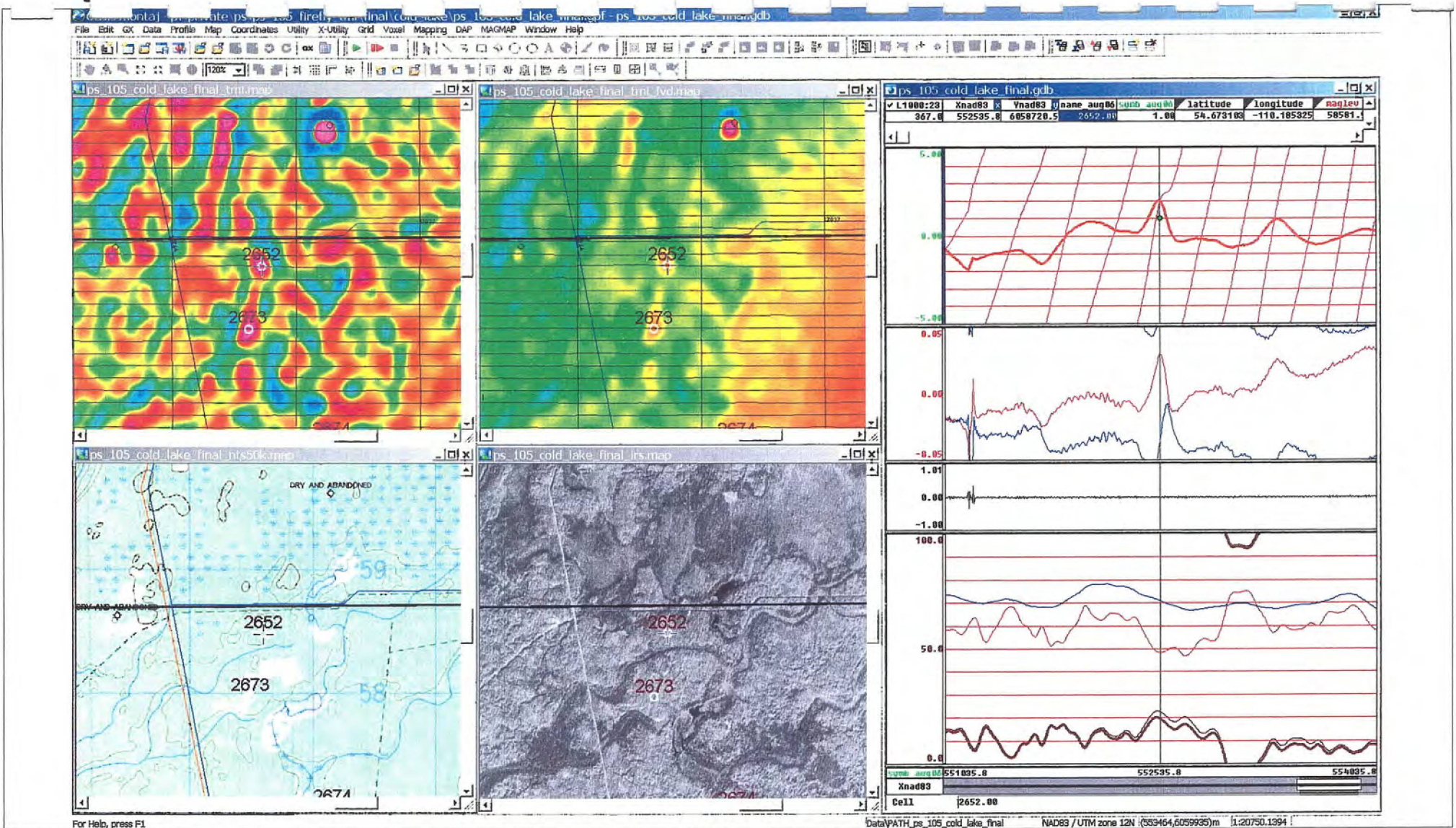
Bruce T. Evans, P.Geol.  
25 August 2006

**APPENDIX B: Airborne Geophysical Survey Data**

**See Back Pocket of Report  
for Maps**

## APPENDIX C: Low Priority Airborne Geophysical Anomalies





<b>CD</b>	<b>2652</b>	<b>Enad83</b> 552542	<b>Nnad83</b> 6058720	<b>Datum</b> NAD83	<b>Zone</b> 12N	<b>Latitude</b> 54.673100	<b>Longitude</b> -110.185232	<b>Line No.</b> 1000	<b>Job No.</b> 105	<b>Picked By</b> DSP (FM)	<b>Date</b> July, 2006	<b>Attribute Count</b> 3	<b>Priority (1-3)</b> 3
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**Airborne Anomaly Description**

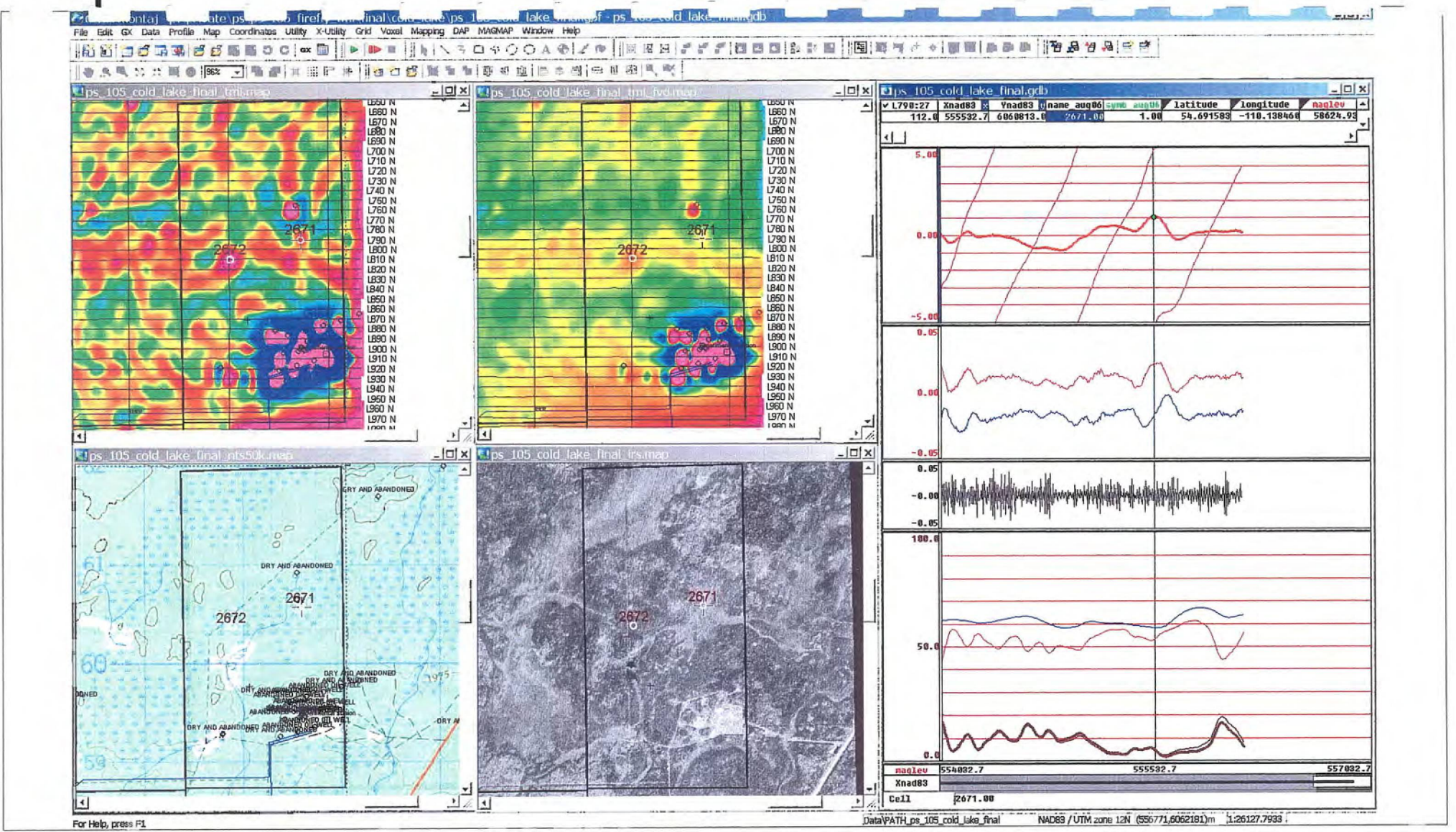
Very weak mag high (+2 nT). Isolated. Weak association with topographic high. May be part of group of 20 deg. trending lineaments (glacial?). but no other obvious physiographic correlation. This location is between 150 m and 45 m drift contours.

COLD LAKE OPTION

**Data Source**

Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





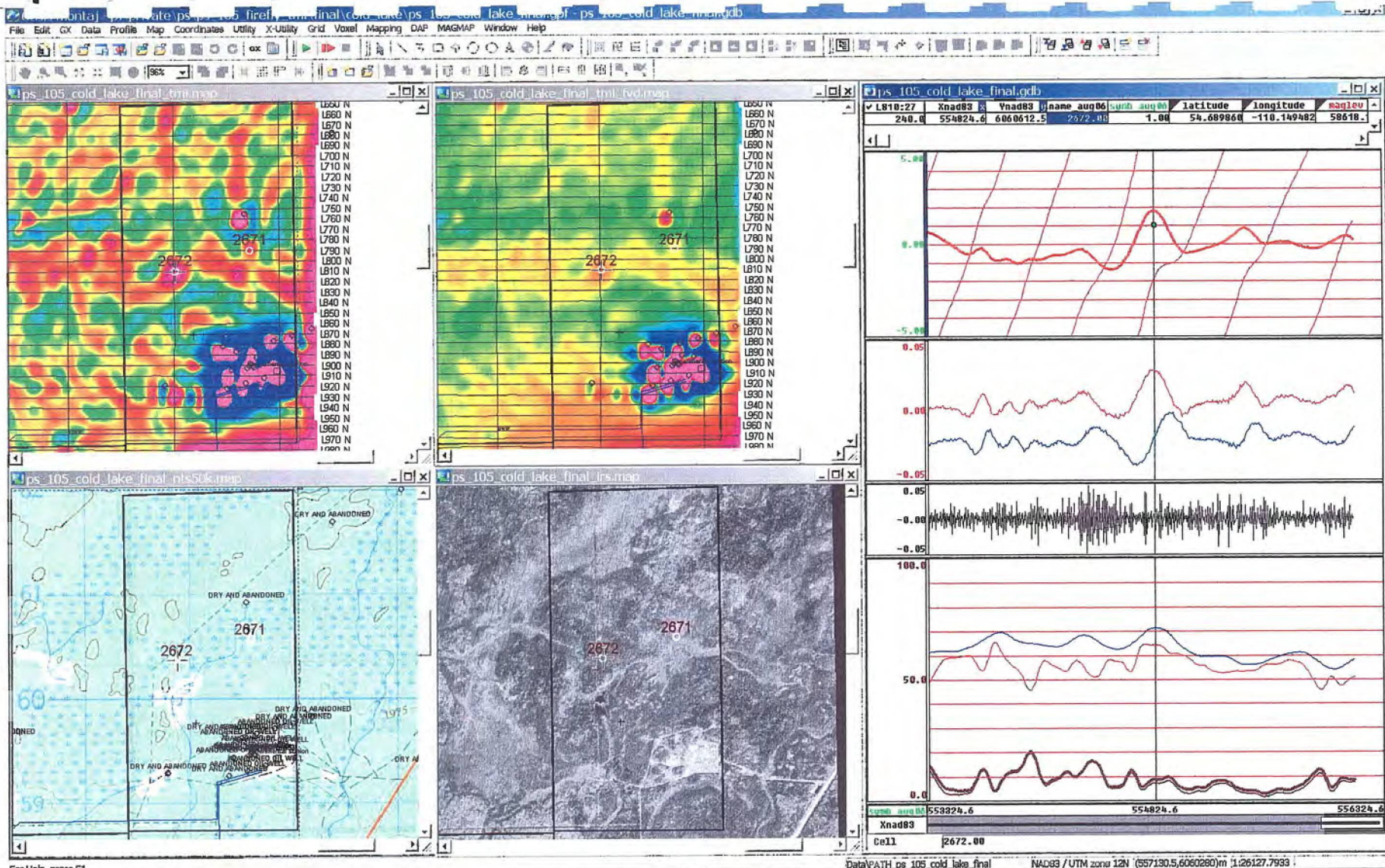
<b>CD</b>	<b>2671</b>	<b>Enad83</b> 555533	<b>Nnad83</b> 6060813	<b>Datum</b> NAD83	<b>Zone</b> 12N	<b>Latitude</b> 54.691583	<b>Longitude</b> -110.138460	<b>Line No.</b> 790	<b>Job No.</b> 105	<b>Picked By</b> DSP (FM)	<b>Attribute Count</b> 3	<b>Date</b> August, 2006	<b>Priority (1-3)</b> 3
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**Airborne Anomaly Description**  
 Mag high + 1 nT. Isolated (single line). Located on E-W trend of relatively high total field gradient. Infrastructure = Dry and abandoned well 300 m NW, cluster of wells to the SE. NTS = Marsh. Topo = Relatively flat, broad local low.

COLD LAKE OPTION

**Data Source**  
 Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





For Help, press F1

Data\PATH\_ps\_105\_cold\_lake\_final NAD83 / UTM zone 12N (557130.5,6060280)m 1:26127.7933

<b>CD</b>	<b>2672</b>	<b>Enad83</b>	<b>Nnad83</b>	<b>Datum</b>	<b>Zone</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Line No.</b>	<b>Job No.</b>	<b>Picked By</b>	<b>DSP (FM)</b>	<b>Date</b>	<b>August, 2006</b>
		554825	6060612	NAD83	12N	54.689860	-110.149482	810	105	<b>Attribute Count</b>	4	<b>Priority (1-3)</b>	<b>3</b>

**Airborne Anomaly Description**

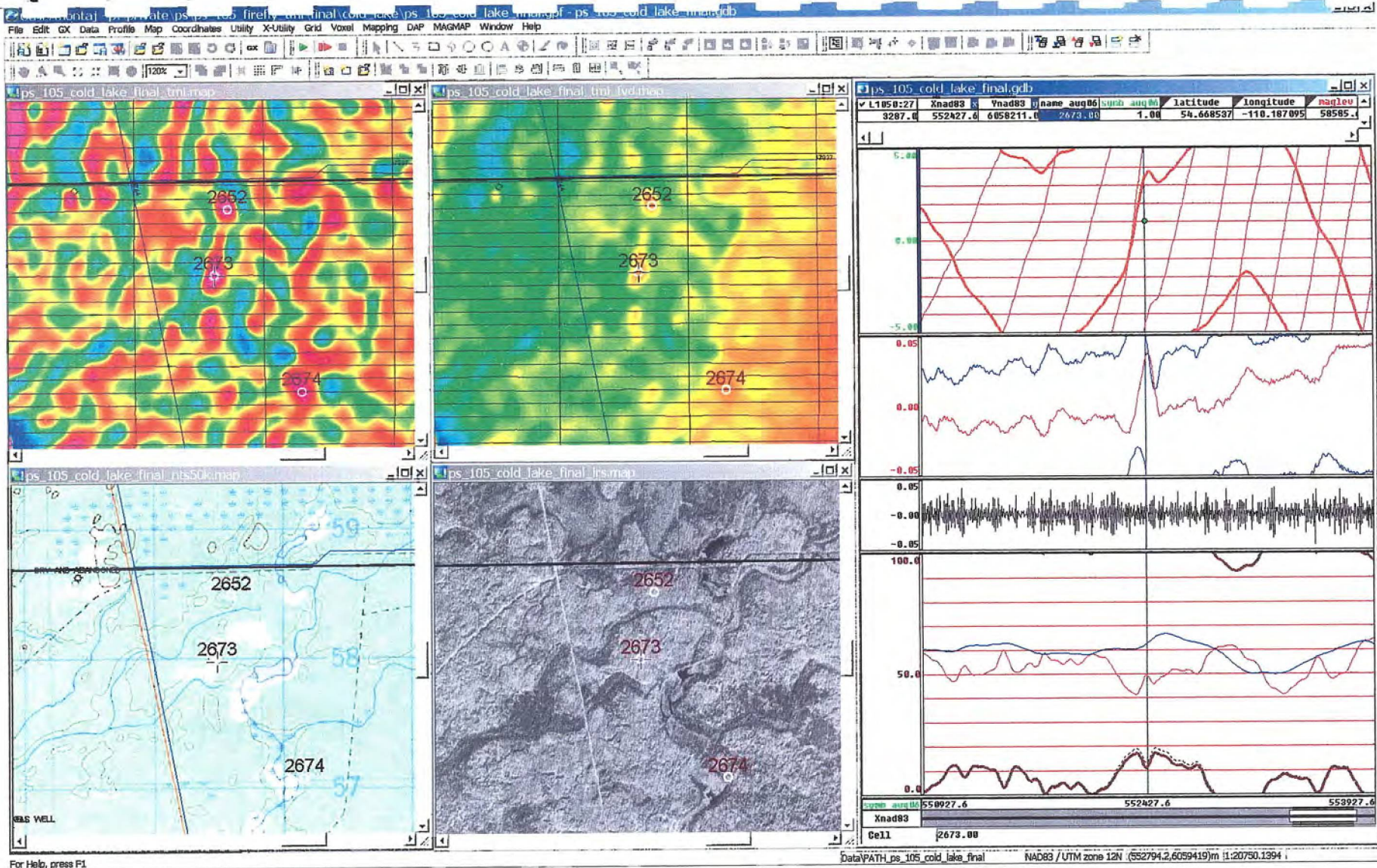
Mag high + 3 nT. Description = Isolated (2 line). In middle of E-W relatively high total field gradient trend. Similar features, although of lesser amplitude are apparent to the E outside the option area but along the same trend. Dimensions = 200 m x 200 m. Infrastructure = Appears to be just E of cut line visible on Sat. image. Road / cut line approximately 100 m to the NW. Topo = small hump on margin of broad local low. NTS = on W margin of marshy area approximately 200 m NW of stream.

COLD LAKE OPTION

**Data Source**

Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





For Help, press F1

Data\PATH\_ps\_105\_cold\_lake\_final NAD83 / UTM zone 12N (552794.2,6059419)m 1:20750.1394

<b>CD</b>	<b>2673</b>	<b>Enad83</b>	<b>Nnad83</b>	<b>Datum</b>	<b>Zone</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Line No.</b>	<b>Job No.</b>	<b>Picked By</b>	<b>DSP (FM)</b>	<b>Date</b>	<b>August, 2006</b>
		552428	6058211	NAD83	12N	54.668537	-110.187095	1050	105	<b>Attribute Count</b>	2	<b>Priority (1-3)</b>	4

**Airborne Anomaly Description**

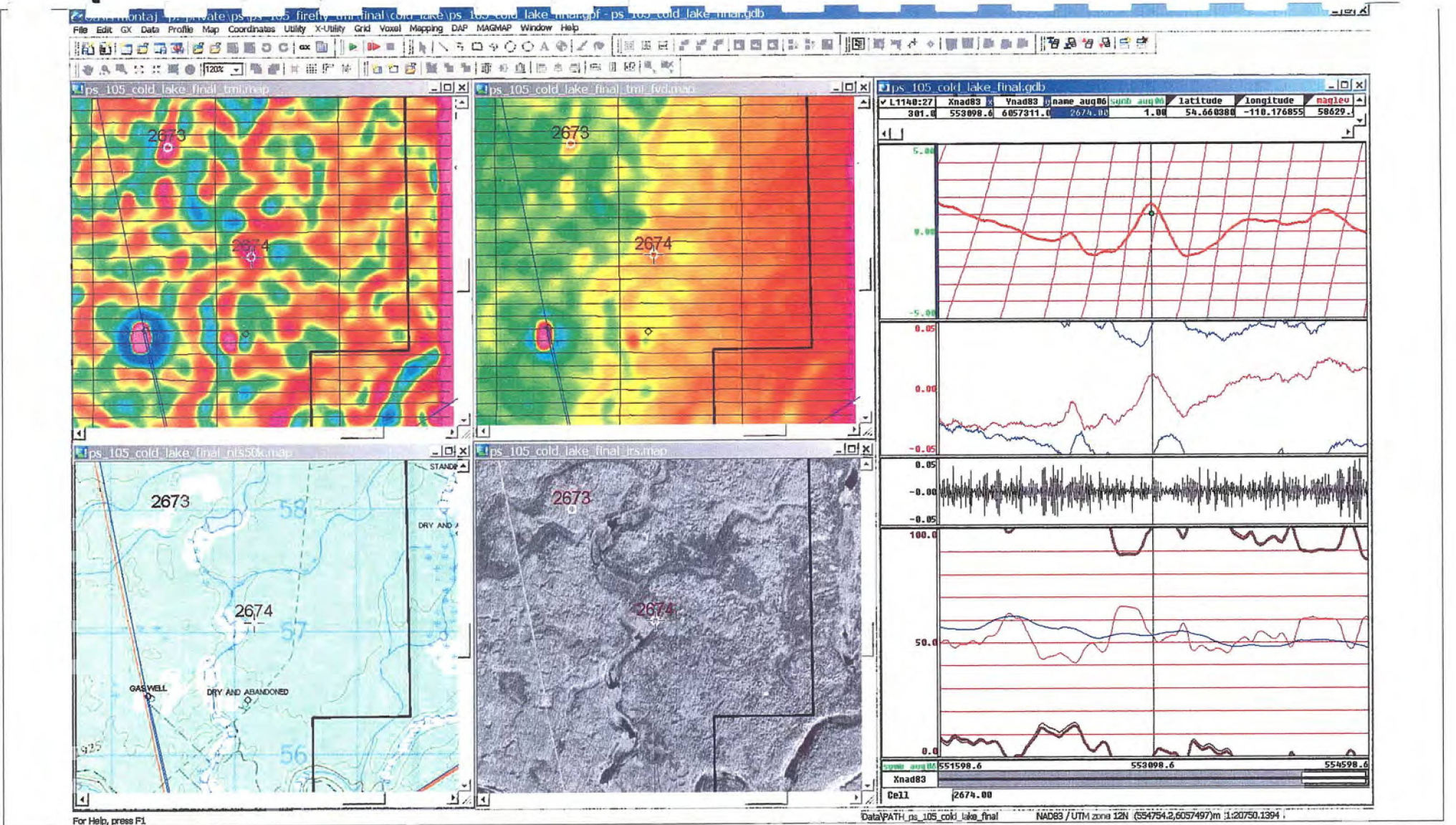
Mag high + 1 nT. Weak. Poorly isolated (traceable across 5 lines). Along topographic trend that includes 2652. Probably topographic. Dimensions = 110 m x 500 m. Infrastructure = pipeline and road approximately 600 m E. NTS = streams to N and S. Lake to the E. Topo = uneven terrain. Weak local high.

COLD LAKE OPTION

**Data Source**

Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





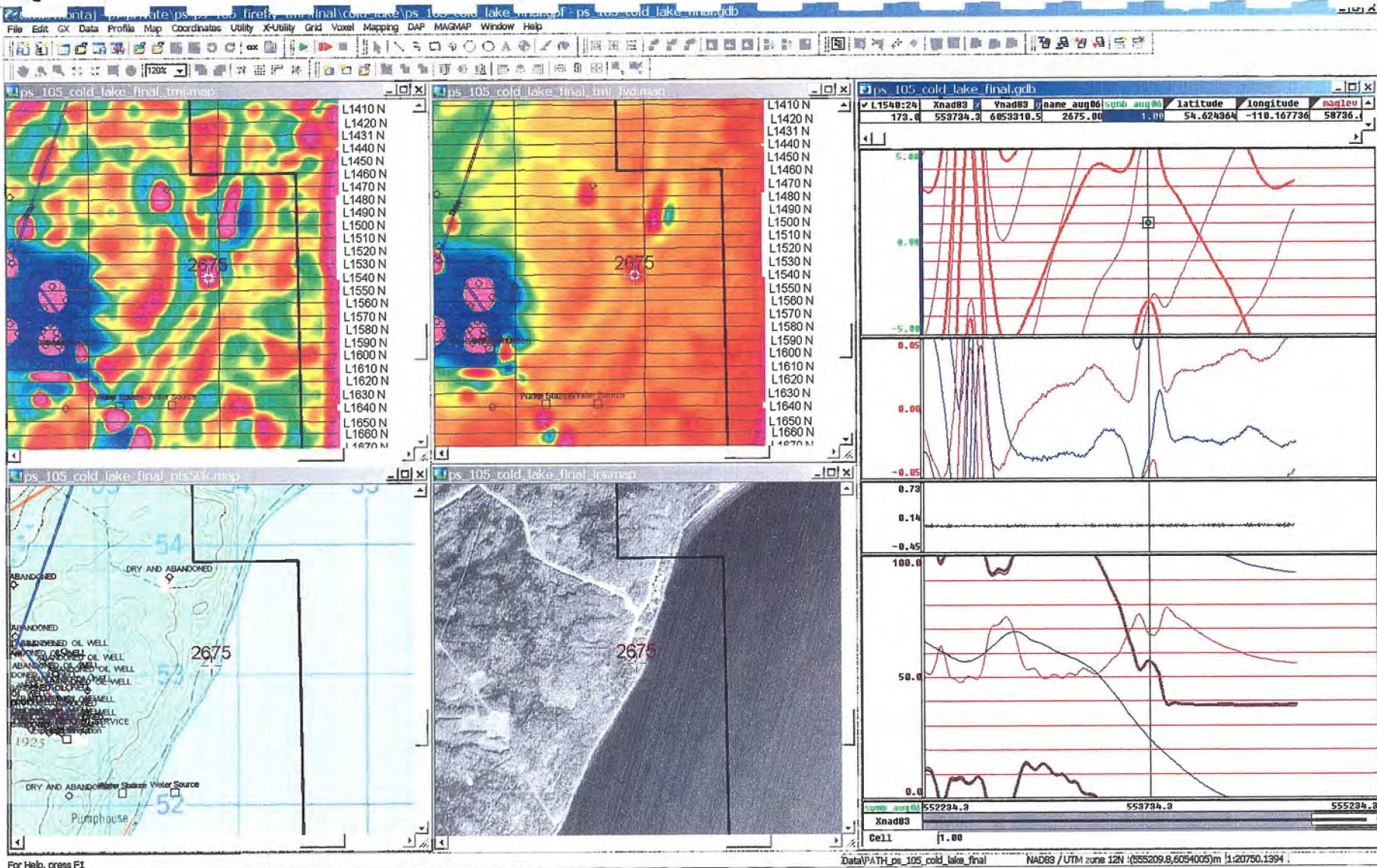
<b>CD</b>	<b>2674</b>	<b>Enad83</b> 553099	<b>Nnad83</b> 6057311	<b>Datum</b> NAD83	<b>Zone</b> 12N	<b>Latitude</b> 54.660380	<b>Longitude</b> -110.176855	<b>Line No.</b> 1140	<b>Job No.</b> 105	<b>Picked By</b> DSP (FM)	<b>Date</b> August, 2006
								<b>Attribute Count</b> 2		<b>Priority (1-3)</b> 3	

**Airborne Anomaly Description**  
 Mag high + 3 nT. Isolated (1 - 2 lines). Dimensions = 190 m x 200 m. Infrastructure = cut line 300 m E. pipeline and road 1 km W. Topo = very uneven ground. Local topo high on slope to the E of small lake.

COLD LAKE OPTION

**Data Source**  
 Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





<b>CD</b>	<b>2675</b>	<b>Enad83</b>	<b>Nnad83</b>	<b>Datum</b>	<b>Zone</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Line No.</b>	<b>Job No.</b>	<b>Picked By</b>	<b>DSP (FM)</b>	<b>Date</b>	August, 2006
		553734	6053310	NAD83	12N	54.624364	-110.167736	1540	105	<b>Attribute Count</b>	2	<b>Priority (1-3)</b>	<b>3</b>

**Airborne Anomaly Description**

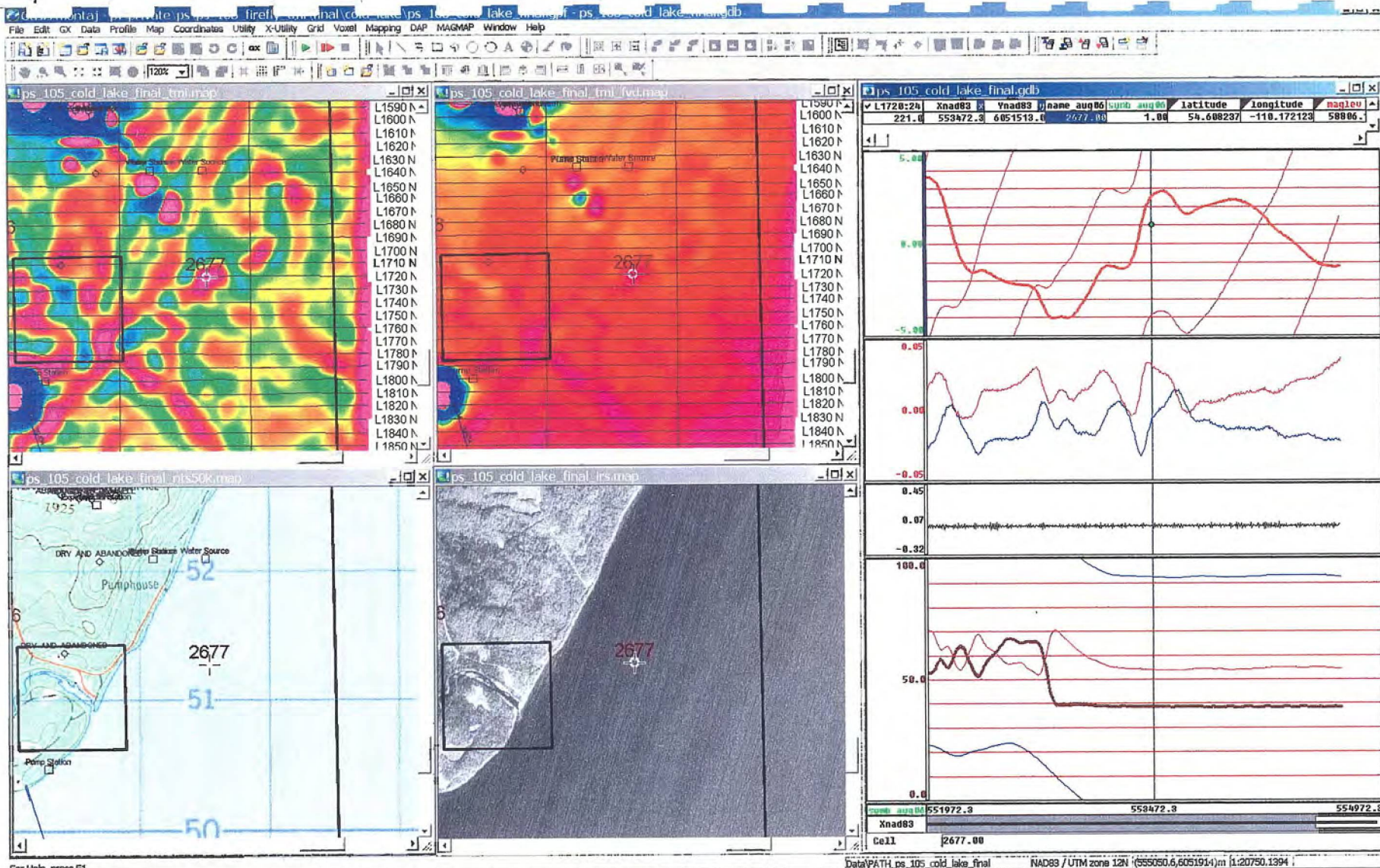
Mag high +3 nT. Isolated (2 line). Dimensions = 150 m x 200 m. Poor line to line correlation (anomaly is ragged to the N). Anomaly is on S margin of built up area between road and shoreline. Linear high correlating to shoreline. Likely culture.

COLD LAKE OPTION

**Data Source**

Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





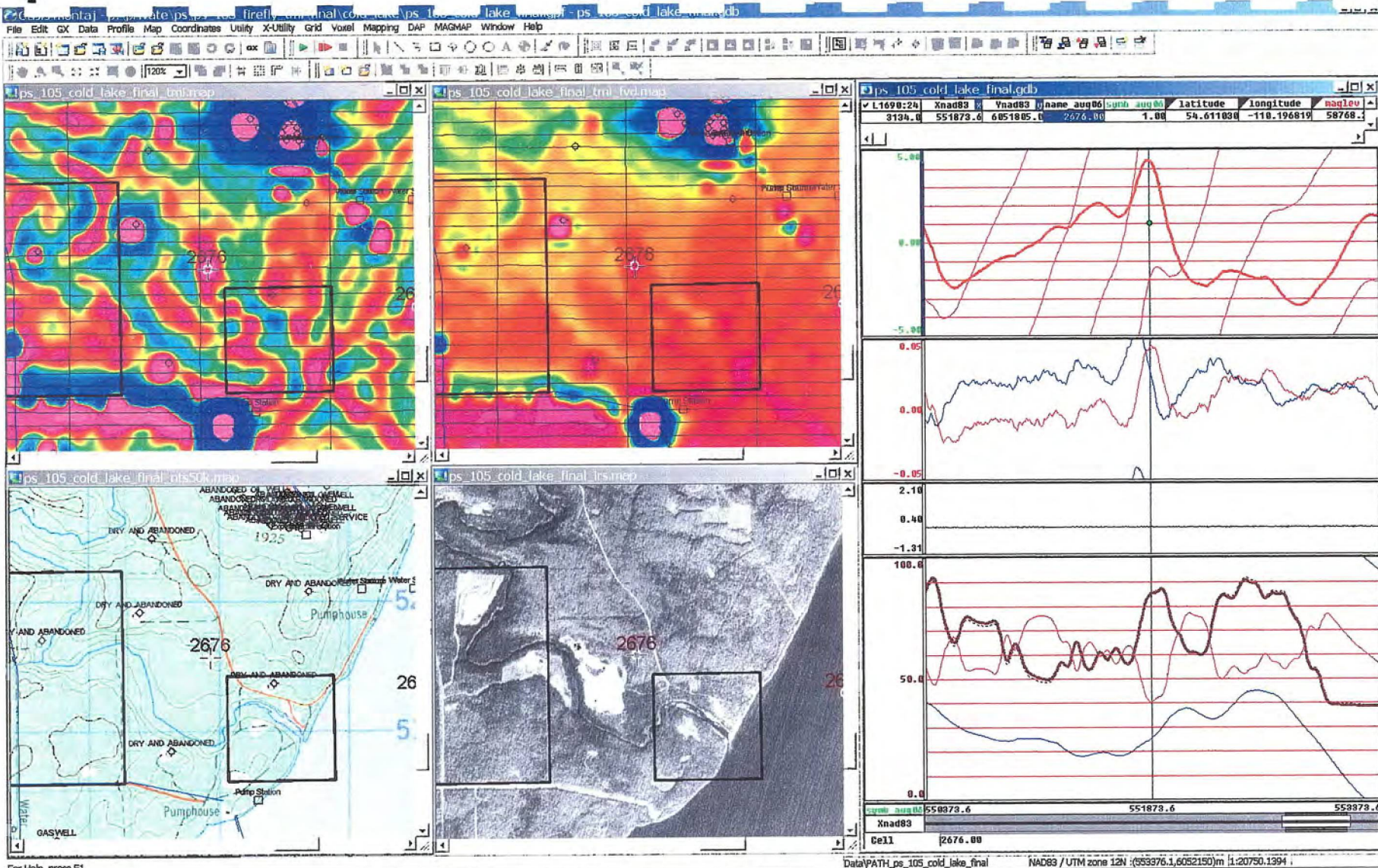
<b>CD</b>	<b>2677</b>	<b>Enad83</b> 553472	<b>Nnad83</b> 6051513	<b>Datum</b> NAD83	<b>Zone</b> 12N	<b>Latitude</b> 54.608237	<b>Longitude</b> -110.172123	<b>Line No.</b> 1720	<b>Job No.</b> 105	<b>Picked By</b> DSP (FM)	<b>Attribute Count</b> 2	<b>Date</b> August, 2006	<b>Priority (1-3)</b> 3
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**Airborne Anomaly Description**  
 Mag high + 3 nT. Odd, rounded anomaly appears independent of aircraft clearance. Poor correlation of anomaly character on adjacent lines. Not clearly isolated in profile. Dimensions = 200 m x 400 m. Topo = In lake, 550 m from off shore. Shape of anomaly suggests deeper source than numerous other similar, sharper anomalies in area.

COLD LAKE OPTION

**Data Source**  
 Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





CD

2676

<b>Enad83</b>	<b>Nnad83</b>
551874	6051805

<b>Datum</b>	<b>Zone</b>	<b>Latitude</b>	<b>Longitude</b>
NAD83	12N	54.611030	-110.196819

<b>Line No.</b>	<b>Job No.</b>
1690	105

<b>Picked By</b>	DSP (FM)
<b>Attribute Count</b>	3

<b>Date</b>	August, 2006
<b>Priority (1-3)</b>	4

**Airborne Anomaly Description**

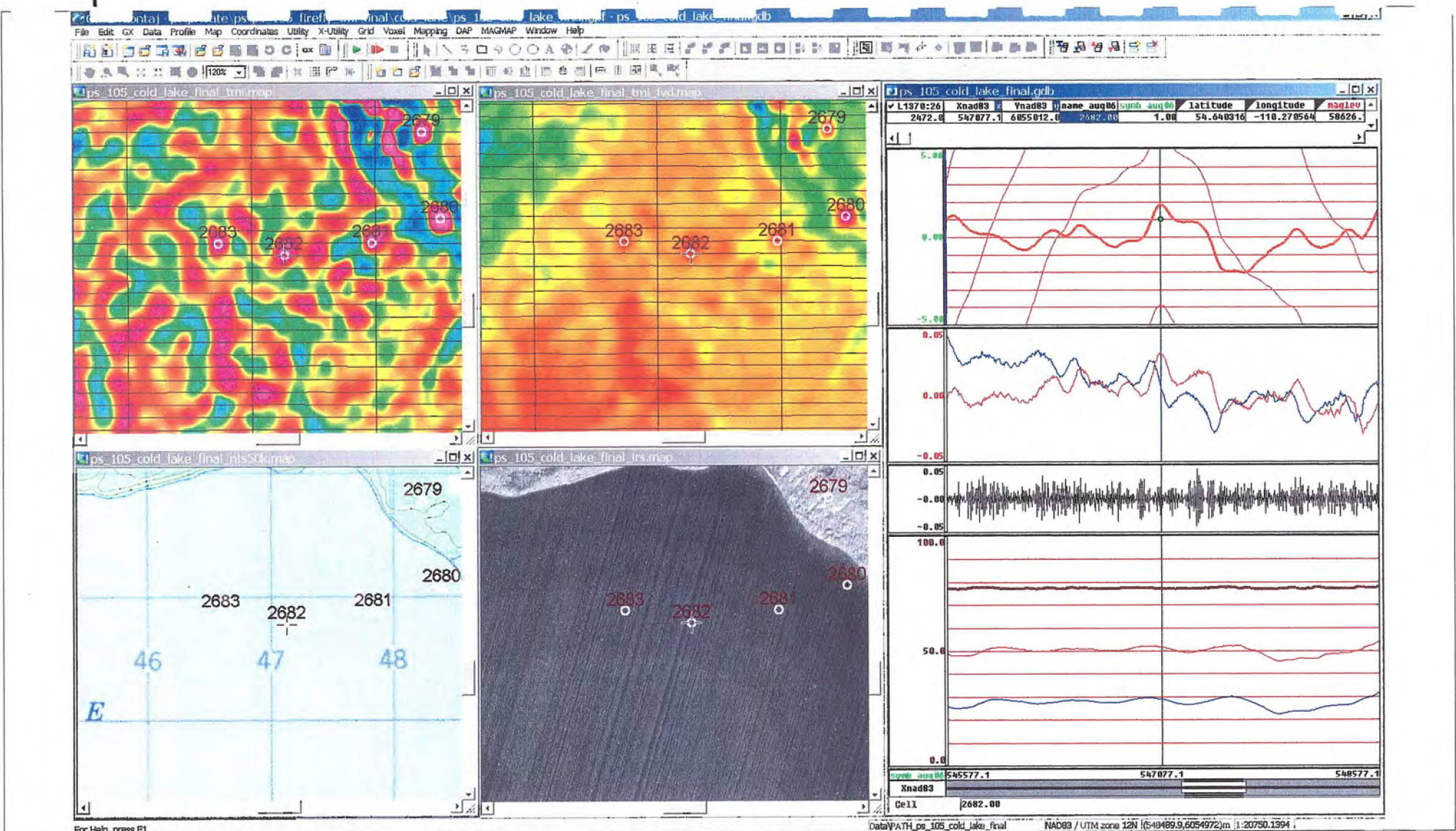
Mag high +3.5 nT. Completely coincident with topographic high. Anomaly likely due to decrease in aircraft clearance over anomaly.

COLD LAKE OPTION

**Data Source**

Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





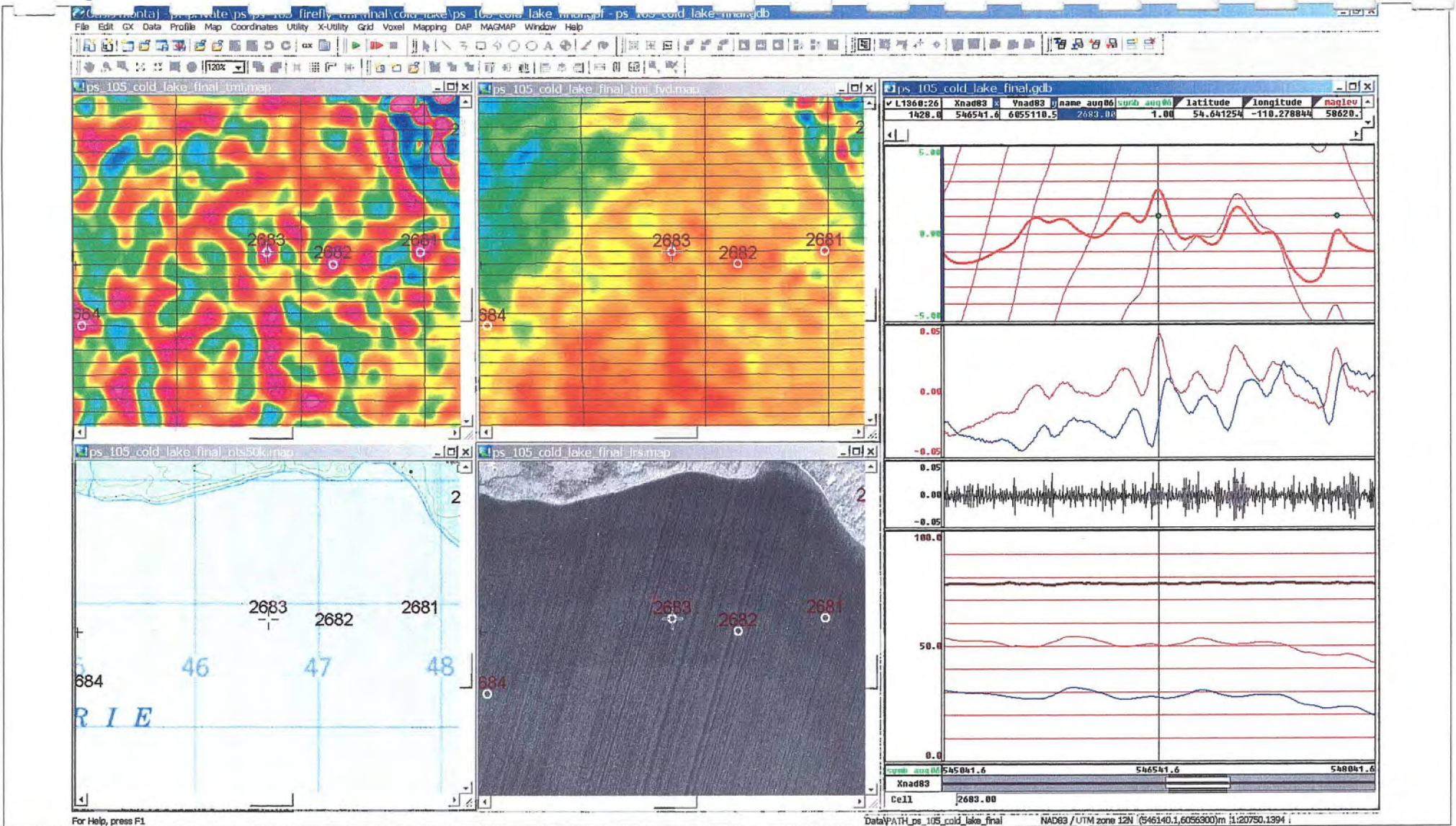
<b>CD</b>	<b>2682</b>	<b>Enad83</b> 547077	<b>Nnad83</b> 6055012	<b>Datum</b> NAD83	<b>Zone</b> 12N	<b>Latitude</b> 54.640316	<b>Longitude</b> -110.270564	<b>Line No.</b> 1370	<b>Job No.</b> 105	<b>Picked By</b> DSP (FM)	<b>Date</b> August, 2006
										<b>Attribute Count</b>	<b>Priority (1-3)</b>

**Airborne Anomaly Description**

COLD LAKE OPTION

**Data Source**  
Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





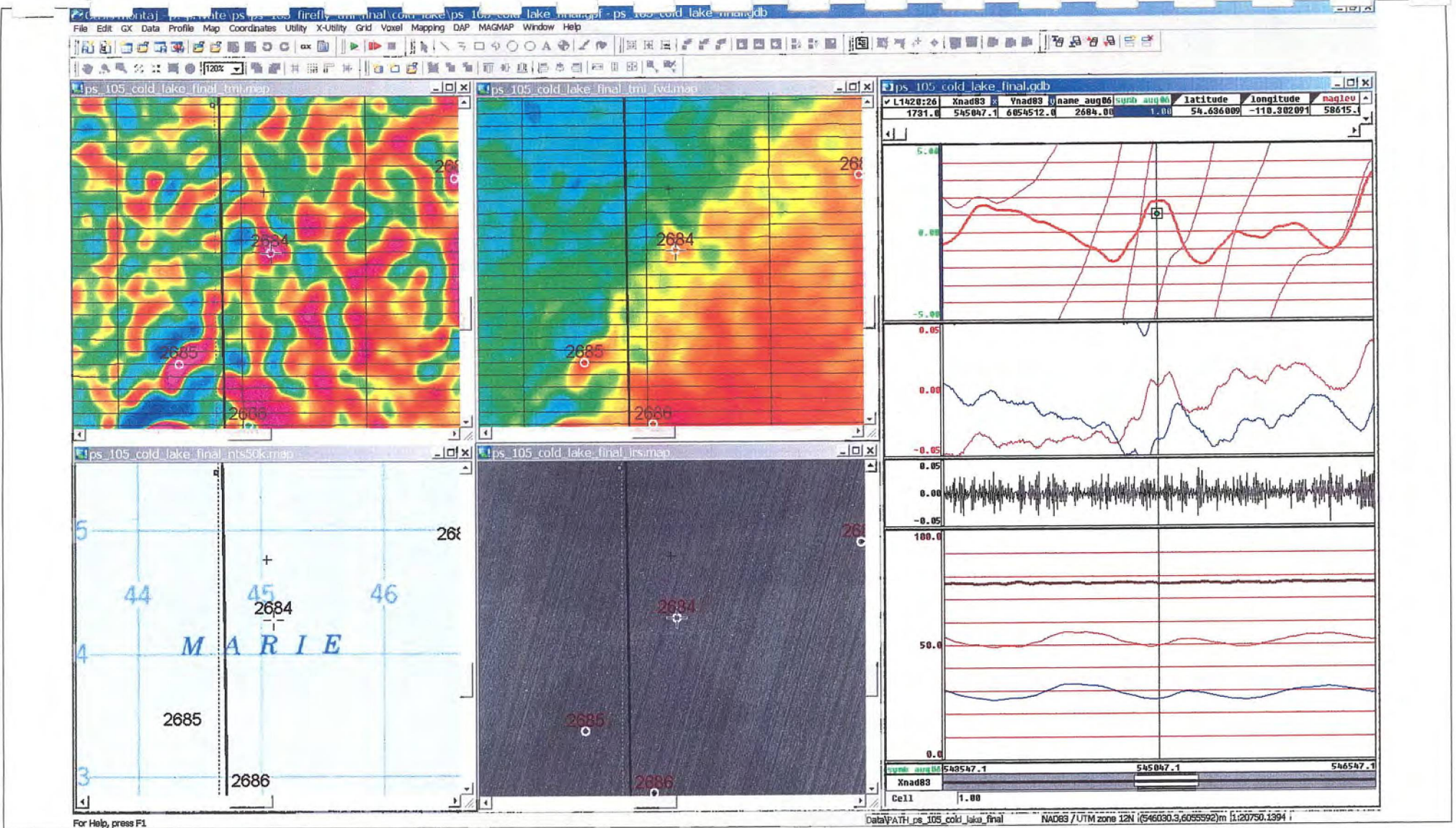
<b>CD</b>	<b>2683</b>	<b>Enad83</b>	<b>Nnad83</b>	<b>Datum</b>	<b>Zone</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Line No.</b>	<b>Job No.</b>	<b>Picked By</b>	<b>DSP (FM)</b>	<b>Date</b>	<b>August, 2006</b>
		546542	6055110	NAD83	12N	54.641254	-110.278844	1360	105				

**Airborne Anomaly Description**

COLD LAKE OPTION

**Data Source**  
 Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





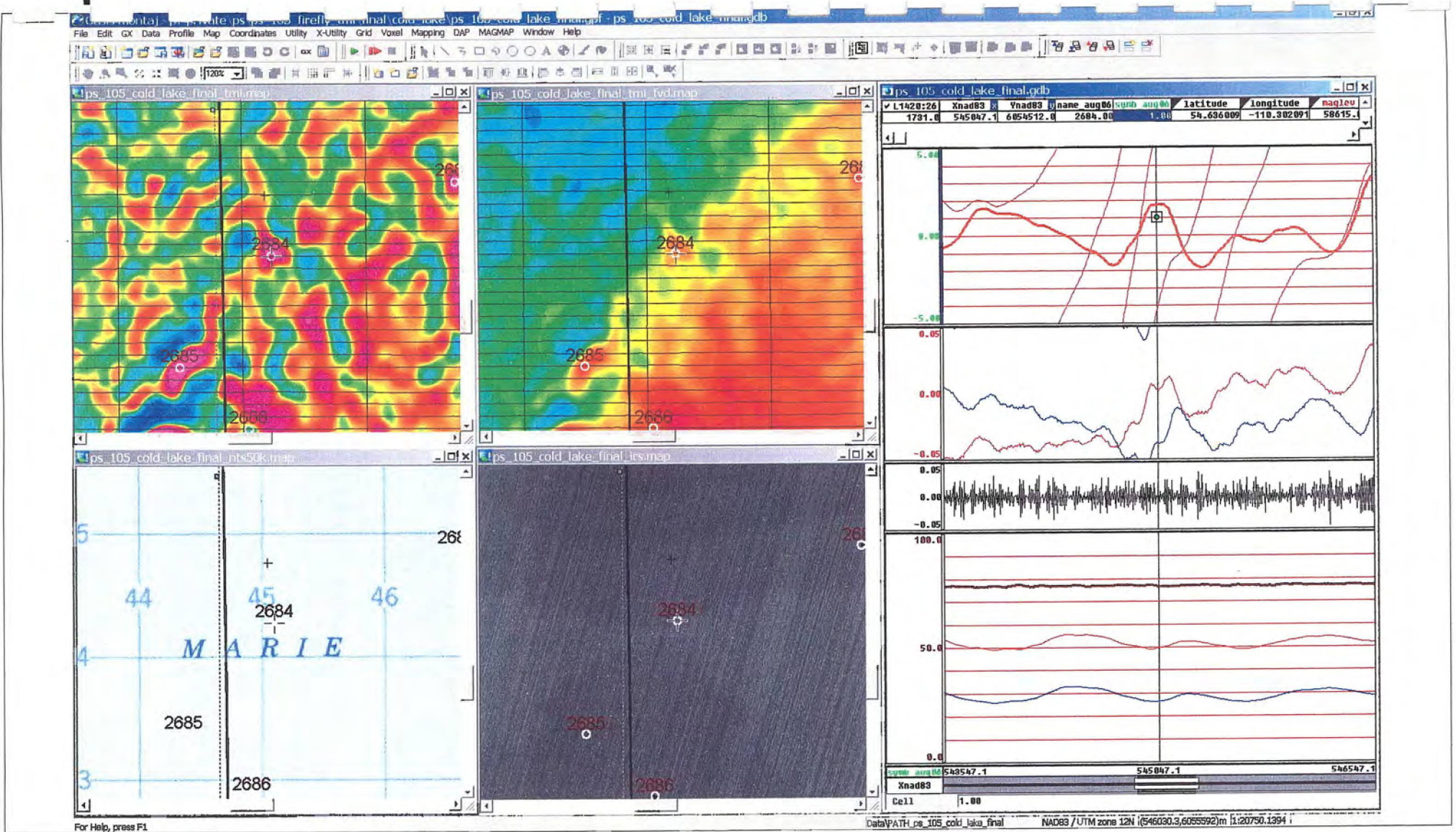
CD	2684	Enad83 546542	Nnad83 6055110	Datum NAD83	Zone 12N	Latitude 54.641254	Longitude -110.278844	Line No. 1360	Job No. 105	Picked By DSP (FM)	Attribute Count 2	Date August, 2006	Priority (1-3) 3
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**Airborne Anomaly Description**  
 Mag high + 4 nT. Dimensions = 250 m x 250 m. At weak break in sloping mag field striking NE. Topo = In lake.

COLD LAKE OPTION

**Data Source**  
 Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





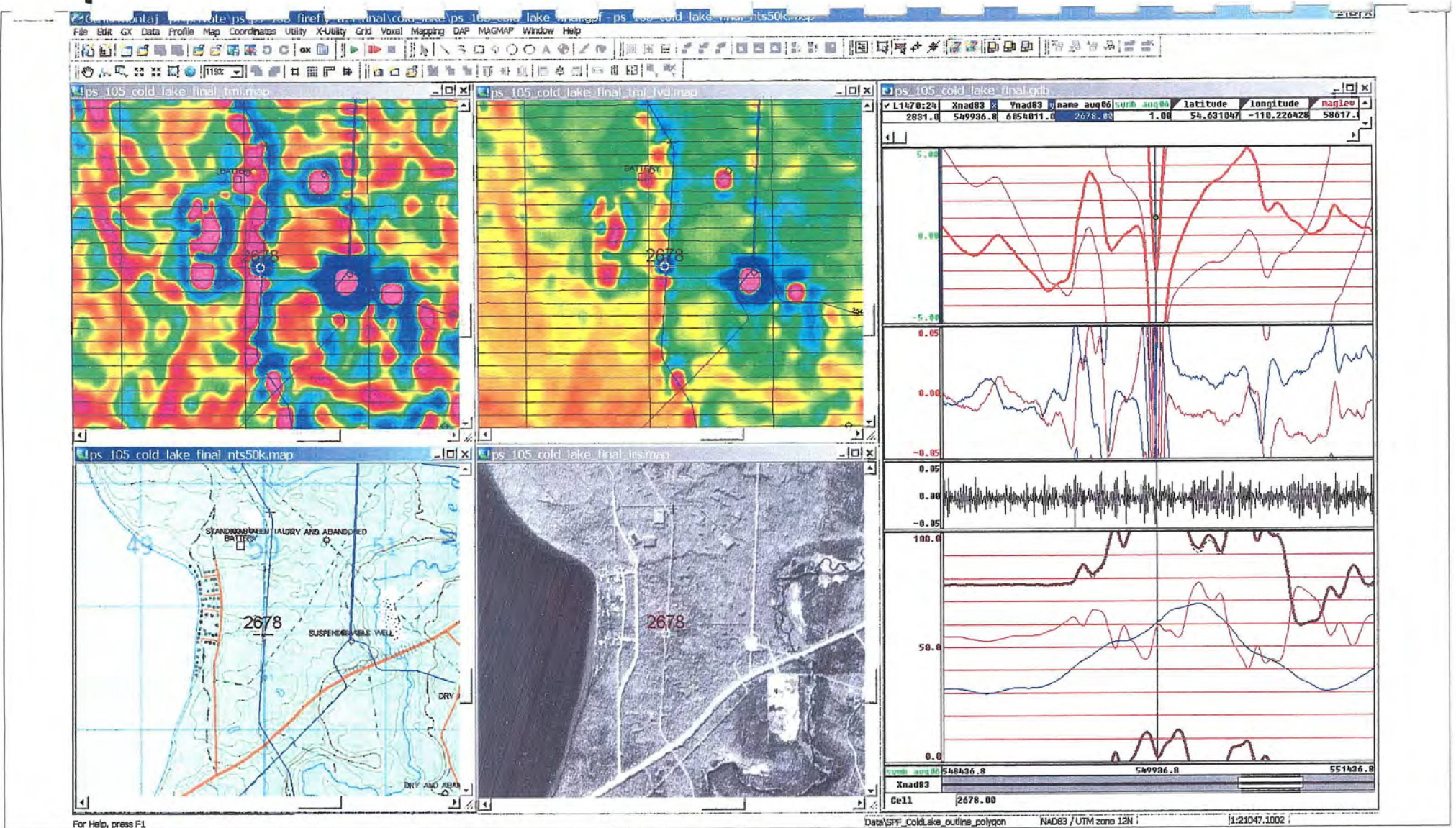
<b>CD</b>	<b>2684</b>	<b>Enad83</b> 546542	<b>Nnad83</b> 6055110	<b>Datum</b> NAD83	<b>Zone</b> 12N	<b>Latitude</b> 54.641254	<b>Longitude</b> -110.278844	<b>Line No.</b> 1360	<b>Job No.</b> 105	<b>Picked By</b> DSP (FM)	<b>Attribute Count</b> 2	<b>Date</b> August, 2006	<b>Priority (1-3)</b> 3
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**Airborne Anomaly Description**  
Mag high + 4 nT. Dimensions = 250 m x 250 m. At weak break in sloping mag field striking NE. Topo = In lake.

COLD LAKE OPTION

**Data Source**  
Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





<b>CD</b>	<b>2678</b>	<b>Enad83</b> 549937	<b>Nnad83</b> 6054011	<b>Datum</b> NAD83	<b>Zone</b> 12N	<b>Latitude</b> 54.631047	<b>Longitude</b> -110.226428	<b>Line No.</b> 1470	<b>Job No.</b> 105	<b>Picked By</b> DSP (FM)	<b>Attribute Count</b> 2	<b>Date</b> August, 2006	<b>Priority (1-3)</b> 3
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**Airborne Anomaly Description**

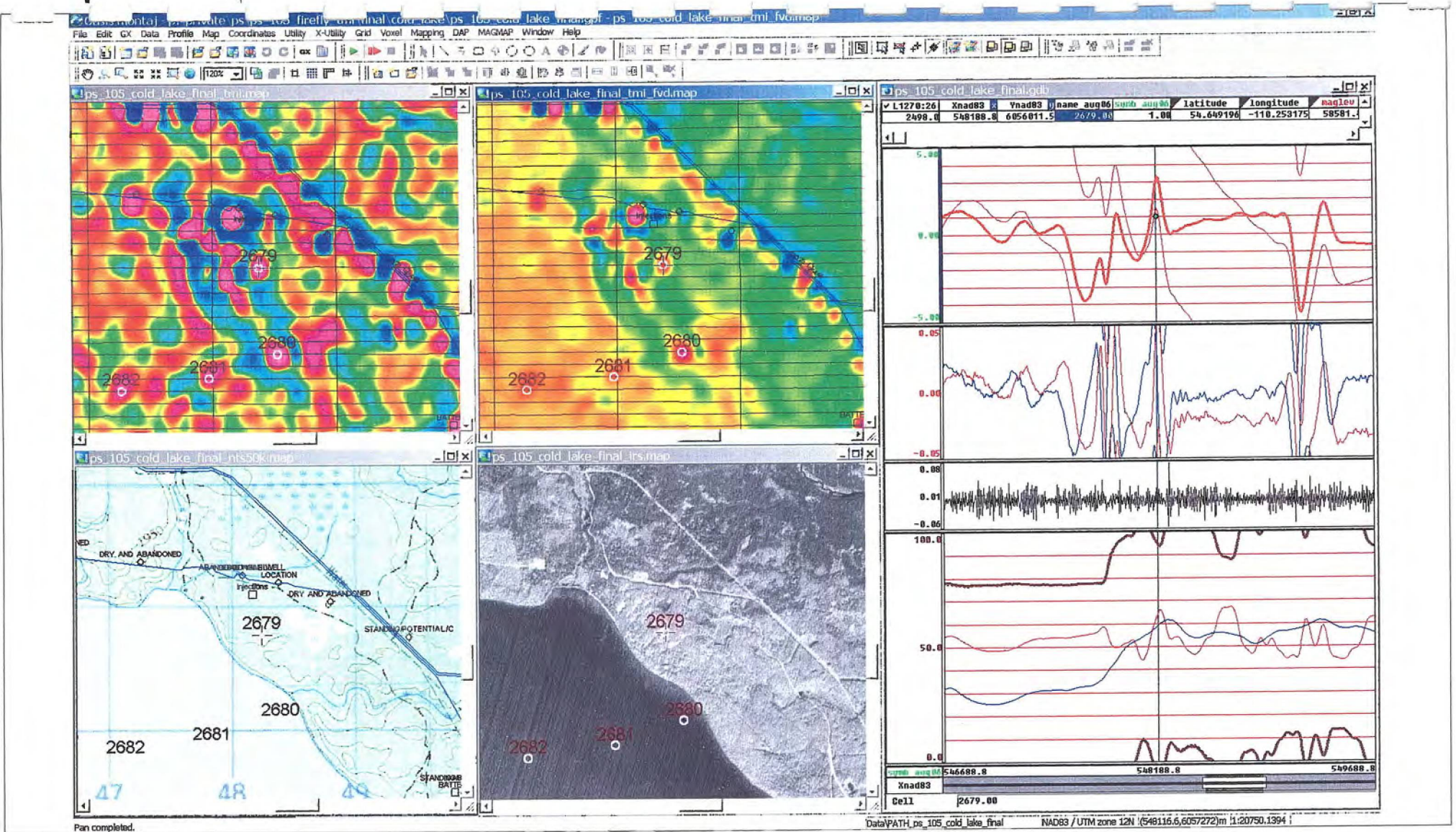
Mag low - 12 nT. Coincident with pipeline. Anomaly is reversed and of greater amplitude than typical along pipeline. Anomaly suggests shallow source. Likely cultural source (pipeline or associated infrastructure).

COLD LAKE OPTION

**Data Source**

Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





<b>CD</b>	<b>2679</b>	<b>Enad83</b> 548189	<b>Nnad83</b> 6056012	<b>Datum</b> NAD83	<b>Zone</b> 12N	<b>Latitude</b> 54.649196	<b>Longitude</b> -110.253175	<b>Line No.</b> 1270	<b>Job No.</b> 105	<b>Picked By</b> DSP (FM)	<b>Attribute Count</b> 4	<b>Date</b> August, 2006	<b>Priority (1-3)</b> 3
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**Airborne Anomaly Description**

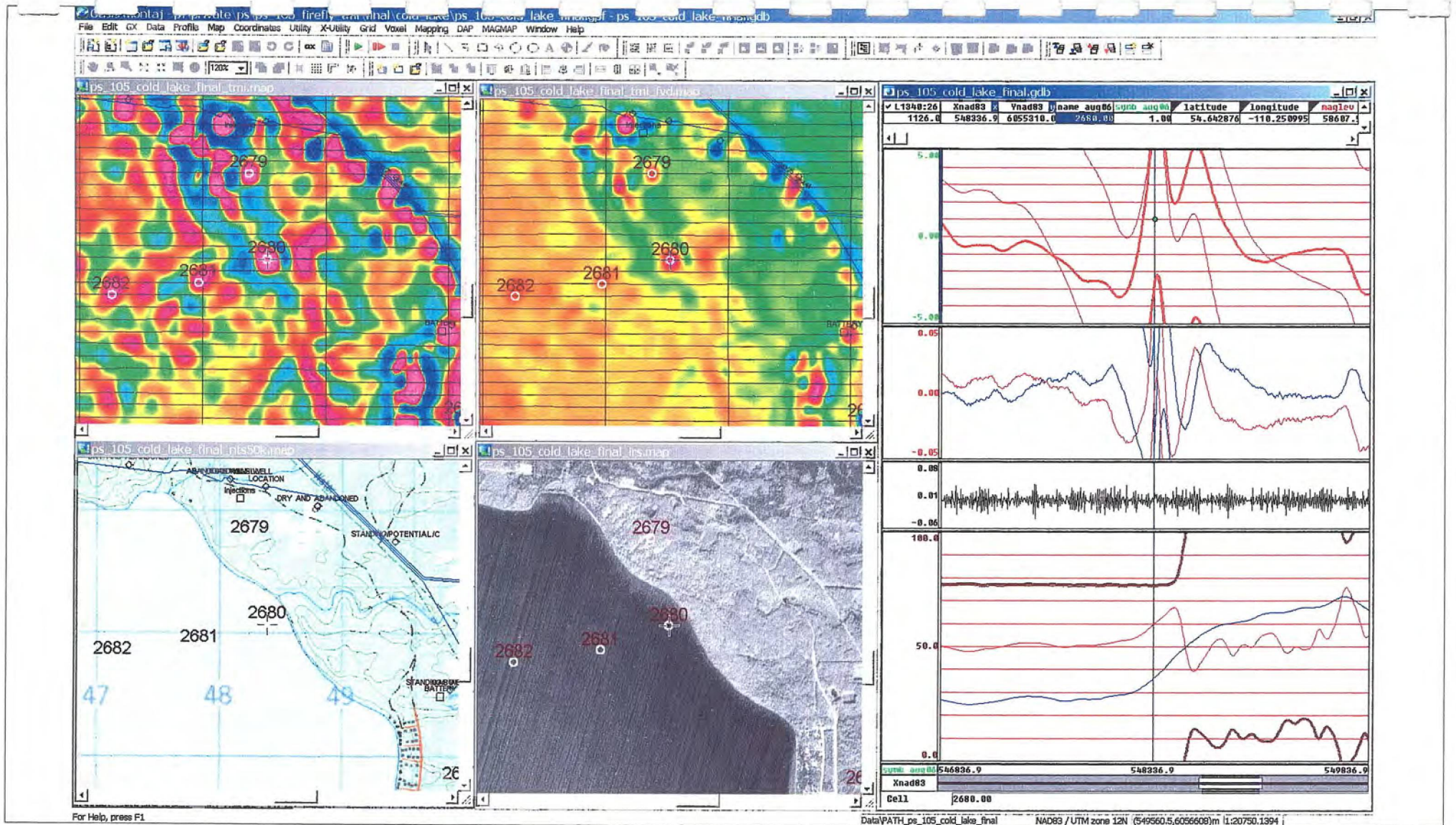
Mag high +3 nT. Dimensions = 100 m x 200 m (3 lines) Topo = Uneven, located in local low. Infrastructure = Injection facility and wells approximately 350 m N, lake shore 250 m SW, pipeline? (water?) following meandering cut line 400 m NE.

COLD LAKE OPTION

**Data Source**

Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





<b>CD</b>	<b>2680</b>	<b>Enad83</b>	<b>Nnad83</b>	<b>Datum</b>	<b>Zone</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Line No.</b>	<b>Job No.</b>	<b>Picked By</b>	<b>DSP (FM)</b>	<b>Date</b>	August, 2006
		548337	6055310	NAD83	12N	54.642876	-110.250995	1340	105	<b>Attribute Count</b>	4	<b>Priority (1-3)</b>	<b>3</b>

**Airborne Anomaly Description**

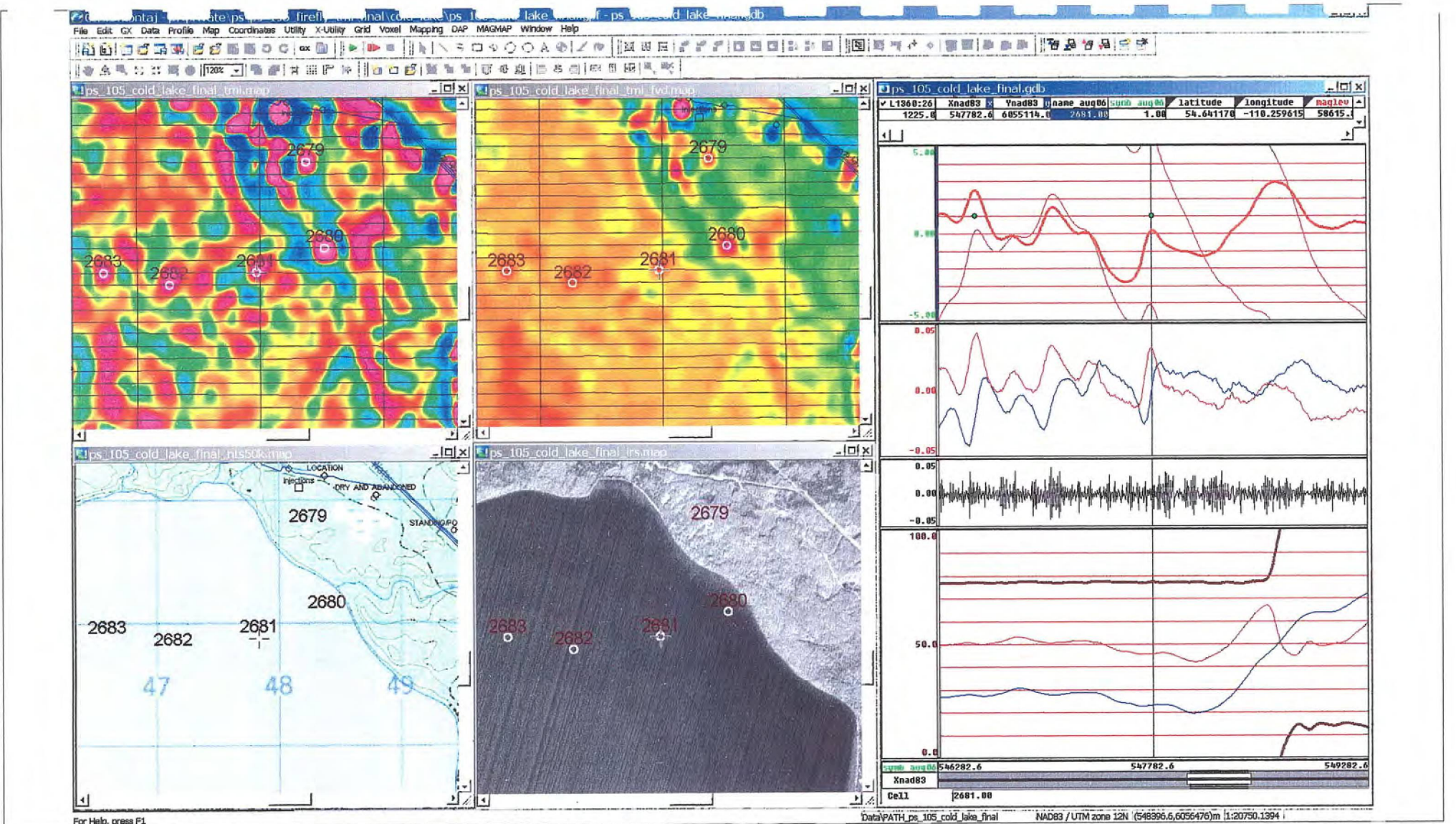
Mag high + 10 nT. Isolated. Possibly located a break in sinuous lineament trending oblique to shoreline. Similar high located on shore. Poor correlation of character line to line. Dimension = 400 m x 230 m. Topo = In lake, Located near mouth of stream entering lake.

COLD LAKE OPTION

**Data Source**

Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb





CD	2681	Enad83	Nnad83	Datum	Zone	Latitude	Longitude	Line No.	Job No.	Picked By	DSP (FM)	Date	August, 2006
		547783	6055114	NAD83	12N	54.641170	-110.259615	1360	105	Attribute Count		Priority (1-3)	

**Airborne Anomaly Description**  
 Mag high +2 nT. Dimensions = 110 m x

COLD LAKE OPTION

**Data Source**  
 Pegasus Project, Phase 2 Airborne Survey, Cold Lake, Final Data, ps\_105\_cold\_lake\_final.gdb

**APPENDIX D: Expenditures**



**MINERAL ASSESSMENT  
EXPENDITURE BREAKDOWN BY TYPE OF WORK**

- Estimated Expenditure** (submitting with **Statement of Intent to File**)  
 **Actual Expenditure** (for **Part B of Report**; Must match total filed in Part A)

Project Name:     Cold Lake    

	<u>AMOUNT</u>
1. Prospecting	\$ <u>2400.00</u>
2. Geological Mapping & Petrography	\$ _____
3. Geophysical Surveys	
a. Airborne	\$ <u>22,242.86</u>
b. Ground	\$ _____
4. Geochemical Surveys	\$ _____
5. Trenching and Stripping	\$ _____
6. Drilling	\$ _____
7. Assaying & whole rock analysis	\$ _____
8. Other Work: _____	\$ _____
<b>SUBTOTAL</b>	<b>\$<u>24,642.86</u></b>
9. Administration (up to 10% of subtotal)	<b>\$<u>957.14</u></b>
<b>TOTAL</b>	<b>\$<u>25,600.00</u></b>
<u>Lester Vanhill</u> SUBMITTED BY (Print Name)	<u>October 31, 2007</u> DATE

**Appendix E:**

**SandSwamp's Prospecting KIM Sample Data**

**Sample taken by D.B. Clarke & picked by Diamondex staff**

**Reconnaissance-Grade Garnet Analyses by Electron Microprobe-WDS**

Client designation "Slide DSP-15.05".

Polished grains received from Diamondex Resources Ltd. on 05/08/15.

Analyses completed on 05/08/29.

Jeol JXA-8900L electron microprobe using ZAF correction; 15 kV, 30 nA; 5 s peak counts; 5 um beam; reconnaissance-grade quantitative data. Total Fe as FeO. Typical lower detection limits at 3-sigma are 0.04 wt% for MgO, 0.05 wt% for SiO<sub>2</sub>, Al<sub>2</sub>O<sub>3</sub>, CaO, K<sub>2</sub>O and Na<sub>2</sub>O, 0.07 wt% for MnO, 0.08 wt% for FeO, and 0.09 wt% TiO<sub>2</sub> and Cr<sub>2</sub>O<sub>3</sub>. Pyrope- and chromite-based standards for major elements.

Slide	Grain	Sample	Comments	Weight Percent											Total %
				SiO <sub>2</sub> %	TiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	FeO %	MnO %	MgO %	CaO %	Na <sub>2</sub> O %	K <sub>2</sub> O %		
DSP-15.05	1	Alberta		41.34	0.14	20.62	4.31	7.65	0.41	19.71	5.05	0.04	0.00	99.26	
DSP-15.05	2	Alberta		41.25	0.13	19.93	5.54	7.59	0.35	19.69	5.63	0.03	0.00	100.13	
DSP-15.05	3	Alberta		41.80	0.42	21.75	2.59	8.25	0.30	20.30	4.48	0.09	0.02	99.99	
DSP-15.05	4	Alberta		41.29	0.21	19.12	6.40	6.94	0.35	20.18	5.32	0.05	0.00	99.86	
DSP-15.05	5	Alberta		41.51	0.27	21.14	3.87	8.45	0.37	19.89	4.73	0.06	0.01	100.31	
DSP-15.05	6	Alberta		41.75	0.24	21.55	3.27	8.18	0.37	20.17	4.78	0.02	0.00	100.33	
DSP-15.05	7	Alberta		42.23	0.34	21.77	3.13	7.31	0.36	20.84	4.47	0.03	0.00	100.48	
<hr/>															
std. comp.	kgnt		USNM Kakanui - pyrope	41.46		23.73		10.68		18.51	5.17			n =	
std. analysis	kgnt		USNM Kakanui - pyrope	41.53		23.63		10.72		18.65	5.16			2	
std. comp.	tio2		Taylor 21 - rutile		100.00									1	
std. analysis	tio2		Taylor 21 - rutile		99.97									1	
std. comp.	chro		Taylor 5 - Mg-chromite				45.65							2	
std. analysis	chro		Taylor 5 - Mg-chromite				45.56							2	
std. comp.	spes		Taylor 3c - spessartine					40.50						1	
std. analysis	spes		Taylor 3c - spessartine					40.27						1	
std. comp.	Aalb		Taylor Amelia - albite								11.46			1	
std. analysis	Aalb		Taylor Amelia - albite								11.65			1	
<hr/>															
std. comp.	orth		Cameca - orthoclase										16.91	n =	
std. analysis	orth		Cameca - orthoclase										16.93	1	

**Reconnaissance-Grade Ilmenite Analyses by Electron Microprobe-WDS**

Client designation "Slide DSP-15.05"  
 Polished grains received from Diamond Resources Ltd. on 05/08/15.  
 Analyses completed on 05/08/30.

Jeol JXA-8900L electron microprobe using ZAF correction; 15 kV, 40 nA; 5 s peak counts, except 10 s for Cr; 2 um beam; reconnaissance-grade quantitative data. Total Fe as FeO. Typical lower detection limits at 3-sigma are 0.03 wt% for MgO, 0.04 wt% for SiO2 and Al2O3, 0.06 wt% for CaO, wt% 0.08 wt% for FeO and MnO, 0.09 wt% TiO2, and 0.1 wt% for Cr2O3. Ilmenite- and chromite-based standards for major elements.

Weight Percent

Slide	Grain	Sample	Comments	SiO2 %	TiO2 %	Al2O3 %	Cr2O3 %	FeO %	MnO %	MgO %	CaO %	Total %
DSP-15.05	8	Alberta		0.02	50.98	0.56	0.29	35.01	0.25	11.64	0.01	98.76
DSP-15.05	9	Alberta		0.00	51.40	0.24	2.42	31.40	0.32	12.53	0.00	98.30
DSP-15.05	10	Alberta		0.00	45.78	0.05	0.00	50.97	0.50	0.61	0.01	97.92
DSP-15.05	11	Alberta		0.00	51.88	0.36	0.91	31.21	0.28	13.49	0.01	98.14
DSP-15.05	12	Alberta		0.00	47.51	0.07	0.08	49.44	1.09	0.48	0.00	98.67
DSP-15.05	13	Alberta		0.00	48.88	0.03	0.02	48.84	1.36	0.03	0.01	99.16
DSP-15.05	14	Alberta		0.00	48.98	0.00	0.00	49.13	0.45	0.24	0.00	98.80
DSP-15.05	15	Alberta		0.00	47.90	0.05	0.10	48.22	2.44	0.05	0.00	98.75
DSP-15.05	16	Alberta		0.01	49.77	1.01	4.89	29.34	0.21	13.44	0.05	98.71
DSP-15.05	17	Alberta		0.02	45.49	0.37	2.88	38.25	0.24	10.10	0.03	97.37
DSP-15.05	18	Alberta		0.00	48.90	0.07	0.06	47.31	2.11	0.60	0.00	99.06
DSP-15.05	19	Alberta		0.00	55.64	0.05	0.04	35.22	3.27	0.46	0.00	94.68
DSP-15.05	20	Alberta	altered appearance; Ti-magnetite?	0.00	7.81	0.33	0.13	82.76	0.10	0.11	0.01	91.25
DSP-15.05	21	Alberta		0.00	51.67	0.05	0.07	46.54	0.15	0.57	0.00	99.04
DSP-15.05	22	Alberta		0.01	52.75	0.63	1.00	29.99	0.32	13.72	0.00	98.41
DSP-15.05	23	Alberta		0.00	46.37	0.39	0.18	41.43	0.24	8.86	0.05	97.51
DSP-15.05	24	Alberta		0.01	53.47	0.55	0.95	28.70	0.22	14.89	0.02	98.81
DSP-15.05	25	Alberta	Ti-magnetite?; exsolution texture	0.00	7.02	0.32	0.00	84.34	0.05	0.10	0.03	91.86
DSP-15.05	26	Alberta		0.00	50.16	0.03	0.01	48.07	0.90	0.10	0.00	99.27
DSP-15.05	27	Alberta	Ti-magnetite?	0.00	7.63	0.13	0.08	83.53	0.06	0.12	0.00	91.55
DSP-15.05	28	Alberta		0.00	48.68	0.04	0.02	49.17	1.11	0.07	0.01	99.09
DSP-15.05	29	Alberta		0.00	49.11	0.05	0.00	46.49	3.13	0.04	0.01	98.84
DSP-15.05	30	Alberta		0.03	51.21	0.81	1.81	31.48	0.25	13.21	0.04	98.83
DSP-15.05	31	Alberta		0.01	49.73	0.02	0.08	47.72	1.65	0.27	0.00	99.47
DSP-15.05	32	Alberta	chromite	0.01	2.08	25.18	30.93	27.46	0.34	14.07	0.02	100.09
DSP-15.05	33	Alberta		0.14	57.97	0.35	0.02	29.66	1.94	0.31	0.13	90.52
DSP-15.05	34	Alberta	altered appearance; Ti-magnetite?	0.00	14.81	0.23	0.04	77.16	0.10	0.03	0.03	92.39
DSP-15.05	35	Alberta		0.04	49.60	0.02	0.00	47.23	1.70	0.07	0.01	98.67
DSP-15.05	36	Alberta		0.00	48.56	0.02	0.00	47.98	1.19	0.64	0.00	98.39
DSP-15.05	37	Alberta		0.00	51.95	0.58	0.65	31.33	0.30	13.40	0.00	98.22
DSP-15.05	38	Alberta		0.02	49.28	0.55	1.24	35.71	0.30	10.72	0.01	97.83
DSP-15.05	39	Alberta	Ti-magnetite?	0.00	7.57	0.20	0.07	83.53	0.11	0.05	0.00	91.53
DSP-15.05	40	Alberta		0.00	49.23	0.05	0.00	47.98	1.23	0.06	0.01	98.55
DSP-15.05	41	Alberta		0.00	49.83	0.03	0.00	48.86	0.90	0.03	0.00	99.65
DSP-15.05	42	Alberta		0.03	52.89	0.22	2.58	29.22	0.28	13.18	0.02	98.42
DSP-15.05	43	Alberta		0.00	49.51	0.22	0.44	36.68	0.29	10.83	0.02	97.99
DSP-15.05	44	Alberta		0.02	49.89	0.03	0.00	45.30	4.14	0.01	0.00	99.39
DSP-15.05	45	Alberta		0.02	48.28	0.58	0.18	38.16	0.26	10.27	0.04	97.80
DSP-15.05	46	Alberta		0.01	48.04	0.02	3.42	35.07	0.40	10.82	0.00	97.79
DSP-15.05	47	Alberta		0.00	48.74	0.02	0.00	48.31	1.21	0.09	0.01	98.38
DSP-15.05	48	Alberta		0.00	49.27	0.02	0.03	48.80	0.52	0.03	0.00	98.66
DSP-15.05	49	Alberta		0.00	50.78	0.05	0.06	45.22	2.53	0.26	0.00	98.89
DSP-15.05	50	Alberta		0.00	48.87	0.01	0.01	48.23	2.19	0.06	0.00	99.37
DSP-15.05	51	Alberta		0.04	48.63	0.64	0.13	38.23	0.25	10.02	0.01	97.95
DSP-15.05	52	Alberta		0.00	47.53	0.02	0.00	49.51	1.31	0.19	0.02	98.56
DSP-15.05	53	Alberta		0.00	50.14	0.01	0.02	47.35	1.09	0.25	0.01	98.86
DSP-15.05	54	Alberta		0.00	47.91	0.04	0.02	48.65	1.33	0.55	0.00	98.50

std. comp.	ilm	Smithsonian 96189 - ilmenite	45.70			46.55	4.77			n =
std. analysis	ilm	Smithsonian 96189 - ilmenite	45.85			46.71	4.77			6
std. comp.	chro	Taylor 5 - Mg-chromite		23.91	45.65				17.26	
std. analysis	chro	Taylor 5 - Mg-chromite		23.86	45.48				17.23	4
std. comp.	diop	Taylor 5a - diopside	55.19						25.18	
std. analysis	diop	Taylor 5a - diopside	55.30						25.18	2

**Reconnaissance-Grade Pyroxene Analyses by Electron Microprobe-WDS**

Client designation "Slide DSP-15.05".

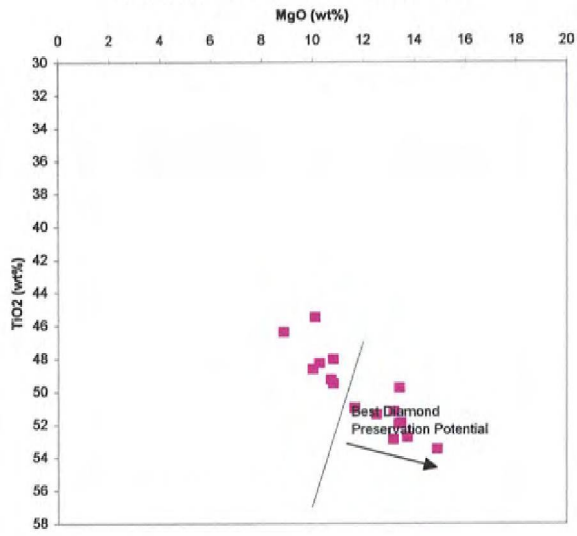
Polished grains received from Diamondex Resources Ltd. on 05/08/15.

Analyses completed on 05/08/29.

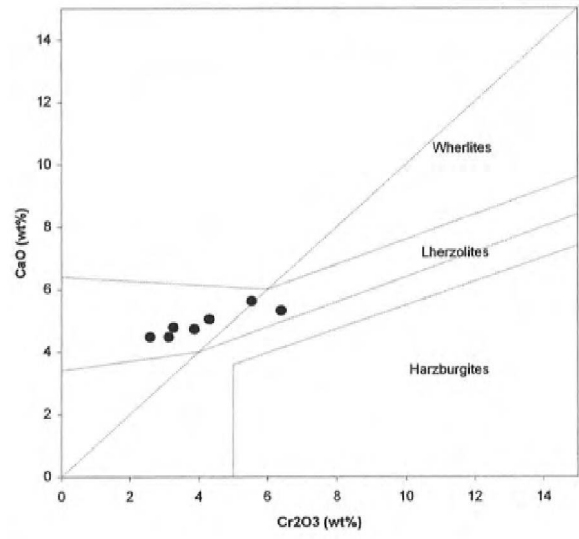
Jeol JXA-8900L electron microprobe using ZAF correction; 15 kV, 30 nA; 5 s peak counts; 5 um beam; reconnaissance-grade quantitative data; Total Fe as FeO. Typical lower detection limits at 3-sigma are 0.04 wt% for Al<sub>2</sub>O<sub>3</sub>, MgO, Na<sub>2</sub>O and K<sub>2</sub>O; 0.05 wt% for SiO<sub>2</sub>; 0.06 wt% for CaO; 0.07 wt% for MnO; 0.08 wt% for FeO; and 0.09 wt% for TiO<sub>2</sub> and Cr<sub>2</sub>O<sub>3</sub>. Diopside- and augite-based standards for major elements.

Slide	Grain	Sample	Comments	Weight Percent											Total %
				SiO <sub>2</sub> %	TiO <sub>2</sub> %	Al <sub>2</sub> O <sub>3</sub> %	Cr <sub>2</sub> O <sub>3</sub> %	FeO %	MnO %	MgO %	CaO %	Na <sub>2</sub> O %	K <sub>2</sub> O %		
DSP-15.05	55	Alberta		52.69	0.28	2.65	1.23	2.24	0.13	16.58	23.15	0.65	0.00	99.60	
std. comp.	diop		Taylor 5a - diopside	55.19							17.94	25.18		n =	
std. analysis	diop		Taylor 5a - diopside	55.12							17.79	25.34		2	
std. comp.	saug		Smithsonian #122142 - augite			8.73		6.34						2	
std. analysis	saug		Smithsonian #122142 - augite			8.86		6.45						2	
std. comp.	orth		Cameca - orthoclase										16.91		
std. analysis	orth		Cameca - orthoclase										16.80	1	
std. comp.	tio2		Taylor 21 - rutile		100.00										
std. analysis	tio2		Taylor 21 - rutile		100.16									1	
std. comp.	chro		Taylor 5 - Mg-chromite				45.65								
std. analysis	chro		Taylor 5 - Mg-chromite				45.37							1	
std. comp.	spes		Taylor 3c - spessartine						40.50						
std. analysis	spes		Taylor 3c - spessartine						40.45					1	
std. comp.	Aalb		Taylor Amelia - albite									11.46			
std. analysis	Aalb		Taylor Amelia - albite									11.53		1	

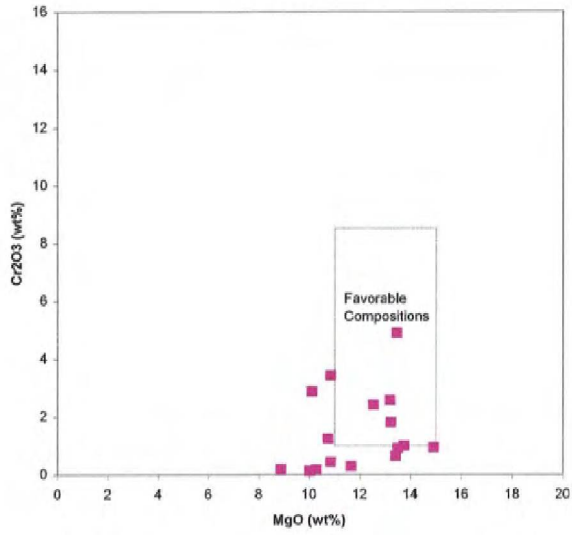
**Diamond preservation from Picrolilmenite**



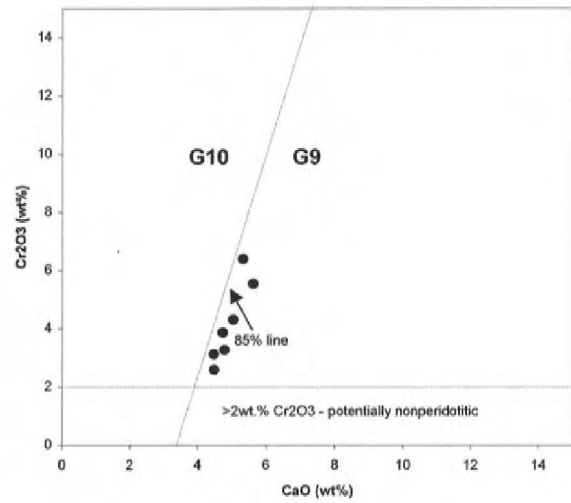
**Sobolev Pyrope plot**

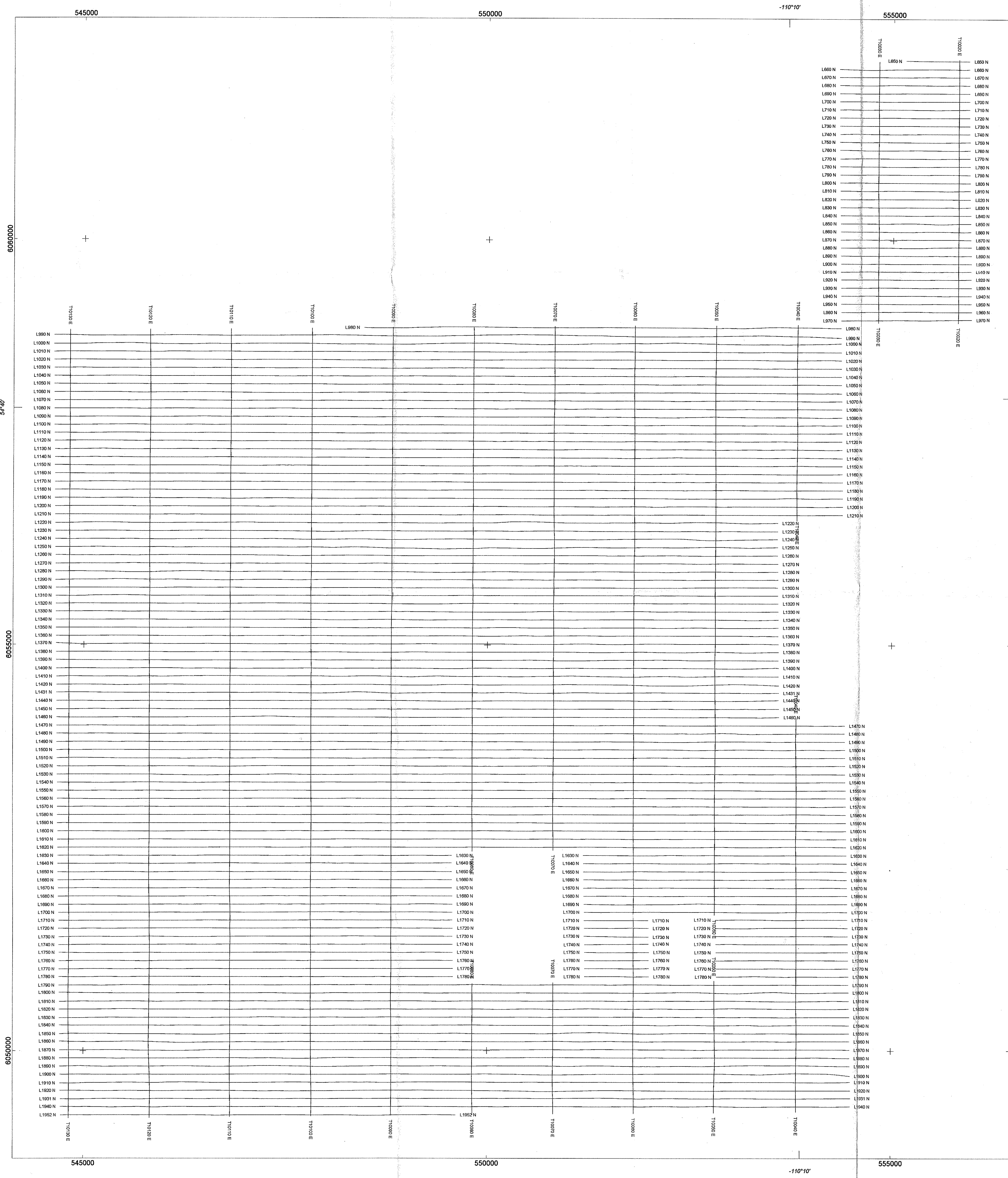


**Ilmenite Provenance**



**Gurney Pyrope plot**





**SURVEY SPECIFICATIONS**

Survey from:	May - June, 2006
Total Line Kms:	2,816
Base of Operations:	Beaverhill, Alberta
Survey Mode:	Drape
Traverse Line Direction:	090 Azimuth
Control Line Direction:	000 Azimuth
Traverse Line Spacing:	100 metres
Control Line Spacing:	1000 metres
Sample Rate:	10Hz

**AIRCRAFT SPECIFICATIONS**

Aircraft:	Cessna U2060 G-GWAS
Terrain Clearance:	50 metres
Nominal speed of aircraft:	60 metres / sec

**AIRBORNE INSTRUMENTATION**

Data Acquisition:	RMS DGR-32A
Magnetometer:	Geomatrix G-822A Cesium
Compass:	Billingley TFM-100G2 Fluxgate
Navigation:	RMS AADC3
GPS Receiver:	AGNAV PNAV2100
Real Time Differential:	Novatel Propak LB-LBS
Radio Altimeter:	Novatel Propak LB-LBS
	Bendix King KRA-10A

**PROJECTION INFORMATION**

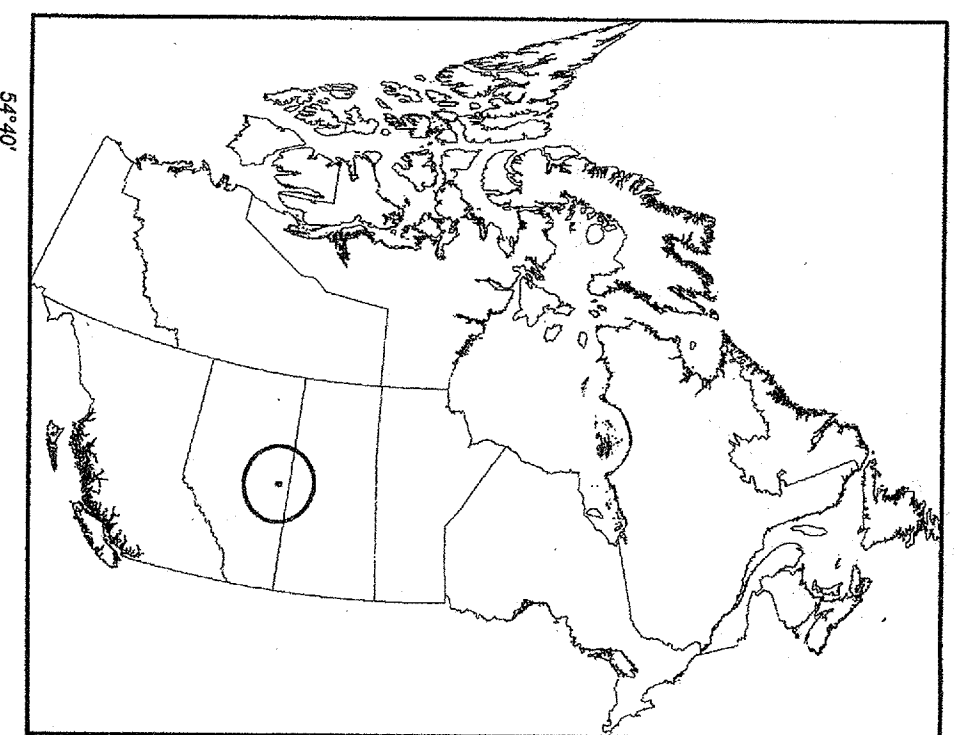
Datum:	NAD83
Ellipsoid:	GRS80
Projection:	U.T.M.
Central Meridian:	Zone 12
False Easting/Northing:	500,000m / 0m
Central Scale Factor:	0.9998

**PROCESSING INFORMATION**

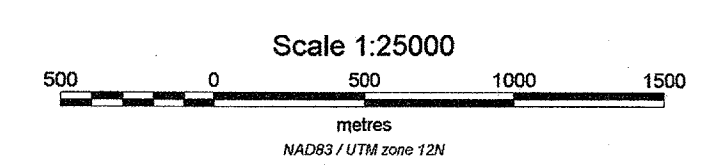
Magnetics:	Dipmat, Lag, Heading, IGRF corrections applied
Leveling:	The line leveling, Microleveling applied
Griding Method:	Nearest Neighbors centroid calculation followed by Minimum Curvature refinement
Cell size:	25 metres
Contour intervals:	2 m
	10 m annotated
	50 m annotated
	250 m annotated

**GROUND EQUIPMENT**

Base Magnetometer:	GEM GSM-10
Base Sample Rate:	1Hz



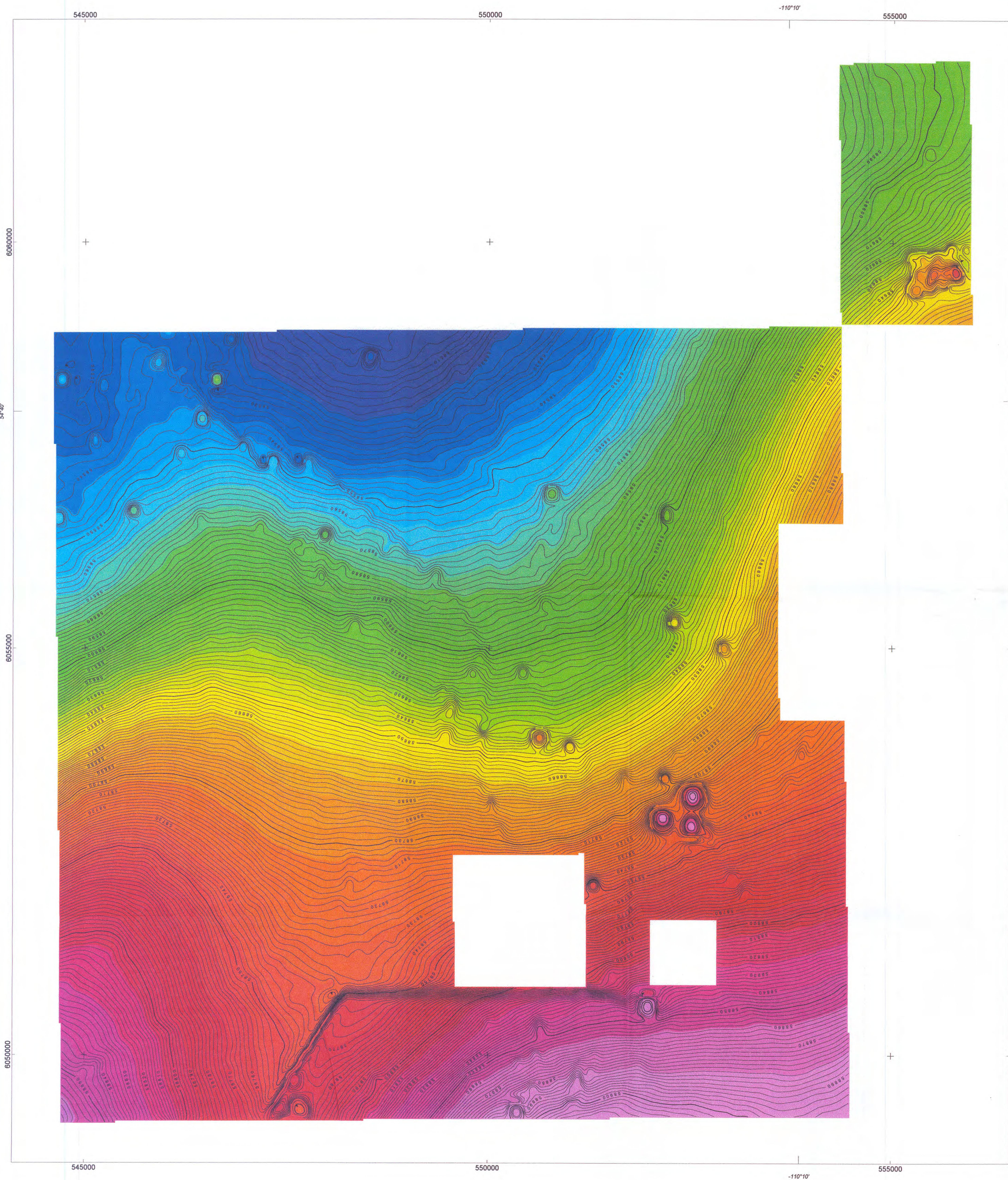
Location (N)



**Diamondex Resources Ltd.**  
**Pegasus Project**  
**Cold Lake Option**  
**Flight Line Path**

F. Moul, Oct. 2, 2006





**SURVEY SPECIFICATIONS**

Survey from: May - June, 2006  
 Total Line Kms: 2,815  
 Base of Operations: Stonyville, Alberta  
 Survey Mode: Drape  
 Traverse Line Direction: 000 Azimuth  
 Control Line Direction: 000 Azimuth  
 Traverse Line Spacing: 100 metres  
 Control Line Spacing: 1000 metres  
 Sample Rate: 10Hz

**AIRCRAFT SPECIFICATIONS**

Aircraft: Cessna U2060 C-GWAS  
 Terrain Clearance: 50 metres  
 Nominal Speed of aircraft: 60 metres / sec

**AIRBORNE INSTRUMENTATION**

Data Acquisition: RMS DGR-33A  
 Magnetometer: Geometrics G-822A Cesium  
 Billingley YFM-100G2 Fluxgate  
 Compensator: RMS AACCI  
 Navigator: AOMAV PNAV2100  
 GPS Receiver: Novatel ProPak LB-LBS  
 Real Time Differential: Novatel ProPak LB-LBS  
 Radar Altimeter: Bendix / King KRA-10A

**PROJECTION INFORMATION**

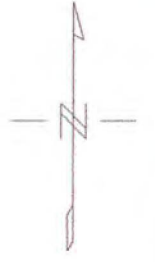
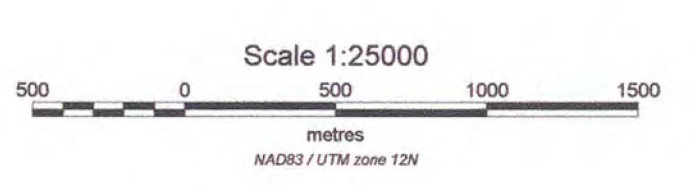
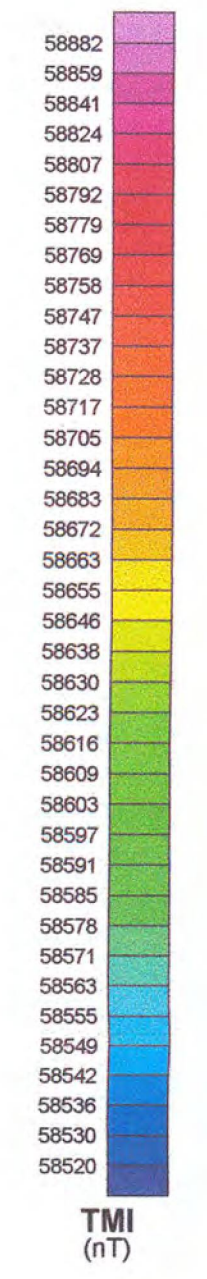
Datum: NAD83  
 Ellipse: GRS80  
 Projection: UTM  
 Central Meridian: Zone 12  
 False Easting/Northing: 500,000m / 0m  
 Central Scale Factor: 0.9996

**PROCESSING INFORMATION**

Magnetics: Diurnal, Lag, Heading, IGRF corrections applied  
 Levelling: Tie line levelling, Microlevelling applied  
 Gridding Method: Nearest Neighbours centroid calculation followed by Minimum Curvature refinement  
 Cell size: 25 metres  
 Contour intervals: 2 nT  
 10 nT annotated  
 50 nT annotated  
 200 nT annotated

**GROUND EQUIPMENT**

Base Magnetometer: GEM GSM-10  
 Base Sample Rate: 1Hz



**Diamondex Resources Ltd.**

**Pegasus Project  
 Cold Lake Option  
 Total Magnetic Intensity**

Pseudocolour image with 2 nT contours

**F. Moul, Oct. 2, 2006**



545000

550000

-110°10'

555000

60600000

54°40'

60550000

60500000

545000

550000

-110°10'

555000

**SURVEY SPECIFICATIONS**

Survey from:	May - June, 2006
Total Line Kms:	2,816
Base of Operations:	Bonnyville, Alberta
Survey Mode:	Drage
Traverse Line Direction:	090 Azimuth
Control Line Direction:	000 Azimuth
Traverse Line Spacing:	100 metres
Control Line Spacing:	1000 metres
Sample Rate:	10Hz

**AIRCRAFT SPECIFICATIONS**

Aircraft:	Cessna U206G C-OWAS
Terrain Clearance:	50 metres
Nominal Speed of aircraft:	60 metres / sec

**AIRBORNE INSTRUMENTATION**

Data Acquisition:	RMS DG10-32A
Magnetometer:	Geometrics G-422A Custom
Billingsley TFM-10022 Flange:	RMS AADCI
Compass:	AGNAV PNA1/2100
Navigation:	Novatel Propak LB-LBS
GPS Receiver:	Novatel Propak LB-LBS
Real Time Differential:	Novatel Propak LB-LBS
Radar Altimeter:	Bendix / King KRA-10A

**PROJECTION INFORMATION**

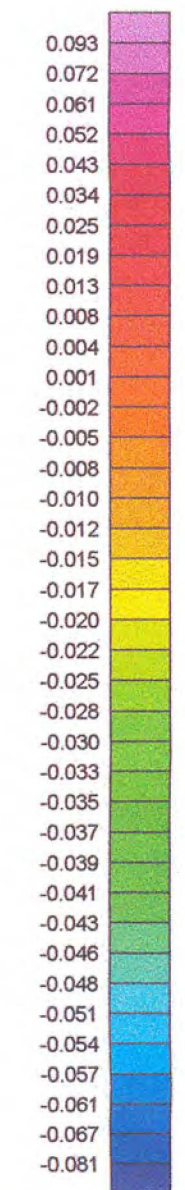
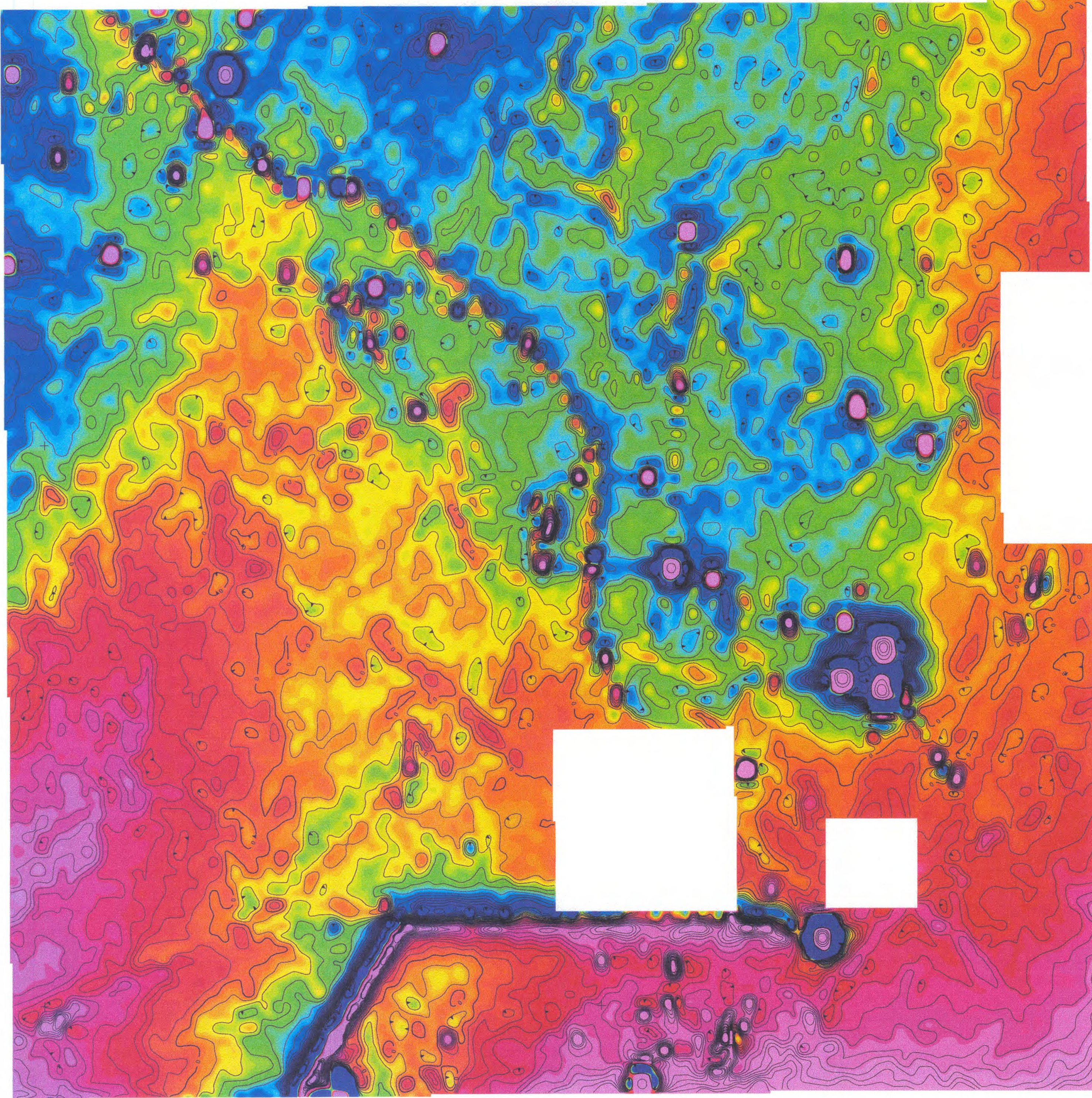
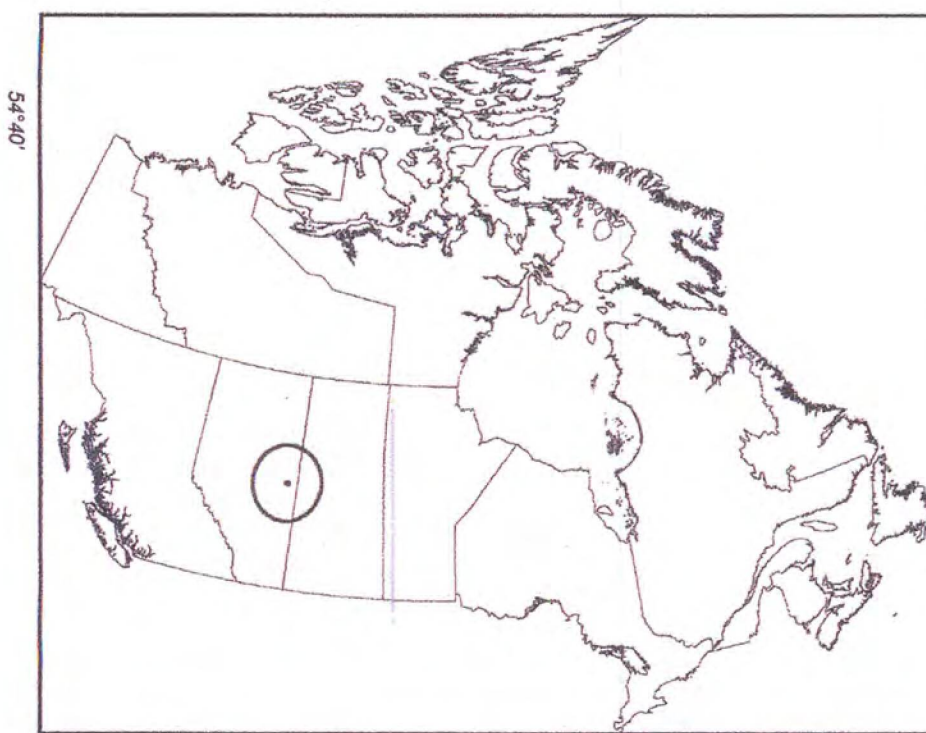
Datum:	NAD83
Ellipse:	GRS80
Projection:	U.T.M.
Central Meridian:	Zone 12
False Easting/Heighting:	500,000m / 0m
Central Scale Factor:	0.9998

**PROCESSING INFORMATION**

Magnetics:	Diurnal, Lag, Heading, IGRF corrections applied
Leveling:	Tie line levelling, Microlevelling applied
Gridding Method:	Nearest Neighbours contour calculation followed by Minimum Curvature refinement
Cell size:	25 metres
Contour intervals:	2 nT 10 nT annotated 50 nT annotated 250 nT annotated

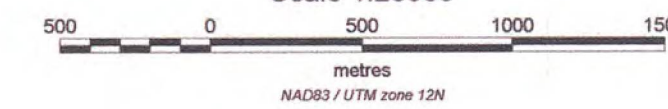
**GROUND EQUIPMENT**

Base Magnetometer:	GEM GSM-19
Base Sample Rate:	1Hz



FVD of TMI (nT/m)

Scale 1:25000



NAD83 / UTM zone 12N



Diamondex Resources Ltd.  
 Pegasus Project  
 Cold Lake Option  
 First Vertical Derivative of Total Magnetic Intensity  
 Pseudocolour image with 0.01 nT/m contours  
 F. Moul, Oct. 2, 2006