MPX GEOPHYSICS LTD.

FINAL

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NEBU Resources Inc.

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Helicopter-borne Magnetic Survey

Savant Lake Area,
Northern Ontario
CANADA

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1.0 Summary

A helicopter-borne high resolution magnetic survey project was completed over an area identified by the client as the Savant Lake Area. There is one survey block referred to as Savant Lake Area, which was approximately 38 km east of Silver Dollar, Northern Ontario. This report summarizes the results of the Savant Lake Area survey. This work was completed under contract to Nebu Resources Inc. ("the client") signed on 03 June 2009.

The MPX crew mobilized on 08 June 2009 and arrived onsite in Silver Dollar, Ontario on 08 June, 2009. Equipment installation and base station setup was completed on 09 June 2009. Data acquisition was initiated on 10 June 2009, and tests and calibration flights were completed on 10 June 2009. The final survey flight for the Savant Lake Area survey was completed on 12 June 2009. A total of 310.5 line-kilometres of data were acquired over the survey area which covered a total area of 13.0 km^2. The survey was flown at a nominal mean terrain clearance of 70 metres along flight lines separated by 40 metres and tie lines at a line separation of 500 metres. Savant Lake Area had flight lines oriented north-south (0^o) and tie lines oriented east-west (090^o).

2.0 Introduction

A helicopter-borne high resolution magnetic survey was completed during the period of 08 June 2009 to 12 June 2009 over one survey block 38 km east of Silver Dollar, Northern Ontario. A total of 310.5 line-kilometres of data were acquired over the main survey area which covers a total area of 13.0 km^2. This work was completed by MPX Geophysics Ltd., hereinafter referred to as "MPX", under contract to Nebu Resources Inc., hereinafter referred to as "the client", signed on 03 June 2009.

2.1 Geophysical Survey

The MPX crew mobilized on 08 June 2009 and arrived onsite in Silver Dollar, Northern Ontario on 08 June 2009. Equipment installation, base station setup and safety meetings were completed on 09 June 2009. Data acquisition was initiated on 10 June 2009. Tests and calibration flights were completed on 10 June 2009. The final survey flight for the survey was completed on 12 June 2009.

Geophysical data acquisition involved the use of GPS positioning, a high sensitivity magnetometer installed in the towed-bird airfoil suspended on a long-line 23 m below the helicopter. The helicopter used was a Jet Ranger 206B helicopter with Canadian registration C-GCDM.

This report describes the data acquisition and processing procedures, parameters and delivery products for this survey.

3.0 Survey Area

The high-resolution geophysical survey was completed over an area identified by the client as the Savant Lake area. The survey area is located 38 km east of Silver Dollar, Northern Ontario, as illustrated in Figure 1. A total of 310.5 line-kilometres of data were acquired in the survey area which covers a total area of 13.0 km^2. This report summarizes the results of the survey.

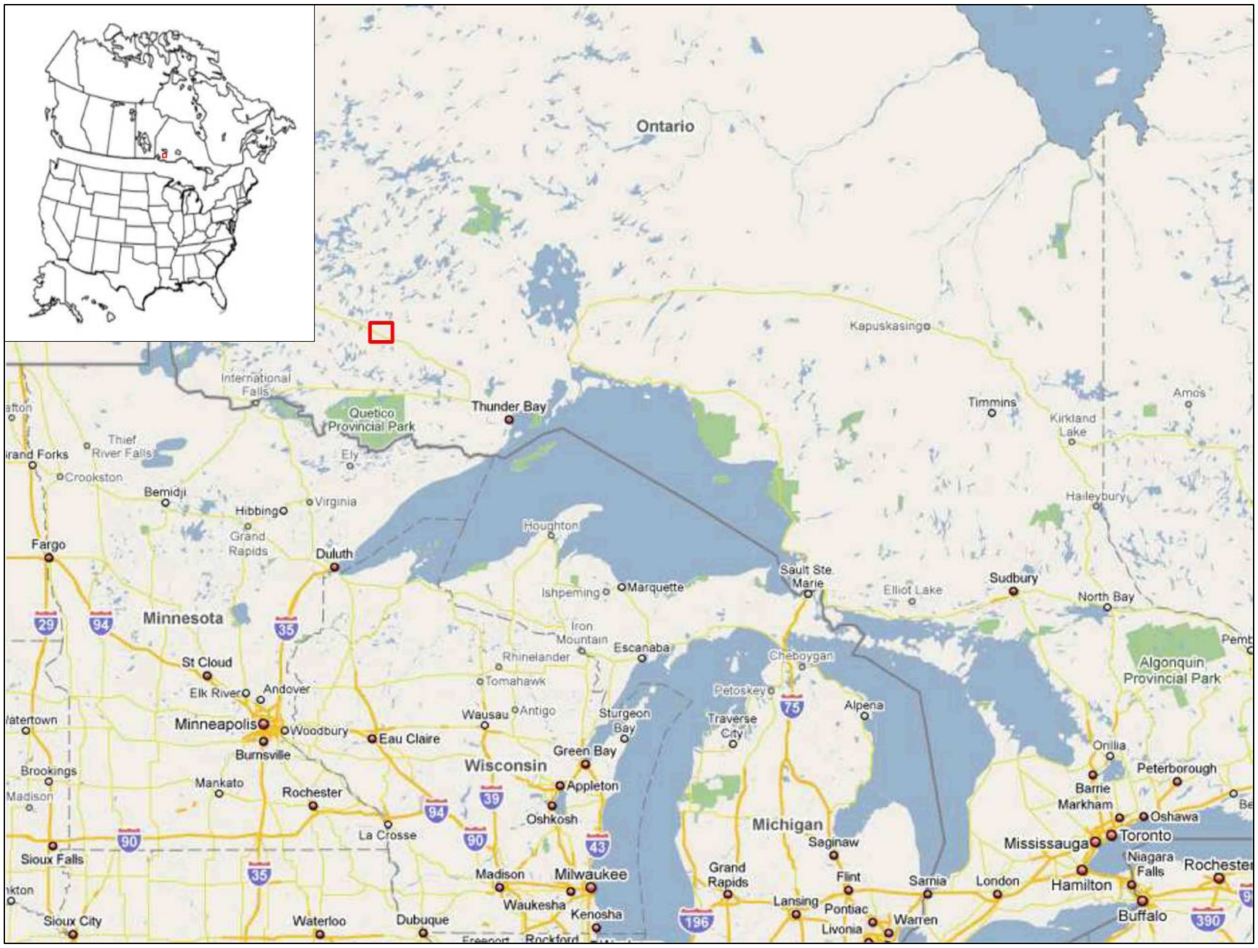

Figure 1: Survey area location map. The survey area is indicated by the red polygon with the operations base of Silver Dollar, Ontario being 38 km to the west of the Area.

During production the weather conditions were typical for the season (2^{o}C to 11^{o}C) with moderate to strong winds. The elevation in the survey area ranged from approximately 380 metres to 500 metres above sea level.

3.1 Geophysical Survey

The survey block was flown at a nominal mean terrain clearance of 70 metres, along flight lines separated by 40 metres and tie lines at a line separation of 500 metres. Survey block had flight lines oriented north-south (000^o) and tie lines oriented east-west (090^o). The details of the flown survey are summarized in Table 1.

Table 1: Description of Survey Blocks

Survey Area	Flight Lines			Tie Lines			Total line-km	Area (km^2)
	Direction	Spacing	Line-km	Direction	Spacing	Line-km		
Savant Lake Area	NS – 000°	40 m	284.9	EW - 090°	500 m	25.6	310.5	13
		Total:	**284.9**		**Total:**	**25.6**	**310.5**	**13**

The survey block corner coordinates were provided in NAD83, Zone 15N UTM easting and northing. Final grids were required in NAD83, Zone 15N UTM easting and northing. The survey block corner coordinates for the survey block are provided below in Table 2.

Table 2: Boundary Coordinates of Survey Block (Datum and Projections are noted).

Savant Lake Area		
NAD83 / UTM zone 15N		
Corner	Easting	Northing
1	667431	5524980
2	667431	5527235
3	672067	5527202
4	672080	5526018
5	673264	5526012
6	673264	5524960
7	667431	5524980

The survey boundary and final flight path for the Savant Lake Area is illustrated by Figure 2.

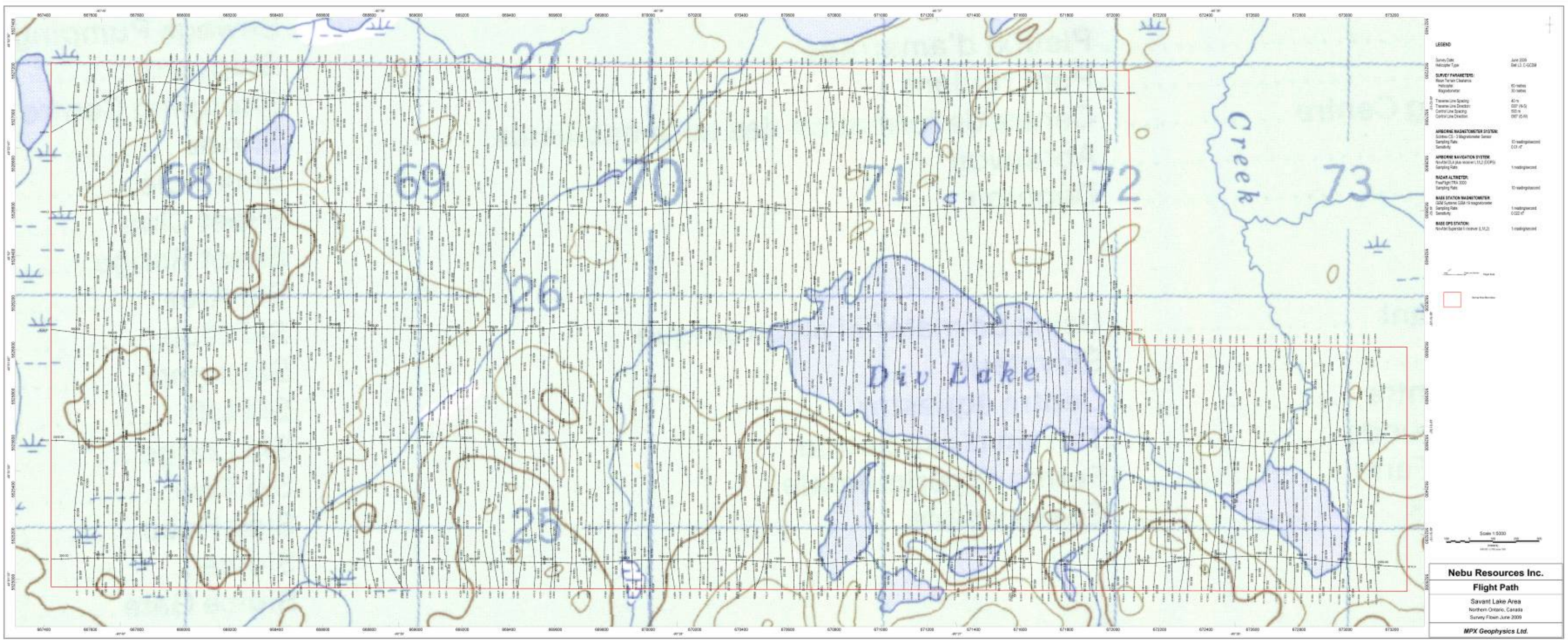

Figure 2: The survey coordinates and flight path for the Savant Lake Area survey.

4.0 Survey Operations

4.1 Operations Base

Survey operations were based in Silver Dollar, Northern Ontario; 38 km west of the Savant Lake Area (see Figure 1). One GPS and one magnetic base station were utilized during the project.

The stations were positioned to minimize the distance to each survey block, and/or to provide a backup data set. The base station locations are summarized in Table 3.

Table 3: Magnetic and GPS Base Station details.

Station Name	Lat&Long (Degrees)	Datum / Projection	Location (Easting / Northing)	Datum / Projection
Mag & GPS	49º 49' 06.51" N 91º 10' 44.44" W	WGS 84 Geographic	5518186.11 N 631036.95 E	NAD83 UTM 15N

Quality Control was undertaken by the crew in the field as the survey progressed and preliminary data processing was undertaken by the geophysicist in main at MPX's Data processing office in Richmond Hill.

4.1.1 Magnetic Base Station

To monitor and record diurnal variations of the Earth's magnetic field one base station was installed. The base Station consisted of a GEM Systems GSM-19TW Overhauser magnetometer with onboard GPS for post processing of airborne data. The magnetic sensors were set-up utilizing a staff mount at a height above ground of 1.7 m. 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, such as motor vehicles and aircraft, without compromising safety and local activity.

The base-station magnetometer was operated continuously throughout the airborne data acquisition work with a sensitivity of 0.022 nT. The ground and airborne system clocks were synchronized using GPS time, to an accuracy of 1 second or better. The sample rate of the base magnetometer was once every second (1 Hz). A continuously updated profile plot of the base station values was presented on the base station screen. The magnetometer base station data were recorded in the solid-state memory of the base station and downloaded to the field laptop at the end of each day's survey operations.

Figure 3: GPS and Magnetic Base Station.

4.1.2 GPS Base Station

A Novatel SuperStar II receiver that recorded one measurement per second (1 Hz) was integrated with the base magnetometer to collect base GPS data for use in the post-processing of the helicopter (rover) GPS data.

4.2 Survey Conditions

Weather conditions during the survey were variable. The temperature range was from 1°C to -10°C during the survey. During the period of 08 June 2009 to 12 June 2009 a total of three (3) days were production days; zero (0) days were lost as the result of bad weather; one (1) day was spent on installation; one (1) day was spent mobilizing crew and/or equipment to and from the area; and zero (0) days were required for the pilot's roster day off. Table 4 provides a summary of the days spent on each type of activity.

Table 4: The number of days spent on each survey activity.

	Chesney Bay Area
Mobilization	1
Installation	1
Equipment Troubleshooting	0
Production	3
Weather	0
Pilot day off	0
Total	**5**

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

4.3 Navigation

The nominal data acquisition speed of the helicopter was approximately 130 kilometres per hour (36 metres per second, 70 knots), but this varied depending on terrain. Magnetic and altimeter data values were sampled 10 times per second (10 Hz). The GPS position was sampled at a rate of 1 time per second (1 Hz). A position fix was recorded approximately every 36 metres along the flight track. With a sampling rate of 0.1 seconds, magnetometer and altimeter measurements were acquired approximately every 3.6 metres along the survey line.

Navigation was assisted by a NovAtel DL4 DGPS navigation system that reported GPS co-ordinates as WGS-84 latitude and longitude and guided the pilot over a pre-programmed two-dimensional (2-D) survey grid. The x-y position of the helicopter reported by the GPS system was recorded with the terrain clearance as reported by the radar altimeter.

Vertical navigation along flight lines was established using the radar altimeter. The nominal terrain clearance during normal survey flying was 70 metres for the helicopter, and 40 metres for magnetometer sensor. However, due to the terrain in some areas and/or the pilot’s judgment of safe flying conditions, the prescribed terrain clearances were not possible 100% of the time.

4.4 Field Processing & Quality Control

The survey data were transferred to portable recording media on a flight-by-flight basis, and subsequently 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 listed below in Table 5. Survey lines that exhibited excessive deviation, or that were considered to be of inferior quality, were reflown. All reflights crossed a minimum of two tie lines. None of the flight lines required partial or complete reflying due to equipment malfunction or for diurnal.

Table 5: Contract re-flight specifications. Re-flights occurred under any of the conditions listed below.

Specification	Details
POSITION	
Position	Digital positioning data not available.
Line Spacing	Transect line spacing exceeds 75 percent of the nominal spacing over a distance of more than 400 m - 40 m flight line spacing: ± 30 m over 400 m
MAGNETICS	
Diurnal	Diurnal Total Magnetic Intensity variation exceeds 10 nT over 5 minutes. Survey data acquisition will be stopped altogether in the case of severe magnetic diurnal activity.

4.5 Project Status Report

The project status report provides a brief summary of all information relevant to the project for each day of the survey. Details include the type of activity carried out on each day (mobilization, installation, equipment troubleshooting, production, weather down-day, or pilot day off); the flight numbers; total line-km flown; total flight hours; personnel working; and any additional details for each day. The report also provides a summary of the survey block names and the line-km flown in each. The project status reports are included in Appendix 2.

5.0 Aircraft and Equipment

The installation of the geophysical and ancillary equipment was carried out by MPX personnel at the Silver Dollar, Ontario, with final adjustments, calibration and testing completed prior to commencement of production survey flights. The MPX operator was responsible for ensuring that the equipment functioned properly and within specifications; operating the survey equipment during data acquisition; and carrying-out preliminary quality control of the acquired data.

5.1 Aircraft

The survey was flown using a Bell 206B Jet Ranger. This helicopter featured up to 3.8 hours flight duration and a crew of two or less persons on board (pilot plus operator). The helicopter was provided by Forest Helicopter, located in Kenora, Ontario.

Figure 4: Bell 206B Jet Ranger helicopter with Canadian registration C-GCDM.

Aircraft Registration:	-	Canadian, C-GCDC
Empty weight:	-	1835 lb/832.3 kg
Gross weight:	-	3950 lb/1792 kg
Service ceiling:	-	20000 ft/6096 m (with oxygen)

Fuel consumption: - 114 Litres/Hour
Survey duration: - 3.8 hours (no reserves)

5.2 Survey Equipment

5.2.1 Survey System Overview

The system consisted of GPS navigation (NovAtel L1, L2), FreeFlight TRA 3000 Radar Altimeter, and a Scintrex CS-3 high-sensitivity Cesium magnetometer in a towed-bird. The sampling rates for each component of the system are presented in Table 6.

Table 6: System component sampling rates

SYSTEM / No. of CHANNELS	SAMPLING RATES
Total Field Magnetometer (1 channel)	10.0 / sec
Radar Altimeter (1 channel)	10.0 / sec
Barometric Altimeter (1 channel)	10.0 / sec
DGPS Navigation (1 channel)	1.0 / sec

5.2.2 Airborne Magnetometer

The magnetic sensor that was utilized for the survey was a Scintrex CS-3 high resolution Cesium split-beam total-field magnetometer, which was installed in a towed array. The sampling rate was ten (10) times per second with an in-flight sensitivity of 0.002 nanoTesla (nT). The sensitivity of the magnetometer was recorded at 0.002 nT when operated at a sampling rate of 0.1 second.

Figure 5: Scintrex CS-3 Airborne Magnetometer Sensor.

A Cesium vapour magnetic sensor is a miniature atomic absorption unit, producing a signal whose frequency (Larmor frequency) is proportional to the intensity of the ambient magnetic field. The unit consists of three main elements; a Cesium vapour lamp, an absorption cell, and a photosensitive diode.

These components are mounted along a common optical axis within the sensor housing. The electronic support system is mounted near the front of the stinger, transmitting the Larmor signal to a counter in the data acquisition system then converted the signal to magnetic field strength in nanoTeslas.

The magnetometer sensor is housed in its own airfoil (bird) and is attached to the tow cable. In this position it was 40 metres above the ground at the helicopter's nominal terrain clearance of 70 metres during the survey.

5.2.3 Bird Tow Cable

The tow cable is constructed of a coaxial cable complete with a strain member. The length of the tow cable was nominally twenty-five metres. The tow cable was attached to the helicopter by means of a weak-link assembly. The on-board section of the tow cable consisted of coaxial cable with the length being customized to suit the helicopter being used.

5.2.4 Radar Altimeter

A FreeFlight TRA 3000 radar altimeter system recorded the ground clearance to an accuracy of ± 1.5 m from 12 m – 30.5 m; ± 5% over a range of 30.5 m – 152.4 m; and 7% over a range of 152.4 m – 762 m. The altimeter antenna and receiver were mounted on the base of the forward bubble in the helicopter.

The altimeter was interfaced to the data acquisition system with the output sampled at 10 times per second (10 Hz), and digitally recorded.

5.2.5 GPS Navigation System

A NovAtel DL4 DGPS navigation system input to a navigation computer and pilot steering indicator provided navigation control. The pilot steering indicator provided steering and cross-track guidance to the pilot. The pilot was provided with GPS and altimeter data to aid in the flying of the aircraft. Survey co-ordinates were set-up prior to commencement of the survey and the information was loaded into the airborne navigation system.

5.2.6 Base Station Magnetometer

The magnetometer base station used was comprised of a GEM GSM-19 TW Overhauser magnetometer to monitor and record diurnal variations of the Earth's magnetic field. The base station magnetometer was set up in a field next to the operation base in Silver Dollar. Every effort was made to ensure that the magnetometer sensor was placed in a location of a low magnetic gradient and sited away from electric transmission lines, and moving ferrous objects, such as motor vehicles and aircraft.

The base-station magnetometer, with digital recording, was operated continuously throughout the airborne data acquisition work with a sensitivity of 0.022 nT. The ground and airborne system clocks were synchronised using GPS time, to an accuracy of 1 second or better. The sample rate of the base station was once every 1 second. A continuously updated profile plot of the base station values was presented on the base station screen. At the end of the day, the digital data was transferred from the base station's data-logger to the fieldwork station.

The base station magnetometer locations are noted in Table 3.

5.2.7 Base Station GPS

A Novatel SuperStar II GPS receiver that recorded one measurement per second (1 Hz) was employed to collect base GPS data for use in the post-processing of the helicopter (rover) GPS data. The antenna was set-up using a staff mount at a height of 2.0 m above ground.

5.2.8 PC-based Data Acquisition System

A Pico-Envirotec Airborne Geophysical Information System (AGIS) PC Based Data Acquisition System (DAS) was used to record the geophysical and navigation survey data on a portable media flashcard. The data were recorded at various rates ranging from 10 Hz to 1 Hz (ten times per second to once per second) that are summarized in Table 6 (page 11). Data was displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The DAS provided for:

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

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

On completion of flying, the data recorded on the laptop computer was copied to back-up DVD-ROM and transferred to the field workstation where the data was retrieved, verified and processed.

6.0 Instrument Checks and Calibrations

The following airborne magnetometer system tests and calibration checks were completed at appropriate times during the survey.

6.1 Magnetometer Checks

6.1.1 Magnetic Heading Effect

The magnetic heading effect was determined by flying a cloverleaf pattern oriented in the same direction as the survey lines and tie lines. At least one pass in each direction was flown over a recognizable magnetically “flat” feature on the ground in order to obtain sufficient statistical information to estimate the heading error. The results of the heading test are summarized below in Figure 6.

Heading Effect Test Data				
Line	Fid	Direction	Mag (nT)	GPS Alt (m)
S80901:2	1387.8	WE - 090°	57573.074	1721.0
S81803:2	180.6	NS - 180°	57573.878	1834.0
S80903:2	1286.2	EW - 090°	57573.074	1770.0
S80002:2	11.1	SN - 360°	57573.431	1756.0
			57573.360	

```
/Geosoft Heading Correction Table
/
/=        Direction:real:i
/=        Correction:real
/
/         Direction  Correction
          0          -0.067
          090        +0.290
          180        -0.514
          270        +0.290
          0          -0.067
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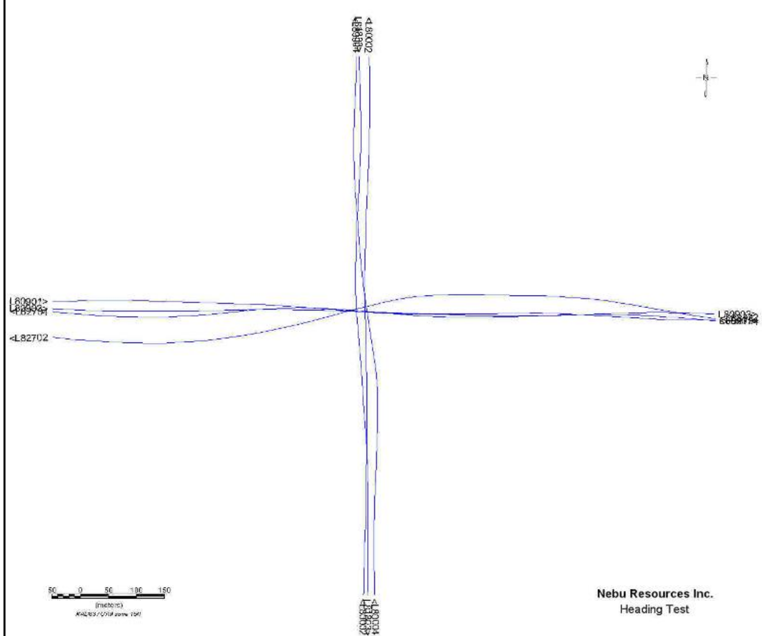


Figure 6: Results of the heading test.

6.1.2 Lag Test

A Lag Test was performed during Flight #2 on 10 June 2009 to determine the time difference between the magnetometer readings and the operation of the GPS System. The test was flown over an identifiable magnetic anomaly by flying the same sharp anomaly on reciprocal headings at survey altitude. A lag of 22 fiducials (2.2 seconds) was determined from the lag test.

6.2 Altimeter Calibration Checks

Checks of the radar altimeter calibration were undertaken over an area of flat topography. The calibration was determined by comparing the radar altitude with a suitable reading from the GPS system during a radar "stack" over the land-based test line where the height above sea-level (ASL) is accurately known. A correction factor of 0.9878 was determined from the stack test; therefore all radar altimeter values can be multiplied by the correction factor to properly calibrate the radar altimeter height measurements obtained during the survey. The results of the test are presented in Figure 12.

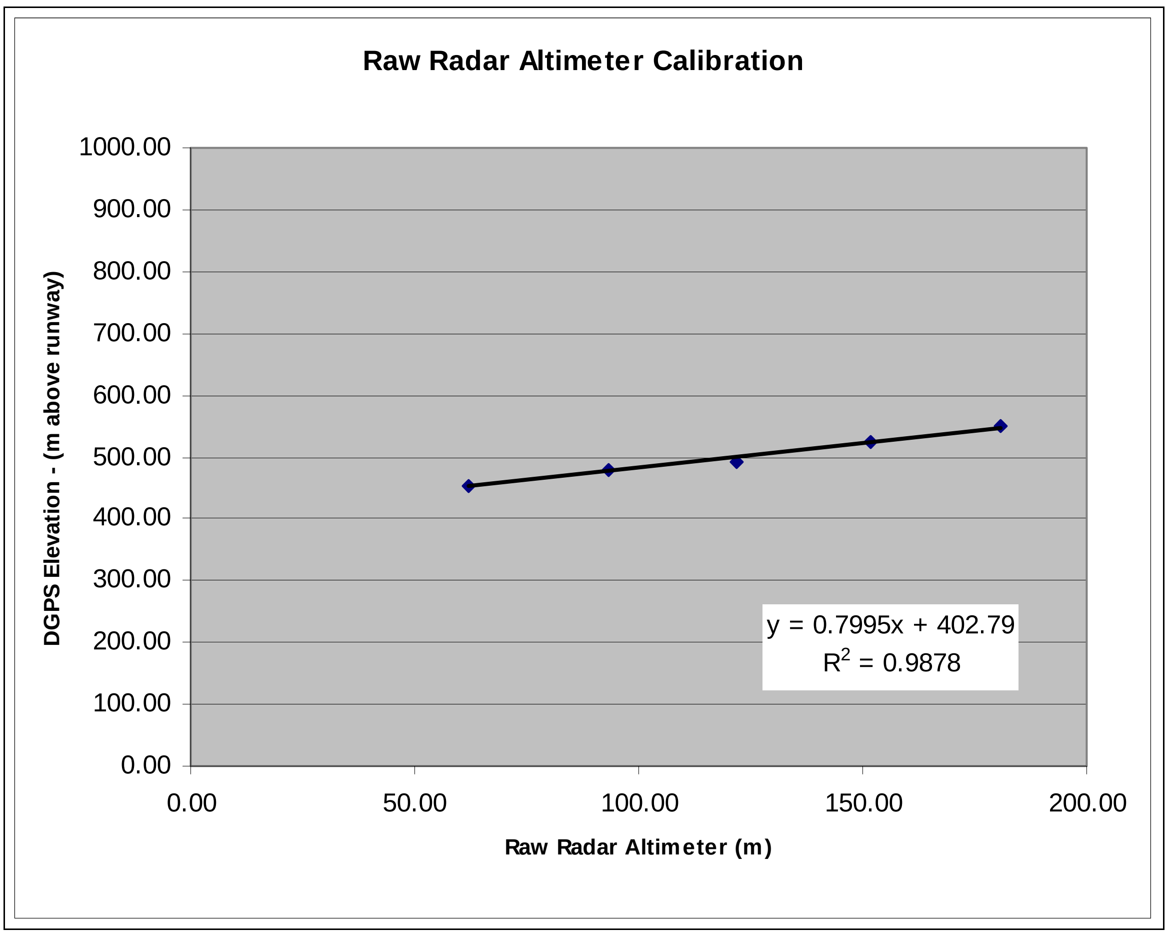


Figure Figure 7 : GPS Elevation vs. radar altimeter, showing the line of best fit with trend line equation.

7.0 Quality Control and Data Processing

Daily quality control and archiving of the data was completed at the Silver Dollar base camp using Geosoft's OASIS montaj software and a notebook PC computer. Additional processing was completed by MPX at the Richmond Hill, Ontario office.

All data were verified upon receipt, and checked against the flight logs. Geosoft binary files of the collected data were forwarded to the client daily.

The final data processing, map and report preparation was completed by MPX at the Richmond Hill, Ontario office.

7.1 In-Field Processing and Deliverables

The following items were verified while in the field. An additional review of the data was conducted once the data arrived in the Richmond Hill office for final processing and grid preparation.

7.1.1 Flight Path Compilation

The flight path was derived GPS positions from the airborne data. A position was calculated each second (approximately every 36 metres along the flight path). The position data was then merged into the magnetic data in each of the respective Geosoft GDB databases.

If the contract specifications noted in Table 5 were not met, a re-flight was deemed necessary. All positional data was projected in NAD 83, UTM Zone 15N coordinates as specified by the contract (Table 1).

7.1.2 Base Station Magnetic Data

The base station magnetometer data was edited, plotted and merged into the database on a daily basis. The following constraints were used during the quality control procedure:

- Removal of spikes in the data set resulting from cultural activities not associated with the survey (ex. a truck driving by the base station);
- Diurnal Total Magnetic Intensity non-linear variations could not exceed 10 nT in a straight-line chord over 5 minutes.
- Calculation of the 4th difference noise of the signal to identify potential erroneous data

7.2 Airborne Magnetic Data

Field processed magnetic data were made available on a daily basis and at the completion of the survey prior to demobilization of the survey aircraft and crew. A description of all processing methods applied to the magnetic data is included below.

7.2.1 Corrections

The processing of the data involved editing raw magnetic data to remove any noise spikes; correcting for diurnal variations by using the digitally recorded ground base station magnetic values; network adjustment using the flight-line and tie-line information to level the survey data set. The corrected data set was used to generate the initial Total Magnetic Intensity (TMI) grid upon which all further processing and analysis has been made.

7.2.2 Levelling

Conventional levelling methods that utilize the data from the tie lines was performed. Levelling of the magnetic data included the following steps:

- Statistically levelling the tie lines to a common regional base using the mean of the cross-level errors;
- Levelling the traverse lines using the statistically levelled ties. Note: this procedure involves editing individual corrections at selected intersections as required in order to obtain the best possible levelled data before microlevelling.

7.2.2.1 Micro-levelling

After applying the above corrections to the magnetic profile data, residual line-direction-related noise was removed through application of microlevelling. The microlevelling technique consists of applying directional and high pass filters to produce a grid containing noise only in the line direction. In order to differentiate between noise and signal, the grid is extracted to the profile database, and an amplitude limit and a filter length are determined such that the final error channel reflects only noise present in the grid without removing or changing the geologic signal. This error channel is then subtracted from the initial data channel in order to obtain the final microlevelled channel. The microlevelled channel is then gridded using a minimum curvature algorithm. The resulting grid is therefore free of line direction noise.

7.2.3 Gridding

The corrected magnetic line data was interpolated between survey lines using a random point minimum curvature gridding algorithm to yield x-y grid values for a standard grid cell size of 1/4th of the line spacing (10 m for the survey area).

7.2.4 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. The IGRF values were calculated for model year 2005 and the following date was used for the survey:

Savant Lake Area – 11 June 2009

Through the removal of the IGRF from the observed Total Magnetic Intensity (TMI), the resulting residual magnetic intensity allows for more valid modeling 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.

7.2.5 Reduction-to-the-Pole (RTP)

To compensate for the shift of the true anomaly position over the causative source, due to the magnetic inclination and declination, the magnetic data was recomputed so that magnetic anomalies will appear as they would if located at the north magnetic pole. The result of this operation is that in theory, the magnetic anomaly is located directly overtop of the causative source. The computation is referred to as "reduction-to-the-pole" (RTP). 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 assists in the direct correlation and comparison of magnetic anomalies, trends, structural axis, and discontinuities with mapped geologic surface expression.

The RTP was calculated using the following parameters for the survey area:

	Savant Lake Area
Geomagnetic Inclination:	75.51^{o} N
Geomagnetic Declination:	-2.58^{o} W
T.F. Background Value:	57, 795.46 nT

7.2.6 Calculation of the First Vertical Derivative (1VD)

To “sharpen” magnetic anomalies and to provide better spatial location of source axes and boundaries, a first vertical derivative map was computed from the TMI_IGRF. Vertical derivatives compute the rate of change of the TMI 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 to take advantage of this symmetry and solve for the vertical or “z” component of the field.

8.0 Deliverable Products

The survey data are presented as digital databases and geosoft grid files. All digital data are also presented on DVD-ROM in ASCII format. The deliverable items of this survey are described below.

8.1 Maps

The following map products were prepared and delivered in three (3) copies at scale of 1:5,000 on a base map:

- Flight Path with the path, fiducials and line numbers indicated
- Digital Terrain Model (DTM)
- Total Magnetic Intensity (TMI)
- Total Magnetic Intensity IGRF removed (TMI IGRF)
- Reduced to the Magnetic Pole TMI IGRF (RTP IGRF)
- Calculated First Vertical Derivative of RTP IGRF (1VD)

All products were prepared in NAD83, UTM Zone 15N with Latitude and Longitude edge ticks.

8.2 Digital Data

The edited field and processed digital data are delivered in three (3) copies, in Geosoft and ASCII code, on DVD-ROM. The final processed line and grid data, in GEOSOFT format, are also delivered in three (3) copies on DVD-ROM.

The following grid products were prepared in NAD83, UTM Zone 15N.

Geosoft Grids:

- Digital Terrain Model (DTM)
- Total Magnetic Intensity (TMI)
- Total Magnetic Intensity IGRF removed (TMI IGRF)
- Reduced to the Magnetic Pole TMI IGRF (RTP IGRF)
- Calculated First Vertical Derivative of RTP IGRF (1VD)

8.2.1 Metadata Files

Text files with information about the digital data provided for the survey block (metadata) are made available. All files and/or database channels are described in the metadata file. See Appendix 3 for the contents of the metadata file.

8.3 Report

Three (3) copies of a survey report were delivered. This report provides information about the acquisition, processing and presentation of the survey data. A full digital copy of this report is included in Acrobat PDF format with the digital data that is provided on DVD-ROM.

8.3.1 Statement of Qualifications

The collection of data, and preparation of map and report products for this project were completed by the following staff of MPX; Daniel McKinnon, Pat Healy, Tonia Bojkova and Christina Clark. A summary of their qualifications appear in Appendix 1.

Respectfully submitted,
MPX Geophysics Ltd.

Appendices

Appendix 1. Statement of Qualifications

Daniel J. McKinnon, President

Daniel holds electrical and electronics diplomas from the New Brunswick Community College. Daniel started working in the mining industry in 1993 as an underground miner in the famous massive base metal sulphide mines of Brunswick and Heath Steele of New Brunswick, Canada. With the downturn on the mining industry in the late 1990's, Daniel moved to Ontario and was employed by Compressario of Newmarket as Production Manager and Field Customer Services Manager. In 2001, Daniel became involved in geophysical survey operations first with Geotech of Aurora, Canada, a provider of time-domain electromagnetic helicopter surveys and more recently as a Senior Project Manager and Geophysical Technician for the various electromagnetic, radiometric and magnetic systems employed. In February 2006 Daniel co-founded MPX Geophysics Inc. in order to provide efficiently managed projects and high-quality products to the airborne geophysical industry. In 2007 he acquired the company in order to form MPX Geophysics Ltd. as an employee-owned and directed company that specializes in magnetic and radiometric airborne surveys. Daniel is a member of the Prospectors & Developers Association of Canada. He has worked in Canada, the U.S., Mexico, South America, and Europe.

Patrick Healy, Project Manager

Pat has an Electronics Technician Certificate from the Royal Australian Army Trades School. He served in the Royal Australian Army as an Electronics Technician from 1980 to 1988, responsible for the installation and maintenance of HF, VHF and UHF radio systems. After leaving the army Pat worked for a few years as a radio technician in Australia for several companies and joined Kevron Geophysics Pty Ltd., Perth, Western Australia in 1993 as an Operator / Party Leader, where he worked until 1999. His responsibilities included operation and maintenance of airborne geophysical acquisition equipment in both fixed-wing aircraft and helicopters, monitoring quality of data and production of QC reports/products for presentation to clients, supervision of field crews and liaison with Client representatives. From 1999 to 2003 Pat worked for GeoInstruments Pty Ltd. of Sydney, Australia an airborne geophysical survey contractor, performing duties very similar to those described above at Kevron. Pat joined another airborne geophysics company in early 2004 as a Senior Technician/Operator, responsible for the installation and operation of airborne geophysical systems in fixed-wing aircraft and helicopters. He is a skilled technician, has many years supervisory experience on geophysical survey crews, and has excellent computer skills. He has worked extensively in Australia, Canada, South-east Asia, Romania and Greenland.

Tonia Bojkova, M. Sc., Senior Geophysicist

Tonia received her first Master of Science degree in Engineering Geophysics at the University of Mining and Geology in Sofia, Bulgaria, where her thesis research was focused on the integration and interpretation of high resolution magnetic and radiometric data collected over southeastern Bulgaria. The best method to determine regional magnetic models without the influence from local anomalies was investigated during her second Master of Science degree that was obtained in Applied Mathematics at the Technical University in Sofia, Bulgaria. Tonia entered the industry in 1980 as a geophysicist for the Bulgarian government collecting, processing, and analyzing airborne radiometric and magnetic data while also performing gamma-ray monitoring of Bulgaria after the Chernobyl NPP fallout. While working for the Airborne Geophysical Survey (AGS) Ltd. - High-Sense joint venture from 1992 to 2000, Tonia added survey planning, quality control (QC), and supervision to her geophysical skill set, while continuing to develop her geophysical processing experience. During the last decade Tonia has held senior roles working for Fugro (U.K.) and now MPX Geophysics. Tonia has 26 years of continuous experience in the geophysical survey industry with extensive experience processing and interpreting airborne magnetic, radiometric, and electromagnetic (EM) data. This includes working both in and out of the field with a variety of QA/QC protocols, processing geophysical data and preparation of final map products, geophysical interpretations and/or reports for clients.

Christina Clark, M. Sc., P.Geo., Geophysicist

Christina attended McMaster University, Hamilton, Ontario and obtained her M.Sc. in Geology in 2004 and a B.Sc. in Environmental Sciences in 2002. In 2000 she was a Co-op Student at the environmental engineering firm SENES Consultants Limited, Richmond Hill, Ontario where she was involved in researching and evaluating information on project specific environmental and mining issues for Environmental Assessment preparation, as well as the design and compilation of project specific user-friendly databases. Her Masters thesis research involved integrating sedimentological, geophysical and geochemical techniques to identify proxy indicators to further understand environmental change, which has provided a strong foundation in environmental geophysics. Christina began her career as an Applied Geophysics Research Assistant to Dr. William Morris at McMaster University in 2004 to aid innovative potential-field based research through theoretical, field-based and experimental approaches. In December 2004 she visited an international group conducting petrophysical analyses of core from Lake Bosumtwi impact crater (Ghana) at the International Contental Drilling Program (ICDP) facility, GFZ Institute, Potsdam, Germany. Christina joined the geophysics industry in 2005 as a Geophysicist responsible for undertaking QC and processing of airborne and ground geophysical data in the field and in the office. She has worked in Canada, the US, Colombia, Ecuador and Germany.

Jeff Stevenson: Project Administrator/Geophysical Operator

Jeff's formal post-secondary education and training is as a computer programmer/analyst. In 1989 Jeff began working in the electronics service and support industry, with Fujitsu Transaction Solutions Inc. Canada. Throughout the next nine years Jeff occupied a variety of different roles, which included: system development, system implementation/support, system training, logistical planning, project management and system administration. In 1996 Jeff relocated, with Fujitsu Transaction Solutions Inc. to Dallas TX. to contribute to the North American operational efforts. In 1999 Jeff returned to Canada to work in the telecommunications industry and later joining Geotech Ltd as operations supervisor. Jeff has excelled as a project manager and geophysical operator during his work throughout North and South America. Mr. Stevenson brings extensive practical project management experience to the MPX team which often contributes to the exceptional efficiency of the project.

Appendix 2. Project Status Report & Flight Logs

PROJECT STATUS REPORT

MPX GEOPHYSICS LTD.

P9018 NEBU Resources Inc.

TO:	Brian Murray	CC: All MPX	
FROM:	Daniel McKinnon	DATE: **12/06/2009**	Operations Base: Silver Dollar Inn Position (WGS84 UTM15N): x-631039.7076 y-5518189.7606
AREA:	Savant Lake Project		

DAY	DOY	Type	FLT#	KMS	Hr:m	Pers.	REMARKS - *Temp, weather, Status*
Mon-08-Jun-09	159	1				1,2	Fuel arrived on site at Silver Dollar, Ontario
Tue-09-Jun-09	160	1				1,2	Helicopter delayed to weather forcast for today and tomorrow
Wed-10-Jun-09	161	4	001,002		1:12	1,2	Helicopter arrived, install complete, Mag heading, lag and radar tests complete 15 deg, 10kn SW
Thu-11-Jun-09	162	4	003,004,005	272	7:06	1,2,3	Completed testing and flew production throughtout the day 12 deg 5kn SW
Fri-12-Jun-09	163	4	006	35	2:46	1,2,3	Survey block production/reflights…100 %Completed Block / helicopter demob to Kenora
Sat-13-Jun-09	164						
Sun-14-Jun-09	165						
Mon-15-Jun-09	166						
Tue-16-Jun-09	167						
Wed-17-Jun-09	168						
Thu-18-Jun-09	169						
Fri-19-Jun-09	170						
Sat-20-Jun-09	171						
Sun-21-Jun-09	172						
Mon-22-Jun-09	173						
Tue-23-Jun-09	174						
Wed-24-Jun-09	175						
Thu-25-Jun-09	176						
Fri-26-Jun-09	177						
Sat-27-Jun-09	178						
Sun-28-Jun-09	179						
Mon-29-Jun-09	180						
Tue-30-Jun-09	181						
Wed-01-Jul-09	182						
Thu-02-Jul-09	183						
Fri-03-Jul-09	184						
Sat-04-Jul-09	185						
Sun-05-Jul-09	186						
Mon-06-Jul-09	187						
Tue-07-Jul-09	188						
Wed-08-Jul-09	189						
Thu-09-Jul-09	190						
Fri-10-Jul-09	191						

Planned Km	**272.0**
Previous Total	
Total Km flown	**310.5**
Remaining Km	**-38.5**
Previous Helicopter Hours	
Total Helicopter Hours	**11:04**

114.15%

Area #	KM	Target
1	272	Savant Lake

Notes:

Personnel Key (Pers.)	1	Daniel McKinnon, QA/QC, Project Manager
	2	Jeff Stevenson, Operator
	3	Pilot, Norm Jones
	4	Engineer
	5	
	6	
	7	
	8	
	9	
	10	
Activity Type Key	1	Mobilization
	2	Installation
	3	Equipment troubleshoot
	4	Production
	5	Weather
	6	Pilot day off

Equipment List:

Aircraft: Bell 206BIII	Registration: C-GCDM
Aircraft Velocity:70kt ground speed	
Aircraft Altitude: 60 m	
Magnetometer Altitude:30m	Configuration: Bird
Magnetometer: CS-3	Sampling: 10hz
Radar Altimeter: TRA 3000 10hz	
Helicopter GPS: Novatel DL4 plus	
Base GPS: GEM GSM-19	
Base Mag: GEM GSM-19 @ 1Hz	
Datum Basemag A = nT	
Datum Basemag B =	

	Position zone 12N		Location	Pic?
BASE GPS A	631039	5518189	250 m from base camp	Y
BASE MAG A	631039	5518189	250 m from base camp	Y
AIRCRAFT CAL A				
BASE GPS B				
BASE MAG B				
AIRCRAFT CAL B				

MPX FLIGHT LOG

Client Name:	N.E.B.U.	Spectrometer Resolution	
Project Number:	P9018 Savant Lake	rystal # Cs:	Th
Survey Block #:	Savant Lake	1D	
Operator Name:	Jeff Stevenson	2D	
Pilot Name:	Norm Jones	3D	
Flight Number:	2	4D	
Flight Date:	10/06/2009	5U	
Takeoff Time:		1D	
Landing Time:		2D	
Total Flight Hours:	1	3D	
Data File:		4D	
		5U	
		s Dowr N/A	N/A
		es Up N/A	N/A

Line Number:	ine Typ	e Directi	Fiducial		G.P.S. Time		e Km	Comments:
			Start	End	Start	End		
6600			1610	1703				Radar test 600'
6500			1704	1770				Radar test 500'
6400			1771	1838				Radar test 400'
6300			1839	1905				Radar test 300'
6200			1906	1985				Radar test 200'
								B9061022_P99.gbn
-9600			1986	2177				Lag Test B9061022_P37.gbn
81801		S	1	270				B9061021_P53.gbn
80002		N	271	588				B9061021_P53.gbn
81803		S	589	808				B9061021_P53.gbn
80004		N	809	1006				B9061021_P53.gbn
80901		E	1007	1168				B9061022_P13.gbn
82702		W	1169	1335				B9061022_P13.gbn
80903		E	1336	1459				B9061022_P13.gbn
82704		W	1460	1609				B9061022_P13.gbn

MPX FLIGHT LOG

Client Name:	N.E.B.U.	Spectrometer Resolution	
roject Number	P9018 Savant Lake	Crystal #: Cs:	Th
urvey Block #	Savant Lake	1D	
perator Name	Jeff Stevenson	2D	
Pilot Name:	Norm Jones	3D	
Flight Number:	3	4D	
Flight Date:	Thursday, June 11, 2009	5U	
Takeoff Time:		1D	
Landing Time:		2D	
tal Flight Hour	1 Hour 48 Minutes (1.8)	3D	
Data File:	B9061112.P46	4D	
		5U	
		es Down (N/A	N/A
		Res Up % N/A	N/A

Line Number:	ine Typ	e Directi	Fiducial		G.P.S. Time		Line Km's:	Comments:
			Start	End	Start	End		
9010	T	E	0	226	12:46:10	12:49:56	5.61	
9020	T	W	227	484	12:49:57	12:54:14	5.61	
9030	T	E	485	683	12:54:15	12:57:33	4.41	
9040	T	W	684	874	12:57:34	13:00:44	4.40	
9050	T	E	875	1175	13:00:45	13:05:45	4.39	
1420	S	S	1210	1391	13:06:20	13:09:21	0.83	
1410	S	S	1392	1514	13:09:22	13:11:24	0.83	
1400	S	S	1515	1605	13:11:25	13:12:55	0.83	
1390	S	S	1606	1692	13:12:56	13:14:22	0.83	
1380	S	S	1693	1772	13:14:23	13:15:42	0.82	
1370	S	S	1773	1847	13:15:43	13:16:57	0.82	
1360	S	S	1848	1920	13:16:58	13:18:10	0.82	
1350	S	E	1921	1982	13:18:11	13:19:12	0.82	
1340	S	S	1983	2052	13:19:13	13:20:22	0.82	
1330	S	S	2053	2120	13:20:23	13:21:30	0.82	
1320	S	S	2121	2203	13:21:31	13:22:53	0.82	
1310	S	S	2204	2276	13:22:54	13:24:06	0.82	
1300	S	S	2277	2365	13:24:07	13:25:35	0.82	
1290	S	S	2366	2433	13:25:36	13:26:43	0.82	
1280	S	S	2434	2512	13:26:44	13:28:02	0.82	
1270	S	S	2513	2591	13:28:03	13:29:21	0.82	
1260	S	S	2592	2673	13:29:22	13:30:43	0.82	
1250	S	E	2674	2747	13:30:44	13:31:57	0.82	
1240	S	S	2748	2827	13:31:58	13:33:17	0.82	
1230	S	S	2828	2900	13:33:18	13:34:30	0.82	
1220	S	S	2901	2990	13:34:31	13:36:00	0.82	
1210	S	S	2991	3060	13:36:01	13:37:10	0.82	
1200	S	S	3061	3149	13:37:11	13:38:39	0.82	
1190	S	S	3150	3228	13:38:40	13:39:58	0.82	
1180	S	S	3229	3324	13:39:59	13:41:34	0.82	
1170	S	S	3325	3409	13:41:35	13:42:59	0.82	
1160	S	S	3410	3503	13:43:00	13:44:33	0.82	
1150	S	S	3504	3584	13:44:34	13:45:54	0.82	

1140	S	S	3585	3680	13:45:55	13:47:30	0.82	
1130	S	S	3681	3812	13:47:31	13:49:42	0.82	
1120	S	S	3813	3948	13:49:43	13:51:58	1.27	
1110	S	S	3949	4057	13:51:59	13:53:47	2.02	
1100	S	S	4058	4175	13:53:48	13:55:45	2.02	
1090	S	S	4176	4290	13:55:46	13:57:40	2.02	
1080	S	S	4291	4410	13:57:41	13:59:40	2.02	
1070	S	E	4411	4536	13:59:41	14:01:46	2.02	
1060	S	S	4537	4653	14:01:47	14:03:43	2.02	
1050	S	S	4654	4774	14:03:44	14:05:44	2.02	
1040	S	S	4775	4887	14:05:45	14:07:37	2.02	
1030	S	E	4888	5009	14:07:38	14:09:39	2.02	
1020	S	S	5010	5121	14:09:40	14:11:31	2.02	
1010	S	S	5122	5252	14:11:32	14:13:42	2.02	
1000	S	S	5253	5417	14:13:43	14:16:27	2.02	Incomplete due to bird strike

MPX FLIGHT LOG

Client Name:	N.E.B.U.
Project Number	P9018 Savant Lake
Survey Block #	Savant Lake
Operator Name	Jeff Stevenson
Pilot Name:	Norm Jones
Flight Number:	4
Flight Date:	Thursday, June 11, 2009
Takeoff Time:	
Landing Time:	
otal Flight Hour	3 Hours 12 Minutes (3.2)
Data File:	B9061118.P48

Spectrometer Resolutio		
rystal	Cs:	Th
1D		
2D		
3D		
4D		
5U		
1D		
2D		
3D		
4D		
5U		
s Dowr	N/A	N/A
es Up	N/A	N/A

Line Number:	ine Type	ne Directio	Fiducial		G.P.S. Time		Line Km's:	Comments:
			Start	End	Start	End		
1001	S	S	0	86	18:48:04	18:49:30	2.02	Re-did due to bird strike
990	S	S	87	215	18:49:31	18:51:39	2.02	from flight 003
980	S	S	216	354	18:51:40	18:53:58	2.02	
970	S	S	355	490	18:53:59	18:56:14	2.02	
960	S	S	491	607	18:56:15	18:58:11	2.02	
950	S	S	608	740	18:58:12	19:00:24	2.02	
940	S	S	741	874	19:00:25	19:02:38	2.02	
930	S	S	875	997	19:02:39	19:04:41	2.02	
920	S	S	998	1123	19:04:42	19:06:47	2.02	
910	S	S	1124	1258	19:06:48	19:09:02	2.02	
900	S	S	1259	1385	19:09:03	19:11:09	2.02	
890	S	S	1386	1516	19:11:10	19:13:20	2.02	
880	S	S	1517	1668	19:13:21	19:15:52	2.02	
870	S	E	1669	1798	19:15:53	19:18:02	2.02	
860	S	S	1799	1922	19:18:03	19:20:06	2.02	
850	S	S	1923	2047	19:20:07	19:22:11	2.02	
840	S	S	2048	2196	19:22:12	19:24:40	2.02	
830	S	S	2197	2327	19:24:41	19:26:51	2.02	
820	S	S	2328	2486	19:26:52	19:29:30	2.02	
810	S	S	2487	2612	19:29:31	19:31:36	2.01	
800	S	S	2613	2778	19:31:37	19:34:22	2.01	
790	S	S	2779	2908	19:34:23	19:36:32	2.01	
780	S	S	2909	3049	19:36:33	19:38:53	2.01	
770	S	S	3050	3181	19:38:54	19:41:05	2.01	
760	S	S	3182	3468	19:41:06	19:45:52	2.01	
750	S	S	3469	3618	19:45:53	19:48:22	2.01	
740	S	E	3619	3759	19:48:23	19:50:43	2.01	
730	S	S	3760	3918	19:50:44	19:53:22	2.01	
720	S	S	3919	4053	19:53:23	19:55:37	2.01	
710	S	S	4054	4217	19:55:38	19:58:21	2.01	
700	S	E	4218	4341	19:58:22	20:00:25	2.01	
690	S	S	4342	4502	20:00:26	20:03:06	2.01	
680	S	S	4503	4625	20:03:07	20:05:09	2.01	

670	S	S	4626	4775	20:05:10	20:07:39	2.01	
660	S	S	4776	4902	20:07:40	20:09:46	2.01	
650	S	S	4903	5067	20:09:47	20:12:31	2.01	
640	S	E	5068	5193	20:12:32	20:14:37	2.01	
630	S	S	5194	5341	20:14:38	20:17:05	2.01	
620	S	S	5342	5471	20:17:06	20:19:15	2.01	
610	S	S	5472	5611	20:19:16	20:21:35	2.01	
600	S	S	5612	5743	20:21:36	20:23:47	2.01	
590	S	S	5744	5890	20:23:48	20:26:14	2.01	
580	S	S	5891	6013	20:26:15	20:28:17	2.01	
570	S	S	6014	6143	20:28:18	20:30:27	2.01	
560	S	S	6144	6267	20:30:28	20:32:31	2.01	
551	S	S	6268	6409	20:32:32	20:34:53	2.01	
540	S	S	6410	6534	20:34:54	20:36:58	2.01	
530	S	S	6535	6675	20:36:59	20:39:19	2.01	
520	S	S	6676	6800	20:39:20	20:41:24	2.01	
510	S	S	6801	6932	20:41:25	20:43:36	2.01	
500	S	S	6933	7051	20:43:37	20:45:35	2.01	
490	S	S	7052	7175	20:45:36	20:47:39	2.01	
480	S	S	7176	7301	20:47:40	20:49:45	2.01	
470	S	S	7302	7440	20:49:46	20:52:04	2.01	
460	S	S	7441	7558	20:52:05	20:54:02	2.01	
450	S	S	7559	7698	20:54:03	20:56:22	2.01	
440	S	S	7699	7825	20:56:23	20:58:29	2.01	
430	S	S	7826	7968	20:58:30	21:00:52	2.01	
420	S	S	7969	8094	21:00:53	21:02:58	2.01	
410	S	S	8095	8223	21:02:59	21:05:07	2.01	
400	S	E	8224	8351	21:05:08	21:07:15	2.01	
390	S	S	8352	8475	21:07:16	21:09:19	2.01	
380	S	S	8476	8608	21:09:20	21:11:32	2.01	
370	S	S	8609	8749	21:11:33	21:13:53	2.01	
360	S	S	8750	8882	21:13:54	21:16:06	2.01	
350	S	S	8883	9026	21:16:07	21:18:30	2.01	
340	S	S	9027	9165	21:18:31	21:20:49	2.01	
330	S	S	9166	9316	21:20:50	21:23:20	2.01	
320	S	E	9317	9448	21:23:21	21:25:32	2.01	
310	S	S	9449	9593	21:25:33	21:27:57	2.01	
							141.00	

MPX FLIGHT LOG

Client Name	N.E.B.U.
oject Numbe	P9018 Savant Lake
urvey Block	Savant Lake
perator Nam	Jeff Stevenson
Pilot Name:	Norm Jones
light Numbe	5
Flight Date:	Thursday, June 11, 2009
akeoff Time	
anding Time	
al Flight Hou	2 Hours 6 Minutes (2.1)
Data File:	B9061123.P31

pectrometer Resolutio		
Crystal #	Cs:	Th
1D		
2D		
3D		
4D		
5U		
1D		
2D		
3D		
4D		
5U		
es Down	N/A	N/A
Res Up %	N/A	N/A

ine Number	ine Type	e Directi	Fiducial		G.P.S. Time		ine Km's	Comments:
			Start	End	Start	End		
300	S	E	0	121	23:31:45	23:33:46	2.01	
290	S	S	122	256	23:33:47	23:36:01	2.01	
280	S	S	257	379	23:36:02	23:38:04	2.01	
270	S	S	380	491	23:38:05	23:39:56	2.01	
260	S	S	492	610	23:39:57	23:41:55	2.01	
250	S	S	611	724	23:41:56	23:43:49	2.01	
240	S	S	725	852	23:43:50	23:45:57	2.01	
230	S	S	853	967	23:45:58	23:47:52	2.01	
220	S	S	968	1091	23:47:53	23:49:56	2.01	
210	S	S	1092	1214	23:49:57	23:51:59	2.01	
200	S	E	1215	1336	23:52:00	23:54:01	2.01	
190	S	S	1337	1457	23:54:02	23:56:02	2.01	
180	S	S	1458	1580	23:56:03	23:58:05	2.01	
170	S	S	1581	1698	23:58:06	0:00:03	2.01	
160	S	S	1699	1816	0:00:04	0:02:01	2.01	
150	S	S	1817	1930	0:02:02	0:03:55	2.01	
140	S	E	1931	2046	0:03:56	0:05:51	2.01	
130	S	S	2047	2168	0:05:52	0:07:53	2.01	
120	S	S	2169	2279	0:07:54	0:09:44	2.01	
110	S	S	2280	2405	0:09:45	0:11:50	2.01	
100	S	S	2406	2520	0:11:51	0:13:45	2.01	
90	S	S	2521	2631	0:13:46	0:15:36	2.01	
80	S	S	2632	2748	0:15:37	0:17:33	2.01	
70	S	S	2749	2879	0:17:34	0:19:44	2.01	
60	S	S	2880	3000	0:19:45	0:21:45	2.01	
50	S	S	3001	3113	0:21:46	0:23:38	2.01	
40	S	S	3114	3230	0:23:39	0:25:35	2.01	
30	S	S	3231	3356	0:25:36	0:27:41	2.01	
20	S	S	3357	3506	0:27:42	0:30:11	2.01	
							58.34	

MPX FLIGHT LOG

Client Name:	N.E.B.U.
Project Numbe	P9018 Savant Lake
Survey Block #	Savant Lake
Operator Name	Jeff Stevenson
Pilot Name:	Norm Jones
Flight Number	6
Flight Date:	Friday, June 12, 2009
Takeoff Time:	N/A
Landing Time:	N/A
otal Flight Hou	1 hour 10 minutes (1.2)
Data File:	B9061214.P99

pectrometer Resolutio		
Crystal #	Cs:	Th
1D		
2D		
3D		
4D		
5U		
1D		
2D		
3D		
4D		
5U		
es Down	N/A	N/A
Res Up %	N/A	N/A

Line Number	Line Type	e Directio	Fiducial		G.P.S. Time		ine Km's	Comments:
			Start	End	Start	End		
1041	S	S	0	121	14:39:55	14:41:56	2.02	
941	S	S	122	213	14:43:10	14:44:41	2.02	
71	S	S	345	419	14:57:32	14:58:46	2.01	
							6.04	

Appendix 3. Digital File Metadata

A text file with information about the digital data provided for each survey block (metadata) are made available for the Savant Lake survey area. All files and/or database channels included on the DVD-ROM are described below.

Table 7: File names and descriptions for all digital data prepared.

Savant Lake Survey Area

Metadata Updated June, 2009
MPX Geophysics Ltd.
44 East Beaver Creek, Unit 6
Richmond Hill ON L4B 1G8
T: (905) 771-1602

Project #: P9018

Survey Name: Savant Lake, Northern Ontario, Canada
Survey Area: 13 km²

Total line kilometres = 310.5 km.
    Flight Lines: 284.9 line km   Tie Lines: 25.6 line km

Flight lines (NS – 000°) 40 m spacing
Tie lines (EW – 090°) 500 m spacing

Aircraft: Bell Jet Ranger 206B Helicopter
Aircraft Registration: C-GCDM
Radar Altimeter: FreeFlight TRA 3000 @ 10 Hz
Helicopter DGPS: NovAtel DL4 plus receiver L1/L2 @ 1Hz

Magnetometer: Scintrex CS-3
    Magnetometer sample rate: 10Hz
    Magnetometer sensitivity: 0.01nT

Aircraft altitude: 70 m
Magnetometer altitude: 40 m

Base mag: GEM Systems GSM-19TW magnetometer @ 1Hz
Base GPS: NovAtel Superstar II @ 1Hz

IGRF date: 11 June 2009
Incl: 75.5°
Decl: -2.58°

Planimetry:
Government of Canada, Natural Resources Canada, Center for Topographic Information.
2004. LAC BRISSON -NTS 052G_1_0. CanMarix Series (Topographic GeoTIFF). NAD83

UTM Zone 15N.
Time Period of cantent: 1980.

Polygons: SavantLk.ply

Grids:

DTM_SavantLk.grd	Digital Terrain Model (DTM)
TMI_SanantLk.grd	Leveled Total Magnetic Intensity (TMI)
TMIigrf_SavantLk.grd	IGRF Removed of TMI (TMI_IGRF)
RTPigr_SavantLkf.grd	Reduced to the magnetic pole of TMI_IGRF (RTP_IGRF)
1VDrtp_igrf_SavantLk.grd	Calculated first vertical derivative of RTP_IGRF

Maps: Scale: 5,000

FlightPath_SavantLk.map	Flight path map
DTM_SavantLk.map	Digital elevation model Map(DEM)
TMI_SavantLk.map	Total Magnetic Intesity Map (TMI)
TMIigrf_SavantLk.map	Total Magnetic Intensity IGRF Remove Map (TMI IGRF)
RTPigrf_SavantLk.map	Reduced to the Magnetic Pole of TMI IGRF Map (RTP)
1VDrtp_SavantLk.mat	First Vertical Derivative of RTP Map

Geosoft Viewer
Oasis montaj Viewer 6.4.zip Program used to display the packed geosoft map files (inside a winzipped file)

Magnetic Database: Mag_Final_SavantLk.GDB Mag_Final_SavantLk.XYZ

Channel Name and description:

X_NAD83	Easting – NAD83, UTM zone 15N (metres)
Y_NAD83	Northing – NAD83, UTM zone 25N (metres)
GLongitude	Longitude (WGS84)
GLatitude	Latitude (WGS84)
H_ELL	GPS height (meters)
Date	Flight date (DDMMYY)
Flight	Flight number
UTCtime_sec	UTC time (start of day) (seconds)
GPStime_sec	GPS time (start of fay) (seconds)
Baro_mb	Baro altimeter (mb)
RadAR_m	Radar altimeter height (meters)
DTM	Calculated Digital Terrain Model (Terrain Height) (meters)
Fid	Fiducial
MagRaw	Raw Total Magnetic Intensity (nT)
BaseMag	Magnetic Base Station (Diurnal) (nT)
Mag_DL	Duirnal corrected MagRaw (nT)
Mag_lev	Leveled Total Magetic Intesity (nT)

TMI	Final leveled and micro leveled Total Magnetic Intensity (nT)
IGRF	IGRF correction applied (nT)
Incl	IGRF Inclination (degrees)
Dec	IGRF Declination (degrees)
TMI_IGRF	Final leveled, IGRF corrected Total Magnetic Intensity (nT)

Report: P9018_Report.pdf

Appendix 4. Page Size Maps

Magnetic Maps (colour image with contour lines):

- Flight Path
- Digital Terrain Model (DTM)
- Total Magnetic Intensity (TMI)
- Total Magnetic Intensity IGRF removed (TMI IGRF)
- Reduced to the Magnetic Pole TMI IGRF (RTP)
- Calculated First Vertical Derivative of RTP (1VD)

LEGEND

Survey Date:	June 2009
Helicopter Type:	Bell L3, C-GCDM

SURVEY PARAMETERS:

Mean Terrain Clearance:	
Helicopter:	60 metres
Magnetometer:	30 metres
Traverse Line Spacing:	40 m
Traverse Line Direction:	000° (N-S)
Control Line Spacing:	500 m
Control Line Direction:	090° (E-W)

AIRBORNE MAGNETOMETER SYSTEM:

Scintrex CS - 3 Magnetometer Sensor	
Sampling Rate:	10 readings/second
Sensitivity:	0.01 nT

AIRBORNE NAVIGATION SYSTEM:

NovAtel DL4 plus receiver L1/L2 (DGPS)	
Sampling Rate:	1 reading/second

RADAR ALTIMETER:

FreeFlight TRA 3000	
Sampling Rate:	10 readings/second

BASE STATION MAGNETOMETER:

GEM Systems GSM-19 magnetometer	
Sampling Rate:	1 reading/second
Sensitivity:	0.022 nT

BASE GPS STATION:

NovAtel Superstar II receiver (L1/L2)	1 reading/second

PLANIMETRY:

Government of Canada, Natural Resources Canada, Centre for Topographic Information. 2004. LAC BRISSON - NTS 052g_1_0. Ed. 1.1 [Map]. CanMatrix Series (Topographic GeoTIFF). NAD83, UTM Zone 15 N. Scale: 1:50,000. Time Period of content: 1980.

785.8
72.4
31.4
13.6
4.2
1.4
0.6
0.2
0.0
-0.4
-0.6
-0.8
-1.0
-1.2
-1.4
-1.6
-1.8
-2.0
-2.2
-2.6
-2.8
-3.0
-3.2
-3.6
-4.0
-4.6
-5.2
-5.8
-6.6
-7.6
-9.0
-10.4
-12.4
-15.0
-18.6
-24.8
-257.2

1VD rtp
nanoTesla/metre (nT/m)

Contours:

0.2 nT/m
1 nT/m
5 nT/m
100 nT/m

Scale 1:5000
100 0 100 200 300
(meters)
NAD83 / UTM zone 15N

Nebu Resources Inc.

Calculated First Vertical Derivative of RTP (TMI IGRF) (1VD rtp)

Savant Lake Area

Northern Ontario, Canada

Survey Flown June 2009

MPX ***MPX Geophysics Ltd.***

LEGEND

Survey Date: June 2009
Helicopter Type: Bell L3, C-GCDM

SURVEY PARAMETERS:
Mean Terrain Clearance:
Helicopter: 60 metres
Magnetometer: 30 metres

Traverse Line Spacing: 40 m
Traverse Line Direction: 000° (N-S)
Control Line Spacing: 500 m
Control Line Direction: 090° (E-W)

AIRBORNE MAGNETOMETER SYSTEM:
Scintrex CS - 3 Magnetometer Sensor
Sampling Rate: 10 readings/second
Sensitivity: 0.01 nT

AIRBORNE NAVIGATION SYSTEM:
NovAtel DL4 plus receiver L1/L2 (DGPS)
Sampling Rate: 1 reading/second

RADAR ALTIMETER:
FreeFlight TRA 3000
Sampling Rate: 10 readings/second

BASE STATION MAGNETOMETER:
GEM Systems GSM-19 magnetometer
Sampling Rate: 1 reading/second
Sensitivity: 0.022 nT

BASE GPS STATION:
NovAtel Superstar II receiver (L1/L2) 1 reading/second

PLANIMETRY:

Government of Canada, Natural Resources Canada, Centre for Topographic Information. 2004. LAC BRISSON - NTS 052g_1_0. Ed. 1.1 [Map]. CanMatrix Series (Topographic GeoTIFF). NAD83, UTM Zone 15 N. Scale: 1:50,000. Time Period of content: 1980.

DTM
metre (m)

Contours:
1 m
5 m
25 m

Scale 1:5000
(meters)
NAD83 / UTM zone 15N

Nebu Resources Inc.

Digital Terrain Model (DMT)

Savant Lake Area
Northern Ontario, Canada
Survey Flown June 2009

MPX Geophysics Ltd.

LEGEND

Survey Date:	June 2009
Helicopter Type:	Bell L3, C-GCDM

SURVEY PARAMETERS:

Mean Terrain Clearance:	
Helicopter:	60 metres
Magnetometer:	30 metres
Traverse Line Spacing:	40 m
Traverse Line Direction:	000° (N-S)
Control Line Spacing:	500 m
Control Line Direction:	090° (E-W)

AIRBORNE MAGNETOMETER SYSTEM:
Scintrex CS - 3 Magnetometer Sensor

Sampling Rate:	10 readings/second
Sensitivity:	0.01 nT

AIRBORNE NAVIGATION SYSTEM:
NovAtel DL4 plus receiver L1/L2 (DGPS)

Sampling Rate:	1 reading/second

RADAR ALTIMETER:
FreeFlight TRA 3000

Sampling Rate:	10 readings/second

BASE STATION MAGNETOMETER:
GEM Systems GSM-19 magnetometer

Sampling Rate:	1 reading/second
Sensitivity:	0.022 nT

BASE GPS STATION:

NovAtel Superstar II receiver (L1/L2)	1 reading/second

PLANIMETRY:

Government of Canada, Natural Resources Canada, Centre for Topographic Information. 2004. LAC BRISSON - NTS 052g_1_0. Ed. 1.1 [Map]. CanMatrix Series (Topographic GeoTIFF). NAD83, UTM Zone 15 N. Scale: 1:50,000. Time Period of content: 1980.

fiducial 2560 Flight Line Direction **Flight Path**

Survey Area Boundary

Scale 1:5000

100 0 100 200 300

(meters)

NAD83 / UTM zone 15N

Nebu Resources Inc.

Flight Path

Savant Lake Area
Northern Ontario, Canada
Survey Flown June 2009

MPX Geophysics Ltd.

LEGEND

Survey Date: June 2009
Helicopter Type: Bell L3, C-GCDM

SURVEY PARAMETERS:
Mean Terrain Clearance:
Helicopter: 60 metres
Magnetometer: 30 metres

Traverse Line Spacing: 40 m
Traverse Line Direction: 000° (N-S)
Control Line Spacing: 500 m
Control Line Direction: 090° (E-W)

AIRBORNE MAGNETOMETER SYSTEM:
Scintrex CS - 3 Magnetometer Sensor
Sampling Rate: 10 readings/second
Sensitivity: 0.01 nT

AIRBORNE NAVIGATION SYSTEM:
NovAtel DL4 plus receiver L1/L2 (DGPS)
Sampling Rate: 1 reading/second

RADAR ALTIMETER:
FreeFlight TRA 3000
Sampling Rate: 10 readings/second

BASE STATION MAGNETOMETER:
GEM Systems GSM-19 magnetometer
Sampling Rate: 1 reading/second
Sensitivity: 0.022 nT

BASE GPS STATION:
NovAtel Superstar II receiver (L1/L2) 1 reading/second

PLANIMETRY:

Government of Canada, Natural Resources Canada, Centre for Topographic Information. 2004. LAC BRISSON - NTS 052g_1_0. Ed. 1.1 [Map]. CanMatrix Series (Topographic GeoTIFF). NAD83, UTM Zone 15 N. Scale: 1:50,000. Time Period of content: 1980.

31638.854
11890.807
7402.716
5578.617
4608.944
3760.015
3025.978
2444.771
1869.041
1397.239
1088.896
889.826
763.826
618.284
509.509
413.791
358.442
330.838
300.148
259.909
198.890
123.670
49.811
-21.531
-73.468
-106.318
-132.237
-166.918
-201.918
-229.106
-253.948
-274.774
-295.354
-314.031
-332.866
-354.097
-378.126
-407.552
-453.097
-1226.982

RTP (TMI IGRF Removed)
nanoTesla (nT)

Contours:
20 nT
100 nT
500 nT
2000 nT

Scale 1:5000
100 0 100 200 300
(meters)
NAD83 / UTM zone 15N

Nebu Resources Inc.

Total Magnetic Intensity IGRF Removed Reduced to the Magnetic Pole (RTP)

Savant Lake Area
Northern Ontario, Canada
Survey Flown June 2009

MPX Geophysics Ltd.

LEGEND

Survey Date:	June 2009
Helicopter Type:	Bell L3, C-GCDM

SURVEY PARAMETERS:

Mean Terrain Clearance:	
Helicopter:	60 metres
Magnetometer:	30 metres
Traverse Line Spacing:	40 m
Traverse Line Direction:	000° (N-S)
Control Line Spacing:	500 m
Control Line Direction:	090° (E-W)

AIRBORNE MAGNETOMETER SYSTEM:

Scintrex CS - 3 Magnetometer Sensor	
Sampling Rate:	10 readings/second
Sensitivity:	0.01 nT

AIRBORNE NAVIGATION SYSTEM:

NovAtel DL4 plus receiver L1/L2 (DGPS)	
Sampling Rate:	1 reading/second

RADAR ALTIMETER:

FreeFlight TRA 3000	
Sampling Rate:	10 readings/second

BASE STATION MAGNETOMETER:

GEM Systems GSM-19 magnetometer	
Sampling Rate:	1 reading/second
Sensitivity:	0.022 nT

BASE GPS STATION:

NovAtel Superstar II receiver (L1/L2)	1 reading/second

PLANIMETRY:

Government of Canada, Natural Resources Canada, Centre for Topographic Information. 2004. LAC BRISSON - NTS 052g_1_0. Ed. 1.1 [Map]. CanMatrix Series (Topographic GeoTIFF). NAD83, UTM Zone 15 N. Scale: 1:50,000. Time Period of content: 1980.

88624
69268
64705
62968
62125
61451
60818
60272
59906
59516
59144
58876
58672
58505
58364
58249
58177
58111
58049
58007
57972
57931
57896
57861
57833
57808
57785
57768
57753
57736
57709
57675
57642
57608
57569
57522
57484
57389
57170
56270

TMI
nanoTesla (nT)

Contours:

20 nT
100 nT
500 nT
2000 nT

Scale 1:5000
100 0 100 200 300
(meters)
NAD83 / UTM zone 15N

Nebu Resources Inc.

Total Magnetic Intensity (TMI)

Savant Lake Area
Northern Ontario, Canada
Survey Flown June 2009

MPX Geophysics Ltd.

LEGEND

Survey Date:	June 2009
Helicopter Type:	Bell L3, C-GCDM

SURVEY PARAMETERS:

Mean Terrain Clearance:	
Helicopter:	60 metres
Magnetometer:	30 metres
Traverse Line Spacing:	40 m
Traverse Line Direction:	000° (N-S)
Control Line Spacing:	500 m
Control Line Direction:	090° (E-W)

AIRBORNE MAGNETOMETER SYSTEM:
Scintrex CS - 3 Magnetometer Sensor

Sampling Rate:	10 readings/second
Sensitivity:	0.01 nT

AIRBORNE NAVIGATION SYSTEM:
NovAtel DL4 plus receiver L1/L2 (DGPS)

Sampling Rate:	1 reading/second

RADAR ALTIMETER:
FreeFlight TRA 3000

Sampling Rate:	10 readings/second

BASE STATION MAGNETOMETER:
GEM Systems GSM-19 magnetometer

Sampling Rate:	1 reading/second
Sensitivity:	0.022 nT

BASE GPS STATION:

NovAtel Superstar II receiver (L1/L2)	1 reading/second

PLANIMETRY:

Government of Canada, Natural Resources Canada, Centre for Topographic Information. 2004. LAC BRISSON - NTS 052g_1_0. Ed. 1.1 [Map]. CanMatrix Series (Topographic GeoTIFF). NAD83, UTM Zone 15 N. Scale: 1:50,000. Time Period of content: 1980.

30832.094
11472.746
6909.942
5173.408
4330.071
3655.687
3023.410
2477.538
2111.032
1721.711
1350.035
1081.672
877.300
709.919
568.487
453.248
381.180
314.481
252.983
211.450
176.560
135.128
99.800
64.645
37.053
11.294
-11.308
-29.368
-43.485
-60.812
-87.734
-121.444
-153.542
-187.349
-226.853
-273.679
-311.236
-406.525
-623.151
-1522.666

TMI IGRF Removed
nanoTesla (nT)

Contours:
20 nT
100 nT
500 nT
2000 nT

Scale 1:5000
100 0 100 200 300
(meters)
NAD83 / UTM zone 15N

Nebu Resources Inc.

Total Magnetic Intensity IGRF Removed (TMI IGRF)

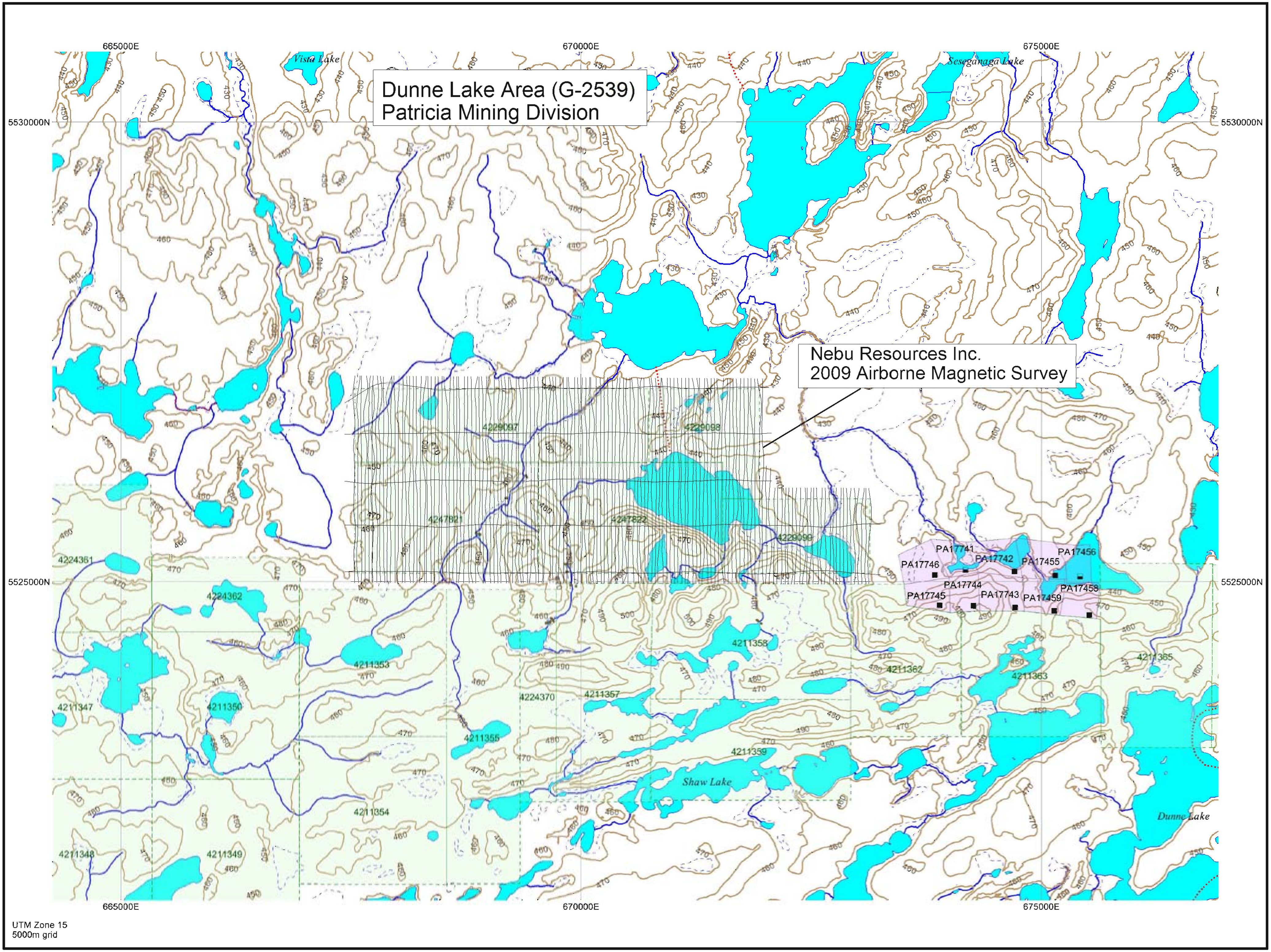
Savant Lake Area

Northern Ontario, Canada

Survey Flown June 2009

MPX

MPX Geophysics Ltd.


Dunne Lake Area (G-2539)
Patricia Mining Division
Nebu Resources Inc.
2009 Airborne Magnetic Survey
665000E
670000E
675000E
5530000N
5525000N
Vista Lake
Seseganaga Lake
Shaw Lake
Dunne Lake
4229097
4229098
4229099
4247821
4247822
4224361
4224362
4224370
4211347
4211348
4211349
4211350
4211353
4211354
4211355
4211357
4211358
4211359
4211362
4211363
4211365
PA17741
PA17742
PA17743
PA17744
PA17745
PA17746
PA17455
PA17456
PA17458
PA17459
UTM Zone 15
5000m grid