

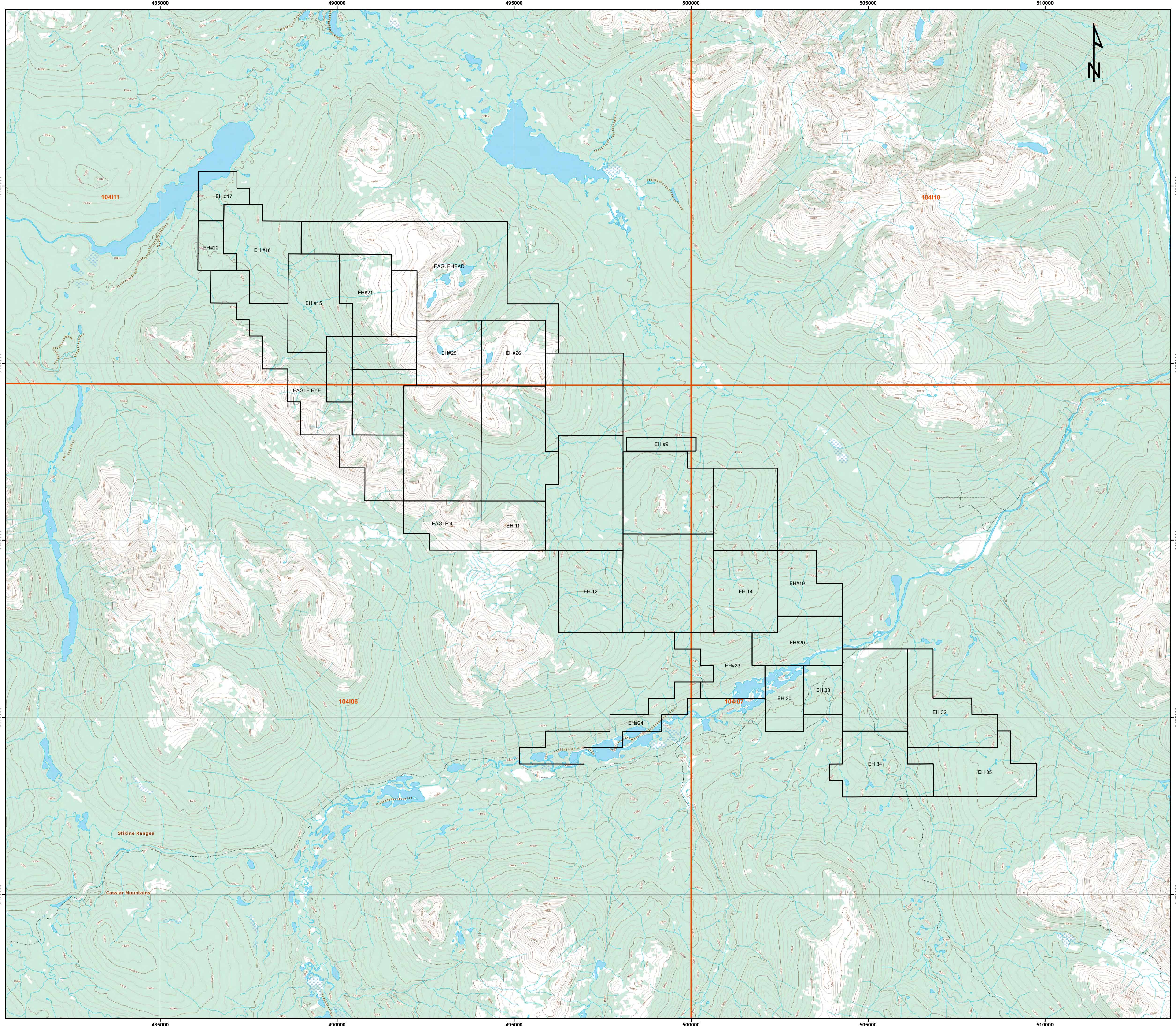
Eaglehead

Claims and NTS
Mapsheets

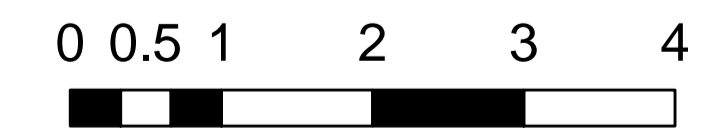
Legend

□ Eaglehead claims

BC Geological Survey
Assessment Report
35304b



NAD 1983 UTM Zone 9N
Transverse Mercator
North American 1983



Kilometers

1:50,000

AIRBORNE GEOPHYSICAL SURVEY REPORT



Eaglehead Survey Block Prepared for Carmax Mining Corp.

Jenny Poon, B.Sc., G.I.T.
Precision GeoSurveys Inc.
www.precisiongeosurveys.com
355 Burrard St, Vancouver BC
Canada V6C 2G8
604-484-9402

July 2014

Table of Contents

1.0	Introduction.....	1
1.1	Survey Area.....	2
1.2	Survey Specifications.....	4
2.0	Geophysical Data.....	5
2.1	Magnetic Data.....	5
2.2	Radiometric Data.....	5
3.0	Survey Operations.....	6
3.1	Operations Base and Crew.....	6
3.2	Base Station Specifications.....	7
3.3	Field Processing and Quality Control.....	8
4.0	Aircraft and Equipment.....	10
4.1	Aircraft.....	10
4.2	Equipment.....	11
4.2.1	AGIS.....	11
4.2.2	Magnetometer.....	11
4.2.3	Spectrometer.....	12
4.2.4	Base Station.....	13
4.2.5	Laser Altimeter.....	14
4.2.6	Pilot Guidance Unit.....	15
4.2.7	GPS Navigational System.....	15
5.0	Data Acquisition Equipment Checks and Calibration.....	16
5.1	Magnetometer Checks.....	16
5.1.1	Compensation Flight Test.....	16
5.1.2	Lag Test.....	17
5.1.3	Heading Error Test.....	17
5.2	Gamma-ray Spectrometer Checks and Calibrations.....	18
5.2.1	Calibration Pad Test.....	18
5.2.2	Cosmic Flight Test.....	18
5.2.3	Breckenridge Test Range.....	18
6.0	Data Processing.....	19
6.1	Magnetic Processing.....	19
6.1.1	IGRF Removal.....	20
6.1.2	Calculation of the First and Second Vertical Derivative.....	20
6.2	Radiometric Processing.....	20
7.0	Deliverables.....	22
7.1	Digital Data.....	22
7.2	KMZ Grids.....	23
7.3	Maps.....	23
7.4	Report.....	24

Appendix A: Equipment Specifications	A-1
Appendix B: Digital File Descriptions	B-1
Appendix C: Eaglehead Survey Block Maps	C-1

List of Figures

Figure 1: Eaglehead survey block location map.....	1
Figure 2: Eaglehead survey block boundary in red.....	2
Figure 3: Plan View – Eaglehead survey block with actual survey and tie lines outlined in yellow, and the block boundary in red.....	3
Figure 4: Terrain View – Eaglehead survey block with actual survey and tie lines outlined in yellow, and the block boundary in red.....	3
Figure 5: Survey map of Eaglehead survey area showing outlines of proposed survey and tie lines.....	4
Figure 6: Map showing magnetic base station locations and base of operation.....	6
Figure 7: GEM 2 (left) and GEM 4 (right) magnetic base station location.....	8
Figure 8: Histogram showing survey elevation vertically above ground.....	9
Figure 9: Eurocopter AS350 equipped with mag stinger for magnetic data acquisition, and internal spectrometer crystals for radiometric data acquisition.....	10
Figure 10: AGIS operator display installed in the Eurocopter AS350.....	11
Figure 11: View of the mag stinger.....	12
Figure 12: IRIS strapped in the back seat of the Eurocopter AS350.....	13
Figure 13: GEM GSM-19T proton precession magnetometer.....	14
Figure 14: Opti-Logic RS800 laser altimeter.....	14
Figure 15: Pilot Guidance Unit.....	15
Figure 16: Hemisphere GPS – Mini Max.....	16
Figure 17: Heading data results in .tbl format in Geosoft table.....	17

List of Tables

Table 1: Eaglehead survey area acquisition specifications	4
Table 2: Eaglehead survey block polygon coordinates using WGS 84 in zone 9N.....	5
Table 3: Base station specifications.....	7
Table 4: Contract re-flight specifications.....	9
Table 5: Figure of Merit maneuver test results.....	17

1.0 Introduction

This report outlines the geophysical survey operations and data processing procedures taken during the high resolution airborne magnetic and radiometric survey flown at the Eaglehead survey block for Carmax Mining Corp. The survey area is located approximately 48 km east of Dease Lake, BC (Figure 1). The geophysical survey was started on July 18, 2014 and completed on July 20, 2014.

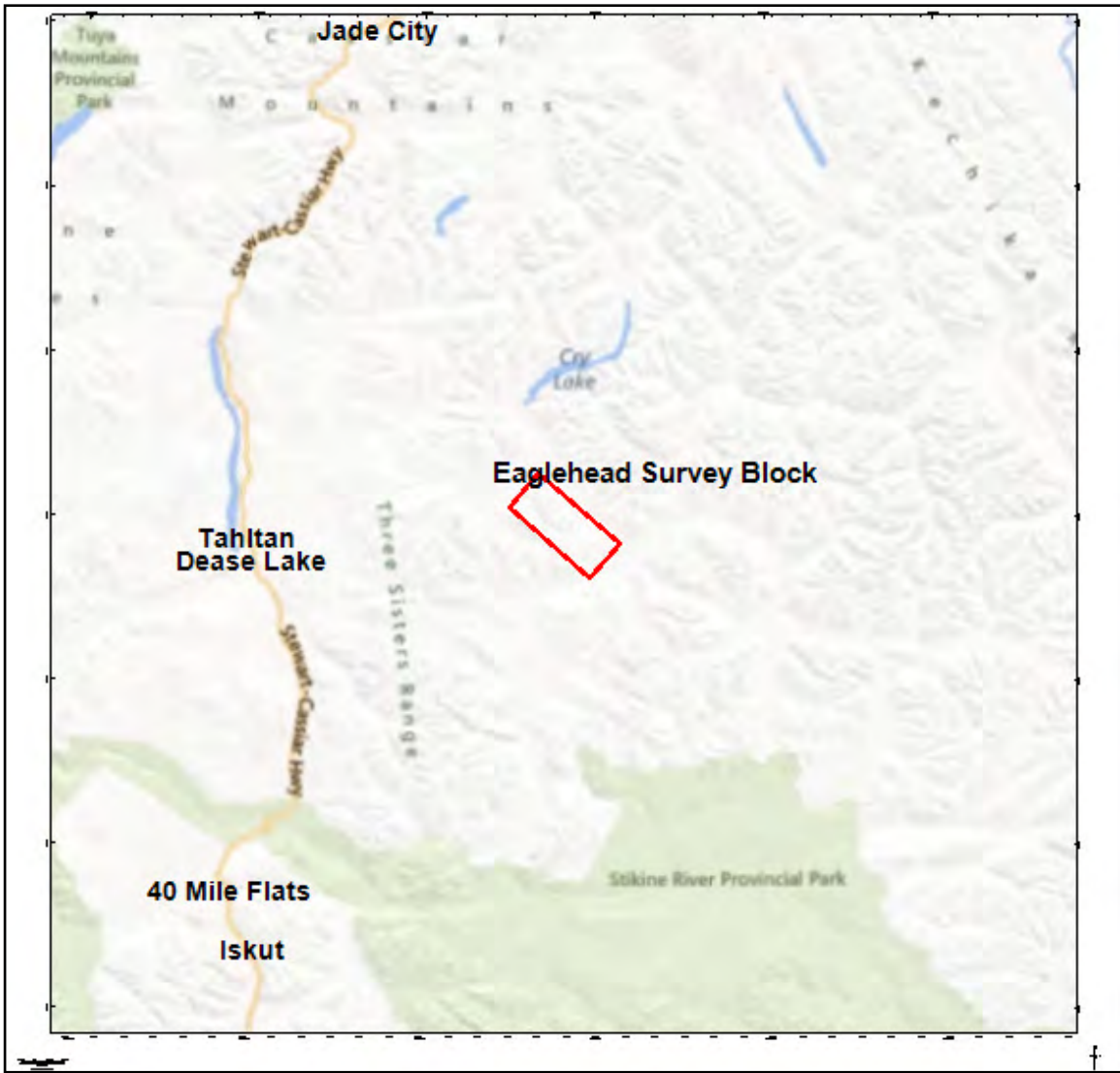


Figure 1: Eaglehead survey block location map.

1.1 Survey Area

Eaglehead survey block is located approximately 48 km east of Dease Lake, BC and is approximately 59 km north of the Stikine River provincial park. It covers an area of 7.8 km by 18.0 km (Figure 2). A total of 767 line kilometers of magnetic and radiometric data were collected; this total includes tie lines and survey lines.

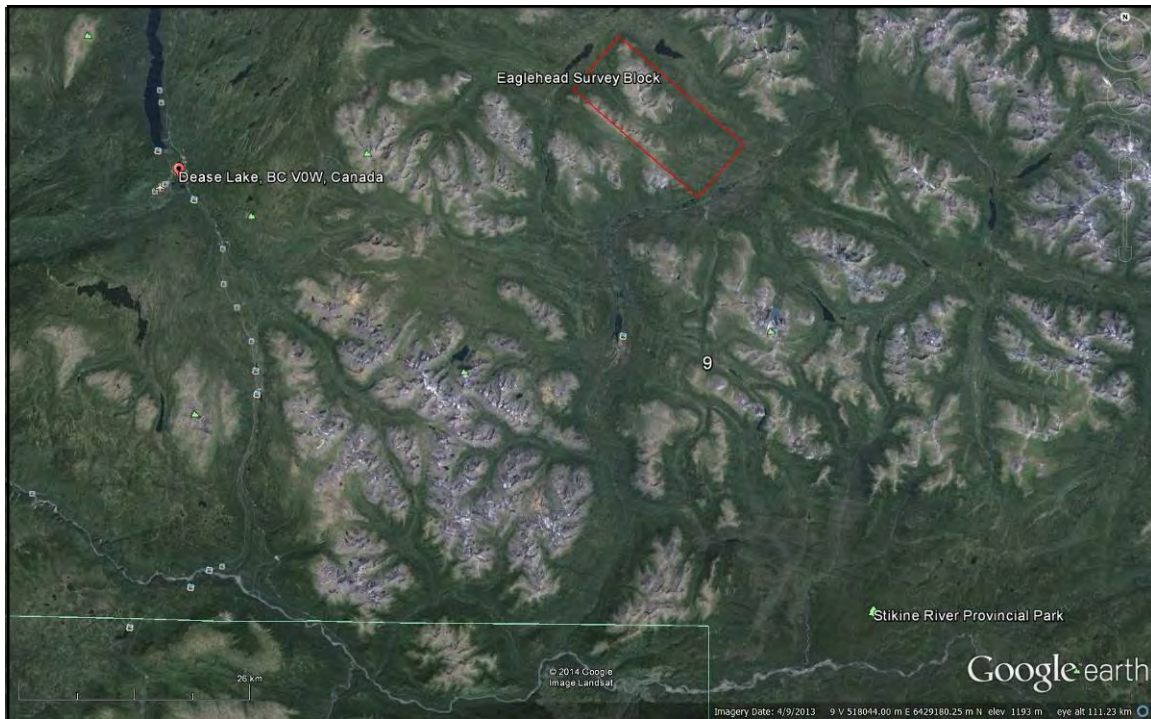


Figure 2: Eaglehead survey block boundary in red.

The survey block was flown at 200 meter spacing at a $040^{\circ}/220^{\circ}$ heading; the tie lines were flown at 2000 meter spacing at a heading of $130^{\circ}/310^{\circ}$ (Figures 3 and 4).



Figure 3: Plan View – Eaglehead survey block with actual survey and tie lines outlined in yellow, and the block boundary in red.



Figure 4: Terrain View – Eaglehead survey block with actual survey and tie lines outlined in yellow, and the block boundary in red.

Radiometric data were collected simultaneously with the acquisition of magnetic data. Due to heavy rainfall within the survey block, gamma radiation signals from the ground were attenuated. Processing has been applied to the radiometric data to minimize the attenuation effect but should still be used with caution.

1.2 Survey Specifications

The geodetic system used for this survey is WGS 84 and the area is contained in zone 9N (Figure 5). A total of 767 line km was flown. The survey data acquisition specifications and coordinates for the survey are specified as follows (Tables 1 and 2).

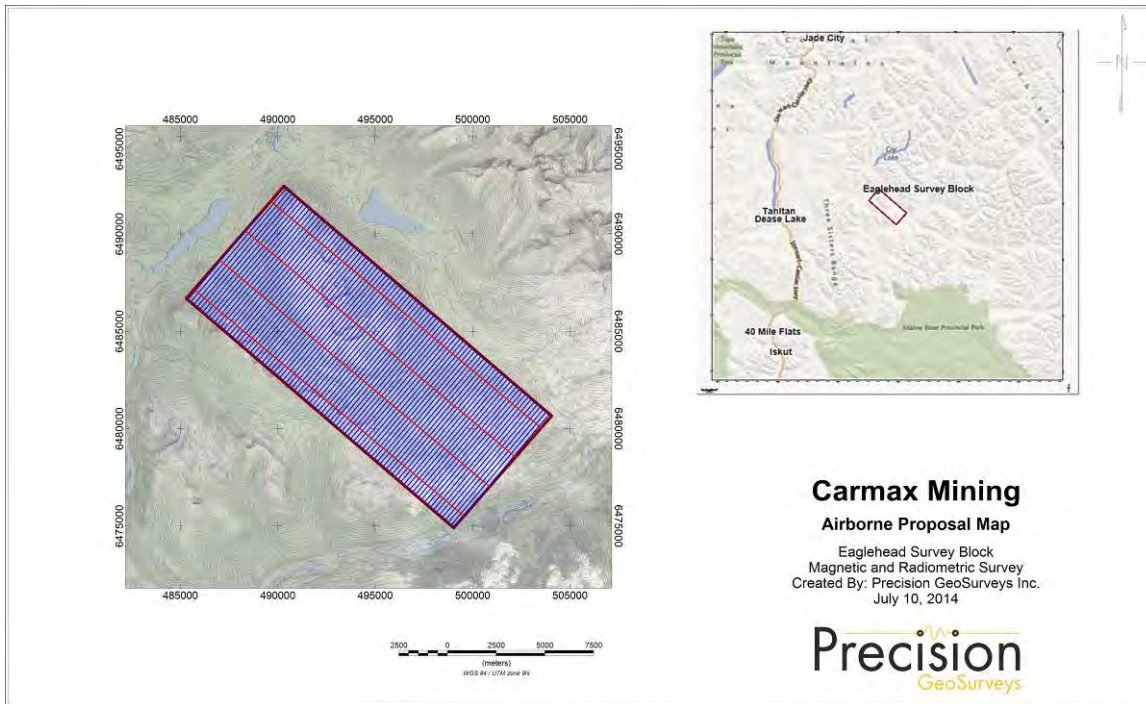


Figure 5: Survey map of Eaglehead survey area showing outlines of proposed survey and tie lines.

Survey Block	Line Spacing (m)	Planned Survey Line (km)	Planned Tie Line (km)	Survey Line Orientation	Nominal Survey Height (m)	Actual Survey Height (m)	Total Planned Line (km)	Total Actual Flown (km)
Eaglehead	200	694	73	040°/220°	40	37.5	767	773
Total							767	773

Table 1: Eaglehead survey area acquisition specifications.

Longitude	Latitude	Easting	Northing	N/S	E/W
129.16637783	58.57249798	490323	6492463	N	W
128.93035449	58.46662514	504063	6480665	N	W
129.01643163	58.41491894	499040	6474906	N	W
129.25238319	58.52063445	485299	6486704	N	W

Table 2: Eaglehead survey block polygon coordinates using WGS 84 in zone 9N.

2.0 Geophysical Data

Geophysical data are collected in a variety of ways and are used to aid in exploration and determination of geology, mineral deposits, oil and gas deposits, contaminated land sites and UXO detection.

For the purposes of this survey, airborne magnetic and radiometric data were collected to serve in the exploration for potential porphyry copper-molybdenum deposits.

2.1 Magnetic Data

Magnetic surveying is probably the most common airborne survey type to be conducted for both mineral and hydrocarbon exploration. The type of survey specifications, instrumentation, and interpretation procedures depend on the objectives of the survey. Typically magnetic surveys are performed for:

1. Geological Mapping - to aid in mapping lithology, structure and alteration.
2. Depth to Basement mapping - for exploration in sedimentary basins or mineralization associated with the basement surface.

2.2 Radiometric Data

Radiometric surveys detect and map natural radioactive emanations, called gamma rays, from rocks and soils. All detectable gamma radiation from earth materials come from the natural decay products of three primary elements; uranium (U), thorium (Th), and potassium (K). The purpose of radiometric surveys is to determine either the absolute or relative amounts of U, Th, and K in surface rocks and soils which are then useful in mapping lithology, alteration, and structure.

Environmental and other effects such as soil moisture, rainfall, vegetation, non-radioactive overburden, and the distribution of airborne sources of radiation all affect the measured fluence rates (*IAEA, 2003*). For this survey, the counts for U, Th, and K have been affected by the rainfall during the survey. An increase in soil moisture of 10 percent will decrease the measured fluence rate by about the same amount. Precipitation can have a large effect on uranium estimation. Daughter products of airborne radon attach themselves to dust particles in the atmosphere. The radioactive precipitation of these particles by rain can lead to apparent increases of more than 2000 percent in uranium

ground concentrations (Charbonneau & Darnley, 1970). Use of the processed radiometric data should be used with discretion as the survey was flown in wet conditions.

3.0 Survey Operations

Precision GeoSurveys flew the survey out of Dease Lake, BC. The experience of the pilot helped to ensure that the data quality objectives were met and that the safety of the flight crew was never compromised given the potential risks involved in airborne geophysical surveying. Field processing and quality control checks were done daily.

3.1 Operations Base and Crew

The base of operation for this survey was at Dease Lake airport, BC, approximately 54 km west of the Eaglehead survey block (Figure 6).



Figure 6: Map showing magnetic base station locations and base of operation.

The Precision geophysical crew consisted of three members:

Don Plattel– Pilot
 Erik Keyser – Geophysical Technician/Operator
 Jenny Poon – Geophysical Processor

The survey was started on July 18, 2014 and completed on July 20, 2014. The survey encountered minor delays due to fog, low clouds, and rain.

3.2 Base Station Specifications

Two base station magnetometers were set up before the survey to record diurnal magnetic activity during the survey flights. In this case, two GEM GSM 19T base stations (Figure 7), GEM 2 (Serial # 2105650) and GEM 4 (Serial # 2065370), were located within the bushes on the east end of the Dease Lake airport (see Table 3).

Station name	Easting/ Northing	Longitude/ Latitude	Datum/ Projection
GEM 2 (Serial # 2105650)	0440054E, 6476254N	130° 01' 34.72 " W 58° 25' 22.51 " N	WGS 84, Zone 9N
GEM 4 (Serial # 2065370)	0440052E, 6476255N	130° 01' 34.82" W 58° 25' 22.55" N	WGS 84, Zone 9N

Table 3: Base station specifications.

Base station readings were reviewed at regular intervals to ensure that no data were collected during periods with high diurnal activity (greater than 5 nT per minute). The magnetic base stations were installed at a magnetically noise-free area, away from metallic items such as ferrous objects, vehicles, or power lines that could affect the survey data.



Figure 7: GEM 2 (left) and GEM 4 (right) magnetic base station location.

The diurnal magnetic variations recorded from the stationary base stations were removed from the magnetic data recorded in flight to ensure that the anomalies seen were real and not due to solar activity.

3.3 Field Processing and Quality Control

On a flight-by-flight basis, the survey data were transferred from the helicopter's data acquisition system onto a USB flash drive and copied onto a field data processing laptop. The raw data files were in PEI binary data format and were converted into Geosoft GDB database format. Using Geosoft Oasis Montaj 8.2, the quality of the data was inspected to see if it met the contract specifications (Table 4). Navigational accuracy (left/right or up/down) for all survey and tie lines were within contract specifications (Figure 8), and no re-flights were required due to navigational error. All suspect anomalies, especially those found on a single flight line, were re-flown. Re-flight lines were a minimum of 1500 m long, so that survey line re-flights crossed at least two tie lines, and tie line re-flights crossed at least 15 survey lines. All data were confirmed and verified by a geophysicist before the survey helicopter and crew demobilized on July 21, 2014.

Specification	Parameter	Details
Line Spacing	Position	Flight line deviation from flight path by more than 10 m left/ right for 1 km or more.
Height		Flight line deviation from height by more than 15 up/down with a nominal flight height of 40 m above ground for 1 km or more.
GPS		Any flight lines where 3 or less GPS satellites received for distances of greater than 1 km, provided signal loss is not due to topography.
Diurnal Variations	Magnetics	Non-linear magnetic diurnal variations exceed 10nT from a linear chord of length one (1) minute.
Normalized 4 th Difference		Magnetic data exceeding 0.025 nT peak to peak for distances greater than 1 km or more (provided noise is not due to geological or cultural features).
Test Line Data	Radiometrics	If signal from the four spectrometer windows (K, Th, U, and TC) over the test line exceed by more than 12%, the flights shall be re-flown or suspended.

Table 4: Contract re-flight specifications.

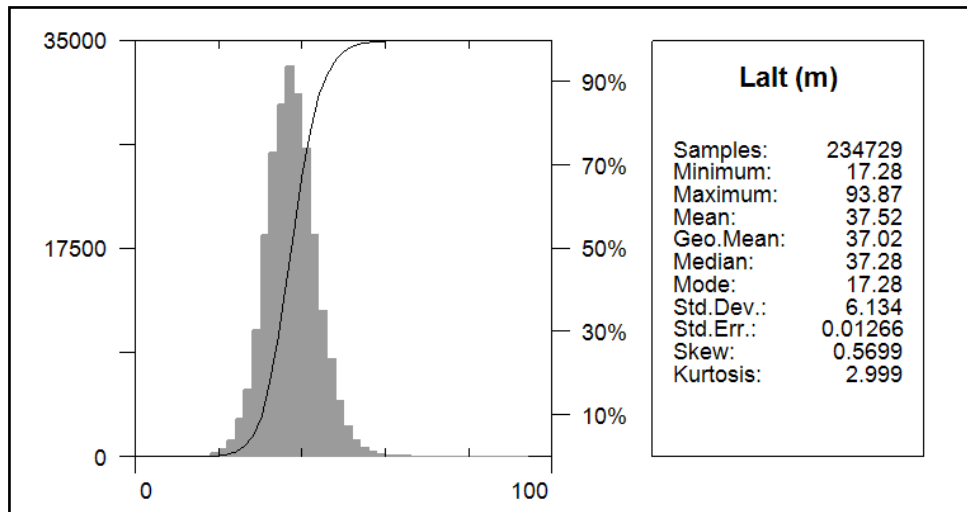


Figure 8: Histogram showing survey elevation vertically above ground.

4.0 Aircraft and Equipment

All geophysical and subsidiary equipment are carefully installed on Precision GeoSurveys aircraft. For this survey, a magnetometer, a spectrometer, a data acquisition system, laser altimeter, magnetic compensation system, a pilot guidance unit (PGU), and magnetic base stations were required to carry out the survey and collect quality, high resolution data. The survey magnetometer was carried in an approved “stinger” configuration to enhance flight safety and improve data quality in this mountainous terrain.

4.1 Aircraft

Precision GeoSurveys flew the Eaglehead survey block using a Eurocopter AS350 helicopter (Figure 9), registration C-GOHK. The survey lines were flown at a nominal line spacing of two hundred (200) meters and the tie lines were flown at two thousand (2000) meters spacing for both the magnetometer and spectrometer.



Figure 9: Eurocopter AS350 equipped with mag stinger for magnetic data acquisition, and internal spectrometer crystals for radiometric data acquisition.

4.2 Equipment

4.2.1 AGIS

The Airborne Geophysical Information System, AGIS, (Figure 10), is the main computer used in data recording, data synchronizing, displaying real-time QC data for the geophysical operator, and the generation of navigation information for the pilot and operator display system. Information such as magnetic field, total count, counts of various radioelements (K, U, Th, etc.), temperature, cosmic radiation, barometric pressure, atmospheric humidity and survey altitude can all be monitored on the AGIS monitor for immediate QC.



Figure 10: AGIS operator display installed in the Eurocopter AS350.

The AGIS was manufactured by Pico Envirotec; therefore the system uses standardized Pico software and external sensors are connected to the system via RS-232 serial communication cables. The AGIS data format is easily converted into Geosoft or ASCII file formats by a supplied conversion program called PEIView. Additional Pico software allows for post real time magnetic compensation and survey quality control procedures.

4.2.2 Magnetometer

The airborne magnetic sensor used by Precision GeoSurveys is a Scintrex cesium vapor CS-3 magnetometer. The system was housed in a front mounted “stinger” (Figure 11). The CS-3 is a high sensitivity/low noise magnetometer with automatic hemisphere switching and a wide voltage range, the static noise rating for the unit is +/- 0.01 nT. On the AGIS monitor the operator can view the raw magnetic response, the magnetic fourth difference, compensated and uncompensated data, aircraft position, and the survey

altitude for immediate QC of the magnetic data. The magnetic data are recorded at 10 Hz. A magnetic compensator is also used to remove noise created by the movement of the helicopter as it pitches, rolls and yaws within the Earth's geomagnetic field.



Figure 11: View of the mag stinger.

4.2.3 Spectrometer

The IRIS, or Integrated Radiometric Information System, is a fully integrated, gamma radiation detection system containing 12.6 litres of NaI (Tl) synthetic downward looking crystals and 4.2 litres of NaI (Tl) synthetic upward looking crystals (Figure 12) with 256 channel output at 1 Hz sampling rate. The downward-looking crystals are designed to measure gamma rays from below the aircraft and are equipped with upward-shielding high density RayShield® gamma-attenuating blankets to minimize cosmic and solar gamma noise. The upward looking crystal measures solar gamma radiation from above the survey helicopter and a 6 mm thick lead plate is used for downward-shielding. Real time data acquisition, navigation and communication tasks are integrated into a single unit that is installed in the rear cabin of the aircraft as indicated below.



Figure 12: IRIS strapped in the back seat of the Eurocopter AS350.

4.2.4 Base Station

For monitoring and recording of the Earth's diurnal magnetic field variation, Precision GeoSurveys operates two magnetometer base stations continuously throughout the airborne data acquisition operation. Precision GeoSurveys operates a GEM GSM-19T magnetometer base station. The base stations were hidden within the trees and in a region with low magnetic gradient, to give accurate magnetic field readings. The base stations were located in an area away from electric transmission power lines and moving ferrous objects, such as aircraft and motor vehicles that could affect the survey data integrity.

The GEM GSM-19T magnetometer with integrated GPS (Figure 13) or time synchronization uses the proton precession technology sampling at a rate of 0.5 Hz. The GSM-19T has an accuracy of ± 0.2 nT at 1 Hz. Base station data are recorded on the solid-state memory of the base station, and downloaded onto a field laptop computer using a serial cable and GEMLink 5.0 software. Profile plots of the base station readings are generated and updated at the end of each survey day.



Figure 13: GEM GSM-19T proton precession magnetometer.

4.2.5 Laser Altimeter

The pilot is provided with terrain guidance and clearance information from an Opti-Logic RS800 laser altimeter (Figure 14). This is attached at the aft end of the magnetometer boom. The RS800 sensor is a time-of-flight sensor that measures distance by a rapidly-modulated and collimated laser beam that creates a dot on the target surface. The maximum range of the laser altimeter is 700 m off of natural surfaces with an accuracy of ± 1 meter on $1 \times 1 \text{ m}^2$ diffuse target with 50% ($\pm 20\%$) reflectivity. Within the sensor unit, reflected signal light is collected by the lens and focused onto a photodiode. Through serial communications and digital outputs, the ground clearance data are transmitted to an RS-232 compatible port and recorded and displayed by the AGIS and PGU at 10 Hz.

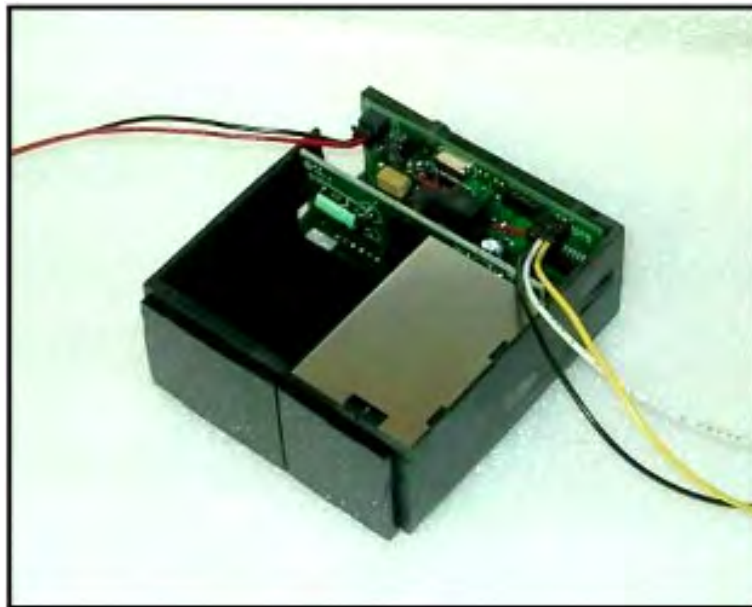


Figure 14: Opti-Logic RS800 laser altimeter.

4.2.6 Pilot Guidance Unit

The PGU (Pilot Guidance Unit) is a graphical display type unit that provides continuous steering and elevation information to the pilot (Figure 15). It is mounted remotely from the data system on top of the instrument panel. The PGU assists the pilot to keep the helicopter on the flight path and at the desired ground clearance.



Figure 15: Pilot Guidance Unit.

The LCD monitor measures 7 inches, with a full VGA 800 x 600 pixel display. The CPU for the PGU is housed in the PC-104 console and uses Windows XP Embedded operating system control, with input from the GPS antenna, laser altimeter, and AGIS.

4.2.7 GPS Navigation System

A Hemisphere GPS Mini Max navigation system integrated with the pilot display (PGU) and AGIS provided navigational information and control. The Hemisphere GPS Mini Max is composed of a receiver with an MGL-3 antenna (Figure 16). It has a position accuracy to within 1 meter and supports SBAS (WAAS, EGNS, and others), Beacon, and Satloc's patented e-Dif.



Figure 16: Hemisphere GPS – Mini Max

A differential correction signal (DGPS –Differential GPS) is applied to the GPS signal received through the MGL-3 antenna and can be applied up to 5 times per second (5 Hz). Therefore, the high- performance Mini Max differential correction provides positional accuracy on the order of 1 meter or less.

5.0 Data Acquisition Equipment Checks and Calibration

Airborne equipment tests were conducted at the start of the survey. There are three tests conducted for the airborne magnetometer: compensation flight, lag test, and the heading error test (clover leaf test). Gamma ray spectrometer checks and calibrations are also conducted prior to the start of the survey. The three tests conducted were the calibration pad test, cosmic flight test, and the Breckenridge test range.

5.1 Magnetometer Checks

5.1.1 Compensation Flight Test

During aeromagnetic surveying a small but significant amount of noise is introduced to the magnetic data by the aircraft itself, as the magnetometer is within the helicopter's magnetic field. Movement of the aircraft (roll, pitch and yaw) and the permanent magnetization of certain aircraft parts (engine and other ferric objects) contribute to this noise. To remove noise generated by the aircraft a process called magnetic compensation is implemented. The magnetic compensation process starts with a test flight at the beginning of the survey where the aircraft flies in the four orthogonal headings required for the survey ($040^{\circ}/220^{\circ}$ and $130^{\circ}/310^{\circ}$ in the case of this survey) at a sufficient altitude (typically $> 1,500$ m AGL) where the Earth's magnetic field becomes nearly uniform at the scale of the compensation flight. In each heading direction, three specified roll, pitch, and yaw maneuvers are performed by the pilot at constant elevation so that any magnetic variation recorded by the airborne magnetometer can be attributed to the aircraft movement. The variations recorded by these maneuvers provide the data that are required to calculate the necessary parameters for compensating the magnetic data and removing the aircraft noise.

Pre-Compensation					Post-Compensation				
Heading	Roll	Pitch	Yaw	Total	Heading	Roll	Pitch	Yaw	Total
042	6.7059	2.8641	3.7947	13.3647	042	0.1147	0.1241	0.0663	0.3051
127	8.6226	3.3226	2.5649	14.5101	127	0.1181	0.1148	0.1824	0.4153
222	6.7740	4.8279	2.4767	14.0786	222	0.1092	0.1934	0.1126	0.4152
314	6.7485	2.5413	1.5205	10.8103	314	0.1415	0.0919	0.0711	0.3045
Total	28.8510	13.5559	10.3568		Total	0.4835	0.5242	0.4324	
FOM = 52.7637 nT					FOM = 1.4401 nT				

Table 5: Figure of Merit maneuver test results.

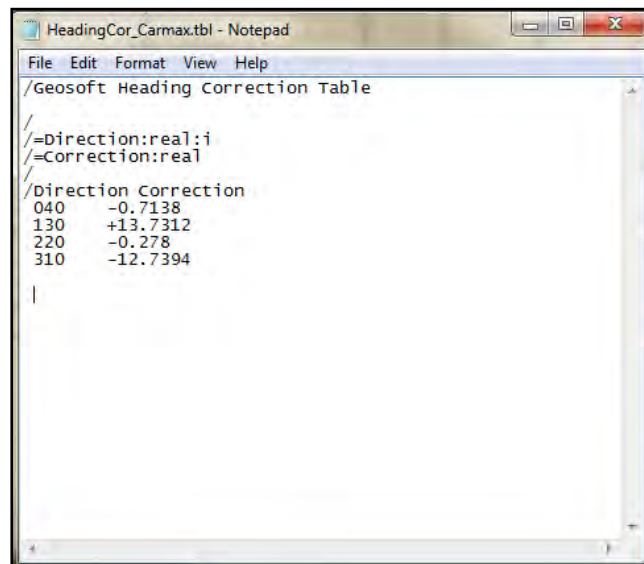
5.1.2 Lag Test

A lag test was performed to determine the relationship between the time the digital reading was recorded by the instrument magnetic sensor and the time for the position fix that the fiducial of the reading was obtained by the GPS system.

The test was flown in the four orthogonal headings over an identifiable magnetic anomaly (ie. Truck, Trailer, etc.) at survey speed and height. A lag of 10 fiducials (1.0 seconds) was determined from the lag test.

5.1.3 Heading Error Test

To determine the magnetic heading effect a cloverleaf pattern flight test was conducted. The cloverleaf test was flown in the same orthogonal headings as the survey and tie lines at >1000 m AGL in an area with low magnetic gradient. For all four directions the survey helicopter must pass over the same mid-point all four times at the same elevation.



```

HeadingCor_Carmax.tbl - Notepad
File Edit Format View Help
/Geosoft Heading Correction Table
/
/=Direction:real:i
/=Correction:real
/
/Direction Correction
040 -0.7138
130 +13.7312
220 -0.278
310 -12.7394
|

```

Figure 17: Heading data results in .tbl format in Geosoft table.

5.2 Gamma-ray Spectrometer Checks and Calibrations

Pre-survey calibrations and testing of the GRS-10 airborne gamma-ray spectrometry system were carried out prior to the start of the survey. The calibration of the spectrometer system involved three tests which enabled the conversion of airborne data to ground concentration of natural radioactive elements. These tests were the calibration pad test, cosmic flight test, and the Breckenridge test range. The measurements were made in accordance with IAEA technical report series No. 323, “Airborne Gamma Ray Spectrometer Surveying”, and AGSO Record 1995/60, “A Guide to the Technical Specification for Airborne Gamma-Ray Surveys”.

5.2.1 Calibration Pad Test

The calibration pad test was conducted by Pico Envirotec at the GSC (Geological Survey of Canada) testing facility in Ottawa, Ontario over the approved GSC calibration pad. It is a slab of concrete containing known concentrations of the radioelements (K, Th, and U) and is ideally used to simulate a geological source of radiation. The measurements collected from the calibration pad test are used to determine the Compton scattering and Grasty Backscatter (spectral overlap between element windows) coefficients.

5.2.2 Cosmic Flight Test

While the background source of gamma radiation from the aircraft itself is constant, the amount of signal detected from ground sources varies with ground clearance. As the height of the aircraft increases, the distance between the ground and the spectrometer crystals increase, and the proportion of cosmic radiation in each spectral window increases exponentially due to radiation of cosmic origin. The cosmic flight test is conducted to determine the aircraft’s background attenuation coefficients for the detector crystal packs and the cosmic coefficients. The pilot is required to fly over the same location repeatedly in opposite directions starting from 1,500 m to 3,000 m at 500 m intervals for approximately 2 minutes each to collect gamma data used to determine the amount of non-terrestrial gamma signal.

5.2.3 Breckenridge Test Range

The Breckenridge test range is very similar to the cosmic flight test but is conducted at lower elevations (from ground level). The pilot is required to fly over the same location at the following elevations in meters above ground; 30, 50, 100, 150, 200, 250, and 300. As the distance of the aircraft increases away from the radioactive source, the source signature exponentially degrades. As a result, this test is used to determine the altitude attenuation coefficients and the radio-element sensitivity of the airborne spectrometer system.

6.0 Data Processing

After all the data were collected from a survey flight several procedures were undertaken to ensure that the data met a high standard of quality. All data were processed using Pico Envirotec software and Geosoft Oasis Montaj 8.2 geophysical processing software along with proprietary processing algorithms.

6.1 Magnetic Processing

The data obtained from the compensation flight test was applied to the raw magnetic data before any further processing and editing. The computer program called PEIComp was used to create a model from the compensation flight test for each survey to remove the noise induced by aircraft movement; this model was applied to each survey flight so the data can be further processed.

Over water or fog, the laser altimeter is unable to record a valid reading and a zero is recorded; therefore all data points recorded at zero were replaced with a nominal height of 40 m. Filtering was then applied to the laser altimeter data to remove vegetation clutter and to show the actual ground clearance. To remove vegetation clutter a Rolling Statistic filter was applied to the laser altimeter data and a low pass filter was used to smooth out the laser altimeter profile to eliminate isolated noise. As a result, filtering the data will yield a more uniform surface in close conformance with the actual terrain. A digital terrain model channel was calculated by subtracting the filtered laser altimeter data from the filtered GPS altimeter data defined by the WGS 84 ellipsoidal height.

The processing of the magnetic data first involved the correction for diurnal variations. Out of the two base stations that were set up, GEM 4 was chosen and used for diurnal corrections. The base station data were edited, plotted and merged into a Geosoft (.gdb) database on a daily basis. The airborne magnetic data were corrected for diurnal variations by subtracting the observed magnetic base station deviations. Following the diurnal correction, a lag correction was applied. A lag correction of 1.0 seconds was applied to the total magnetic field data to compensate for the combination of lag in the recording system and the magnetometer sensor flying 5.70 m ahead of the GPS antenna. Lastly, a heading correction was applied to the data. As a result, after all corrections have been applied the initial Total Magnetic Intensity (TMI) data was generated.

The initial Total Magnetic Intensity (TMI) data from the survey and tie lines were used to level the entire survey dataset. Two forms of leveling were applied to the corrected data: conventional leveling and micro-leveling. There were two components to conventional leveling; the first involved statistical leveling of magnetic data to correct miss ties (intersection errors) followed by specific patterns or trends. For the second component, tie lines were brought to a common regional base value using the mean value of the cross-level error. To obtain the best possible leveled data, individual corrections were edited at selected intersections. Lastly, micro-leveling was applied to the corrected conventional leveled data. This will remove any residual noise related to flight line

direction, and any low amplitude component of flight line noise, that still remained in the data after tie line leveling.

6.1.1 IGRF Removal

The International Geomagnetic Reference Field (IGRF) model is the empirical representation of the Earth's magnetic field (main core field without external sources) collected and disseminated from satellites and from observatories around the world. The IGRF is generally revised and updated every five years by a group of modelers associated with the International Association of Geomagnetism and Aeronomy (IAGA). In this case, the IGRF values were calculated from model year 2010 and the actual survey dates were obtained from the "Date" channel.

With the removal of the IGRF from the observed Total Magnetic Intensity (TMI) a Residual Magnetic Intensity (RMI) was generated. This created a more valid model of individual near surface anomalies and the data will not be referenced to a time which can be easily incorporated into databases of magnetic data acquired in the past or in the future.

6.1.2 Calculation of the First and Second Vertical Derivative

The first and second vertical derivative grids were calculated. First and second orders of differentiation vertical derivatives were computed from the Total Magnetic Intensity (TMI). The long wavelengths and vertical rate of change will be suppressed in the magnetic field. Therefore, the edges of magnetic anomalies will be highlighted, spatial resolution increased, and shorter wavelength magnetic anomalies emphasized.

6.2 Radiometric Processing

Radiometric surveys map the concentration of radioelements at or near the earth's surface; typically up to 1.5 meters below surface. Thus, the first and vital step before processing of the airborne radiometric data is to calibrate the spectrometer system. Once calibration of the system has been completed, the radiometric data was processed by windowing the full spectrum to create channels for U, K, Th and total count. A 5-point Hanning filter was applied to the Cosmic window before going any further with processing the radiometric data.

Aircraft background and cosmic stripping corrections were applied to all three elements, and total count using the following formula:

$$C_{ac} = C_{lt} - (a_c + b_c * \text{Cos}_f)$$

where: C_{ac} is the background and cosmic corrected channel
 C_{lt} is the live time corrected channel
 a_c is the aircraft background for this channel
 b_c is the cosmic stripping coefficient for this channel
 Cos_f is the filtered cosmic channel

The radon backgrounds were first removed followed by Compton stripping. Spectral overlap corrections were applied on to potassium, uranium, and thorium as part of the Compton stripping process. This was done by using the stripping ratios that have been calculated for the spectrometer by prior calibration; this breaks the corrected elemental values down into the apparent radioelement concentrations. Lastly, attenuation corrections were applied to the data which involves nominal survey altitude corrections, in this case 37.5 metres is applied to total count, potassium, uranium, and thorium data.

With all corrections applied to the radiometric data, the final step is to convert the corrected potassium, uranium, and thorium to apparent radioelement concentrations using the following formula:

$$eE = C_{cor} / s$$

where: eE is the element concentration K(%) and equivalent element concentration of U(ppm) & Th(ppm)
 s is the experimentally determined sensitivity
 C_{cor} is the fully corrected channel

Finally, the natural air exposure rate is determined using the following formula:

$$E = [(13.08 * K + 5.43 * eU + 2.69 * eTh) / 8.69]$$

where: E is the absorption dose rate in $\mu\text{R/h}$
 K is the concentration of potassium (%)
 eU is the equivalent concentration of uranium (ppm)
 eTh is the equivalent concentration of thorium (ppm)

To calculate for radiometric ratios the guidelines of the IAEA were followed. Due to statistical uncertainties in the individual radioelement measurements, some care was taken in the calculation of the ratio in order to obtain statistically significant values. Following IAEA guidelines, the method of determining ratios of the eU/eTh, eU/K and eTh/K was as follows:

1. Any data points where the potassium concentration was less than 0.25% were neglected.
2. The element with the lowest corrected count rate was determined.
3. The element concentrations of adjacent points on either side of each data point were summed until they exceeded a pre-determined threshold value. This threshold was set to be equivalent to 100 counts of the element with the lowest count rate. Additional minimum thresholds of 1.6% for potassium, 20 ppm for thorium, and 30 ppm for uranium were set up to ensure meaningful ratios.
4. The ratios were calculated using the accumulated sums.

With this method, the errors associated with the calculated ratios were minimized and comparable for all data points.

7.0 Deliverables

All digital data are presented on a compact disc (CD) and USB stick with the logistic report. The survey data are presented as digital databases, maps, and a report.

7.1 Digital Data

The file format will be provided in two (2) formats, the first will be a .GDB file for use in Geosoft Oasis Montaj, the second format will be a .XYZ file, this is text file. A complete file provided in each format will contain magnetic data. Full description of the digital data and contents are included in the report (Appendix B).

The digital data are represented into grids. The following grids are prepared for the Eaglehead survey block at 50 m cell size listed below:

- Digital terrain model (DTM)
- Total magnetic intensity (TMI)
- Residual magnetic intensity (RMI) – removal of IGRF from TMI
- Calculated vertical gradient (1CVG) – first order vertical derivative of TMI
- Calculated vertical gradient (2CVG) - second order vertical derivative of TMI
- Potassium (%K) - radiometric data in percentage
- Thorium (eTh) - radiometric data in concentrations
- Uranium (eU) - radiometric data in concentrations
- Total count (TCcor) – radiometric data in equivalent dose rate

Total count (TCexp) – radiometric data in exposure rate

- Thorium over Potassium ratio (eTh/%K) – radiometric ratios
- Uranium over Potassium ratio (eU/%K) – radiometric ratios
- Uranium over Thorium ratio (eU/eTh) – radiometric ratios

7.2 KMZ Grids

The digital data represented into grids were exported into kmz files which can be displayed using Google Earth. The grids can be draped onto topography and rendered to give a 3D view.

7.3 Maps

Digital maps were created for the Eaglehead survey block. The following map products were prepared:

Survey Overview Maps (colour images with elevation contour lines):

- Actual flight lines
- Digital terrain model

Magnetic Maps (colour images with elevation contour lines):

- Total magnetic intensity
- Total magnetic intensity with plotted flight lines
- Residual magnetic intensity
- Calculated vertical gradient of the total magnetic intensity first order
- Calculated vertical gradient of the total magnetic intensity second order

Radiometric Maps (colour images with elevation contour lines):

- Potassium – percentage
- Thorium – equivalent concentration
- Uranium – equivalent concentration
- Total Count – equivalent dose rate
- Total Count – exposure rate
- Thorium over Potassium ratio
- Uranium over Potassium ratio
- Uranium over Thorium ratio
- Ternary – an element ratio map of K, Th, and U

All maps were prepared in World (WGS 84) and UTM zone 9N.

7.4 Report

The logistics report provides information on the acquisition procedures, magnetic processing, radiometric processing, and presentation of the Eaglehead survey block data. A pdf copy of the report is included along with the digital data and maps that are provided on the CD and USB stick.

Appendix A

Equipment Specifications

- GEM GSM-19T Proton Precession Magnetometer (Base Station)
- Hemisphere GPS – Mini Max
- Opti-Logic RS800 Laser Altimeter
- Scintrex CS-3 Survey Magnetometer
- Bartington Mag-03 three-axis fluxgate magnetic field sensor
- Pico Envirotec GRS-10 Gamma Spectrometer
- Pico Envirotec AGIS data recorder system (for Navigation, Gamma spectrometer, VLF-EM and Magnetometer Data Acquisition)

GEM GSM-19T Proton Precession Magnetometer (Base Station)

Configuration Options	15
Cycle Time	999 to 0.5 sec
Environmental	-40 to +60 ° Celsius
Gradient Tolerance	7,000 nT/m
Magnetic Readings	299,593
Operating Range	10, 000 to 120,000 nT
Power	12 V @ 0.62 A
Sensitivity	0.1 nT @ 1 sec
Weight (Console/ Sensor)	3.2 Kg
Integrated GPS	Yes

Hemisphere GPS – Mini Max

GPS Sensor Specifications	Receiver Type	LI, C/A code, with carrier phase smoothing
	Channels	I2-channel, parallel tracking (10-channel when tracking SBAS)
	WAAS Tracking	2-channel, parallel tracking
	Update Rate	1 Hz default, 5 Hz max
	Horizontal Accuracy	< 1 m 95% confidence (DGPS) < 5 m 95% confidence (autonomous, no SA)
	Cold Start	1 min typical
	Antenna Input Impedance	50 Ω
Beacon Sensor Specifications	Channels	2-channel, parallel tracking
	Frequency Range	283.5 to 325 kHz
	Channel Spacing	500 Hz
	MSK Bit Rates	50, 100, and 200 bps
	Operating Modes	Manual, automatic, semi-automatic
	Cold Start Time	< 1 minute typical
	Reacquisition Time	< 2 seconds typical
	Demodulation	Minimum shift keying (MSK)
	Sensitivity	2.5 μ V for 6dB SNR @ 200 bps
	Dynamic Range	100dB
	Frequency Offset	\pm 8 Hz (~ 27 ppm)
	Adjacent Channel Rejection	61 dB \pm 1dB @ fo \pm 400 Hz
Communications	Serial ports	2 full duplex
	Interface Level	RS-232C
	Baud Rates	4800, 9600, 19200
	Correction Input/ Output Protocol	RTCM SC-104
	Raw Measurement Data	Proprietary binary (RINEX utility available)
	Timing Output	1 PPS (HCMOS, active high, rising edge sync, 10k Ω , 10pF load)
Environmental	Operating Temperature	-32 $^{\circ}$ C to +74 $^{\circ}$ C
	Storage Temperature	-40 $^{\circ}$ C to +85 $^{\circ}$ C
	Humidity	95% non-condensing
	EMC	FCC Part I 5, Subpart B, Class B CISPR 22
Power	Input Voltage Range	9 to 32 VDC
	Reverse Polarity Protection	Yes
	Power Consumption	3W
	Current Consumption	<250 mA @ 12 VDC
	Antenna Short Circuit Protection	Yes

Opti-Logic RS800 Laser Altimeter

Accuracy	+/- 1 yard
Com. Protocol	RS232-8,N,1
Baud Rate	19200
Raw Data Rate	~200 Hz
Calibrated Data Rate	~10 Hz
Laser	Class I (eye-safe) 905nm +/- 10nm
Power	7-to-9 Vdc
Typical Range	400 yards
Laser Wavelength	905 nm +/- 10 nm
Laser Divergence	Vertical axis -- 3.5 mrad half- angle divergence Horizontal axis -- 1 mrad half- angle divergence (Approximate beam footprint at 100 m is 5 cm x 5 cm)
Data Rate	~200 Hz raw counts for un-calibrated operation ~10 Hz for calibrated operation (averaging algorithm seeks 8 good readings)
Dimensions	32 x 78 x 84 mm (lens face cross section is 32 x 78 mm)
Casing	RS100/RS400/RS800 units are supplied as OEM modules consisting of an open chassis containing optics and circuit boards. Custom housings can be designed and built on request.

Scintrex CS-3 Survey Magnetometer

Operating Principal	Self-oscillation split-beam Cesium Vapor (non-radioactive Cs-133)
Operating Range	15,000 to 105,000 nT
Gradient Tolerance	40,000 nT/metre
Operating Zones	10° to 85° and 95° to 170°
Hemisphere Switching	a) Automatic b) Electronic control actuated by the control voltage levels (TTL/CMOS) c) Manual
Sensitivity	0.0006 nT $\sqrt{\text{Hz}}$ rms.
Noise Envelope	Typically 0.002 nT P-P, 0.1 to 1 Hz bandwidth
Heading Error	+/- 0.25 nT (inside the optical axis to the field direction angle range 15° to 75° and 105° to 165°)
Absolute Accuracy	<2.5 nT throughout range
Output	a) continuous signal at the Larmor frequency which is proportional to the magnetic field (proportionality constant 3.49857 Hz/nT) sine wave signal amplitude modulated on the power supply voltage b) square wave signal at the I/O connector, TTL/CMOS compatible
Information Bandwidth	Only limited by the magnetometer processor used
Sensor Head	Diameter: 63 mm (2.5") Length: 160 mm (6.3") Weight: 1.15 kg (2.6 lb)
Sensor Electronics	Diameter: 63 mm (2.5") Length: 350 mm (13.8") Weight: 1.5 kg (3.3 lb)
Cable, Sensor to Sensor Electronics	3m (9' 8"), lengths up to 5m (16' 4") available
Operating Temperature	-40°C to +50°C
Humidity	Up to 100%, splash proof
Supply Power	24 to 35 Volts DC
Supply Current	Approx. 1.5A at start up, decreasing to 0.5A at 20°C
Power Up Time	Less than 15 minutes at -30°C

Bartington Mag-03 three-axis fluxgate magnetic field sensor

Number of Axes	3
Bandwidth	0 to 3kHz at 50 μ T peak
Internal Noise: Basic version Standard version Low Noise version	>10 to 20pTrms/ $\sqrt{\text{Hz}}$ at 1Hz 6 to \leq 10pTrms/ $\sqrt{\text{Hz}}$ at 1Hz <6pTrms/ $\sqrt{\text{Hz}}$ at 1Hz
Scaling error (DC)	< \pm 0.5%
Orthogonality error	<0.1 $^{\circ}$
Alignment error (Z axis to reference face)	<0.1 $^{\circ}$
Linearity error	<0.0015%
Frequency response	0 to 1kHz maximally flat, \pm 5% maximum at 1kHz
Input voltage	\pm 12V to \pm 17V
Supply current	+30mA, -10mA (+1.4mA per 100 μ T for each axis)
Power supply rejection ratio	5 μ V/V (-106dB)
Analog output	\pm 10V (\pm 12V supply) swings to within 0.5V of supply voltage
Output impedance	10 Ω
Operating temperature range	-40 $^{\circ}$ C to +70 $^{\circ}$ C
Environmental protection	IP51
Dimensions (W x H x L)	32 x 32 x 152mm
Weight	160g
Enclosure material	Reinforced epoxy
Connector	ITT Cannon DEM-9P-NMB
Mating connector	ITT Cannon DEM-9S-NMB
Mounting	2 x M5 fixing holes

Pico Envirotec GRS-10 Gamma Spectrometer

Crystal volume	12.6 litres of NaI (Tl) synthetic downward looking crystals and 4.2 litres of NaI (Tl) synthetic upward looking crystals
Resolution	256/512 channels
Tuning	Automatic using peak determination algorithm
Detector	Digital Peak
Calibration	Fully automated detector
Real Time	Linearization and gain stabilization
Communication	RS232
Detectors	Expandable to 10 detectors and digital peak
Count Rate	Up to 60,000 cps per detector
Count Capacity per channel	65545
Energy detection range:	36 KeV to 3 MeV
Cosmic channel	Above 3 MeV
Upward Shielding	RayShield® non-radioactive shielding on downward looking crystals
Downward Shielding	6 mm thick lead plate is used for downward-shielding
Spectra	Collected spectra of 256/512 channels, internal spectrum resolution 1024
Software	Calibration: High voltage adjustment, linearity correction coefficients calculation, and communication test support Real Time Data Collection: Automatic Gain real time control on natural isotopes, and PC based test and calibration software suite
Sensor	Each box containing two (2) gamma detection NaI(Tl) crystals – each 4.2 liters. (256 cu in.) (approx. 100 x 100 x 650 mm) Total volume of approx 8.4 litres or 512 cu in with detector electronics
Spectra Stabilization	Real time automatic corrections on radio nuclei: Th, Ur, K. No implanted sources.

Pico Envirotec AGIS data recorder system

(for Navigation, Gamma spectrometer, VLF-EM and Magnetometer Data Acquisition)

Functions	Airborne Geophysical Information System (AGIS) with integrated Global Positioning System Receiver (GPS) and all necessary navigation guidance software. Inputs for geophysical sensors - portable gamma ray spectrometer GRS-10, MMS4 Magnetometer, Totem 2A EM, A/D converter, temperature probe, humidity probe, barometric pressure probe, and laser altimeter. Output for the 2 line Pilot Indicator
Display	Touch screen with display of 800 x 600 pixels; customized keypad and operator keyboard. Multi-screen options for real-time viewing of all data inputs, fiducial points, flight line tracking, and GPS channels by operator.
GPS Navigation	Garmin 12-channel, WAAS-enabled
Data Sampling	Sensor dependent
Data Synchronization	Synchronized to GPS position
Data File	PEI Binary data format
Storage	80 GB
Supplied Software	PEIView: Allows fast data Quality Control (QC) Data Format: Geosoft GBN and ASCII output PEIConv: For survey preparation and survey plot after data acquisition
Software	Calibration: High voltage adjustment, linearity correction coefficients calculation, and communication test support Real Time Data Collection: Automatic Gain real time control on natural isotopes and PC based test and calibration software suite
Power Requirements	24 to 32 VDC
Temperature	Operating:-10 to +55 deg C; storage:-20 to +70 deg C

Appendix B

Digital File Descriptions

- Magnetic database description
- Radiometric database description
- Grids
- Maps

Magnetic Database:

Abbreviations used in the GDB files listed below:

Channel	Units	Description
X_WGS84	m	UTM Easting – WGS 84 Zone 9 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 9 North
Lon_deg	deg	Longitude
Lat_deg	deg	Latitude
Date	yyyy/mm/dd	Dates of the survey flight(s)
FLT		Flight Line numbers
STL		Number of satellite(s)
LineNo		Line numbers
GPSfix		GPS fix
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
GHead_deg	deg	Heading of the helicopter
XTE_m	M	Flight line cross distance
Galt	m	GPS height – WGS 84 Zone 9 North
Lalt	m	Laser Altimeter readings
DTM	m	Digital Terrain Model
basemag	nT	Base station diurnal data
IGRF		International Geomagnetic Reference Field 2010
Declin	Decimal deg	Calculated declination of magnetic field
Inclin	Decimal deg	Calculated inclination of magnetic field
TMI	nT	Total Magnetic Intensity
RMI	nT	Residual Magnetic Intensity

Radiometric Database:

Abbreviations used in the GDB files listed below:

Channel	Units	Description
X_WGS84	m	UTM Easting – WGS 84 Zone 9 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 9 North
Lon_deg	deg	Longitude
Lat_deg	deg	Latitude
Date	yyyy/mm/dd	Dates of the survey flight(s)
FLT		Flight numbers
STL		Number of satellite(s)
LineNo		Line numbers
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
GPSFix		GPS fix
GHead_deg	deg	Heading of the helicopter
XTE_m	m	Flight line cross distance
Galt	m	GPS height – WGS 84 Zone 9 North
Lalt	m	Laser Altimeter readings
DTM	m	Digital Terrain Model
BaroSTP_Kp	KiloPascal	Barometric Altitude (Press and Temp Corrected)
Temp_degC	Degrees C	Air Temperature
Press_Kp	KiloPascal	Atmospheric Pressure
COSFILT	counts/sec	Spectrometer - Filtered Cosmic
UPUFILT	counts/sec	Spectrometer - Filtered Upward Uranium
Kcor	%	Equivalent Concentration - Potassium
THcor	ppm	Equivalent Concentration - Thorium
Ucor	ppm	Equivalent Concentration - Uranium
TCcor	μR	Equivalent Dose Rate
TCexp	μR/hour	Exposure Rate - SUM(%k, eU, eTh) * determined factors
THKratio		Spectrometer – eTh/%K ratio
UKratio		Spectrometer – eU/%K ratio
UTHratio		Spectrometer – eU/eTh ratio

Grids: Eaglehead survey block, WGS 84 Datum, Zone 9N

FILE NAME	DESCRIPTION
Eaglehead_DTM_50m.grd	Eaglehead survey block digital terrain model gridded at 50 m cell size
Eaglehead_TMI_50m.grd	Eaglehead survey block total magnetic intensity gridded at 50 m cell size
Eaglehead_RMI_50m.grd	Eaglehead survey block residual magnetic intensity gridded at 50 m cell size
Eaglehead_TMI_50m_1CVG.grd	Eaglehead survey block calculated first vertical gradient of TMI gridded at 50 m cell size
Eaglehead_TMI_50m_2CVG.grd	Eaglehead survey block calculated second vertical gradient of TMI gridded at 50 m cell size
Eaglehead_Kcor_50m.grd	Eaglehead survey block potassium (Kcor) percentage gridded at 50 m cell size
Eaglehead_Thcor_50m.grd	Eaglehead survey block Thorium (Thcor) equivalent concentration gridded at 50 m cell size
Eaglehead_Ucor_50m.grd	Eaglehead survey block Uranium (Ucor) equivalent concentration gridded at 50 m cell size
Eaglehead_TCcor_50m.grd	Eaglehead survey block Total Count (TCcor) equivalent dose rate gridded at 50 m cell size
Eaglehead_TCexp_50m.grd	Eaglehead survey block Total Count (TCexp) exposure rate gridded at 50 m cell size
Eaglehead_THKratio_50m.grd	Eaglehead survey block thorium over potassium ratio (eTh/%K) gridded at 50 m cell size
Eaglehead_UKratio_50m.grd	Eaglehead survey block uranium over potassium ratio (eU/%K) gridded at 50 m cell size
Eaglehead_UTHratio_50m.grd	Eaglehead survey block uranium over thorium ratio (eU/eTh) gridded at 50 m cell size

Maps: Eaglehead survey block, WGS 84 Datum, Zone 9N (jpegs and pdfs)

FILE NAME	DESCRIPTION
Eaglehead_ActualFlightLines_50m	Eaglehead survey block plotted actual flown flight lines
Eaglehead_DTM_50m	Eaglehead survey block digital terrain model gridded at 50 m cell size
Eaglehead_TMI_50m	Eaglehead survey block total magnetic intensity gridded at 50 m cell size
Eaglehead_TMI_with_FlightLines_50m	Eaglehead survey block total magnetic intensity with plotted actual flight lines gridded at 50 m cell size
Eaglehead_RMI_50m	Eaglehead survey block residual magnetic intensity gridded at 50 m cell size
Eaglehead_TMI_1CVG_50m	Eaglehead survey block calculated first vertical gradient of TMI gridded at 50 m cell size
Eaglehead_TMI_2CVG_50m	Eaglehead survey block calculated second vertical gradient of TMI gridded at 50 m cell size
Eaglehead_%Kcor_50m	Eaglehead survey block potassium (Kcor) percentage gridded at 50 m cell size
Eaglehead_Thcor_50m	Eaglehead survey block Thorium (Thcor) equivalent concentration gridded at 50 m cell size
Eaglehead_Ucor_50m	Eaglehead survey block Uranium (Ucor) equivalent concentration gridded at 50 m cell size
Eaglehead_TCcor_50m	Eaglehead survey block Total Count (TCcor) equivalent dose rate gridded at 50 m cell size
Eaglehead_TCexp_50m	Eaglehead survey block Total Count (TCexp) exposure rate gridded at 50 m cell size
Eaglehead_eTh%K_Ratio_50m	Eaglehead survey block thorium over potassium ratio (eTh/%K) gridded at 50 m cell size
Eaglehead_eU%K_Ratio_50m	Eaglehead survey block uranium over potassium ratio (eU/%K) gridded at 50 m cell size
Eaglehead_eUeTh_Ratio_50m	Eaglehead survey block uranium over thorium ratio (eU/eTh) gridded at 50 m cell size
Eaglehead_TernaryMap_50m	Eaglehead survey block displaying ratios of all three elements (%K, eTh, eU)

Appendix C

Eaglehead Survey Block Maps

Survey Overview Maps (colour image with elevation contour lines):

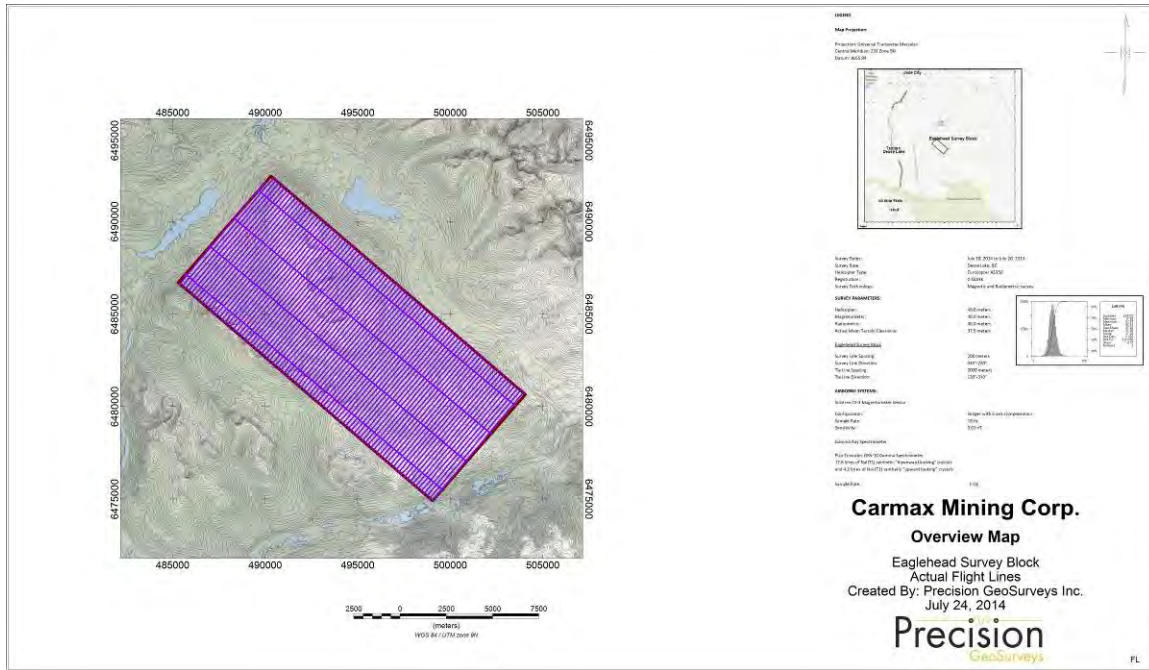
- Flight Lines (FL)
- Digital Terrain Model (DTM)

Magnetic Maps (colour image with elevation contour lines):

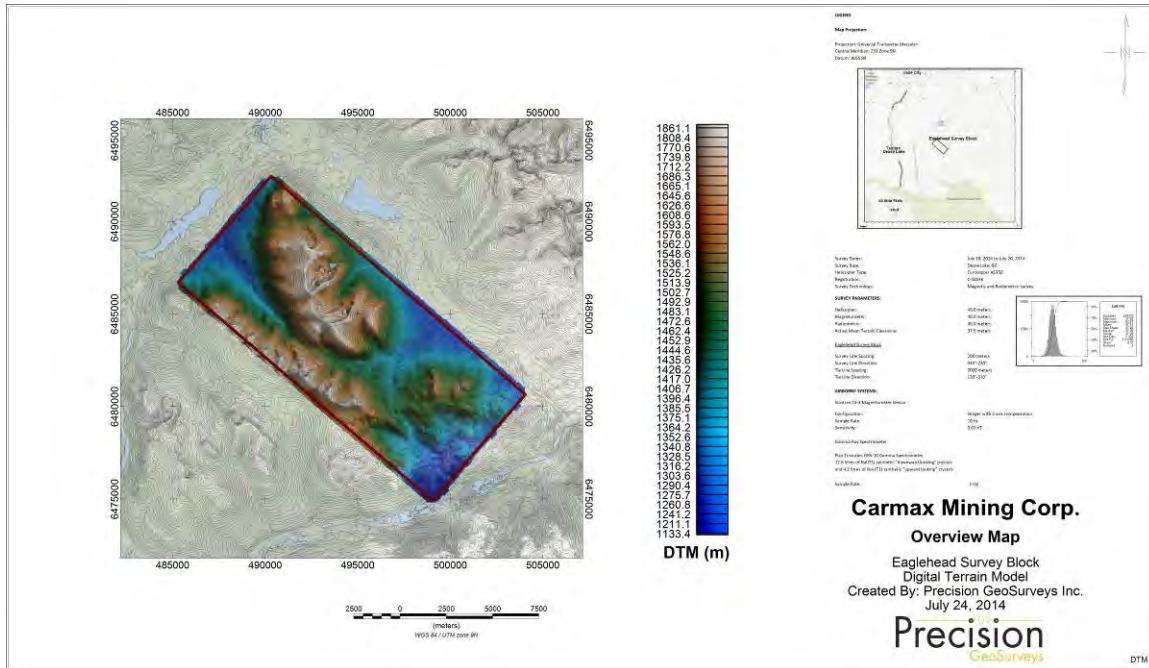
- Total Magnetic Intensity (TMI)
- Total Magnetic Intensity (TMI_wFL) with flight lines
- Residual Magnetic Intensity (RMI)
- Calculated Vertical Gradient (1CVG) first order of TMI
- Calculated Vertical Gradient (2CVG) second order of TMI

Radiometric Maps (colour image with elevation contour lines):

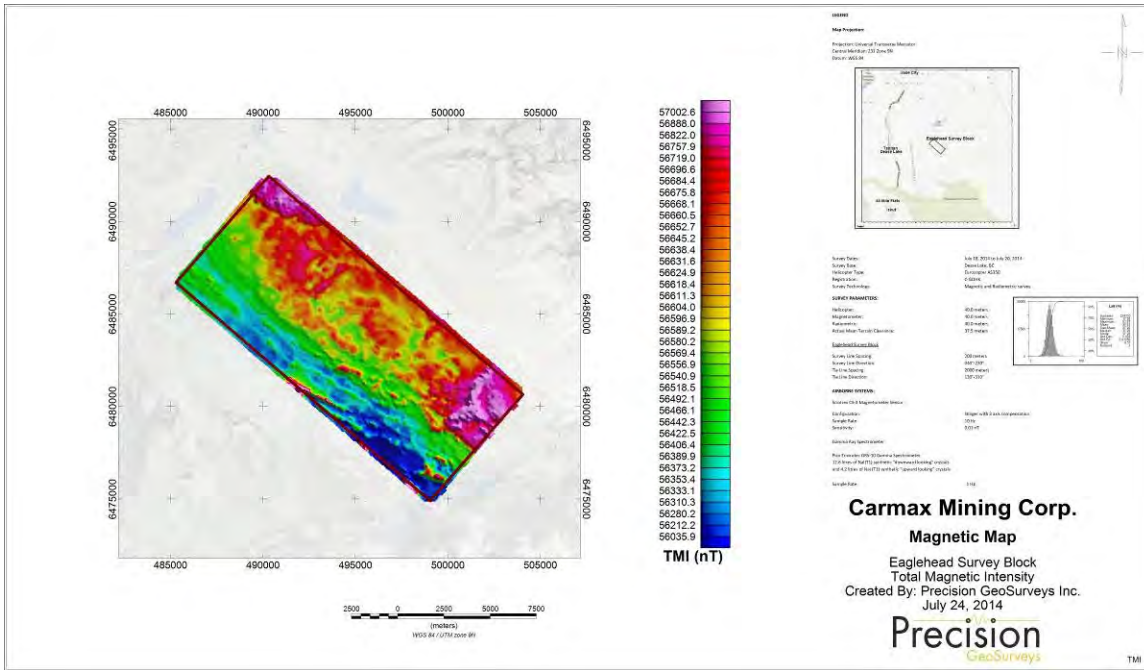
- Potassium – Equivalent Concentration (%K)
- Thorium – Equivalent Concentration (eTh)
- Uranium – Equivalent Concentration (eU)
- Total Count –Equivalent Dose Rate (TCcor)
- Total Count – Exposure Rate (TCexp)
- Thorium over Potassium Ratio - Spectrometer - eTh/%K ratio
- Uranium over Potassium Ratio - Spectrometer - eU/%K ratio
- Uranium over Thorium Ratio - Spectrometer - eU/eTh ratio
- Ternary (TM)



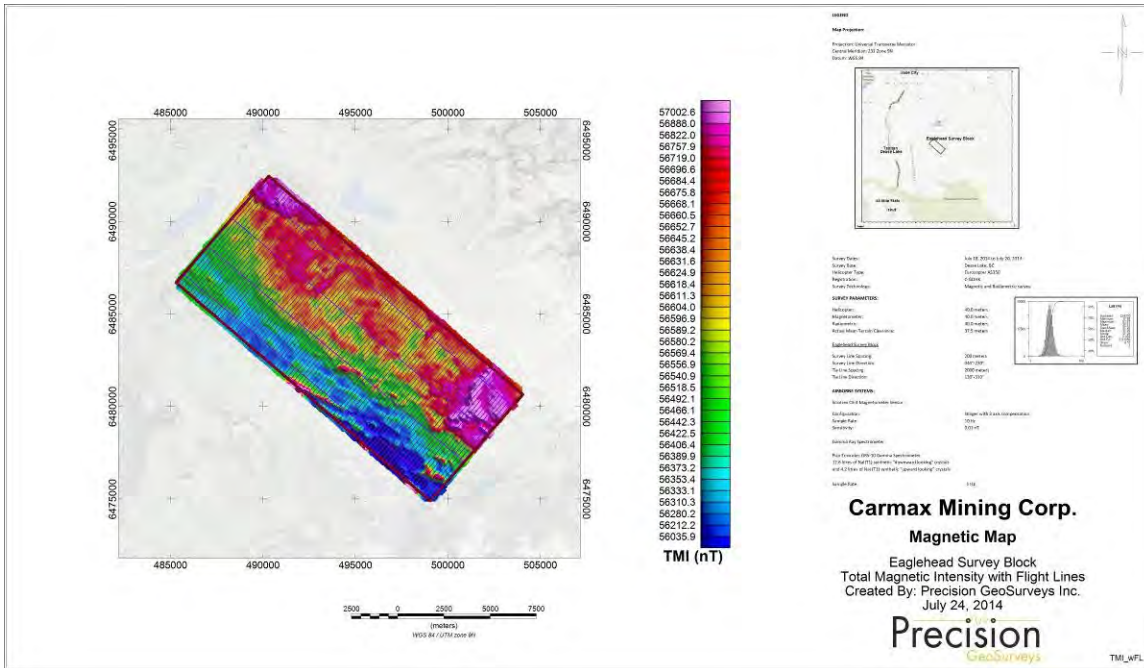
Map 1: Eaglehead survey block actual flight lines.



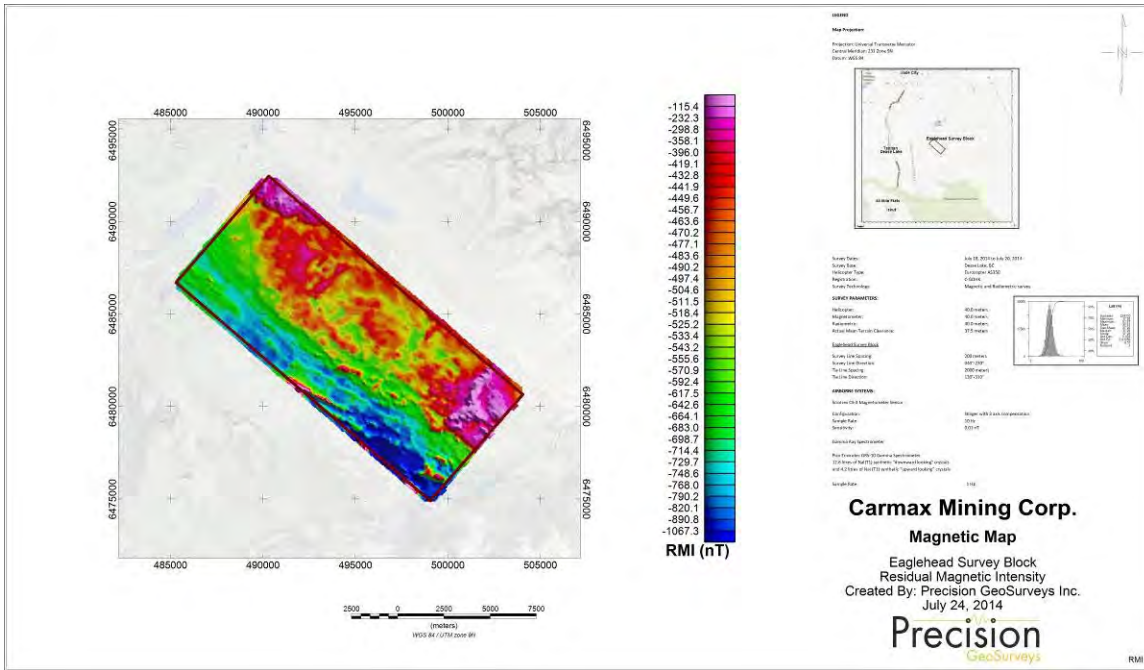
Map 2: Eaglehead survey block digital terrain model.



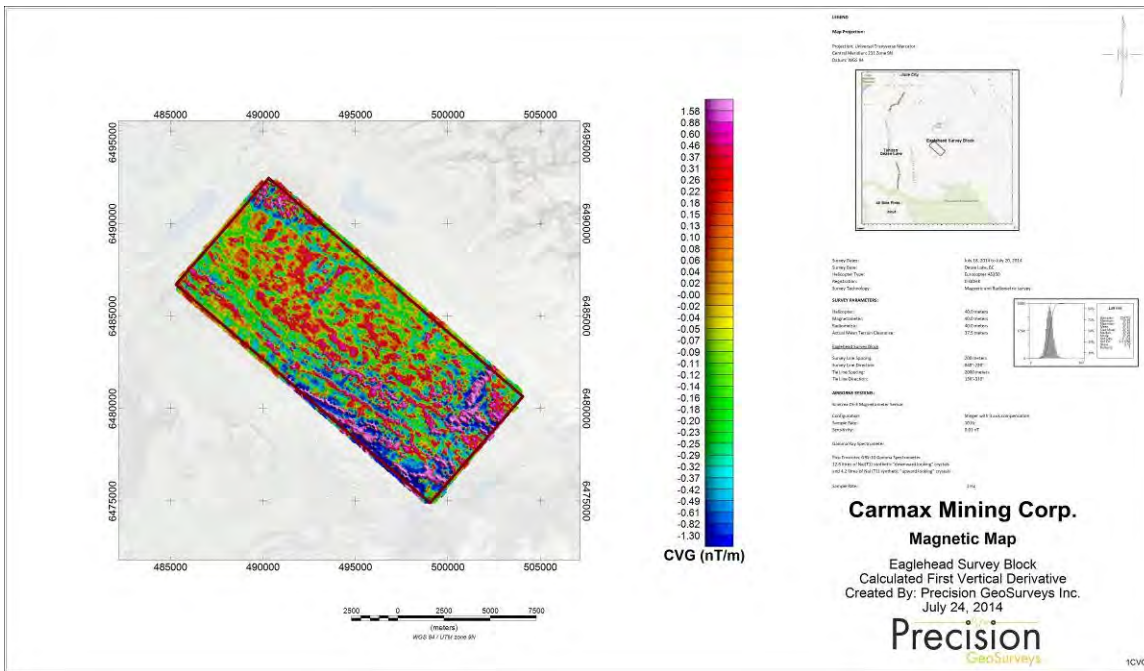
Map 3: Eaglehead survey block total magnetic intensity.



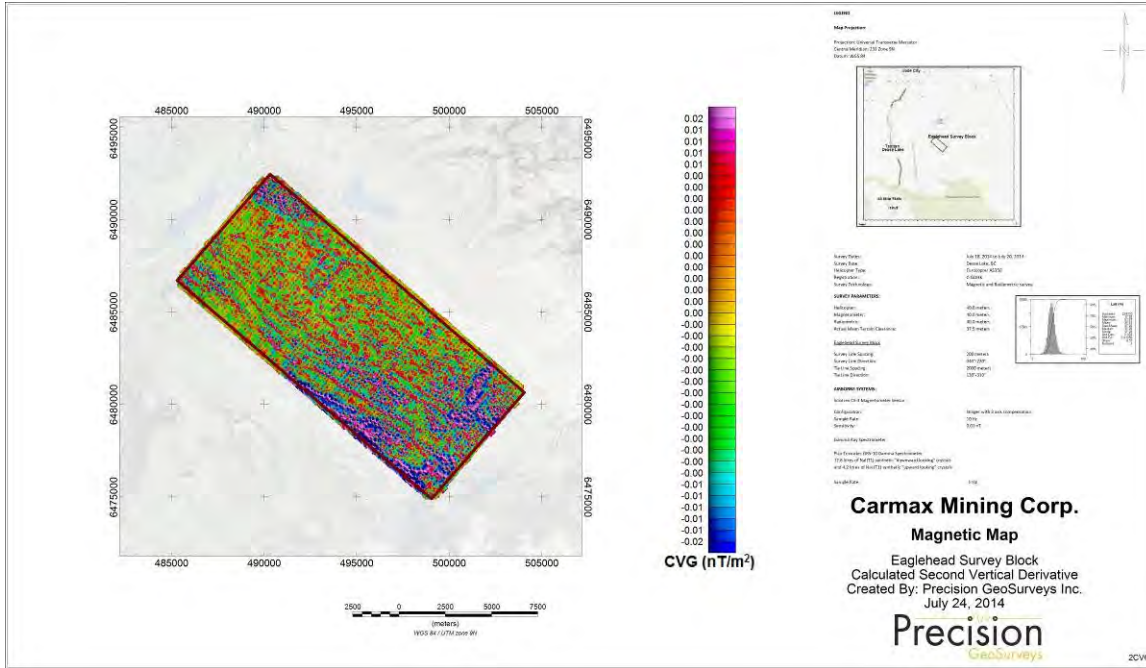
Map 4: Eaglehead survey block total magnetic intensity with plotted actual flight lines.



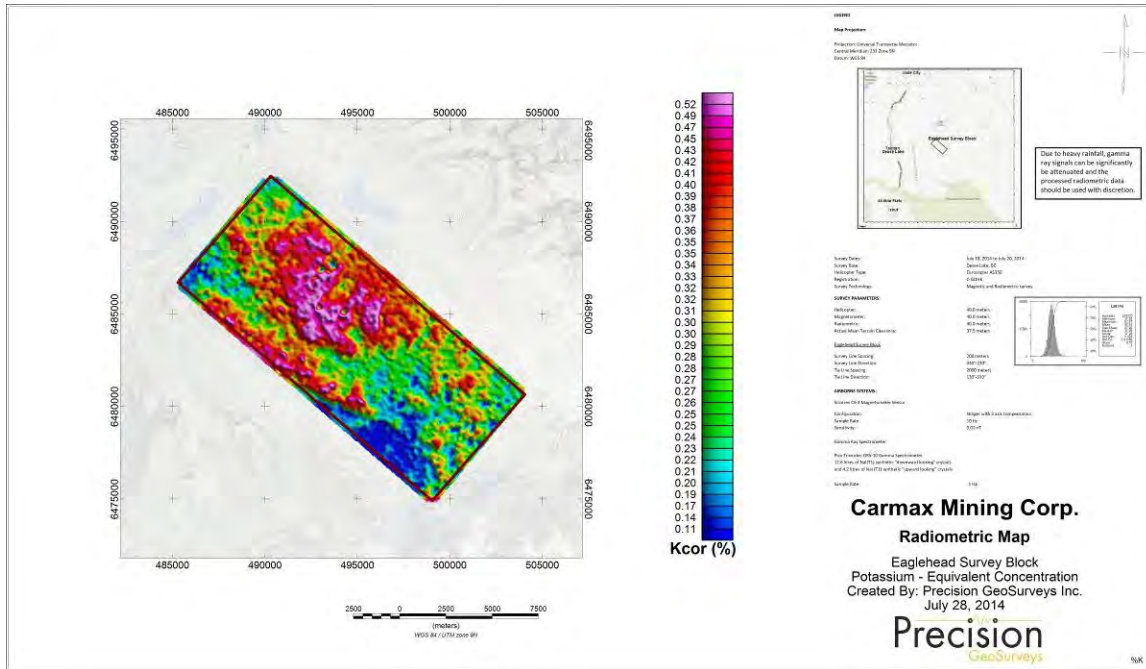
Map 5: Eaglehead survey block residual magnetic intensity.



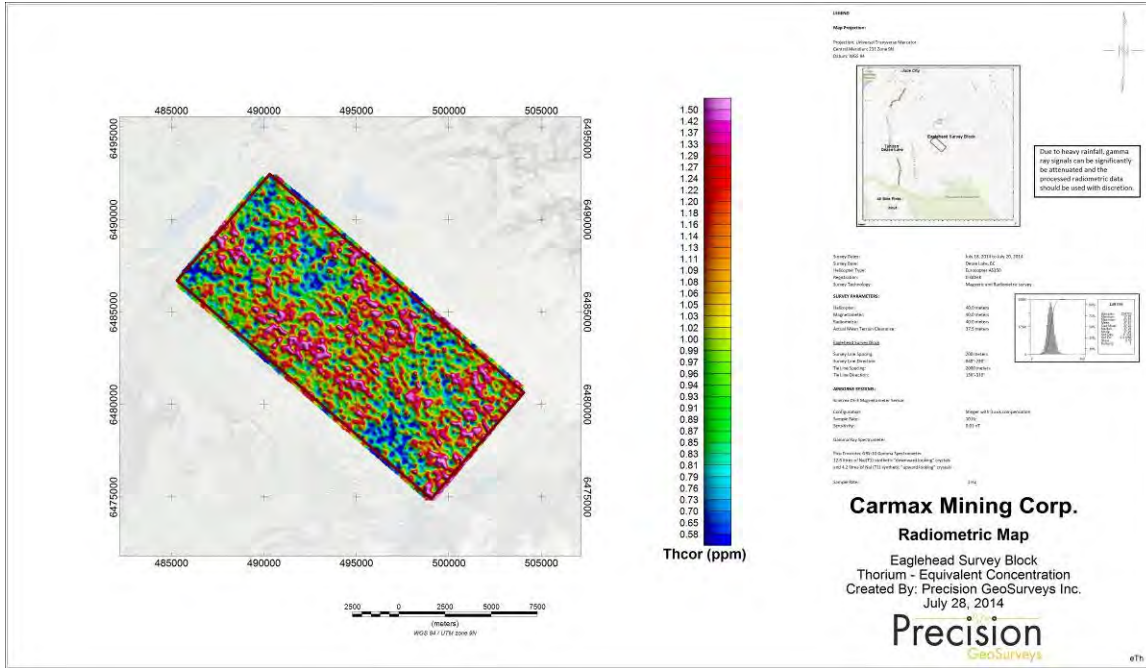
Map 6: Eaglehead survey block calculated first vertical gradient of the total magnetic intensity.



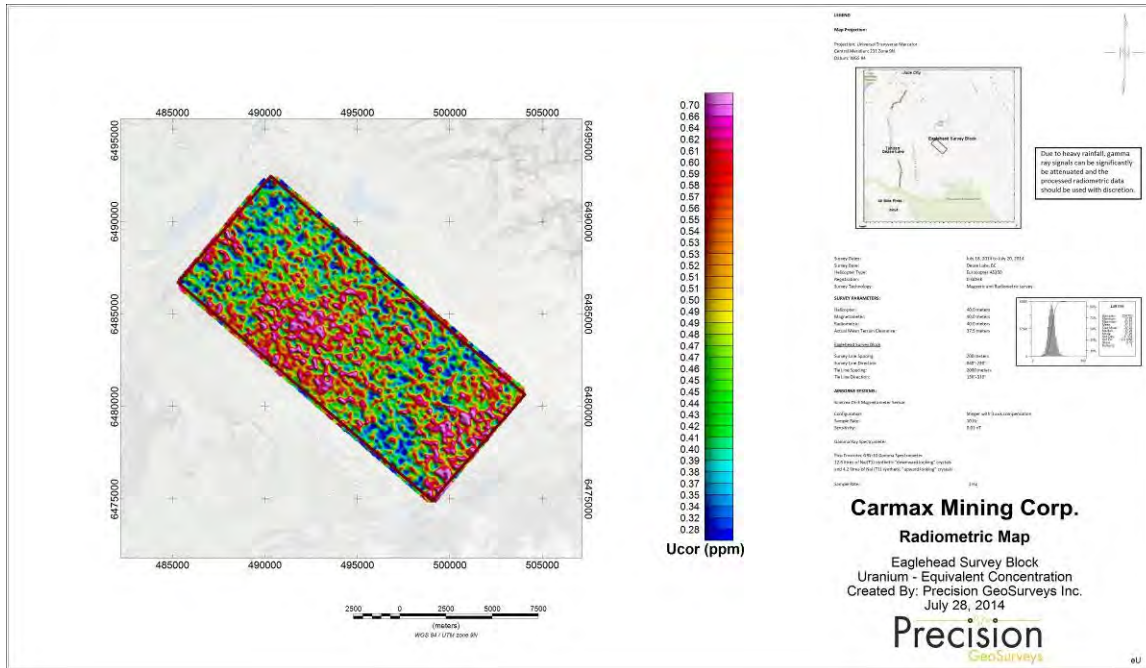
Map 7: Eaglehead survey block calculated second vertical gradient of the total magnetic intensity.



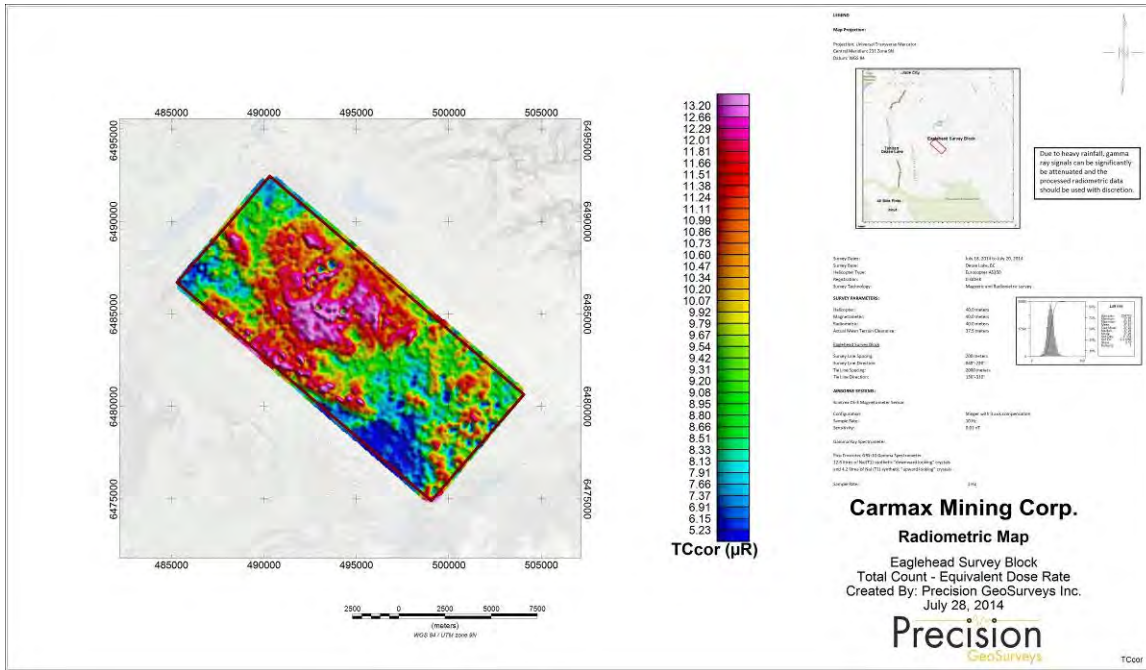
Map 8: Eaglehead survey block potassium – (percentage) equivalent concentration.



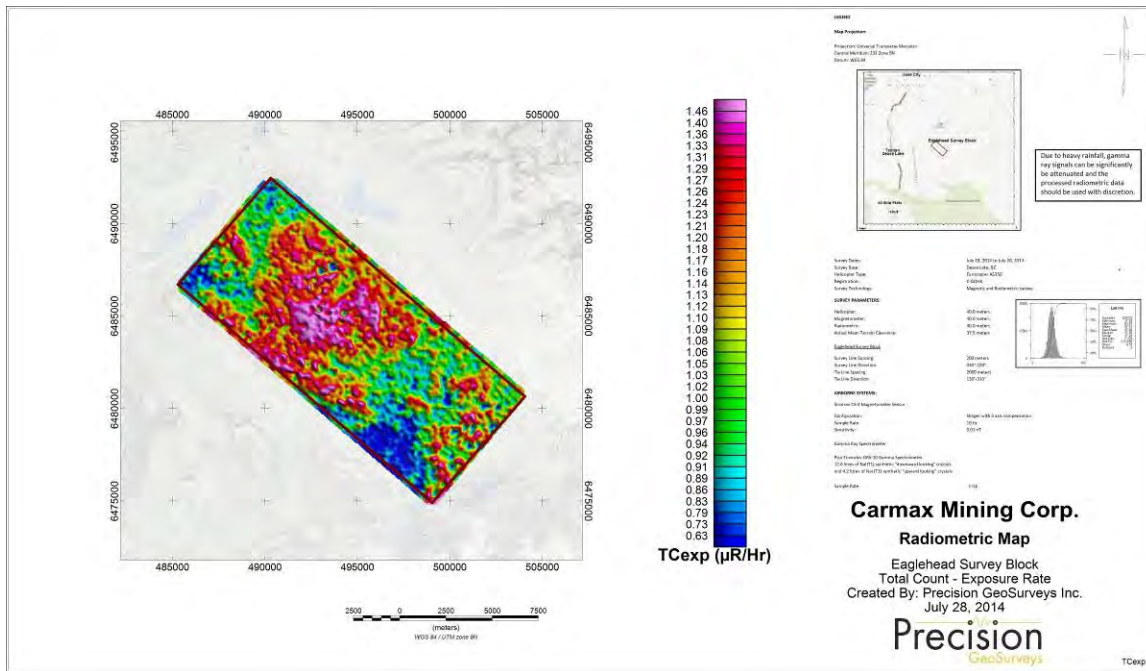
Map 9: Eaglehead survey block thorium – equivalent concentration.



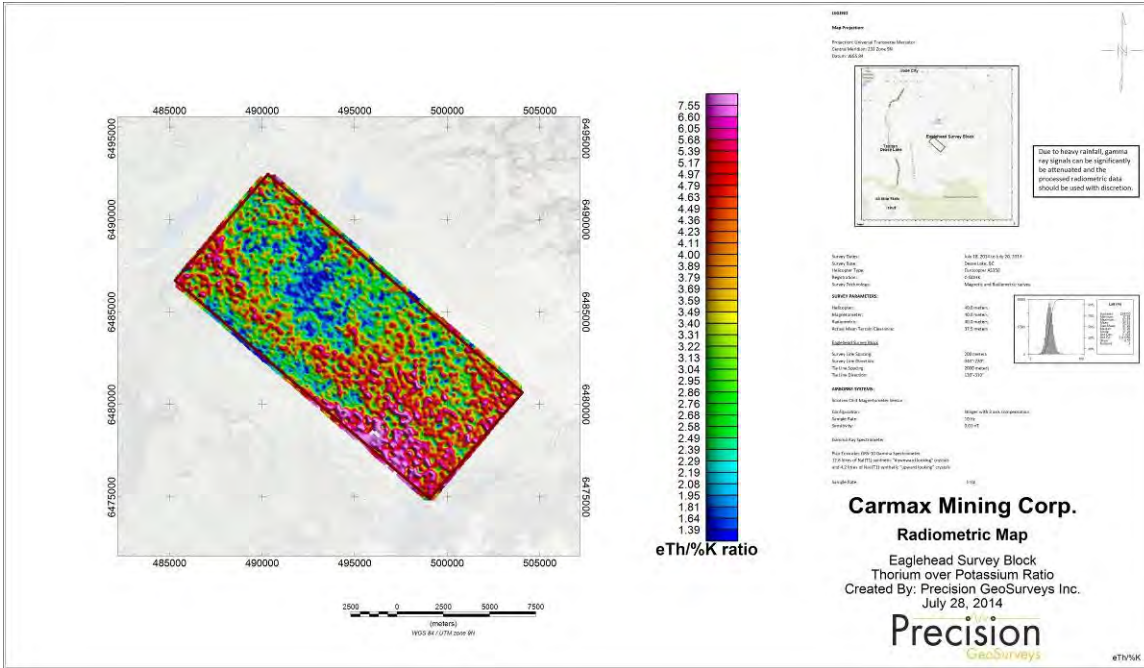
Map 10: Eaglehead survey block uranium – equivalent concentration.



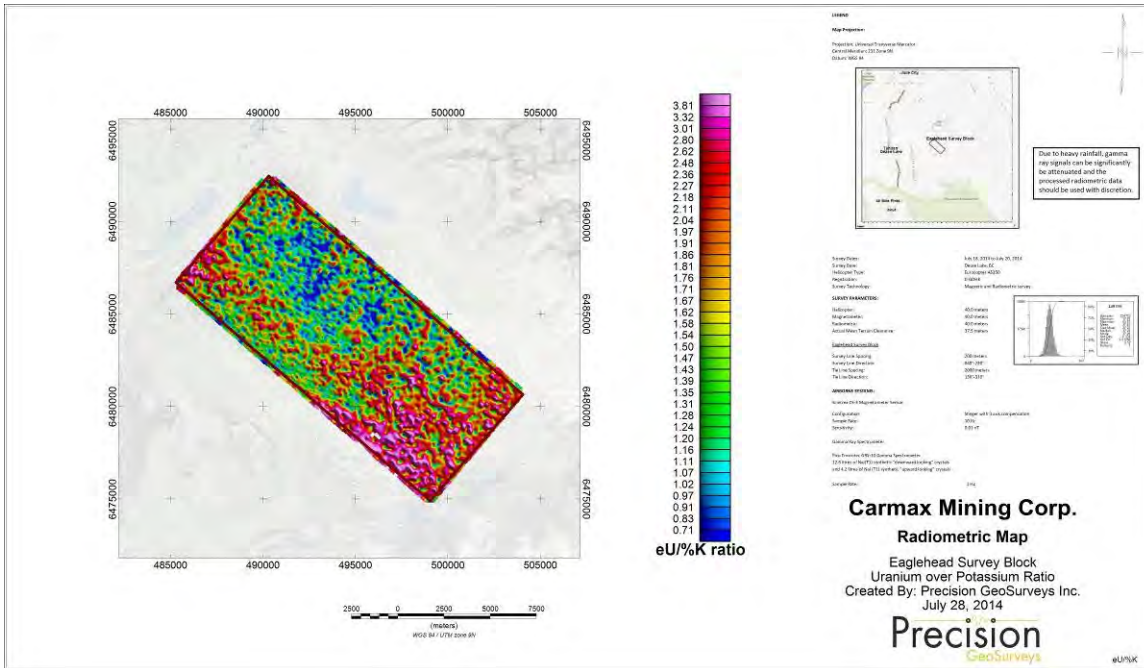
Map 11: Eaglehead survey block total count – equivalent dose rate.



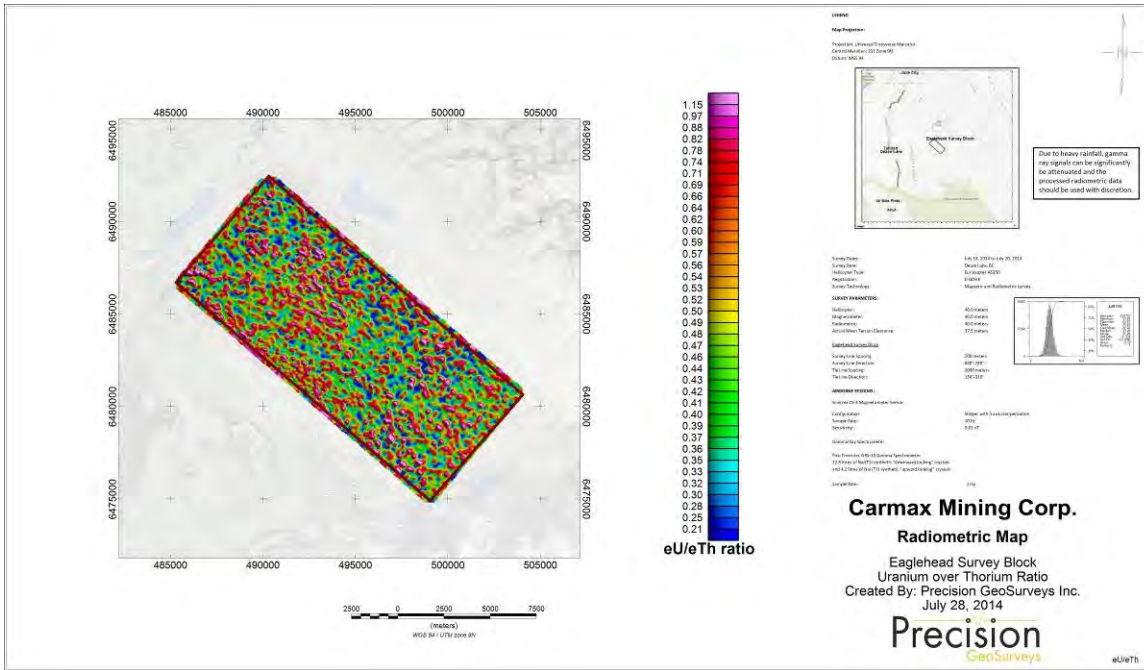
Map 12: Eaglehead survey block total count –exposure rate.



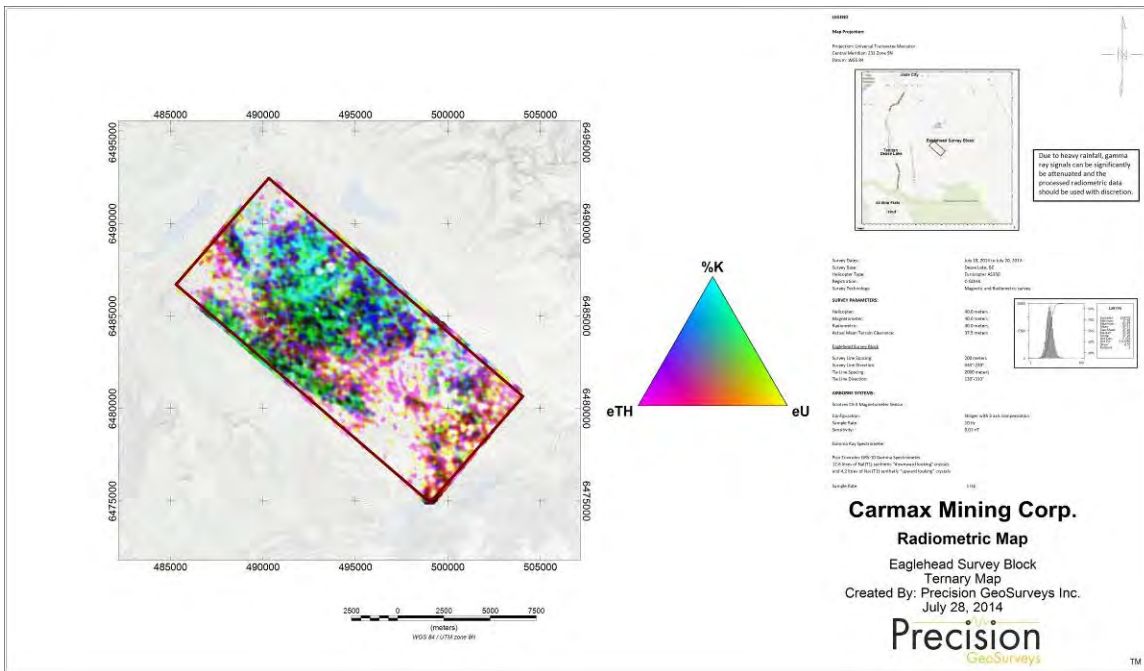
Map 13: Eaglehead survey block thorium over potassium ratio.



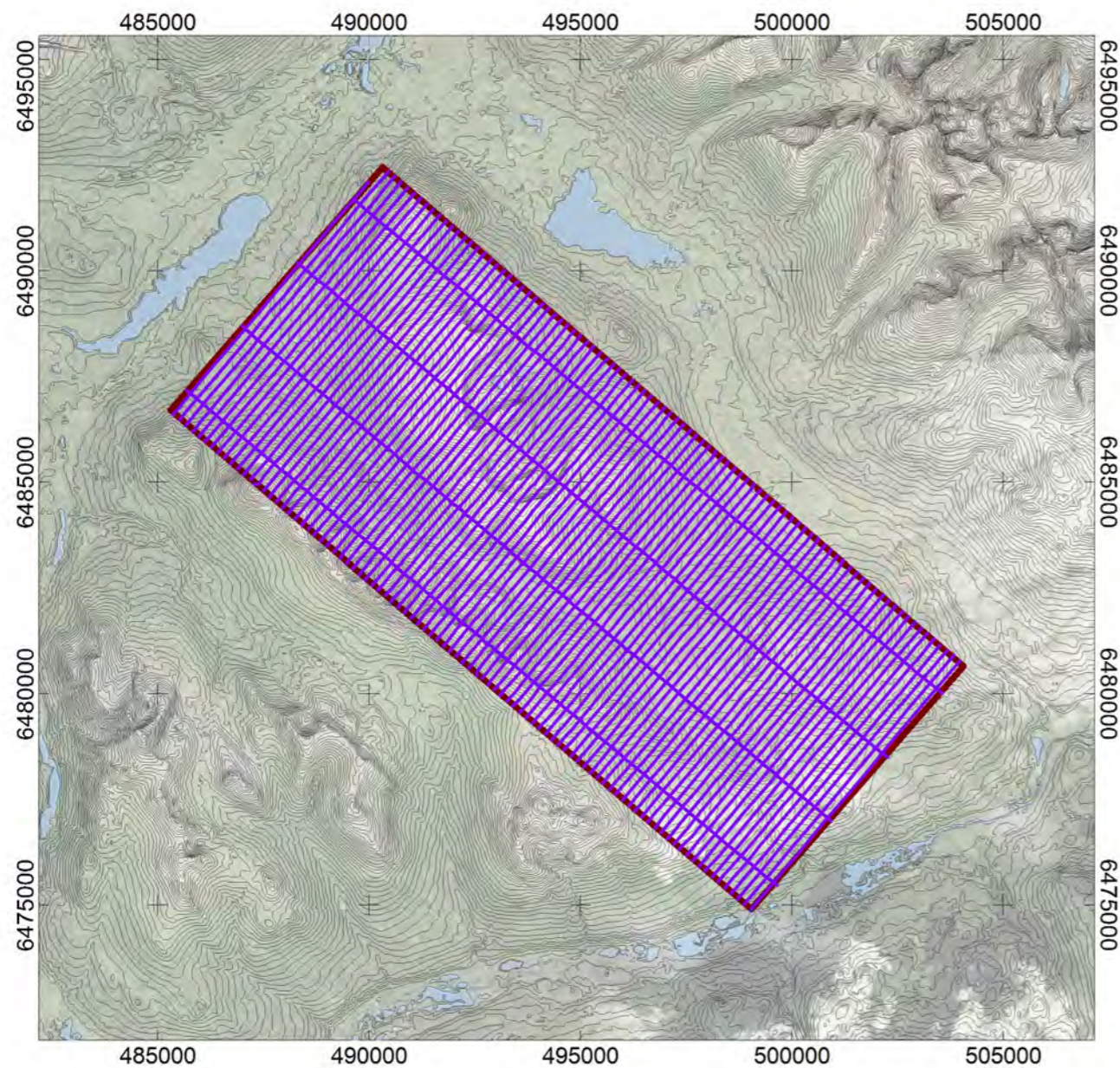
Map 14: Eaglehead survey block uranium over potassium ratio.



Map 15: Eaglehead survey block uranium over thorium ratio.



Map 16: Eaglehead survey block ternary map.



LEGEND

Map Projection:

Projection: Universal Transverse Mercator
Central Meridian: 231 Zone 9N
Datum: WGS 84



Survey Dates: July 18, 2014 to July 20, 2014
Survey Base: Dease Lake, BC
Helicopter Type: Eurocopter AS350
Registration: C-GOHK
Survey Technology: Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
Magnetometer: 40.0 meters
Radiometric: 40.0 meters
Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
Survey Line Direction: 040°-220°
Tie Line Spacing: 2000 meters
Tie Line Direction: 130°-310°

AIRBORNE SYSTEMS:

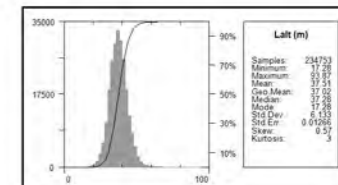
Scintrex CS-3 Magnetometer Sensor

Configuration: Stinger with 3 axis compensation
Sample Rate: 10 Hz
Sensitivity: 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
12.6 litres of NaI(Tl) synthetic "downward looking" crystals
and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz



Carmax Mining Corp.

Overview Map

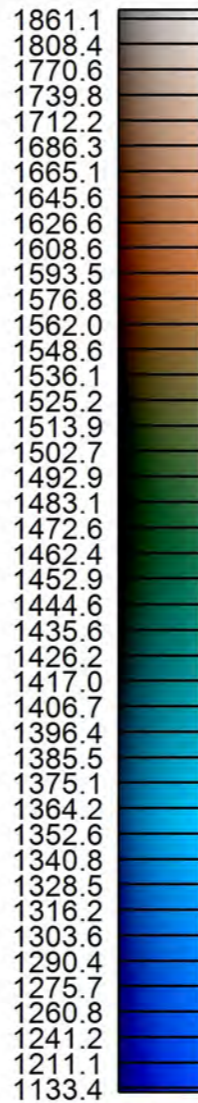
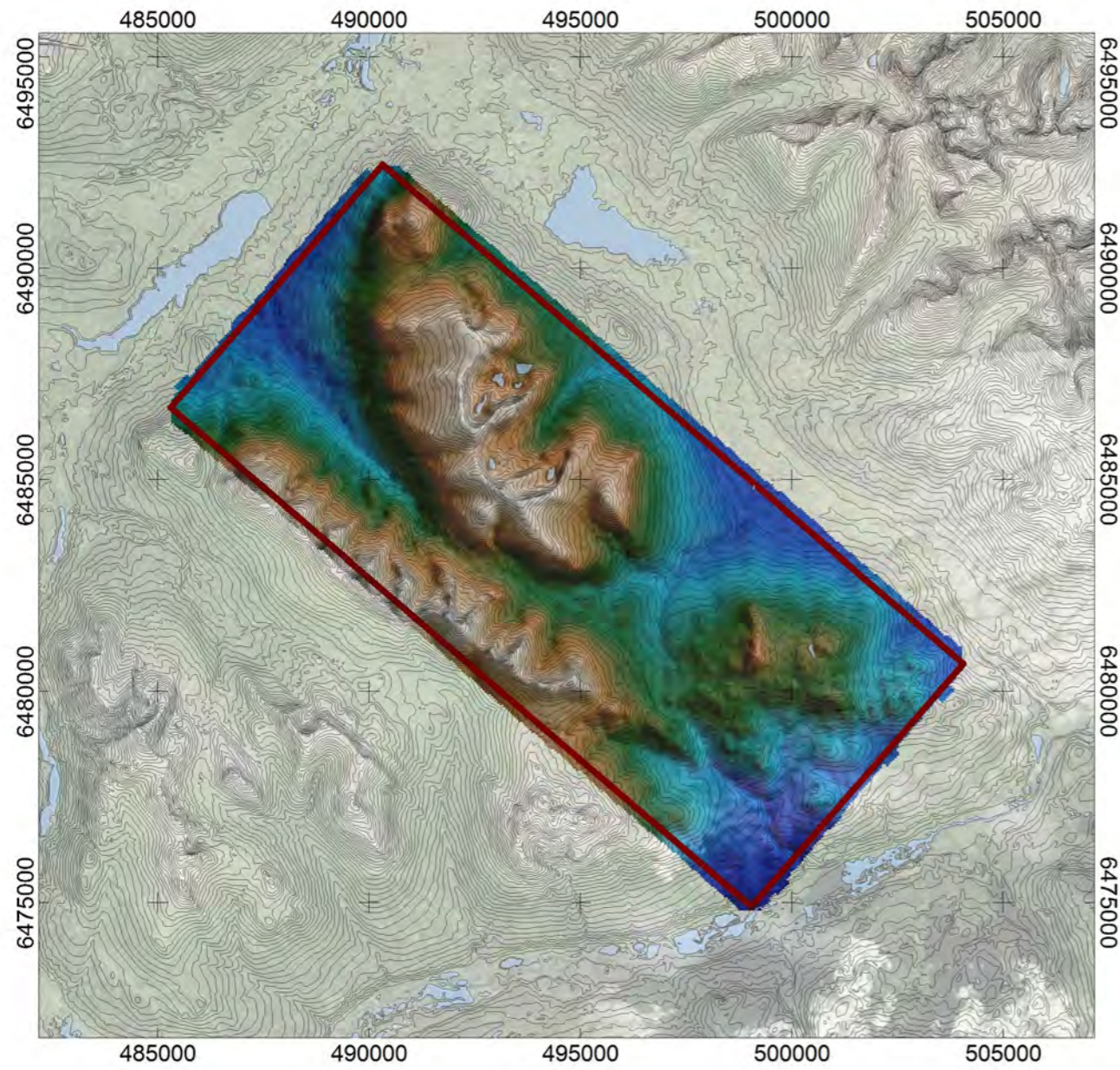
Eaglehead Survey Block

Actual Flight Lines

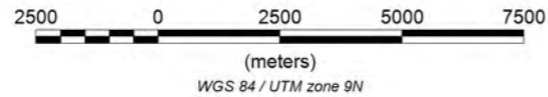
Created By: Precision GeoSurveys Inc.

July 24, 2014





DTM (m)



LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Survey Dates:
 Survey Base:
 Helicopter Type:
 Registration:
 Survey Technology:

July 18, 2014 to July 20, 2014
 Dease Lake, BC
 Eurocopter AS350
 C-GOHK
 Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter:
 Magnetometer:
 Radiometric:
 Actual Mean Terrain Clearance:

40.0 meters
 40.0 meters
 40.0 meters
 37.5 meters

Eaglehead Survey Block

Survey Line Spacing:
 Survey Line Direction:
 Tie Line Spacing:
 Tie Line Direction:

200 meters
 040°-220°
 2000 meters
 130°-310°

AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor

Configuration:
 Sample Rate:
 Sensitivity:

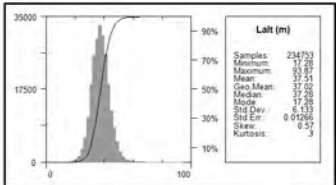
Stinger with 3 axis compensation
 10 Hz
 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate:

1 Hz

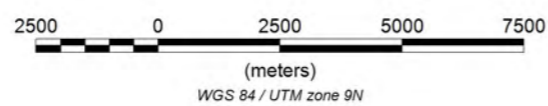
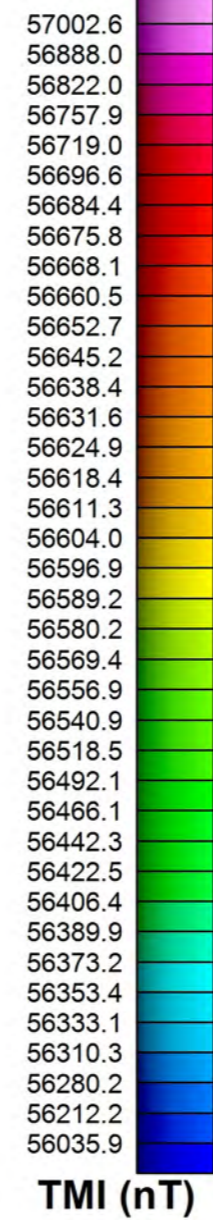
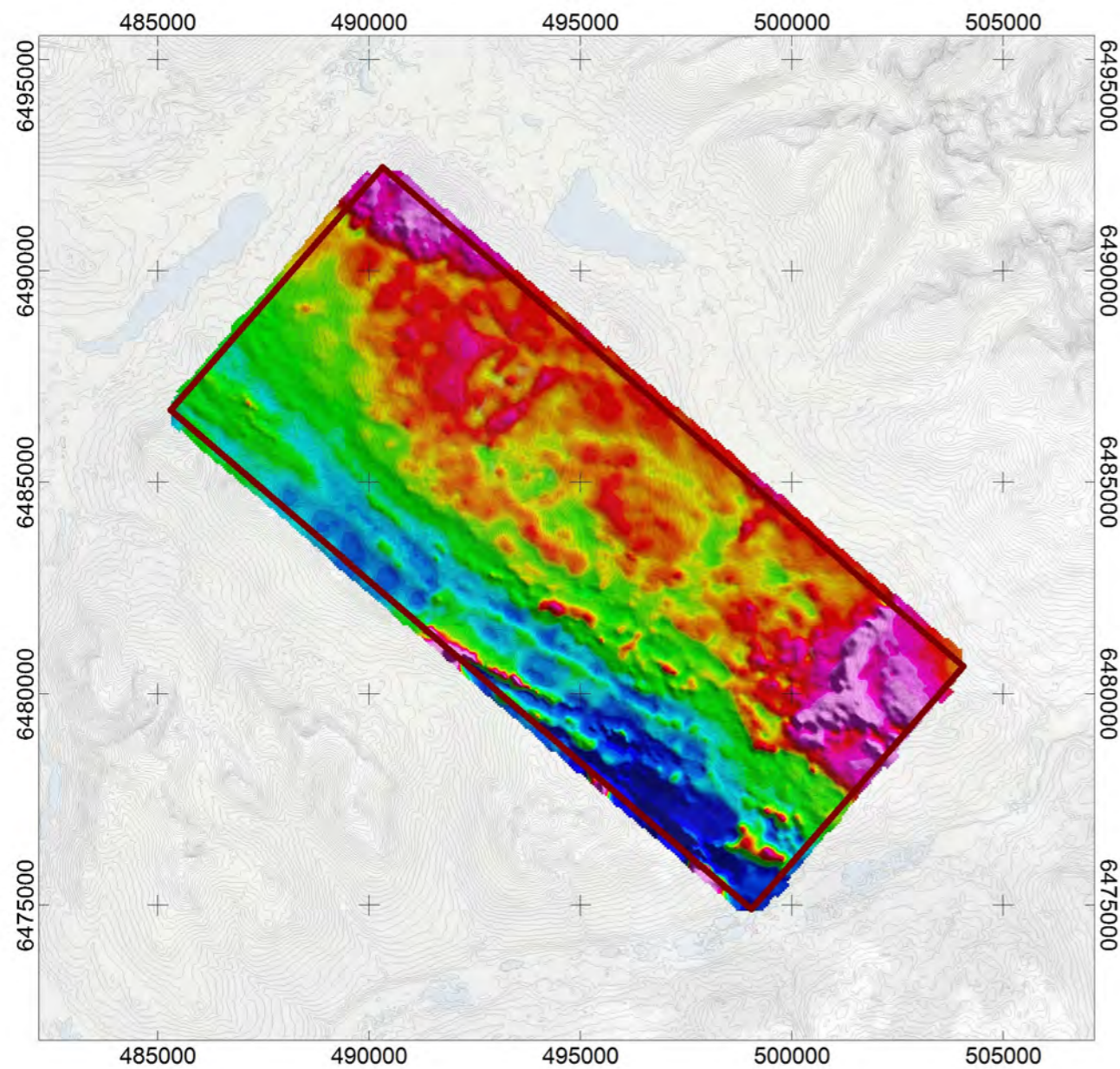


Carmax Mining Corp.

Overview Map

Eaglehead Survey Block
 Digital Terrain Model
 Created By: Precision GeoSurveys Inc.
 July 24, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
Central Meridian: 231 Zone 9N
Datum: WGS 84



Survey Dates:
Survey Base:
Helicopter Type:
Registration:
Survey Technology:

July 18, 2014 to July 20, 2014
Dease Lake, BC
Eurocopter AS350
C-GOHK
Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
Magnetometer: 40.0 meters
Radiometric: 40.0 meters
Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

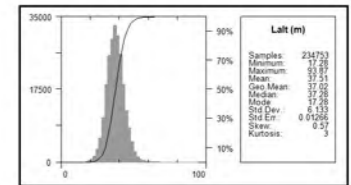
Survey Line Spacing: 200 meters
Survey Line Direction: 040°-220°
Tie Line Spacing: 2000 meters
Tie Line Direction: 130°-310°

AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor
Configuration: Stinger with 3 axis compensation
Sample Rate: 10 Hz
Sensitivity: 0.01 nT

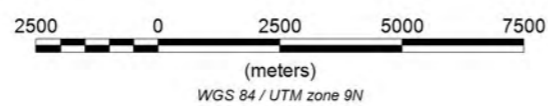
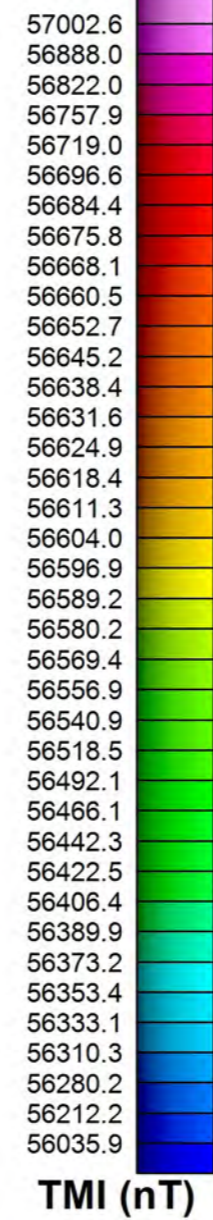
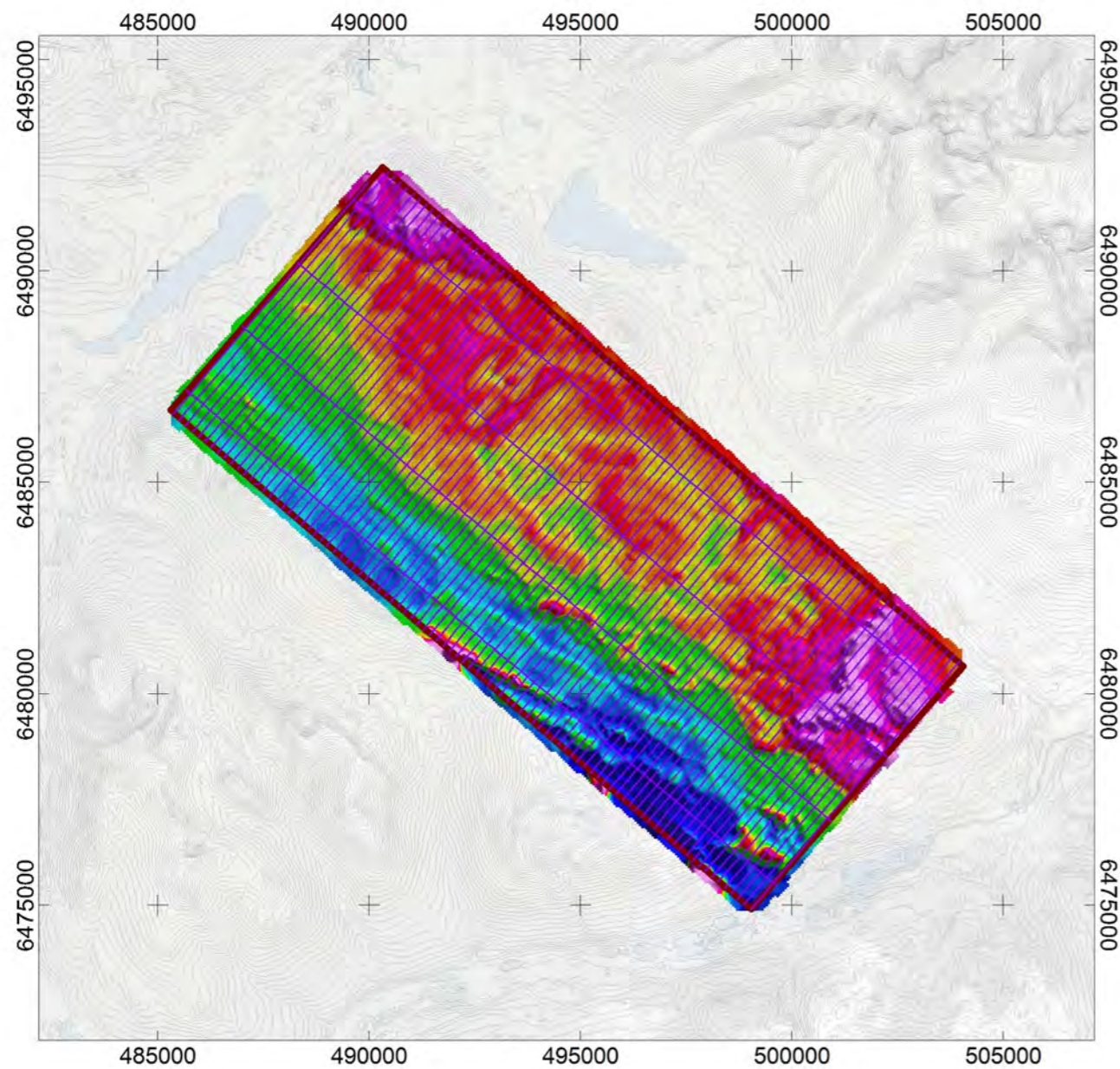
Gamma Ray Spectrometer
Pico Envirotec GRS-10 Gamma Spectrometer
12.6 litres of NaI(Tl) synthetic "downward looking" crystals
and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz



Carmax Mining Corp.
Magnetic Map
Eaglehead Survey Block
Total Magnetic Intensity
Created By: Precision GeoSurveys Inc.
July 24, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Survey Dates:
 Survey Base:
 Helicopter Type:
 Registration:
 Survey Technology:

July 18, 2014 to July 20, 2014
 Dease Lake, BC
 Eurocopter AS350
 C-GOHK
 Magnetic and Radiometric survey.

SURVEY PARAMETERS:

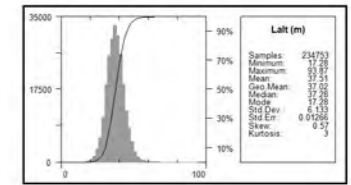
Helicopter: 40.0 meters
 Magnetometer: 40.0 meters
 Radiometric: 40.0 meters
 Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
 Survey Line Direction: 040°-220°
 Tie Line Spacing: 2000 meters
 Tie Line Direction: 130°-310°

AIRBORNE SYSTEMS:

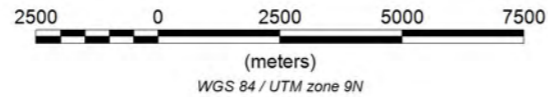
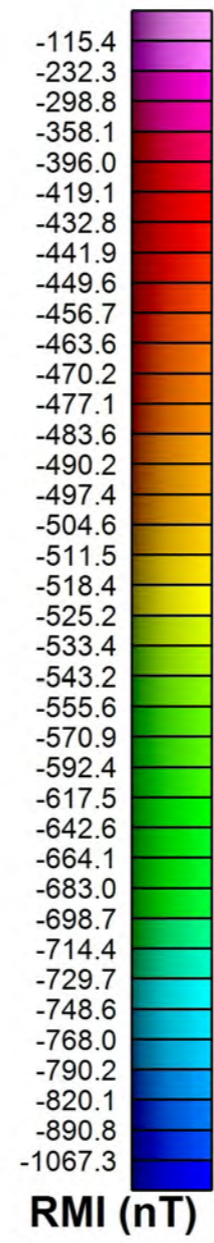
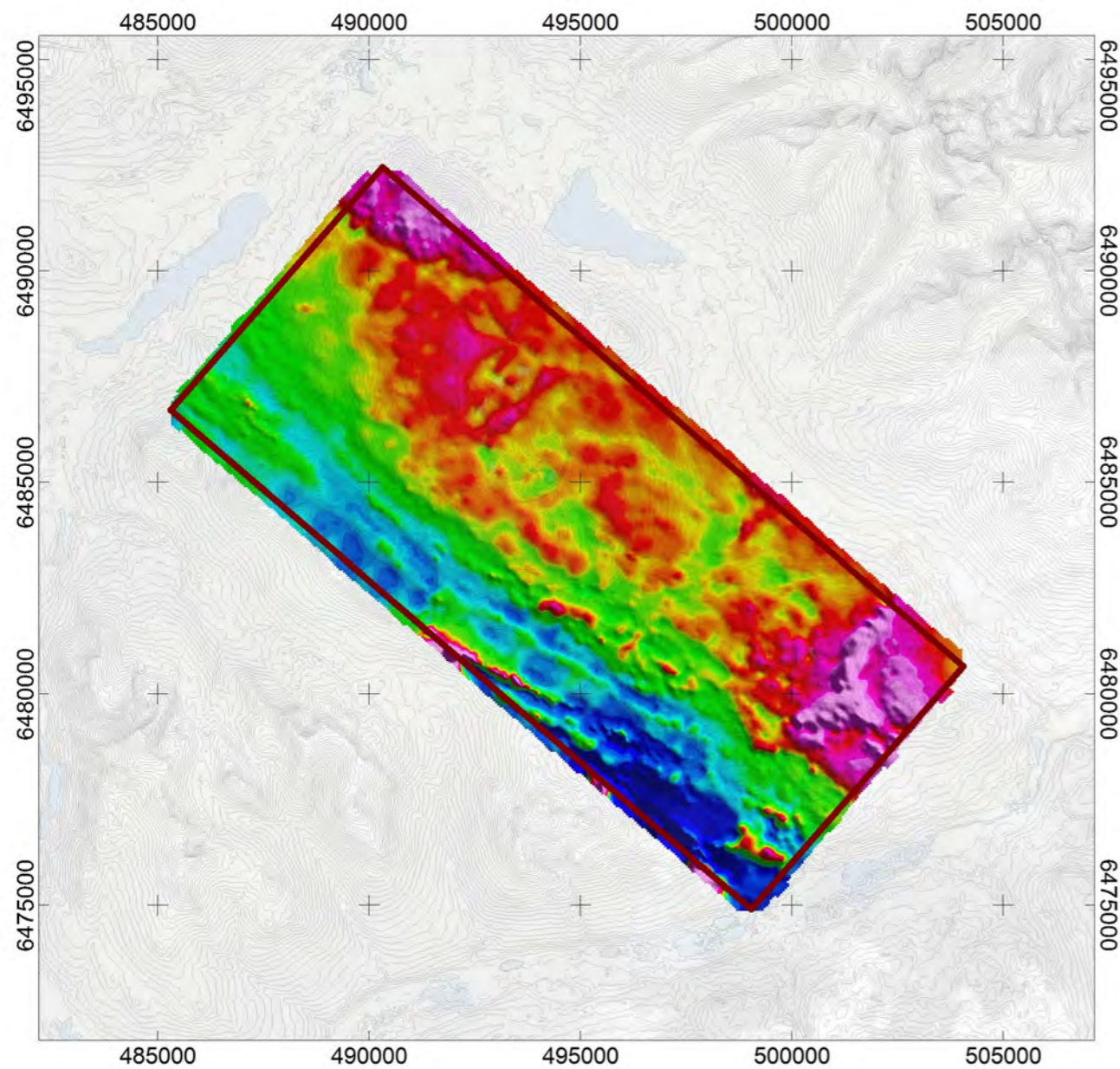
Scintrex CS-3 Magnetometer Sensor
 Configuration: Stinger with 3 axis compensation
 Sample Rate: 10 Hz
 Sensitivity: 0.01 nT
 Gamma Ray Spectrometer
 Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals
 Sample Rate: 1 Hz



Carmax Mining Corp.
Magnetic Map

Eaglehead Survey Block
 Total Magnetic Intensity with Flight Lines
 Created By: Precision GeoSurveys Inc.
 July 24, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
Central Meridian: 231 Zone 9N
Datum: WGS 84



Survey Dates:
Survey Base:
Helicopter Type:
Registration:
Survey Technology:

July 18, 2014 to July 20, 2014
Dease Lake, BC
Eurocopter AS350
C-GOHH
Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter:
Magnetometer:
Radiometric:
Actual Mean Terrain Clearance:

40.0 meters
40.0 meters
40.0 meters
37.5 meters

Eaglehead Survey Block

Survey Line Spacing:
Survey Line Direction:
Tie Line Spacing:
Tie Line Direction:

200 meters
040°-220°
2000 meters
130°-310°

AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor

Configuration:
Sample Rate:
Sensitivity:

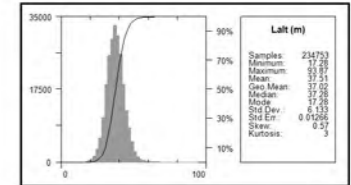
Stinger with 3 axis compensation
10 Hz
0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
12.6 litres of NaI(Tl) synthetic "downward looking" crystals
and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate:

1 Hz

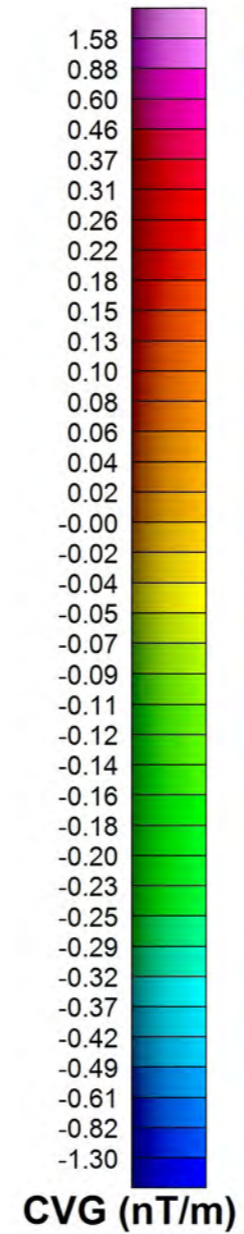
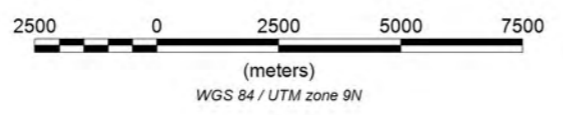
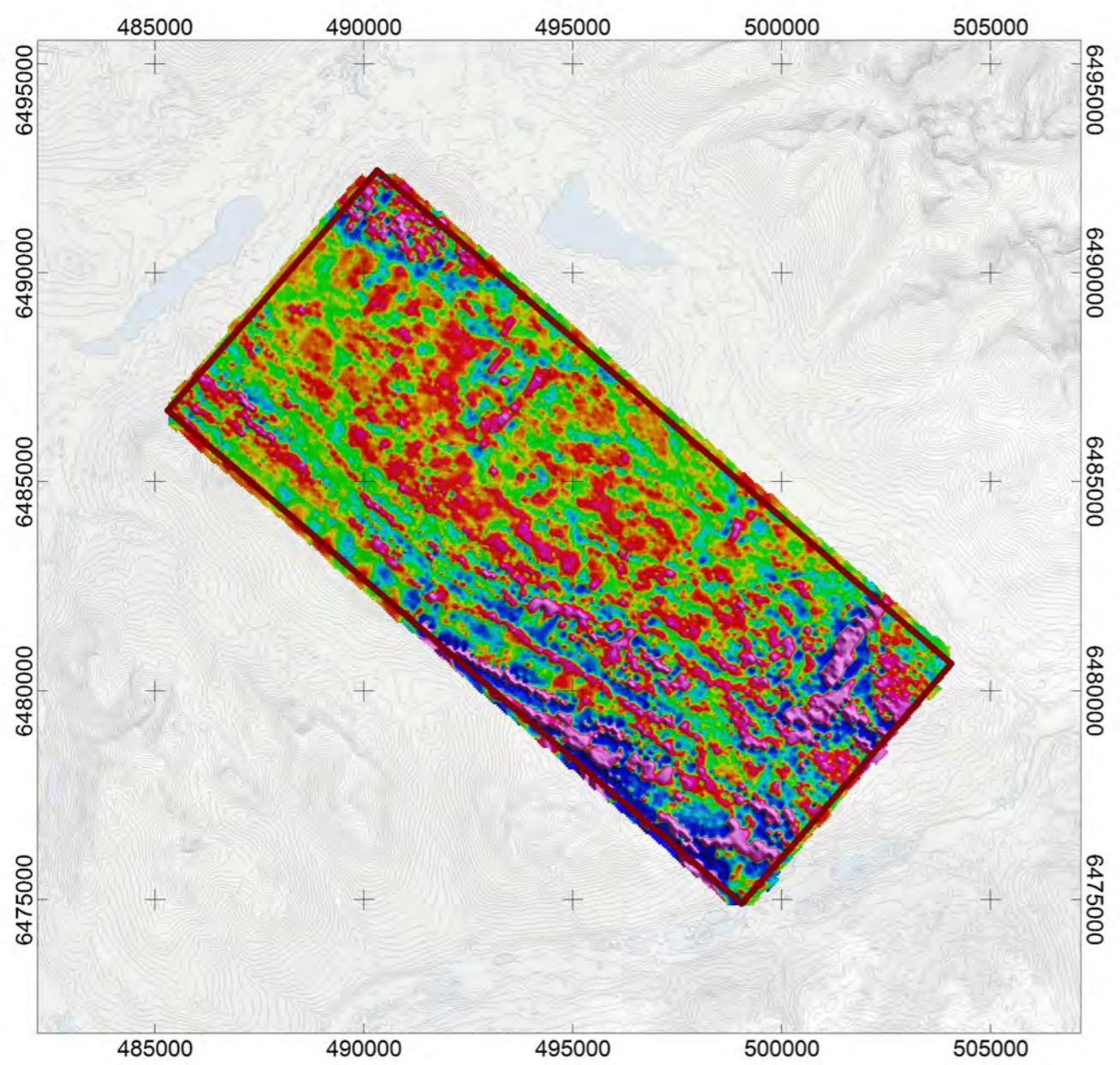


Carmax Mining Corp.

Magnetic Map

Eaglehead Survey Block
Residual Magnetic Intensity
Created By: Precision GeoSurveys Inc.
July 24, 2014

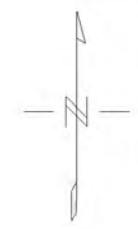




LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Survey Dates:
 Survey Base:
 Helicopter Type:
 Registration:
 Survey Technology:

July 18, 2014 to July 20, 2014
 Dease Lake, BC
 Eurocopter AS350
 C-GOHK
 Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter:
 Magnetometer:
 Radiometric:
 Actual Mean Terrain Clearance:

40.0 meters
 40.0 meters
 40.0 meters
 37.5 meters

Eaglehead Survey Block

Survey Line Spacing:
 Survey Line Direction:
 Tie Line Spacing:
 Tie Line Direction:

200 meters
 040°-220°
 2000 meters
 130°-310°

AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor

Configuration:
 Sample Rate:
 Sensitivity:

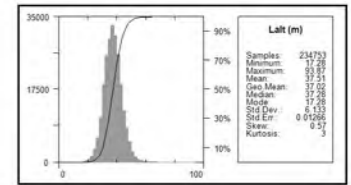
Stinger with 3 axis compensation
 10 Hz
 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate:

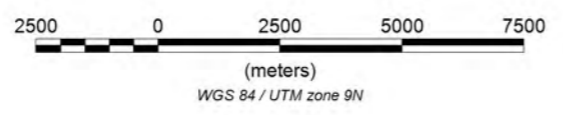
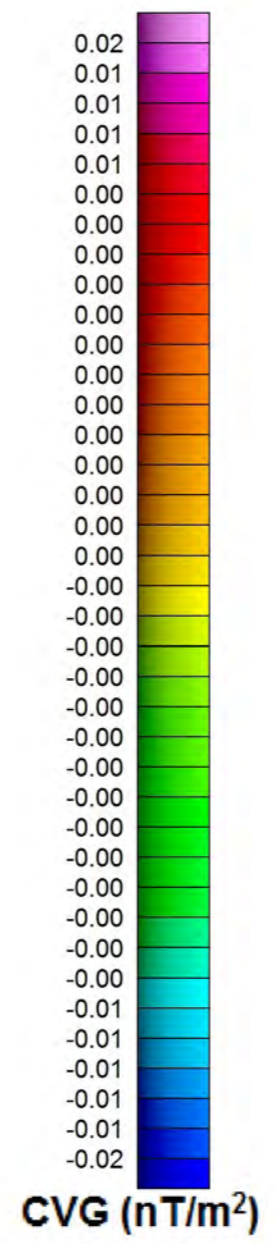
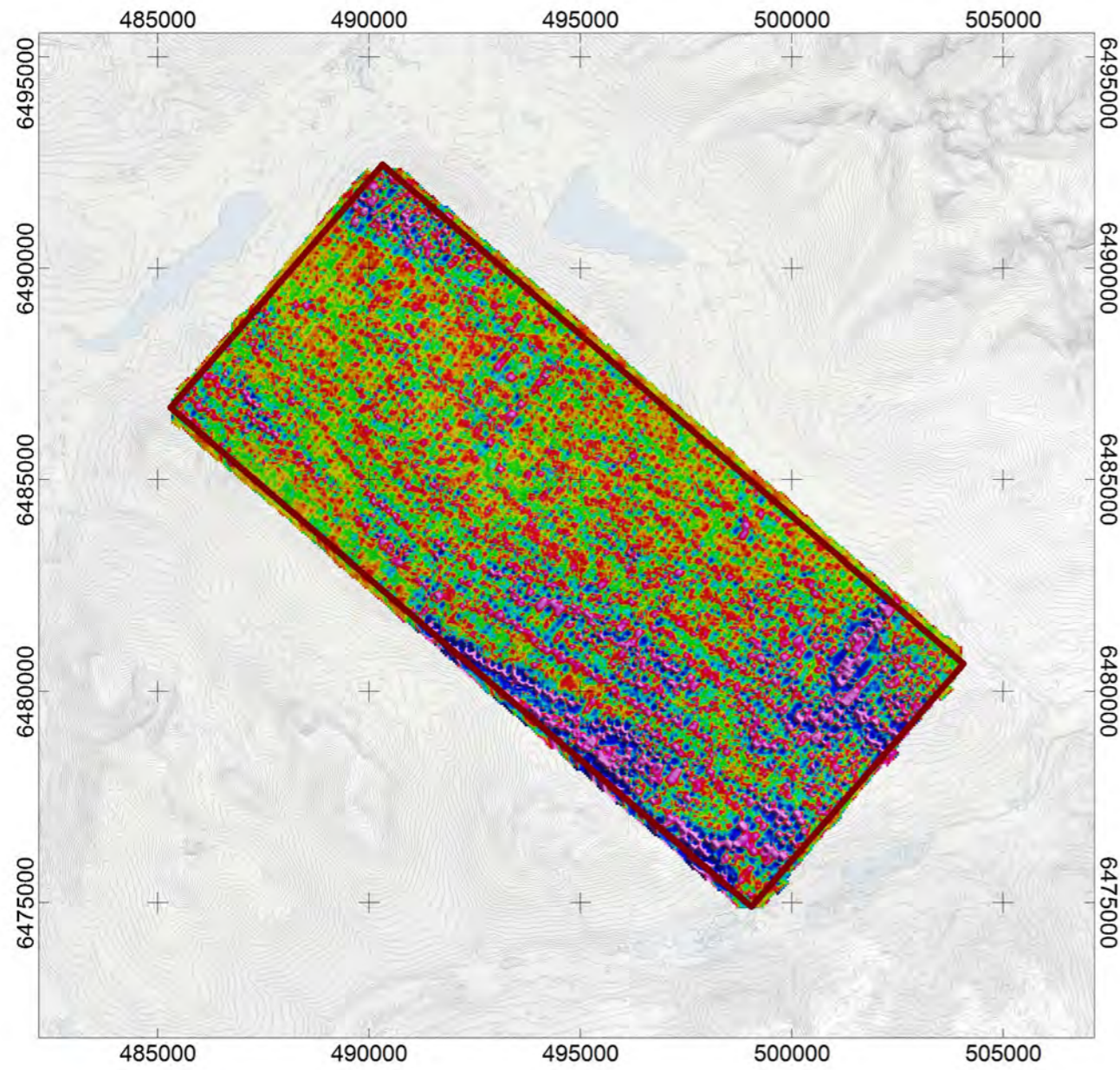
1 Hz



Carmax Mining Corp.
Magnetic Map

Eaglehead Survey Block
 Calculated First Vertical Derivative
 Created By: Precision GeoSurveys Inc.
 July 24, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Survey Dates:
Survey Base:
Helicopter Type:
Registration:
Survey Technology:

July 18, 2014 to July 20, 2014
 Dease Lake, BC
 Eurocopter AS350
 C-GOHK
 Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
 Magnetometer: 40.0 meters
 Radiometric: 40.0 meters
 Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
 Survey Line Direction: 040°-220°
 Tie Line Spacing: 2000 meters
 Tie Line Direction: 130°-310°

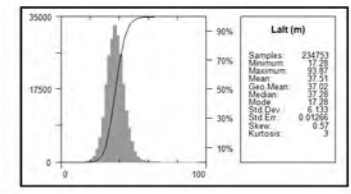
AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor
 Configuration: Stinger with 3 axis compensation
 Sample Rate: 10 Hz
 Sensitivity: 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz

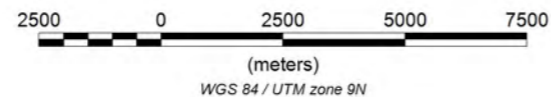
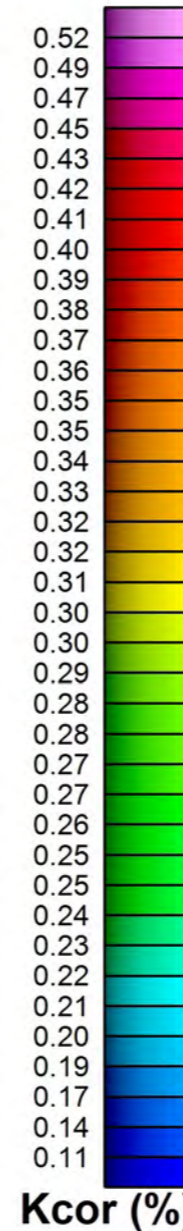
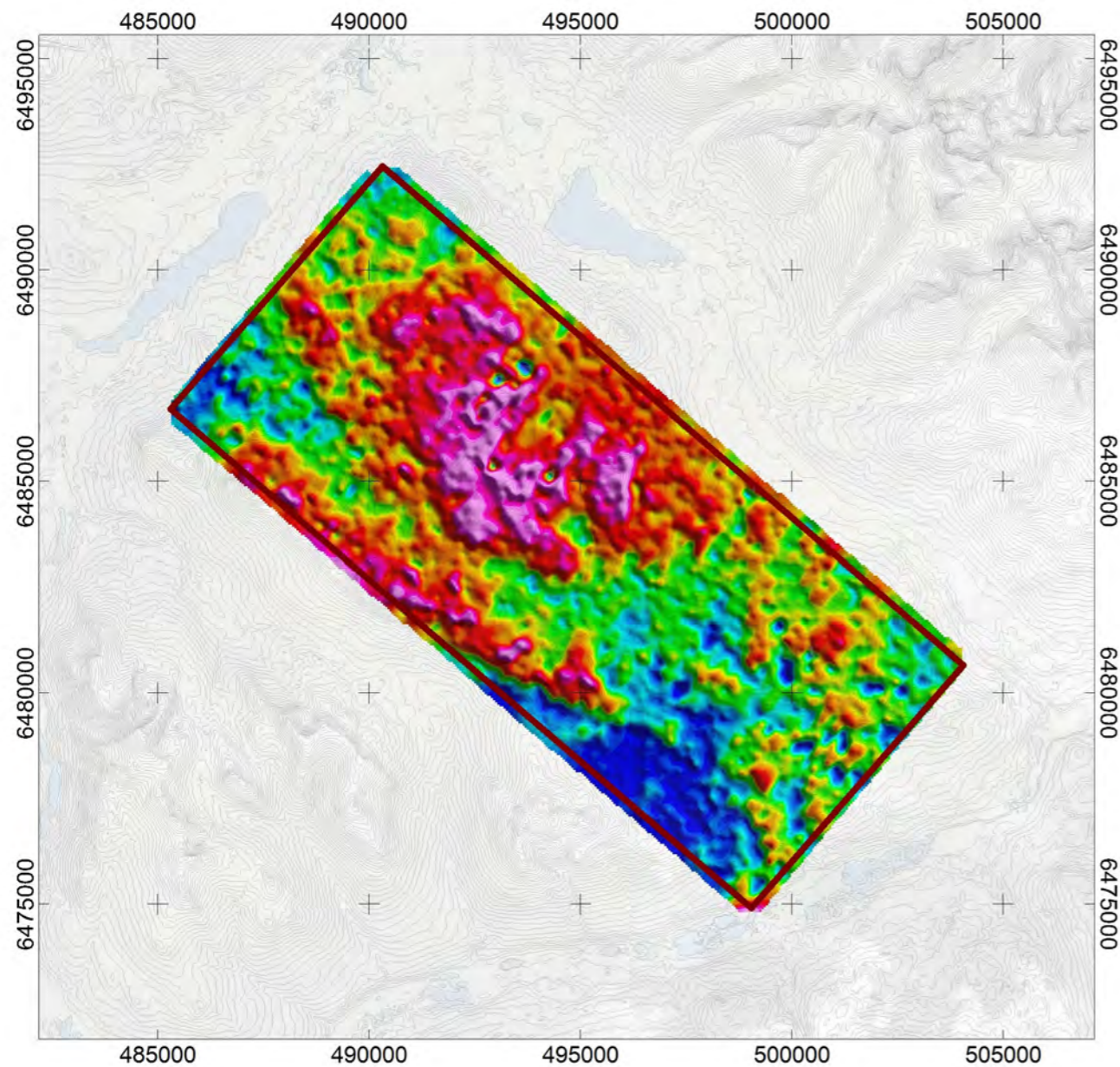


Carmax Mining Corp.

Magnetic Map

Eaglehead Survey Block
 Calculated Second Vertical Derivative
 Created By: Precision GeoSurveys Inc.
 July 24, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.

Survey Dates: July 18, 2014 to July 20, 2014
 Survey Base: Dease Lake, BC
 Helicopter Type: Eurocopter AS350
 Registration: C-GOHK
 Survey Technology: Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
 Magnetometer: 40.0 meters
 Radiometric: 40.0 meters
 Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
 Survey Line Direction: 040°-220°
 Tie Line Spacing: 2000 meters
 Tie Line Direction: 130°-310°

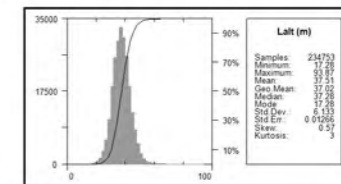
AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor
 Configuration: Stinger with 3 axis compensation
 Sample Rate: 10 Hz
 Sensitivity: 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz

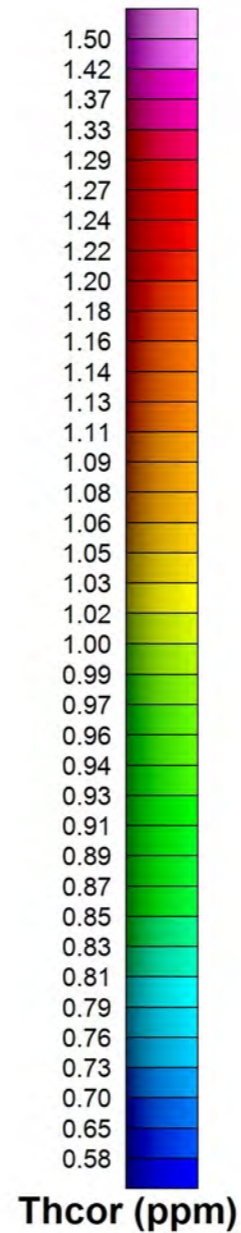
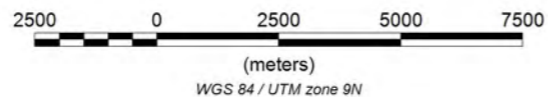
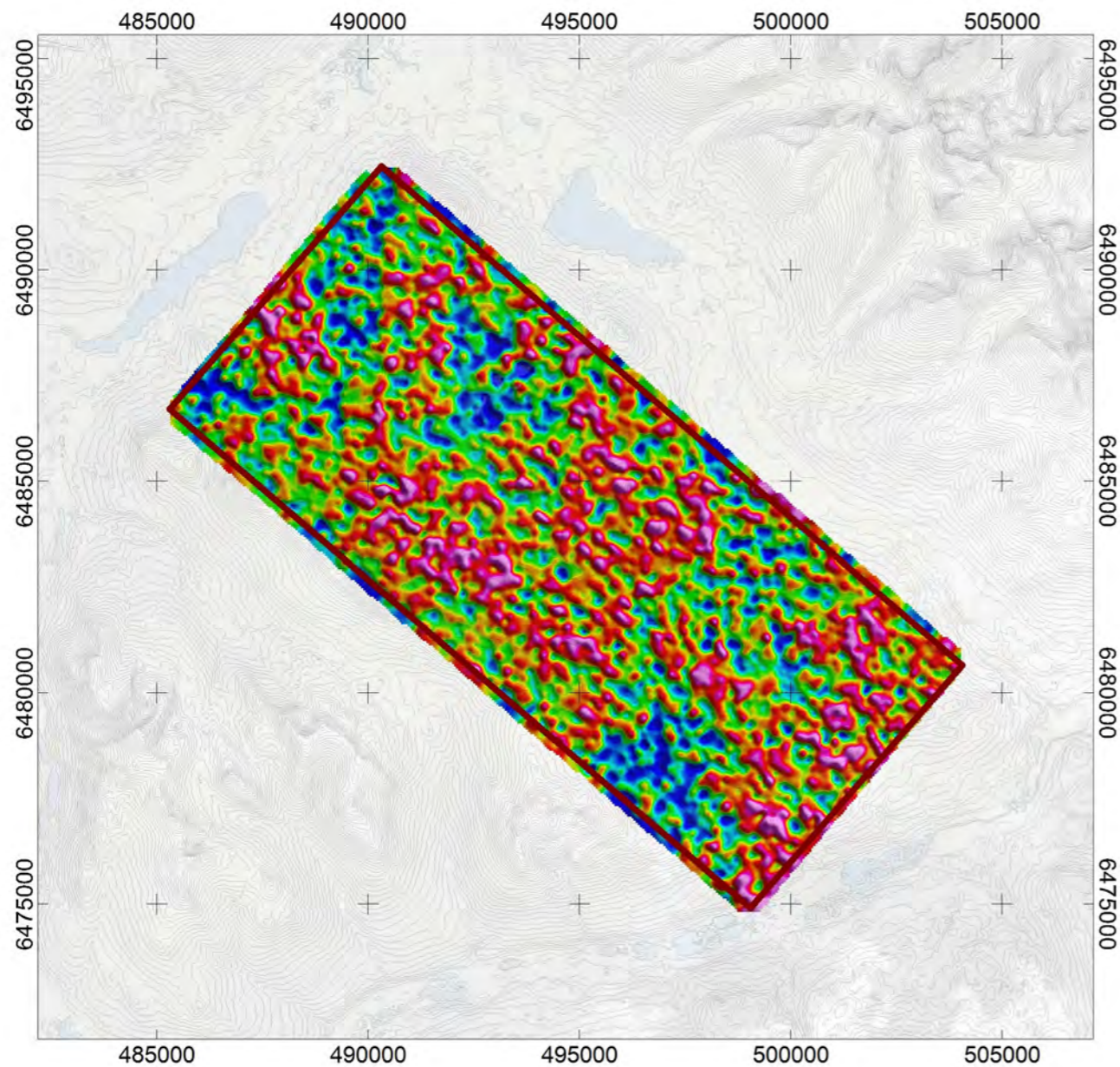


Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
 Potassium - Equivalent Concentration
 Created By: Precision GeoSurveys Inc.
 July 28, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.

Survey Dates: July 18, 2014 to July 20, 2014
 Survey Base: Dease Lake, BC
 Helicopter Type: Eurocopter AS350
 Registration: C-GOJK
 Survey Technology: Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
 Magnetometer: 40.0 meters
 Radiometric: 40.0 meters
 Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
 Survey Line Direction: 040°-220°
 Tie Line Spacing: 2000 meters
 Tie Line Direction: 130°-310°

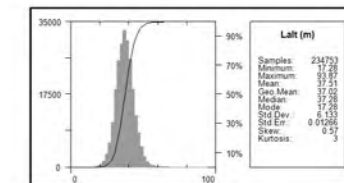
AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor
 Configuration: Stinger with 3 axis compensation
 Sample Rate: 10 Hz
 Sensitivity: 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz

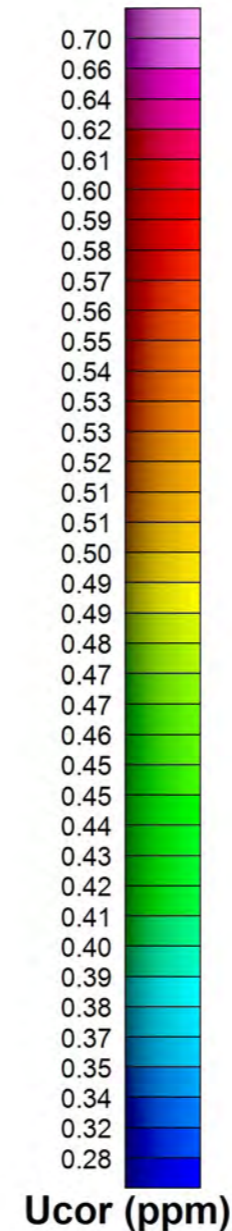
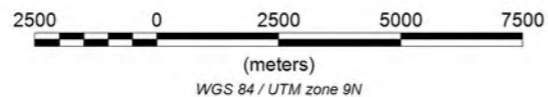
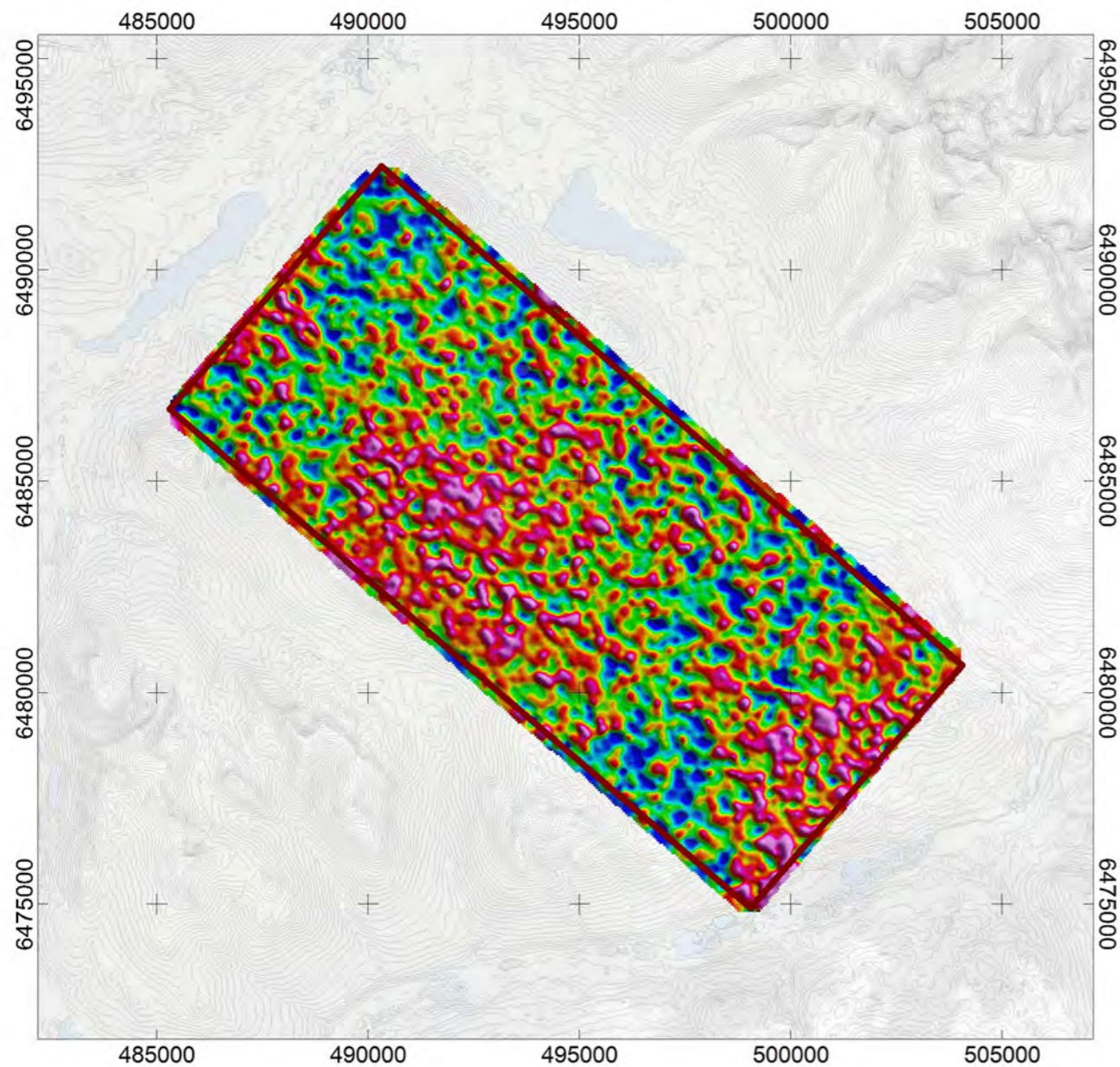


Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
 Thorium - Equivalent Concentration
 Created By: Precision GeoSurveys Inc.
 July 28, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.

Survey Dates: July 18, 2014 to July 20, 2014
 Survey Base: Dease Lake, BC
 Helicopter Type: Eurocopter AS350
 Registration: C-GOHK
 Survey Technology: Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
 Magnetometer: 40.0 meters
 Radiometric: 40.0 meters
 Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
 Survey Line Direction: 040°-220°
 Tie Line Spacing: 2000 meters
 Tie Line Direction: 130°-310°

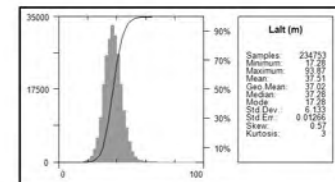
AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor
 Configuration: Stinger with 3 axis compensation
 Sample Rate: 10 Hz
 Sensitivity: 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz

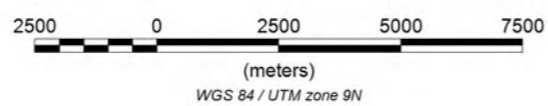
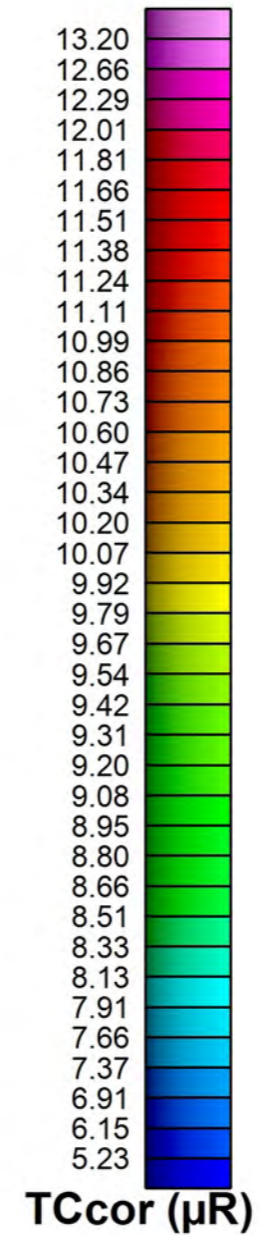
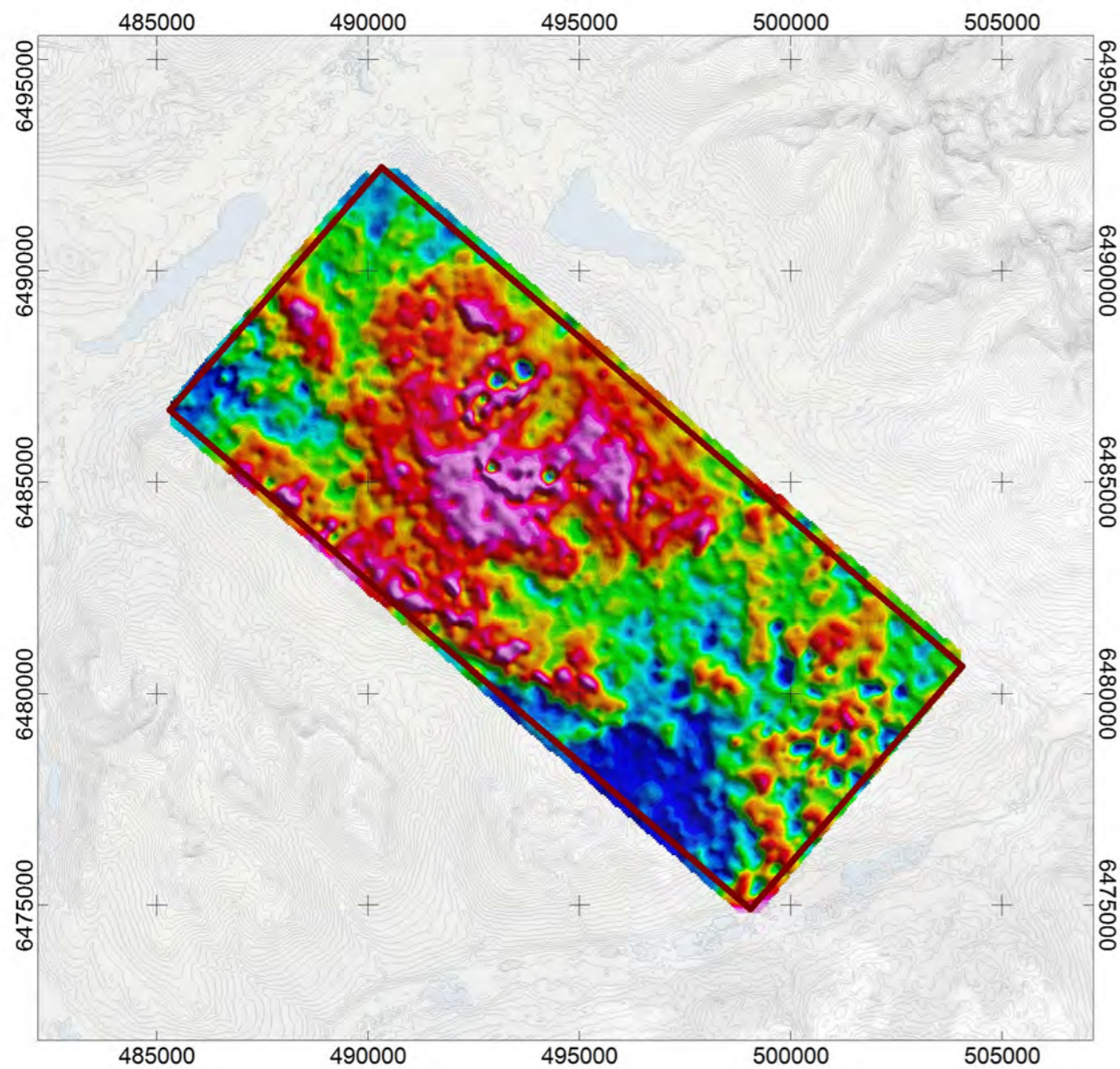


Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
 Uranium - Equivalent Concentration
 Created By: Precision GeoSurveys Inc.
 July 28, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
Central Meridian: 231 Zone 9N
Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.

Survey Dates:

July 18, 2014 to July 20, 2014
Dease Lake, BC
Eurocopter AS350
C-GOHK
Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
Magnetometer: 40.0 meters
Radiometric: 40.0 meters
Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
Survey Line Direction: 040°-220°
Tie Line Spacing: 2000 meters
Tie Line Direction: 130°-310°

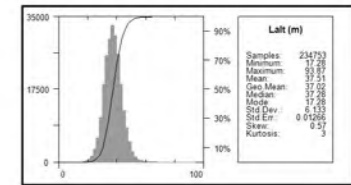
AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor
Configuration: Stinger with 3 axis compensation
Sample Rate: 10 Hz
Sensitivity: 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
12.6 litres of NaI(Tl) synthetic "downward looking" crystals
and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz

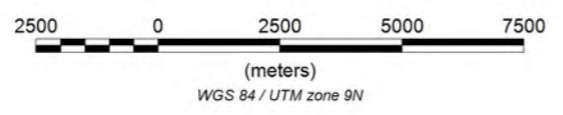
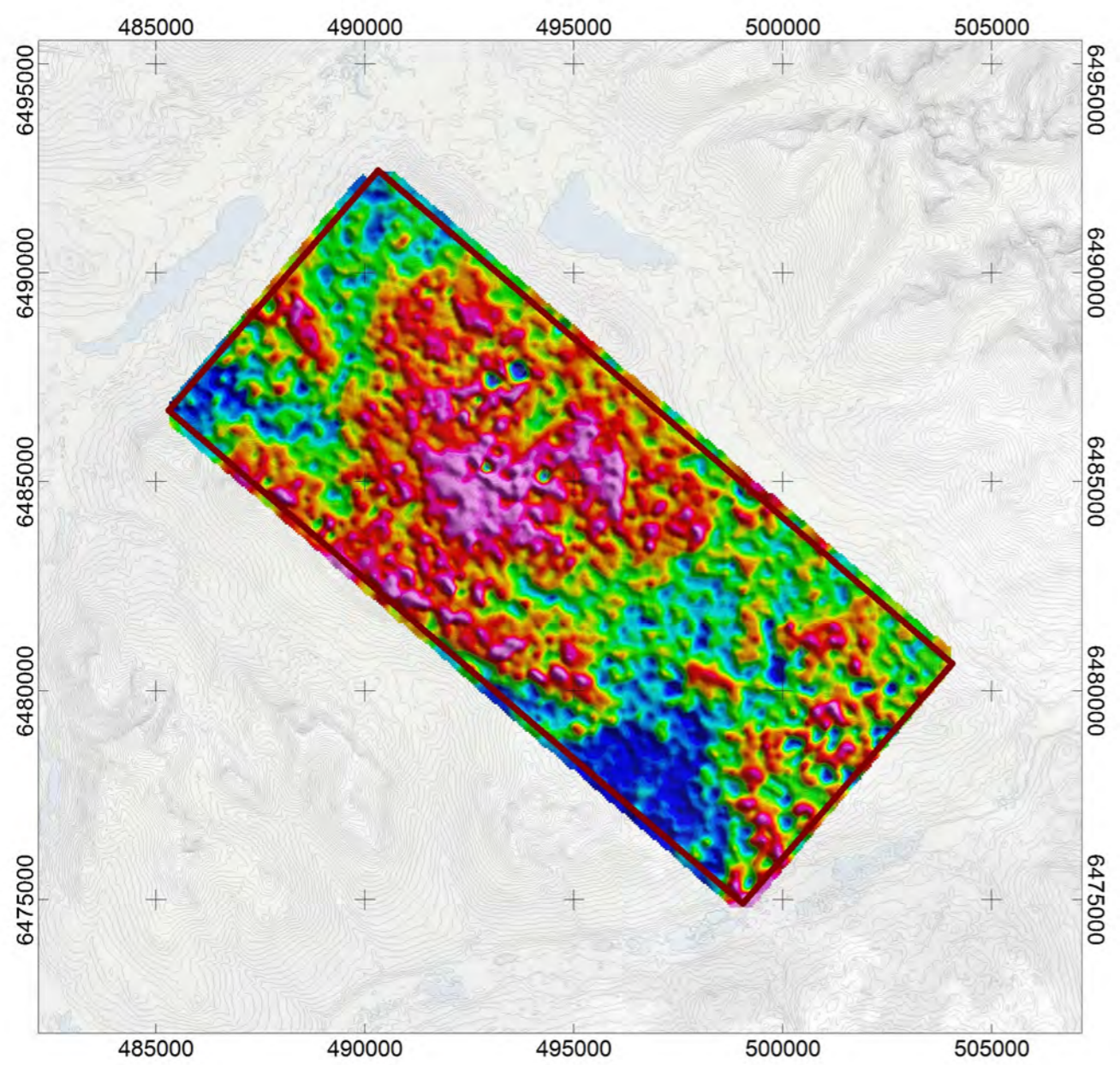


Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
Total Count - Equivalent Dose Rate
Created By: Precision GeoSurveys Inc.
July 28, 2014





TCexp (µR/Hr)

LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.

Survey Dates:
 Survey Base:
 Helicopter Type:
 Registration:
 Survey Technology:

July 18, 2014 to July 20, 2014
 Dease Lake, BC
 Eurocopter AS350
 C-GOHK
 Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter:
 Magnetometer:
 Radiometric:
 Actual Mean Terrain Clearance:

40.0 meters
 40.0 meters
 40.0 meters
 37.5 meters

Eaglehead Survey Block

Survey Line Spacing:
 Survey Line Direction:
 Tie Line Spacing:
 Tie Line Direction:

200 meters
 040°-220°
 2000 meters
 130°-310°

AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor

Configuration:
 Sample Rate:
 Sensitivity:

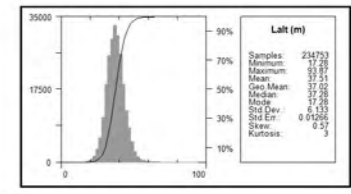
Stinger with 3 axis compensation
 10 Hz
 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate:

1 Hz

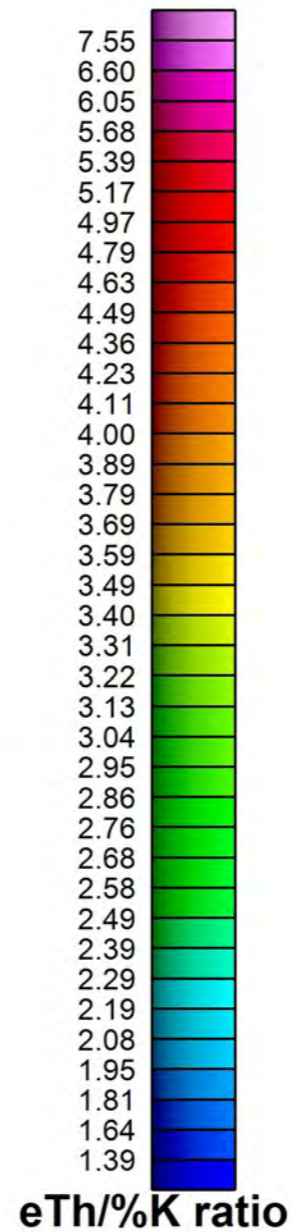
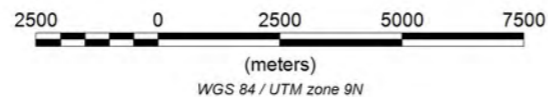
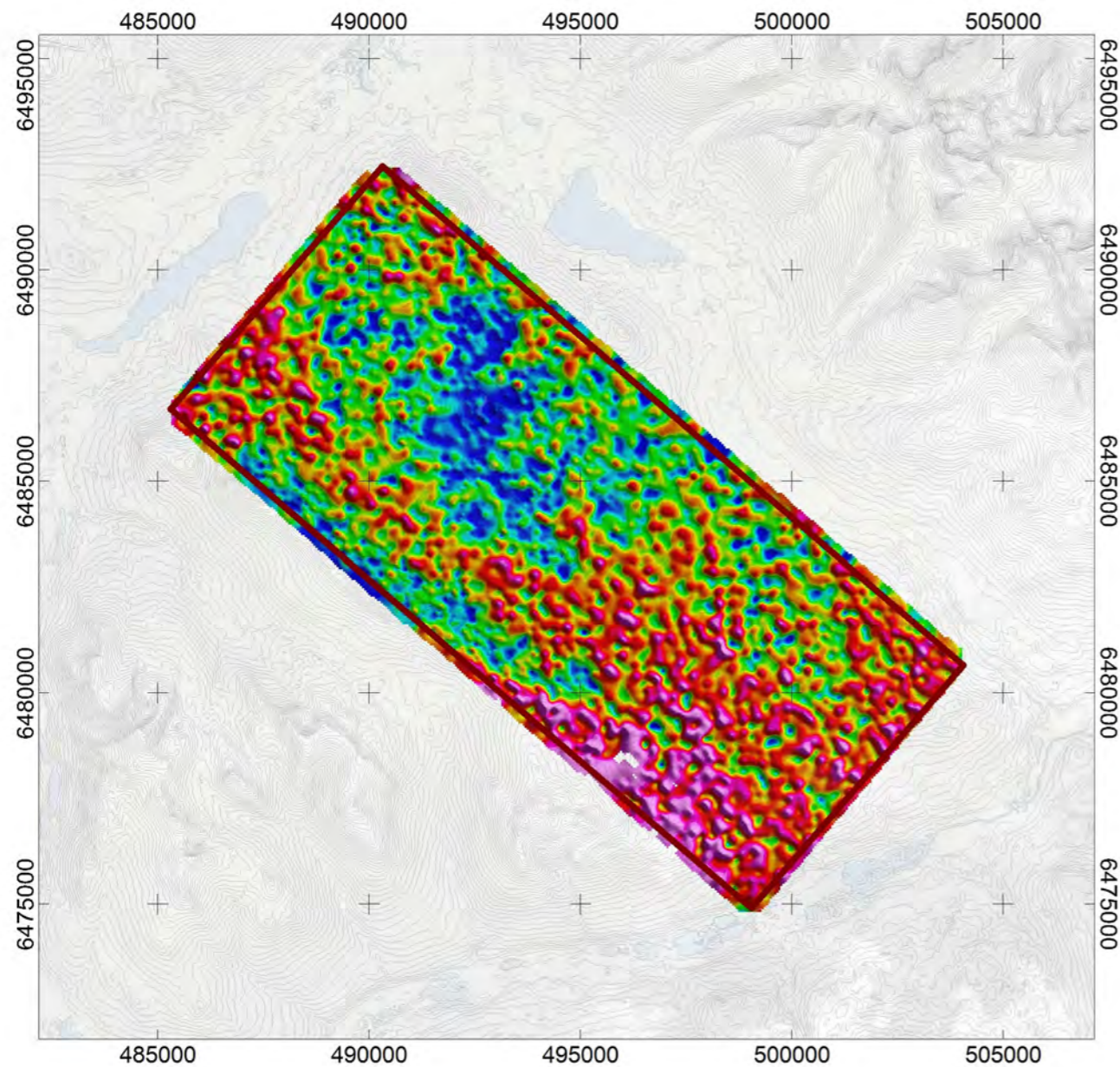


Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
 Total Count - Exposure Rate
 Created By: Precision GeoSurveys Inc.
 July 28, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.

Survey Dates: July 18, 2014 to July 20, 2014
 Survey Base: Dease Lake, BC
 Helicopter Type: Eurocopter AS350
 Registration: C-GOHK
 Survey Technology: Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
 Magnetometer: 40.0 meters
 Radiometric: 40.0 meters
 Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
 Survey Line Direction: 040°-220°
 Tie Line Spacing: 2000 meters
 Tie Line Direction: 130°-310°

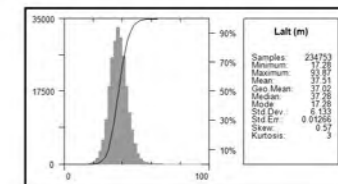
AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor
 Configuration: Stinger with 3 axis compensation
 Sample Rate: 10 Hz
 Sensitivity: 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz

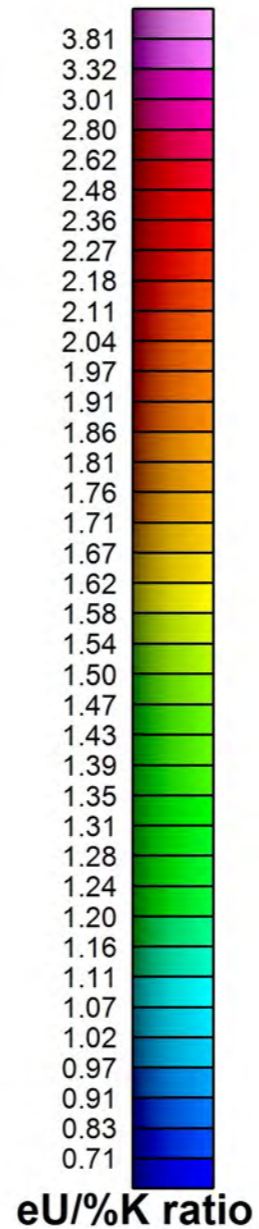
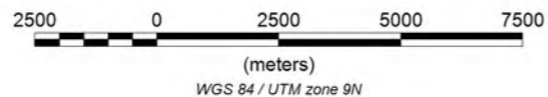
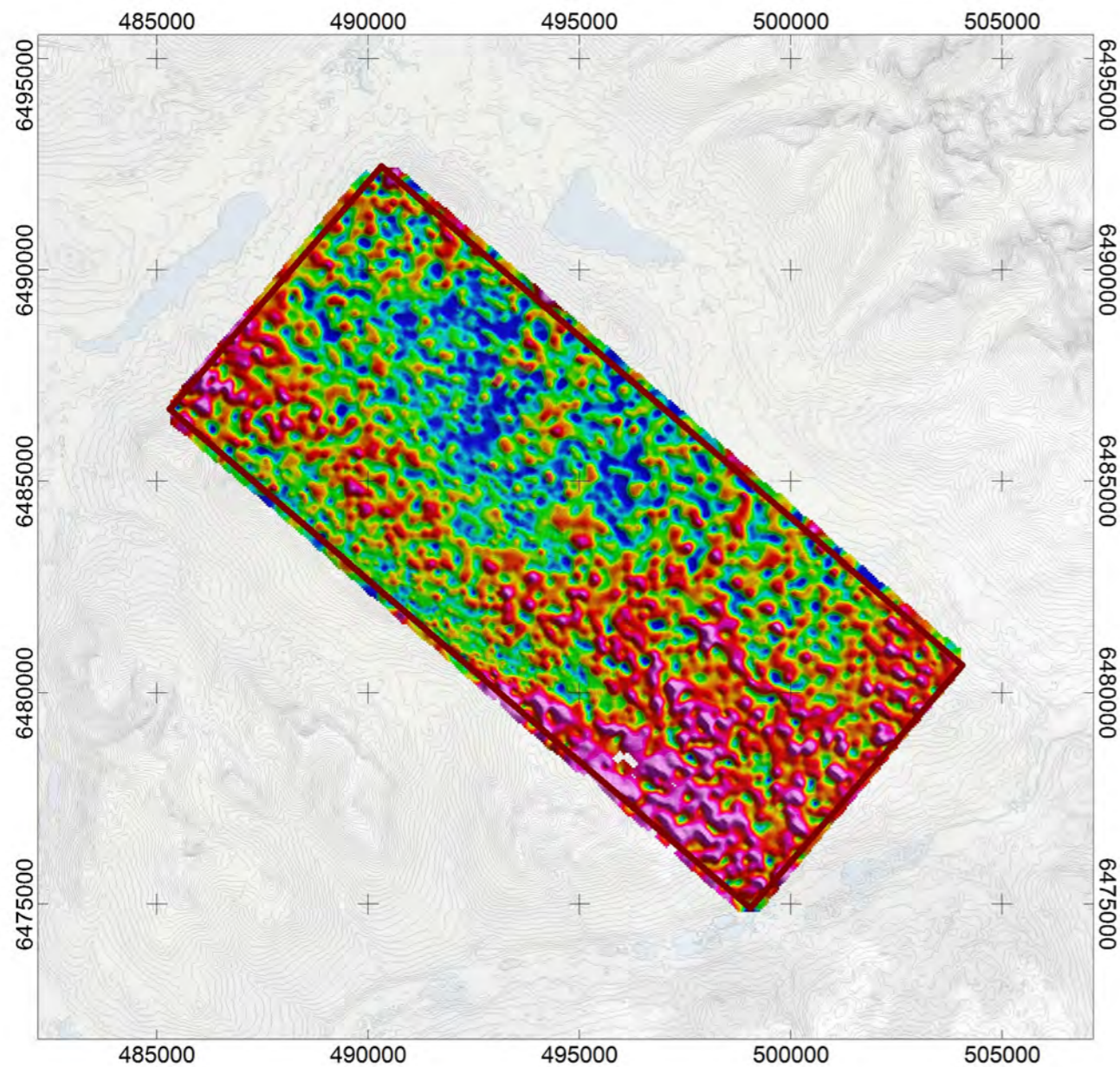


Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
 Thorium over Potassium Ratio
 Created By: Precision GeoSurveys Inc.
 July 28, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.

Survey Dates:
Survey Base:
Helicopter Type:
Registration:
Survey Technology:

July 18, 2014 to July 20, 2014
 Dease Lake, BC
 Eurocopter AS350
 C-GOHK
 Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter: 40.0 meters
 Magnetometer: 40.0 meters
 Radiometric: 40.0 meters
 Actual Mean Terrain Clearance: 37.5 meters

Eaglehead Survey Block

Survey Line Spacing: 200 meters
 Survey Line Direction: 040°-220°
 Tie Line Spacing: 2000 meters
 Tie Line Direction: 130°-310°

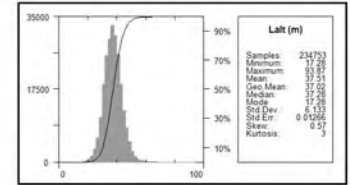
AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor
 Configuration: Stinger with 3 axis compensation
 Sample Rate: 10 Hz
 Sensitivity: 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate: 1 Hz

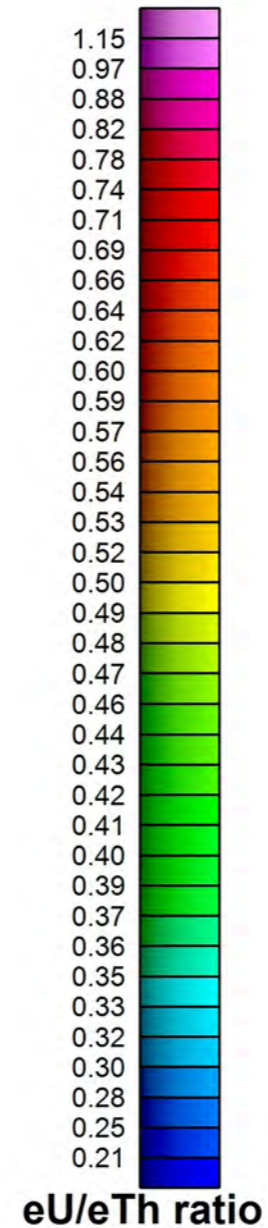
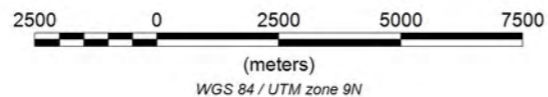
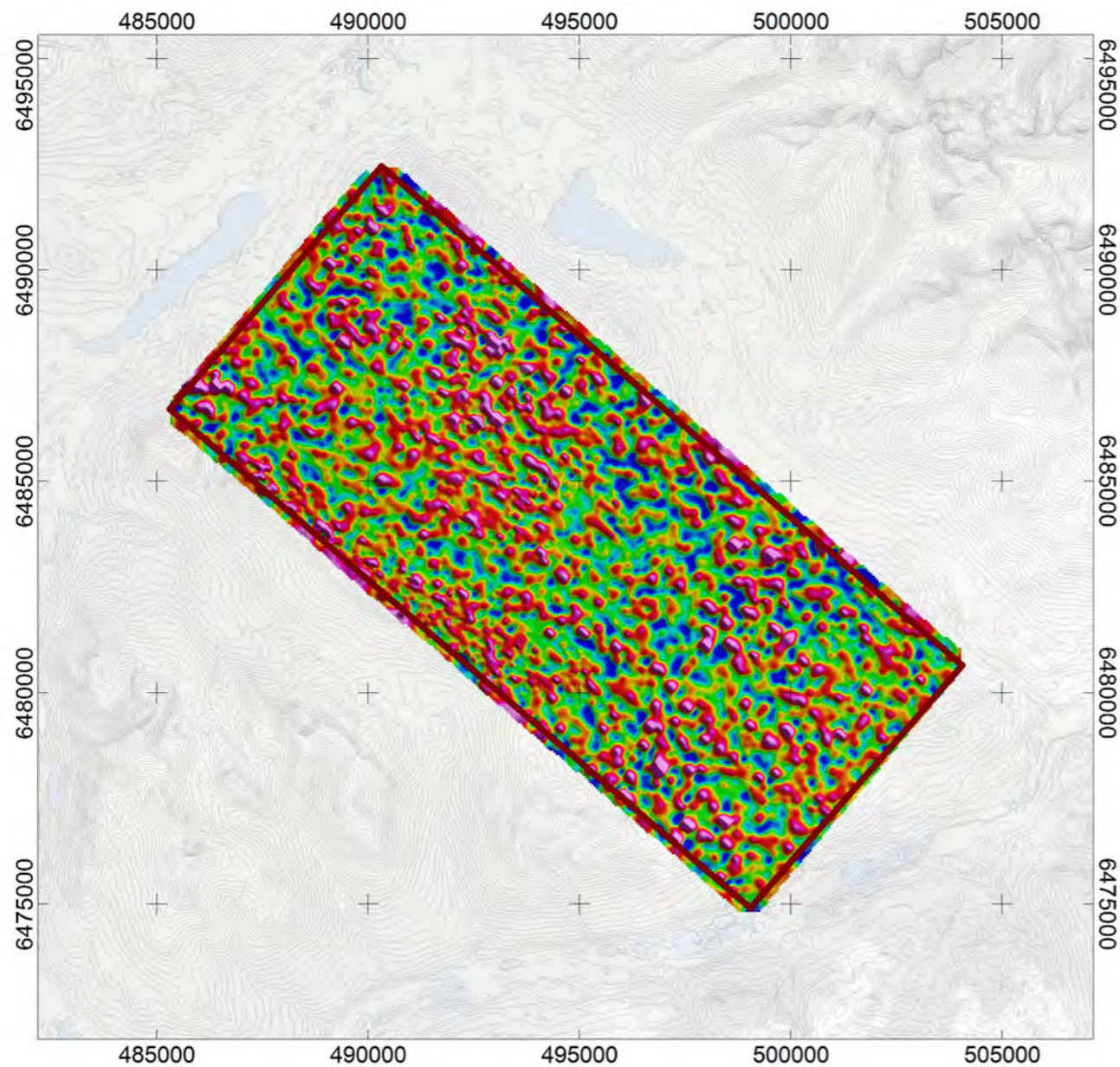


Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
 Uranium over Potassium Ratio
 Created By: Precision GeoSurveys Inc.
 July 28, 2014





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.

Survey Dates:

Survey Base:
 Helicopter Type:
 Registration:
 Survey Technology:

July 18, 2014 to July 20, 2014
 Dease Lake, BC
 Eurocopter AS350
 C-GOHK
 Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter:
 Magnetometer:
 Radiometric:
 Actual Mean Terrain Clearance:

40.0 meters
 40.0 meters
 40.0 meters
 37.5 meters

Eaglehead Survey Block

Survey Line Spacing:
 Survey Line Direction:
 Tie Line Spacing:
 Tie Line Direction:

200 meters
 040°-220°
 2000 meters
 130°-310°

AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor

Configuration:
 Sample Rate:
 Sensitivity:

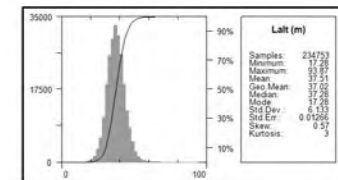
Stinger with 3 axis compensation
 10 Hz
 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate:

1 Hz

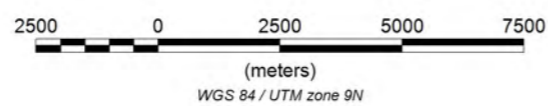
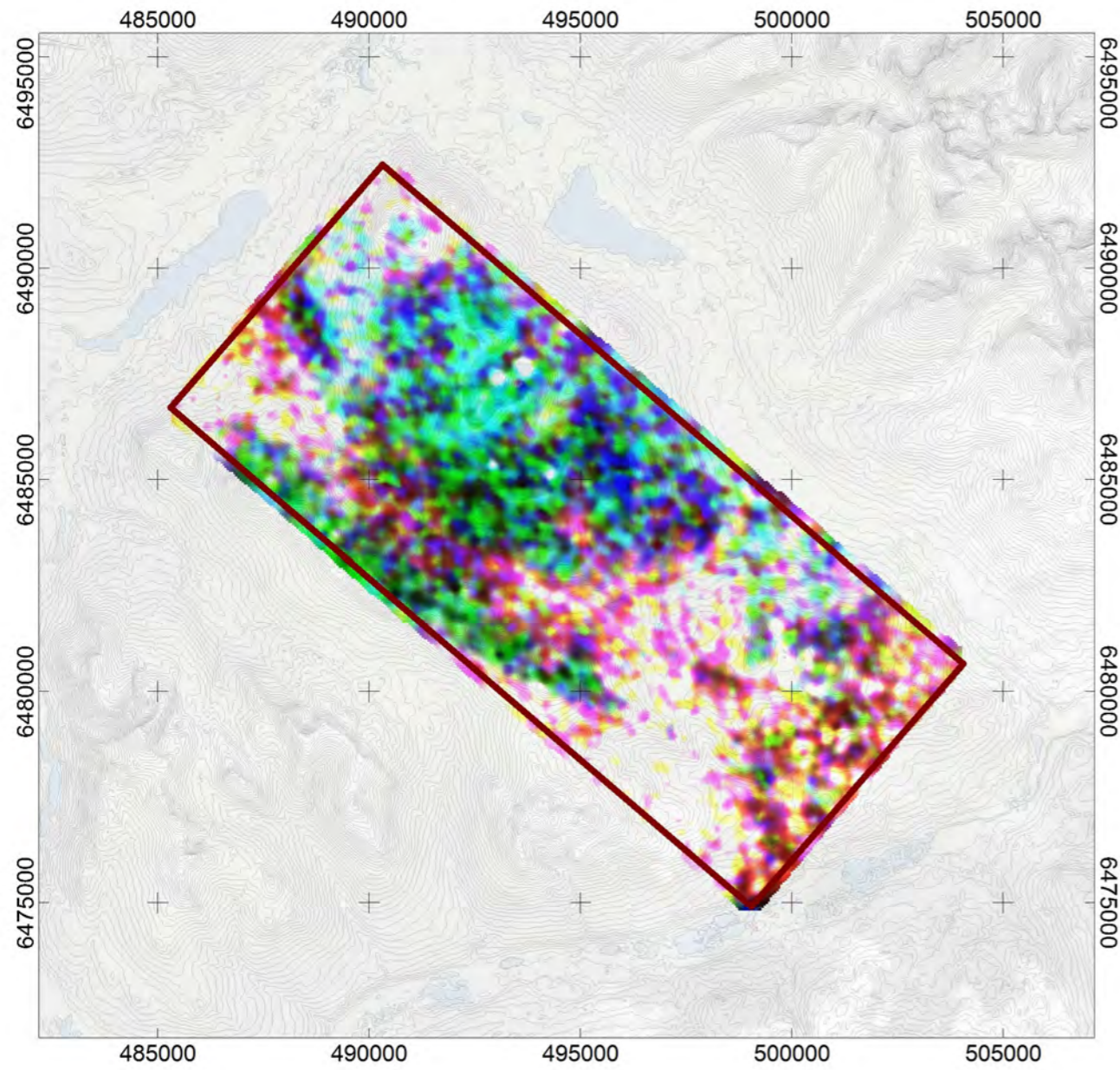


Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
 Uranium over Thorium Ratio
 Created By: Precision GeoSurveys Inc.
 July 28, 2014





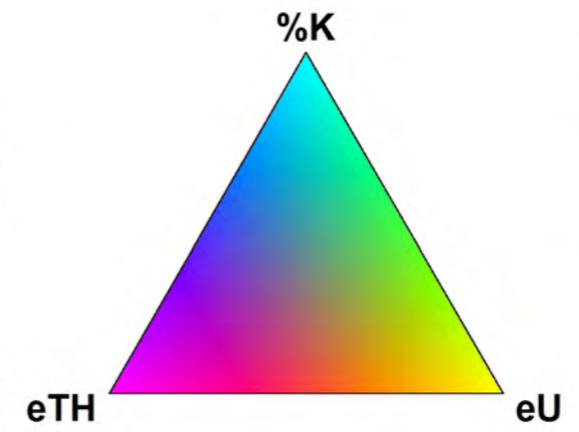
LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 231 Zone 9N
 Datum: WGS 84



Due to heavy rainfall, gamma ray signals can be significantly be attenuated and the processed radiometric data should be used with discretion.



Survey Dates:
 Survey Base:
 Helicopter Type:
 Registration:
 Survey Technology:

July 18, 2014 to July 20, 2014
 Dease Lake, BC
 Eurocopter AS350
 C-GOHHK
 Magnetic and Radiometric survey.

SURVEY PARAMETERS:

Helicopter:
 Magnetometer:
 Radiometric:
 Actual Mean Terrain Clearance:

40.0 meters
 40.0 meters
 40.0 meters
 37.5 meters

Eaglehead Survey Block

Survey Line Spacing:
 Survey Line Direction:
 Tie Line Spacing:
 Tie Line Direction:

200 meters
 040°-220°
 2000 meters
 130°-310°

AIRBORNE SYSTEMS:

Scintrex CS-3 Magnetometer Sensor

Configuration:
 Sample Rate:
 Sensitivity:

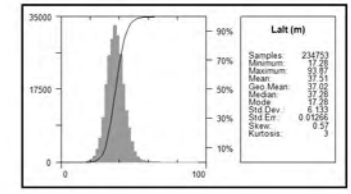
Stinger with 3 axis compensation
 10 Hz
 0.01 nT

Gamma Ray Spectrometer

Pico Envirotec GRS-10 Gamma Spectrometer
 12.6 litres of NaI(Tl) synthetic "downward looking" crystals
 and 4.2 litres of NaI (Tl) synthetic "upward looking" crystals

Sample Rate:

1 Hz



Carmax Mining Corp.

Radiometric Map

Eaglehead Survey Block
 Ternary Map

Created By: Precision GeoSurveys Inc.
 July 28, 2014

