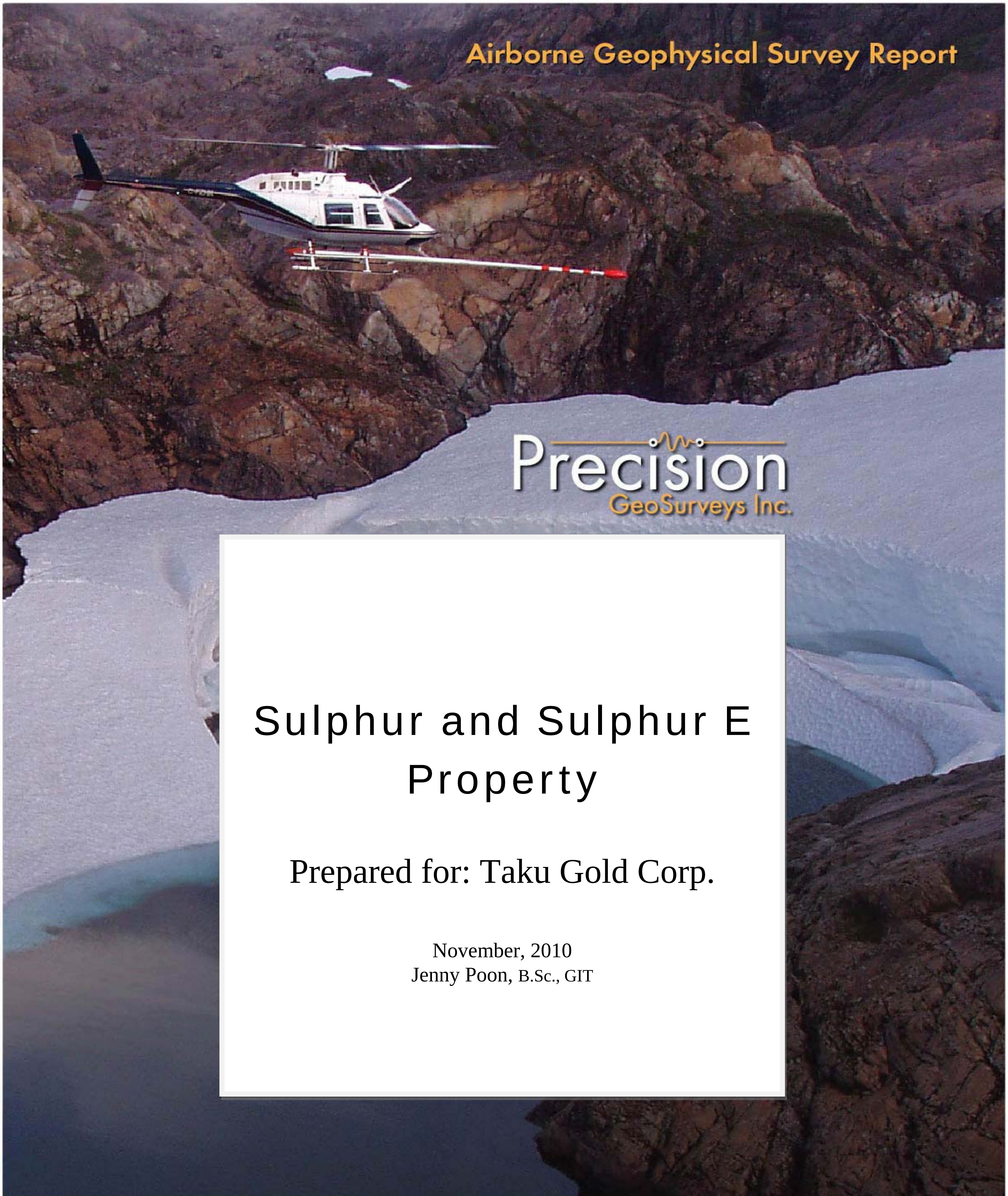

Airborne Geophysical Survey Report

Precision GeoSurveys Inc.

Sulphur and Sulphur E Property

Prepared for: Taku Gold Corp.

November, 2010

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1.0 Introduction:

This report outlines the survey operations and data processing actions taken during the airborne geophysical survey flown at the Sulphur and Sulphur E Block. The airborne geophysical survey was flown by Precision GeoSurveys Inc. for Taku Gold Corp. The geophysical survey, carried out in September 29, 2010 to October 06, 2010, saw the acquisition of gamma ray spectrometer data and magnetic data.

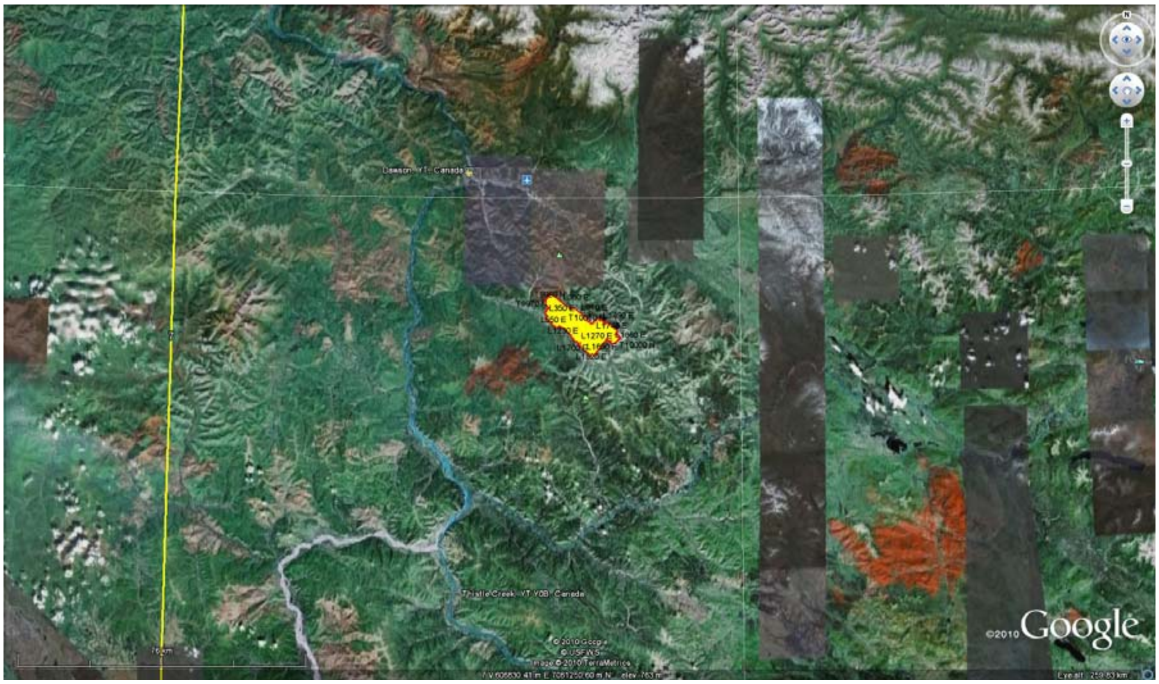


Figure 1: Sulphur and Sulphur E Blocks area location relative to Dawson, YT.

The Sulphur and Sulphur E Blocks located south-east of Dawson, YT and north-east of Thistle Creek (Figure 1). It is located approximately 46.7 km south-east of Dawson, YT (Figure 2). The survey area itself is approximately 9 km by 20 km. A total of 1291.8 line kilometers of radiometric and magnetic data were flown for this survey; this total includes tie lines and survey lines. The survey lines were flown at 100 meter spacings at a $036^{o}/216^{o}$ heading; the tie lines were flown at 1 km spacings at a heading of $126^{o}/306^{o}$.

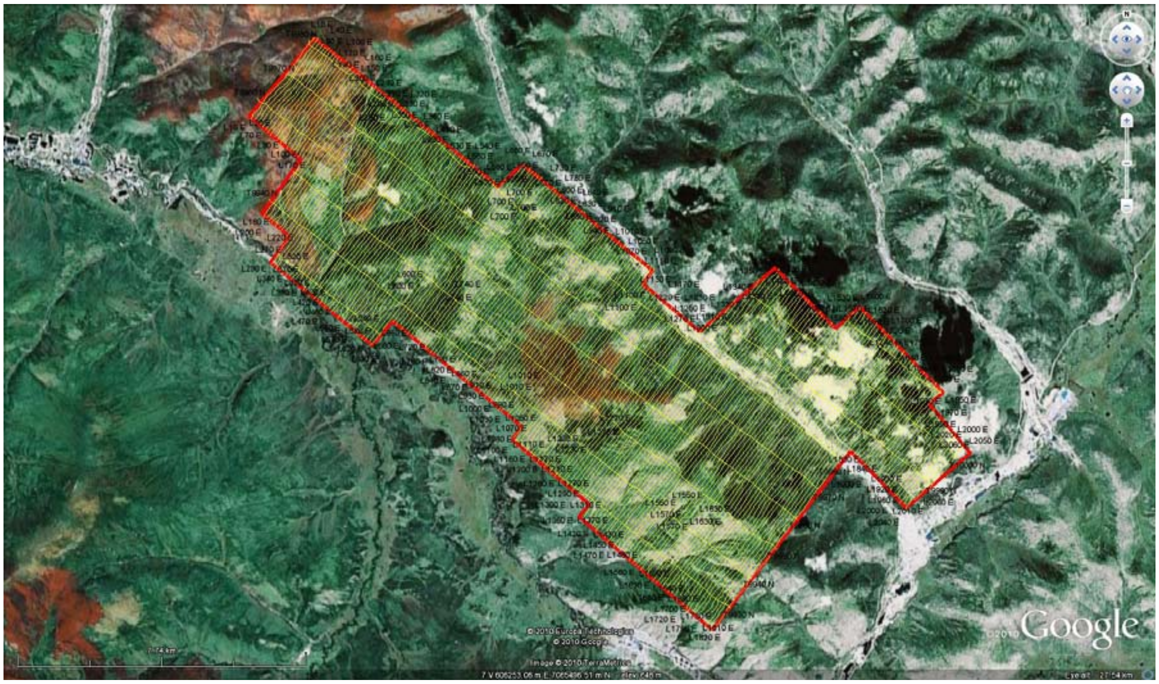


Figure 2: Survey and tie lines outlined in yellow and the boundary in red.

2.0 Geophysical Data:

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

For the purposes of this survey, airborne gamma ray spectrometer and magnetic data were collected to serve in the exploration of the Sulphur and Sulphur E Blocks which contains rocks that are prospective for gold mineralization.

2.1 Magnetic Data:

Magnetic surveying is probably the most common and most useful 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 in both hard rock environments and for mapping basement lithology, structure and alteration in sedimentary basins or for regional tectonic studies.
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, thorium, and potassium. The purpose of radiometric surveys is to determine either the absolute or relative amounts of U, Th, and K in surface rocks and soils.

3.0 Survey Operations:

Precision GeoSurveys flew the Sulphur and Sulphur E Blocks as one continuous survey block using a Bell 206 BIII Jet Ranger (Figure 3). The survey lines were flown at a nominal line spacing of one hundred (100) meters and the tie lines were flown at 1 km spacing for both the spectrometer and magnetometer as they were acquired simultaneously. The average survey elevation was 30.8 meters vertically above ground. 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 surveying.

Figure 3: Bell 206 Jet Ranger equipped with mag stinger for magnetic data acquisition.

The base of operations for this survey was the Gimlex camp located approximately 36 km south-east of Dawson, YT. The Precision crew consisted of a total of four members:

Harmen Keyser and Paul Greenwood – Pilots
Peter Barker – Operator
Jenny Poon – Operator/ On-site Geophysicist

The surveying started on September 29, 2010 and was completed on October 6, 2010. The survey was complete with some delays due to fog, low cloud ceilings, and flown with variable snow cover conditions.

4.0 Equipment:

For this survey a magnetometer, spectrometer, base station, laser altimeter, and a data acquisition system were required to carry out the survey and collect quality, high resolution data.

4.1 AGIS:

The Airborne Geophysical Information System, AGIS, (Figure 4), is the main computer used in data recording, data synchronizing, displaying real-time QC data for the geophysical operator, and generation of navigation information for the pilot display system.

Figure 4: AGIS installed in the Bell 206.

The AGIS was manufactured by Pico Envirotec; therefore the system uses standardized Pico software and external sources 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 survey quality control procedures.

4.2 Spectrometer:

The IRIS, or Integrated Radiometric Information System is a fully integrated, gamma radiation detection system containing two downward facing NaI detecting crystals for a total volume of 8.4 litres (Figure 5). Real time data acquisition, navigation and communication tasks are integrated into a single unit that is installed in the rear of the aircraft as indicated below. Information such as total count, counts of various elements (K, U, Th, etc.), temperature, barometric pressure, atmospheric humidity and survey altitude can all be monitored on the AGIS screen for immediate QC. All the radiometric data are recorded at 1 Hz.

Figure 5: IRIS strapped into the cargo box of the helicopter.

4.3 Magnetometer:

The magnetometer used by Precision GeoSurveys is a Scintrex cesium vapor CS-3 magnetometer. The system was housed in a front mounted “stinger” (Figure 6). 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 screen the operator can view the raw magnetic response, the magnetic fourth difference 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 6: View of the mag stinger.

4.4 Base Station:

For monitoring and recording of the Earth's diurnal magnetic field variation, Precision GeoSurveys uses a Scintrex proton precession Envi Pro magnetometer as its base station (Figure 7). This is mounted as close to the survey Blocksas possible to give high, accurate magnetic field data. The Envi Pro base station, uses the well proven precession technology to sample at a rate of 0.5 Hz. A GPS is integrated with the system to record real GPS time that is used to correlate with the GPS time collected by the CS-3 magnetometer.


Figure 7: Scintrex Envi Pro proton precession magnetometer.

4.5 Laser Altimeter:

The pilot is provided with terrain guidance and clearance with an Acuity AccuRange Ar3000 laser altimeter (Figure 8). This is attached at the aft end of the magnetometer boom. The Ar3000 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 300 m off of natural surfaces with 90% reflectance and 3 km of special reflectors. Within the sensor unit, reflected signal light are collected by the lens and focused onto a photodiode. Through serial communications and analog outputs, the distance data is transmitted and collected by the AGIS at 10 Hz.

Figure 8: Acuity AccuRange AR3000 laser altimeter.

5.0 Data Processing:

After all the data are collected after a survey flight several procedures are undertaken to ensure that the data meet a high standard of quality. All data were processed using Pico Envirotec software and Geosoft Oasis Montaj geophysical processing software.

5.1 Magnetic Processing:

During aeromagnetic surveying noise is introduced to the magnetic data by the aircraft itself, movement in the aircraft (roll, pitch and yaw) and the permanent magnetization of the aircraft parts (engine and other ferric objects) are large contributing factors to this noise. To remove this noise 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 (041°/220° and 124°/309° in the case of this survey) at an elevation where there is no ground effect in the magnetic data. In each heading roll, pitch and yaw maneuvers are performed by the pilot, these maneuvers provide the data that is required to calculate the necessary parameters for compensating the magnetic data. A computer program called PEIComp is used to create a model for each survey to remove the noise induced by aircraft movement; this model is applied to each survey flight so the data can be further processed.

A magnetic base station is set up before every flight to ensure that diurnal activity is recorded during the survey flights. Precision GeoSurveys uses a Geometrics 858 base station and sampled at 0.1Hz. Base station readings were reviewed at regular intervals to insure that no data were collected during periods with high diurnal activity (greater than 5 nT per minute). The base station was installed at a magnetically noise-free area, away from metallic items such as steel objects, vehicles, or power lines. The magnetic variations recorded from the stationary base station are removed from the magnetic data recorded in flight to ensure that the anomalies seen are real and not due to solar activity.

Some filtering of the magnetic data is also required. A Non Linear filter was used for spike removal. The 1D Non-Linear Filter is ideal for removing very short wavelength, but high amplitude features from data. It is often thought of as a noise spike-rejection filter, but it can also be effective for removing short wavelength geological features, such as signals from surficial features. The 1D Non-Linear Filter is used to locate and remove data that are recognized as noise. The algorithm is 'non- linear' because it looks at each data point and decides if that datum is noise or a valid signal. If the point is noise, it is simply removed and replaced by an estimate based on surrounding data points. Parts of the data that are not considered noise are not modified. The combination of a Non-Linear filter for noise removal and a low pass trend enhancement filter resulted in level data as indicated in the results section of this report. The low pass filters simply smoothes out the magnetic profile to remove isolated noise.

A lag correction was applied to the total magnetic field data to compensate for the lag in the recording system as the magnetometer sensor flies 6.45 m ahead of the GPS antenna. Following a lag correction of 1.7 seconds, a low-pass filter equivalent to 1 second was then applied to the lag corrected data.

5.2 Radiometric Processing:

Radiometric data are processed by windowing the full spectrum to create channels for U, K, Th and total count. A lag correction was also applied to the radiometric data as Pico compensator introduces a lag of 1.4 secs into the positional coordinates for the radiometric data. The data are then lightly filtered and corrected for survey altitude at standard temperature and pressure. Background radioactive contributions from the aircraft, cosmic radiation and atmospheric radon must also be removed. Finally the data are corrected by removing spectral overlap; this is done 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.

5.3 Final Data Format

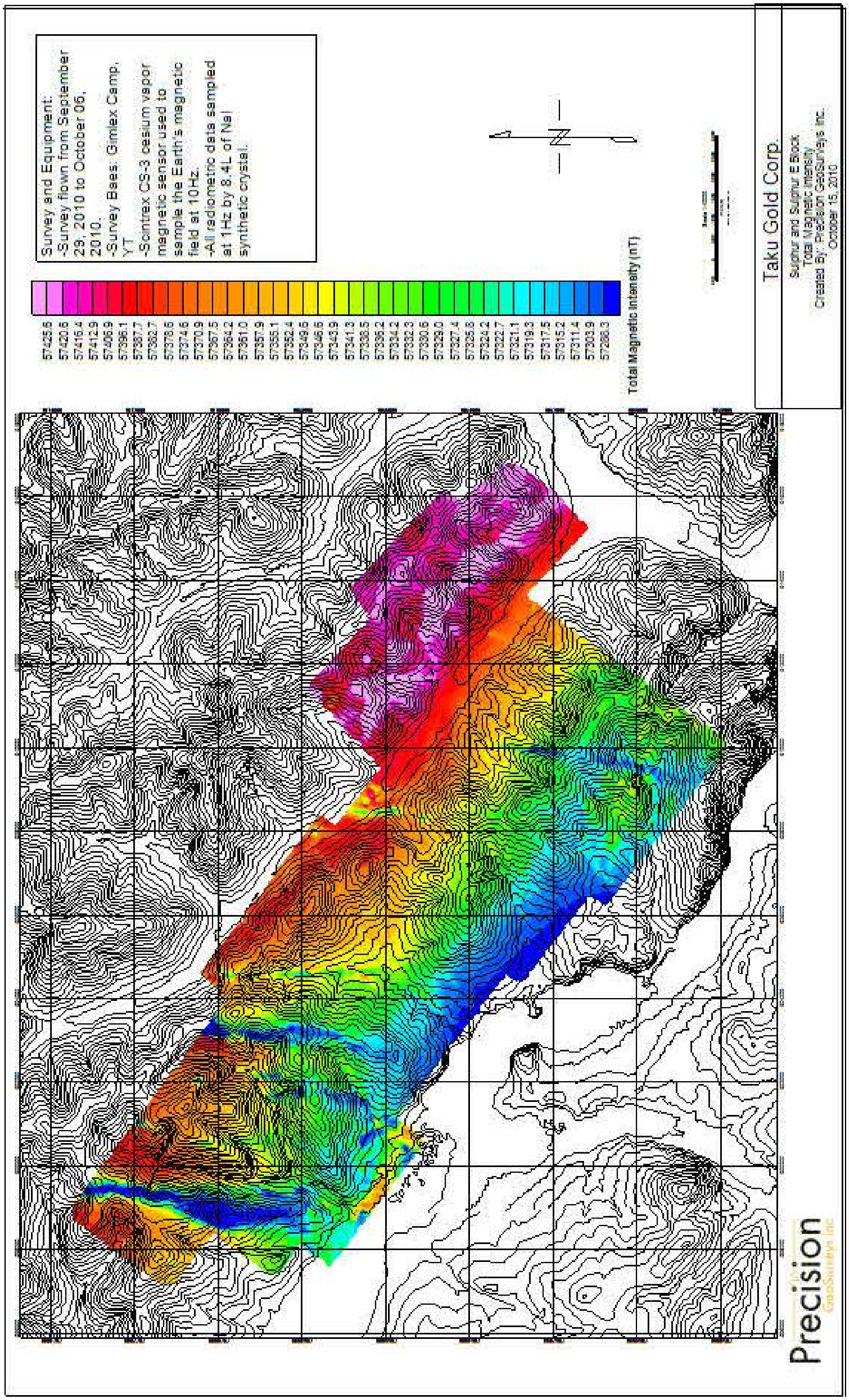
Abbreviations used in the GDB files are as follows:

X – Easting in WGS84, UTM zone 7N
Y – Northing in WGS84, UTM zone 7N
GPStime – GPStime
basemag – diurnal data
mag – total magnetic field
galt – gps altimeter readings
lalt – laser altimeter readings
dtm – digital terrain model
TC_cor – corrected total count
K_cor – corrected potassium
U_cor – corrected uranium

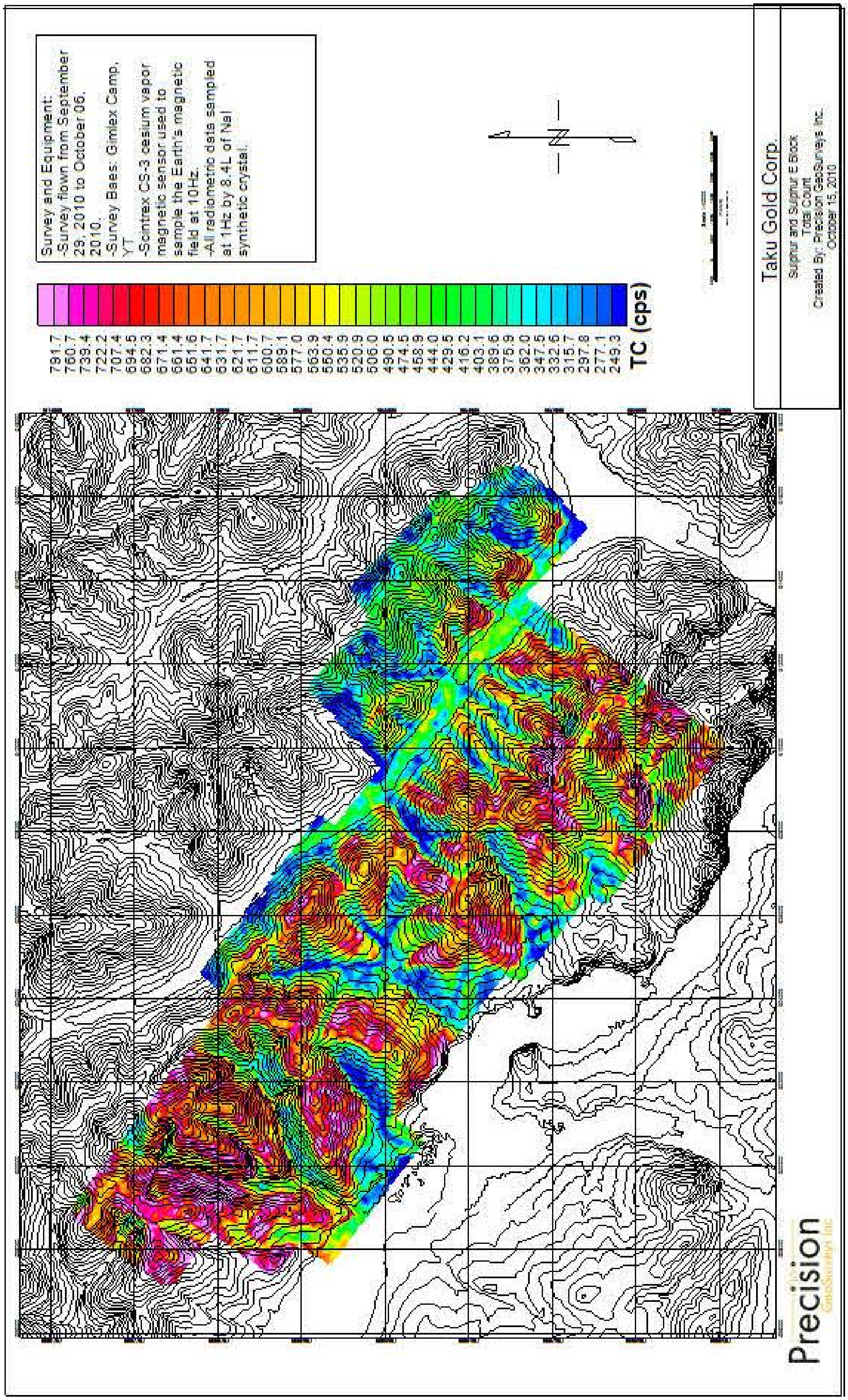
Th_cor – corrected thorium

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. Two separate files are provided for each format, one for the magnetics and one for the radiometrics.

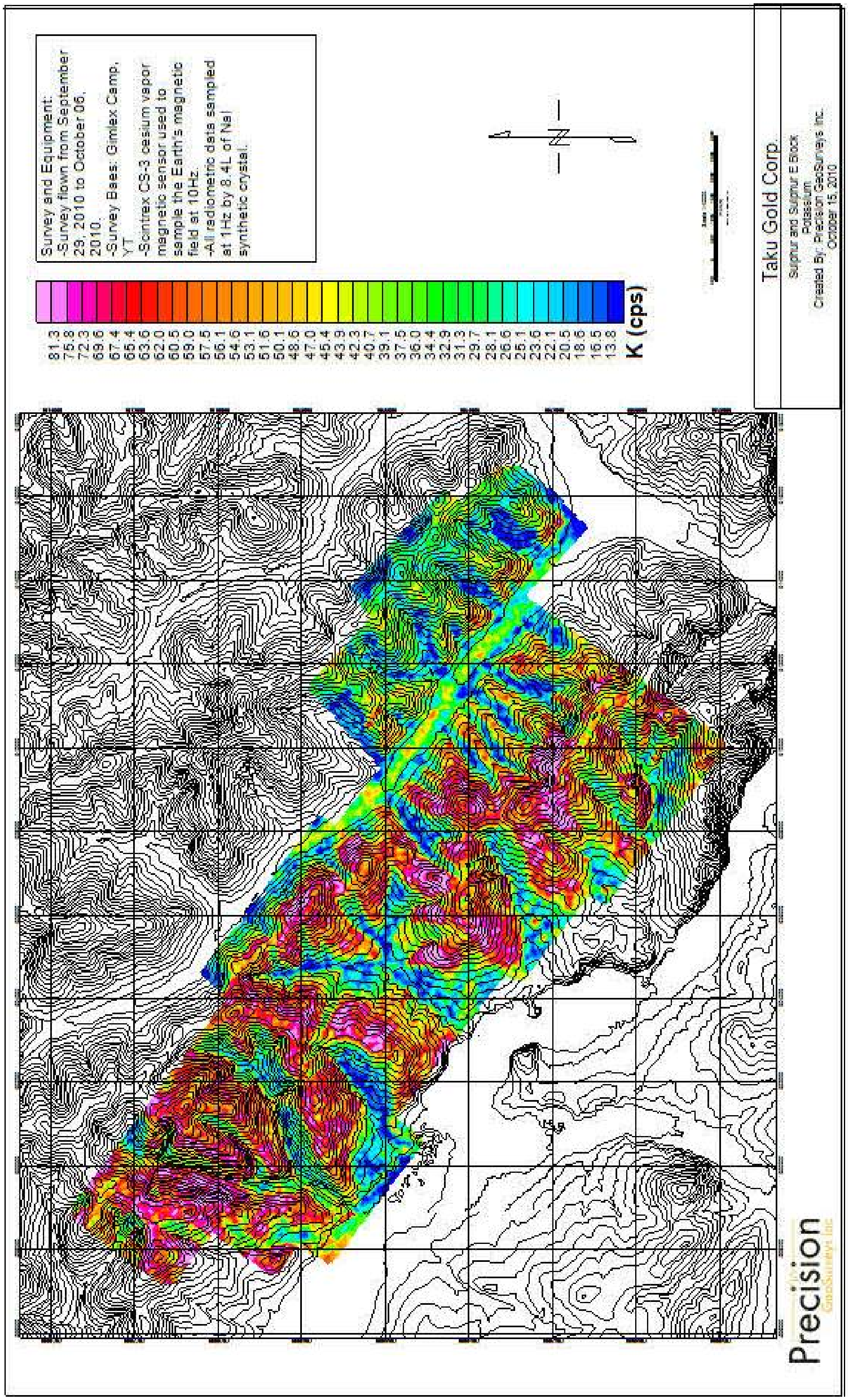
Appendix A
Maps



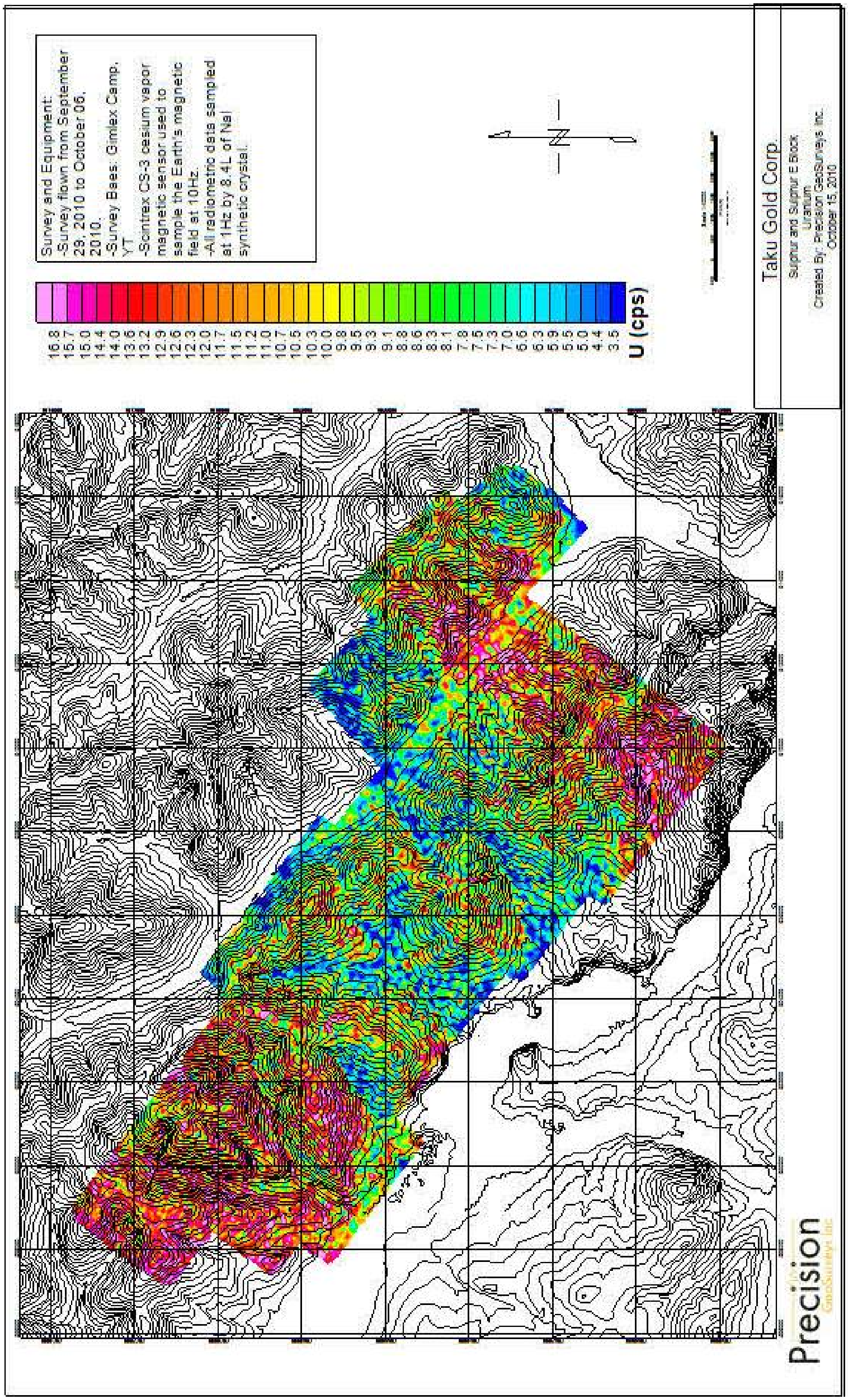
Map 1: Sulphur and Sulphur E Blockstotal magnetic intensity.



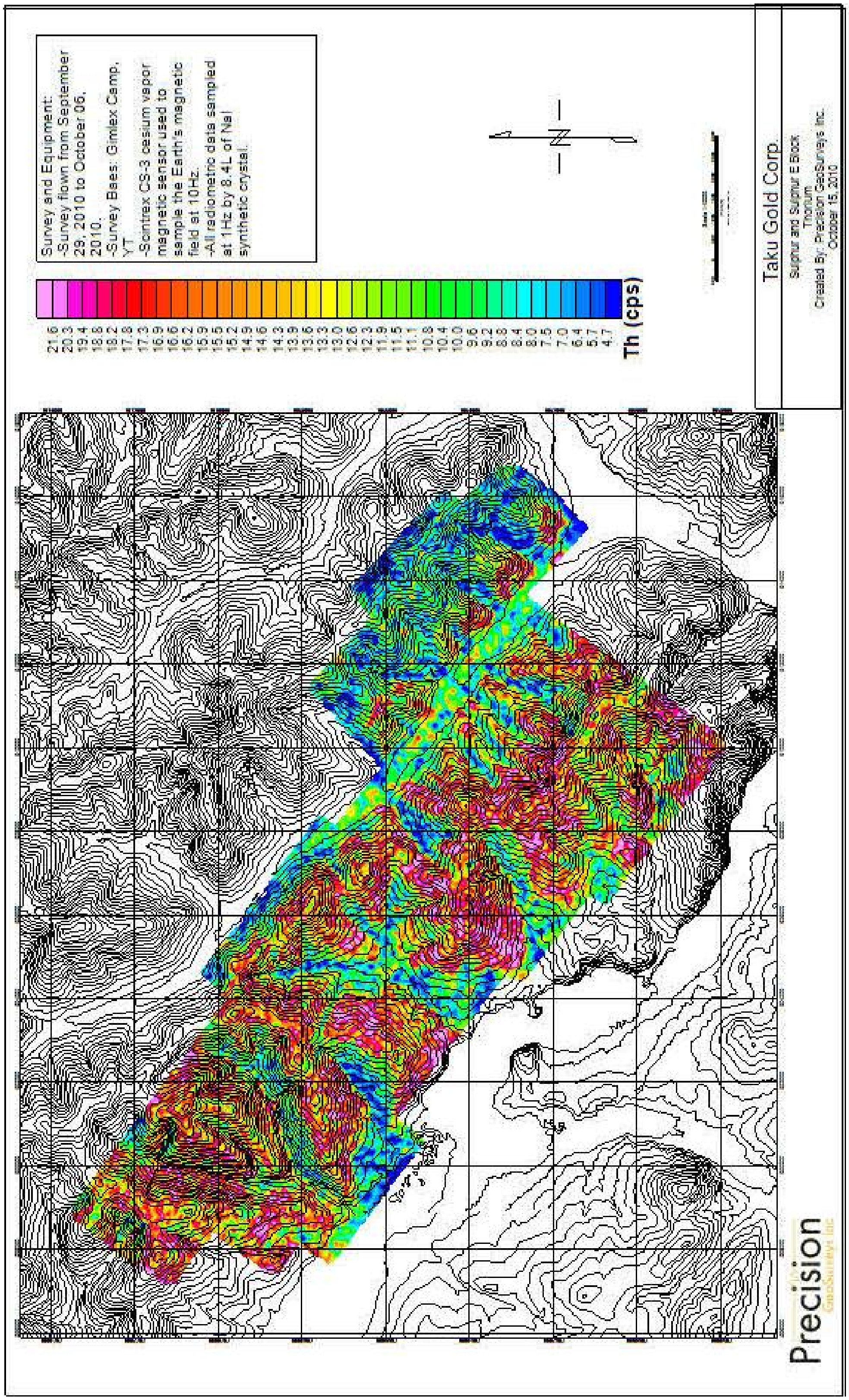
Map 2: Sulphur and Sulphur E Blockstotal count.



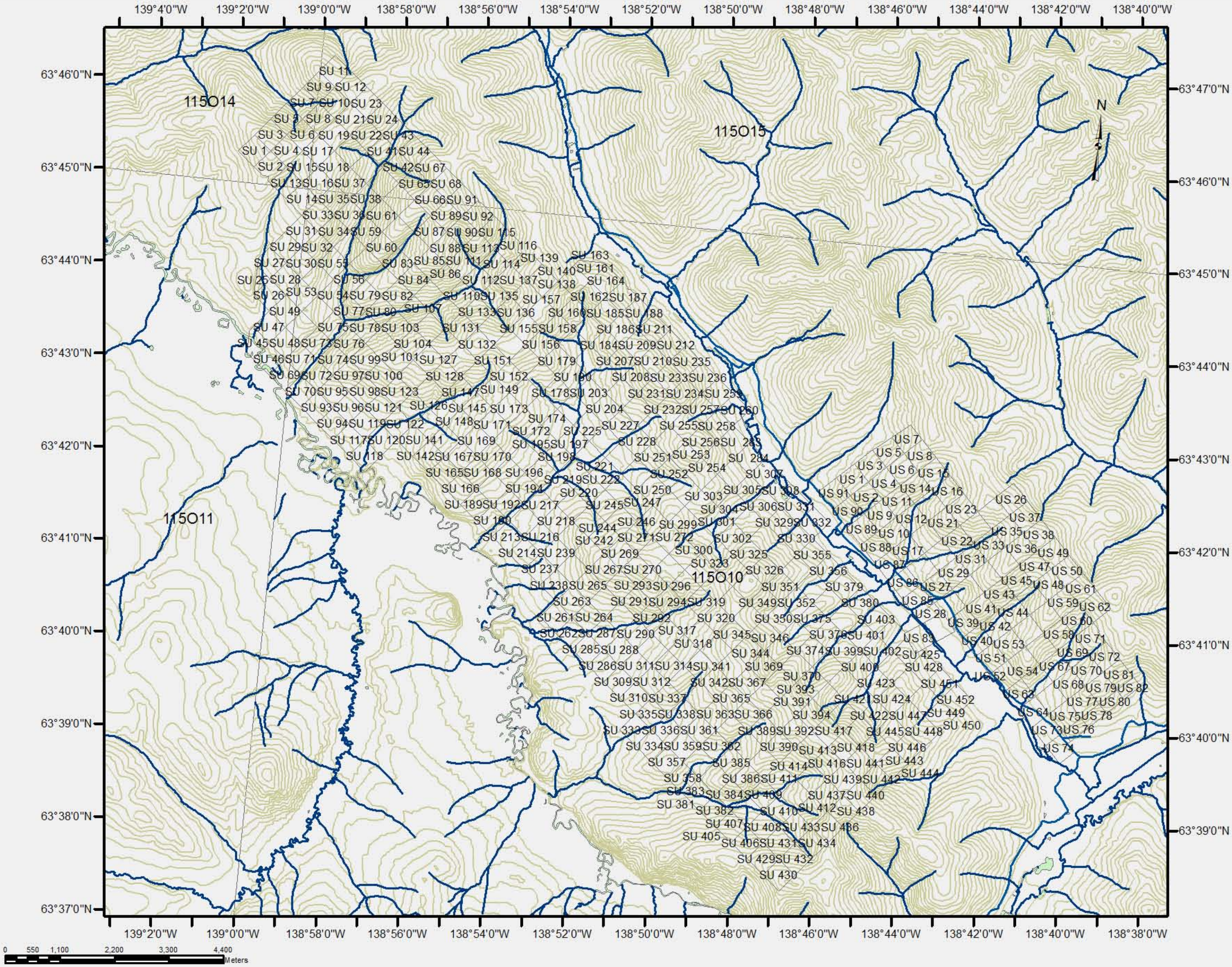
Map 3: Sulphur and Sulphur E Blockspotassium.



Map 4: Sulphur and Sulphur E Blocksuranium.

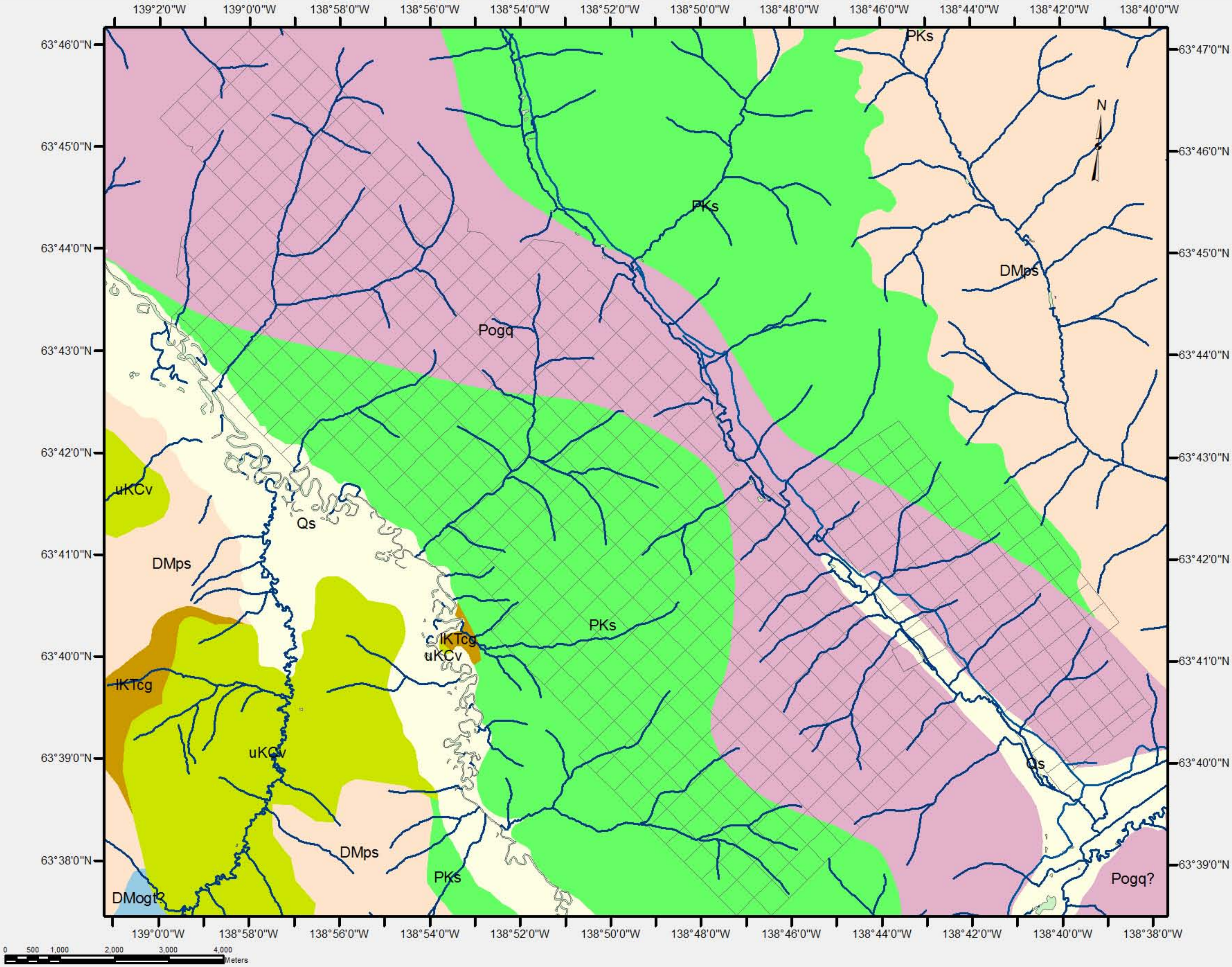


Map 5: Sulphur and Sulphur E Blocksthorium.



Sulphur and Sulphur East Claims

Sulphur and Sulphur East Claims	
Nad 83, Yukon Albers Projection	



Sulphur and Sulphur East Claims

Sulphur and Sulphur East Claims
Regional Geology
Nad 83, Yukon Albers Projection

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YD06629	US 29
YD06630	US 30
YD06631	US 31
YD06632	US 32
YD06633	US 33
YD06634	US 34
YD06635	US 35
YD06636	US 36
YD06637	US 37
YD06638	US 38
YD06639	US 39
YD06640	US 40
YD06641	US 41
YD06642	US 42
YD06643	US 43
YD06644	US 44
YD06645	US 45
YD06646	US 46
YD06647	US 47
YD06648	US 48
YD06649	US 49
YD06650	US 50
YD06651	US 51
YD06652	US 52
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YD06657	US 57
YD06658	US 58
YD06659	US 59
YD06660	US 60
YD06661	US 61
YD06662	US 62
YD06663	US 63
YD06664	US 64
YD06665	US 65
YD06666	US 66

Grant #	Claim
YD06667	US 67
YD06668	US 68
YD06669	US 69
YD06670	US 70
YD06671	US 71
YD06672	US 72
YD06673	US 73
YD06674	US 74
YD06675	US 75
YD06676	US 76
YD06677	US 77
YD06678	US 78
YD06679	US 79
YD06680	US 80
YD06681	US 81
YD06682	US 82
YD06683	US 83
YD06684	US 84