095946

Airborne Geophysical Survey Performed from October 6 to 9, 2010

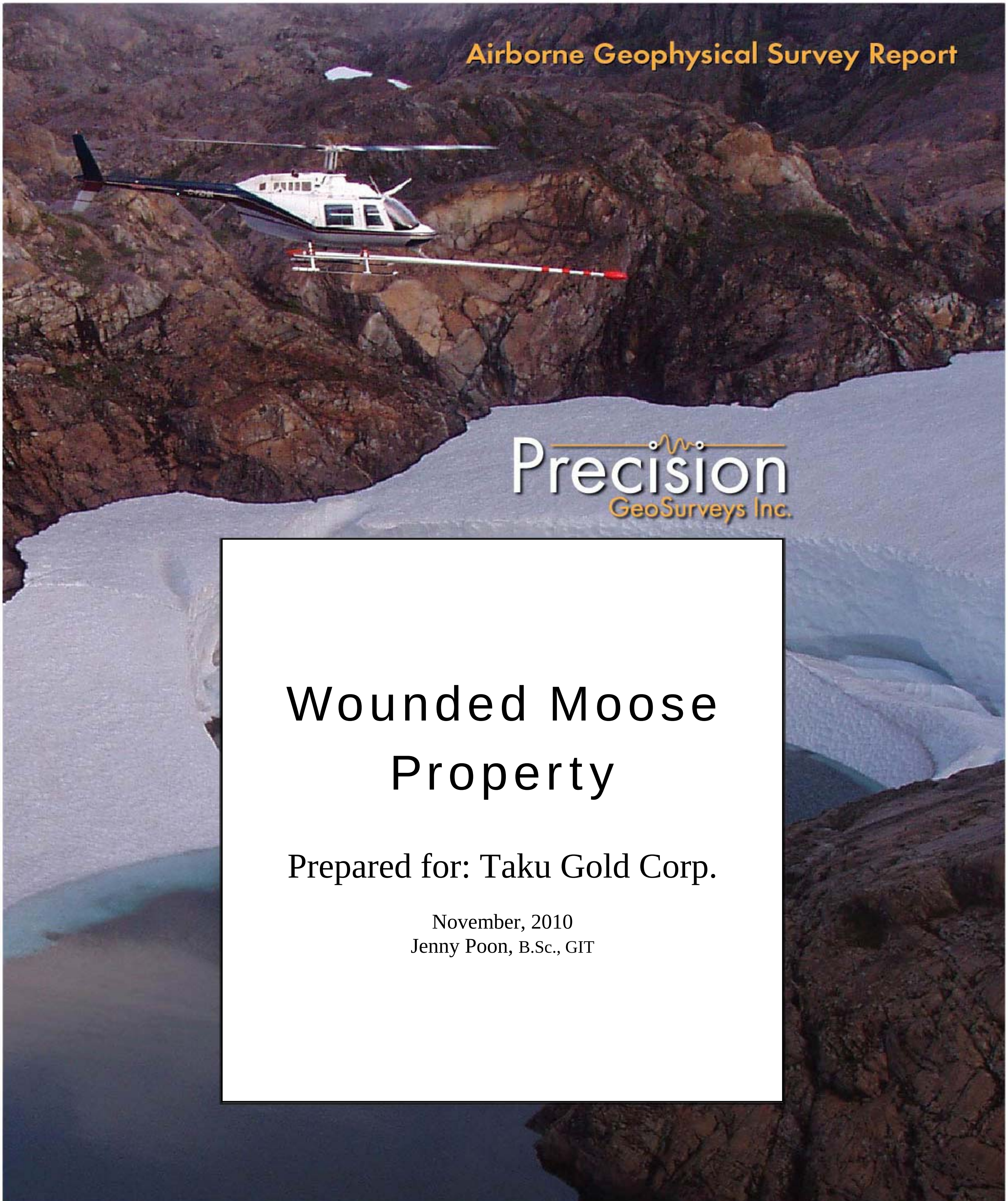
On the
Wounded Moose Property
AM 1 to 100
YD28701 to YD28800
AM 101 to 280
YD28901 to YD29080

Dawson Mining District, Yukon
NTS Sheet 115O10
63°33' N. Lat., 138°39' W. Long.

Operated by and Recorded to

TAKU GOLD CORP.

By
Jenny Poon, B.Sc., GIT
November 2010



Airborne Geophysical Survey Report

Precision GeoSurveys Inc.

Wounded Moose Property

Prepared for: Taku Gold Corp.

November, 2010

Jenny Poon, B.Sc., GIT

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Table of Contents

1.0 Introduction:

This report outlines the survey operations and data processing actions taken during the airborne geophysical survey flown at the Wounded Moose Block. The airborne geophysical survey was flown by Precision GeoSurveys Inc. for Taku Gold Corp. The geophysical survey, carried out from October 6, 2010 to October 9, 2010, saw the acquisition of gamma ray spectrometer data and magnetic data.

Figure 1: Wounded Moose Block area location relative to Dawson, YT.

The Wounded Moose Block is located south-east of Dawson, YT and the Indian River (Figure 1). It is located approximately 64.3 km south-east of Dawson, YT (Figure 2). The survey area itself is approximately 16 km by 4 km. A total of 673.3 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 050^o/230^o heading; the tie lines were flown at 1 km spacings at a heading of 140^o/320^o.

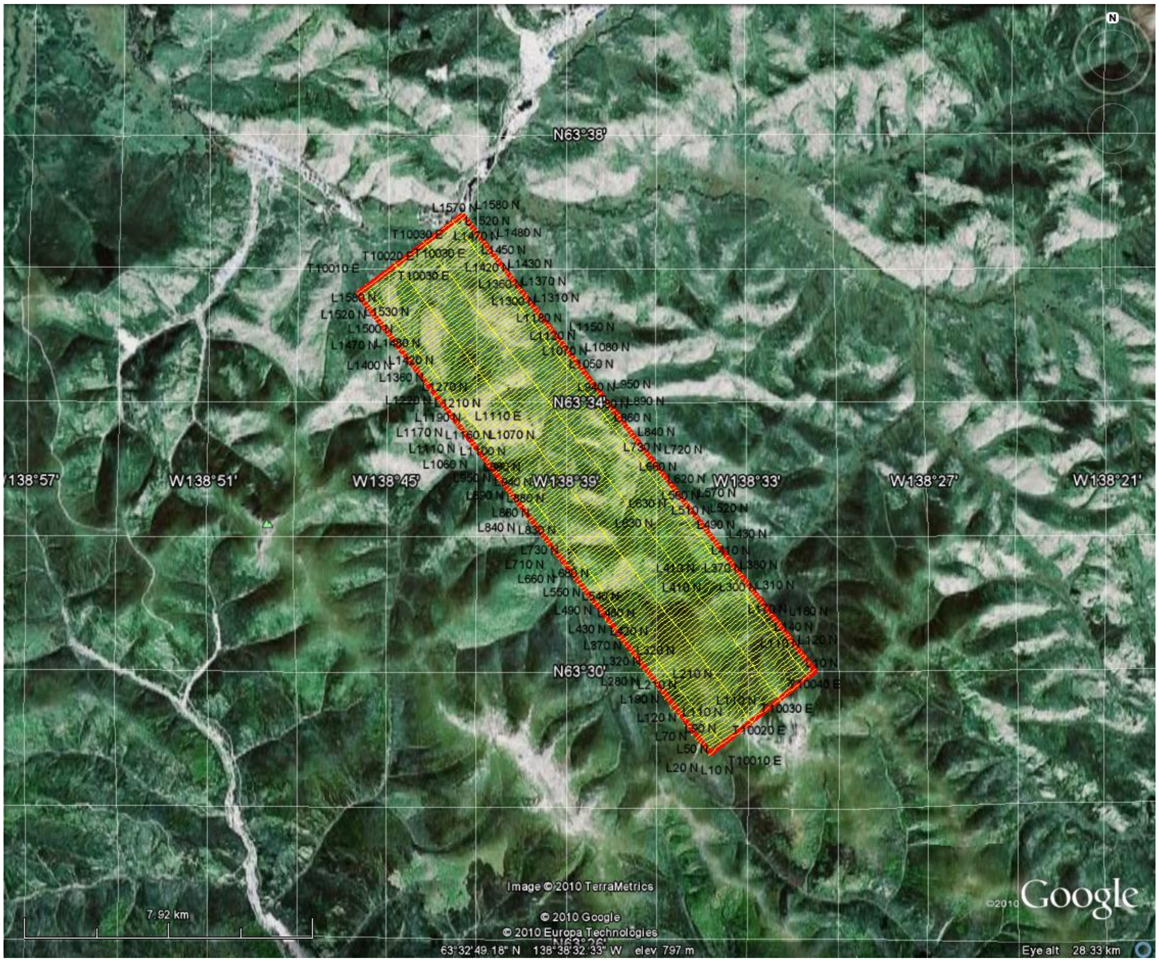


Figure 2: Survey and tie lines outlined in yellow and the boundary in red.

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 Wounded Moose Block which contains rocks that are prospective for gold mineralization.

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 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 Wounded Moose 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 31 meters vertically above ground. The experience of the pilots 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 Ola Vaage – Pilots
Peter Barker – Operator
Jenny Poon – Operator/ On-site Geophysicist

The survey was started on October 6, 2010 to October 9, 2010 with variable snow covered conditions. The survey was complete with some delays due to fog and low cloud ceilings.

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 block as 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 airborne 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 off special reflectors. Within the sensor unit, reflected signal light is collected by the lens and focused onto a photodiode. Through serial communications and analog outputs, the distance data are 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 ($041^o/220^o$ and $124^o/309^o$ 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.

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.

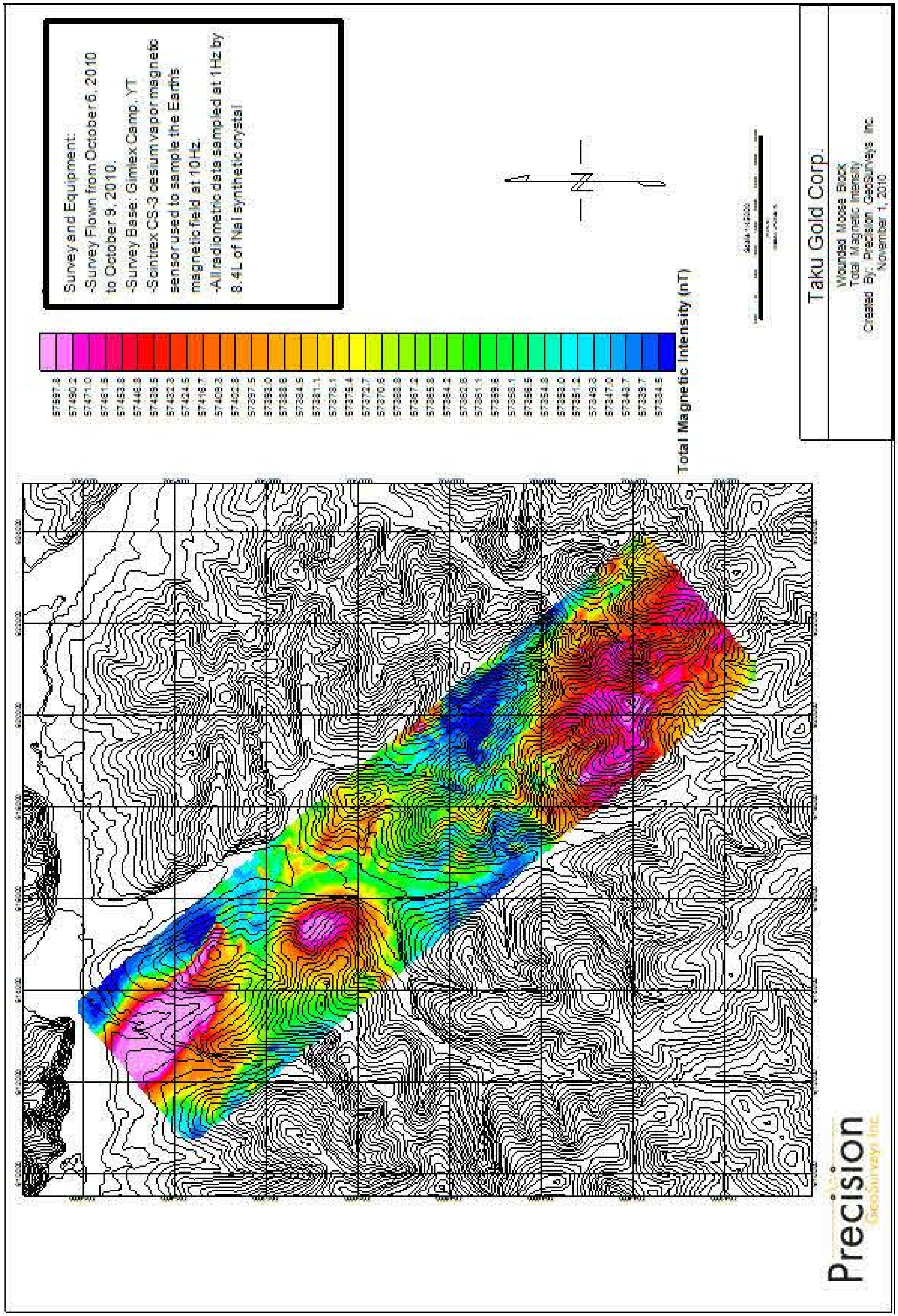
5.3 Final Data Format

Abbreviations used in the GDB files are as follows:

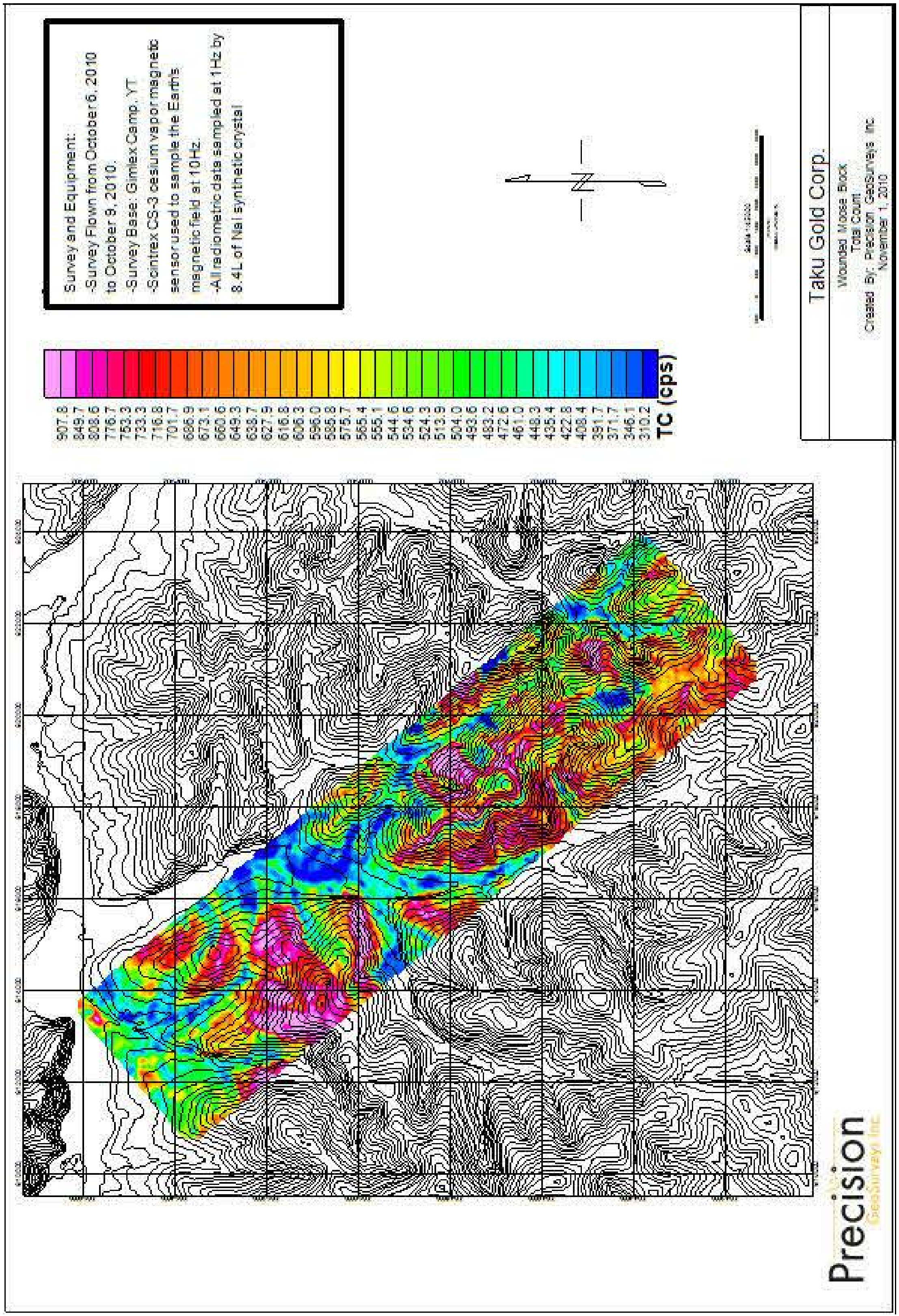
X – Easting in WGS84, UTM zone 7N
Y – Northing in WGS84, UTM zone 7N
GPStime – GPStime
basemag – diurnal data
mag – total magnetic field
galt – gps altimeter readings
lalt – laser altimeter readings
dtm – digital terrain model
TC_cor – corrected total count
K_cor – corrected potassium
U_cor – corrected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

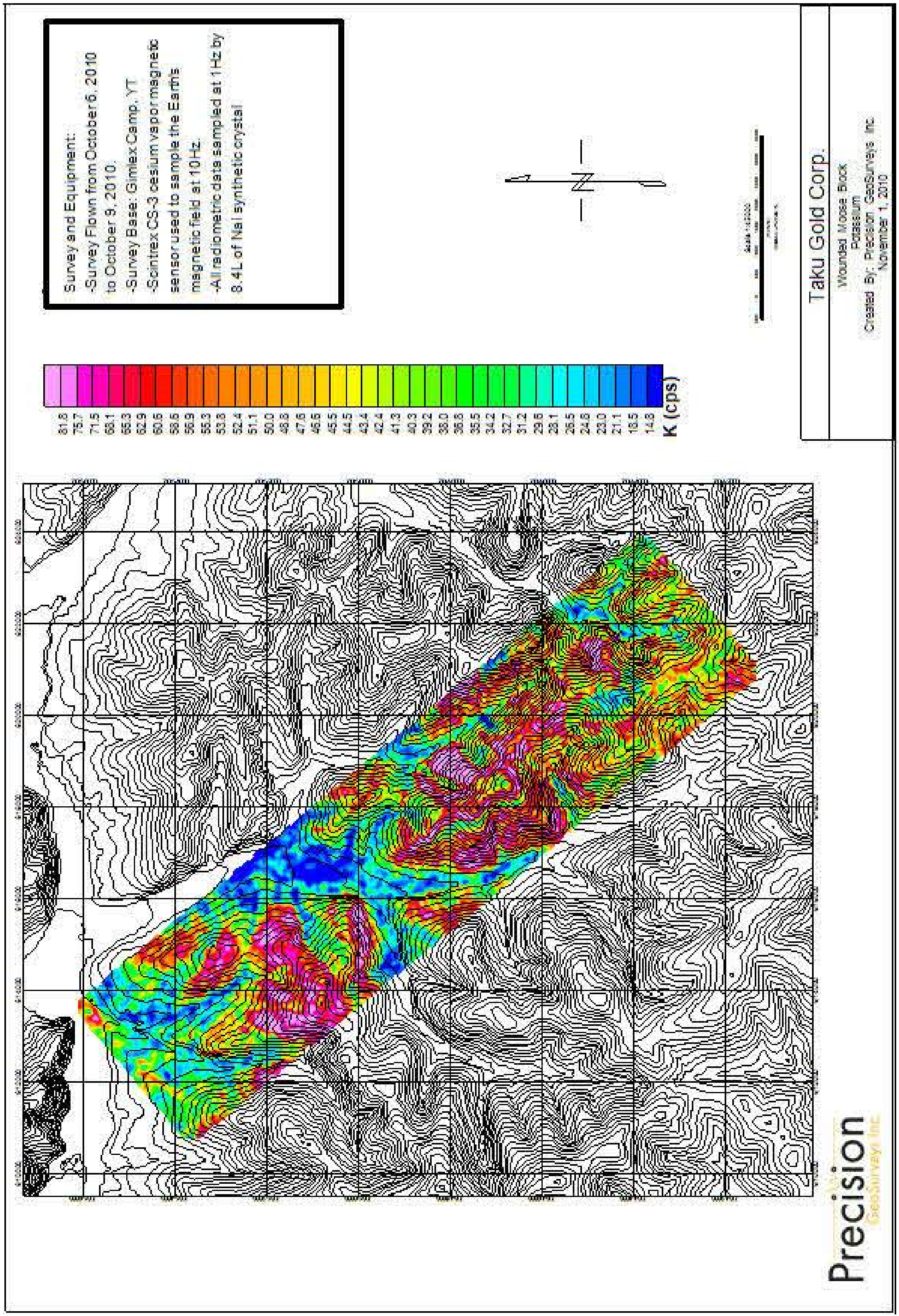
Appendix A
Maps



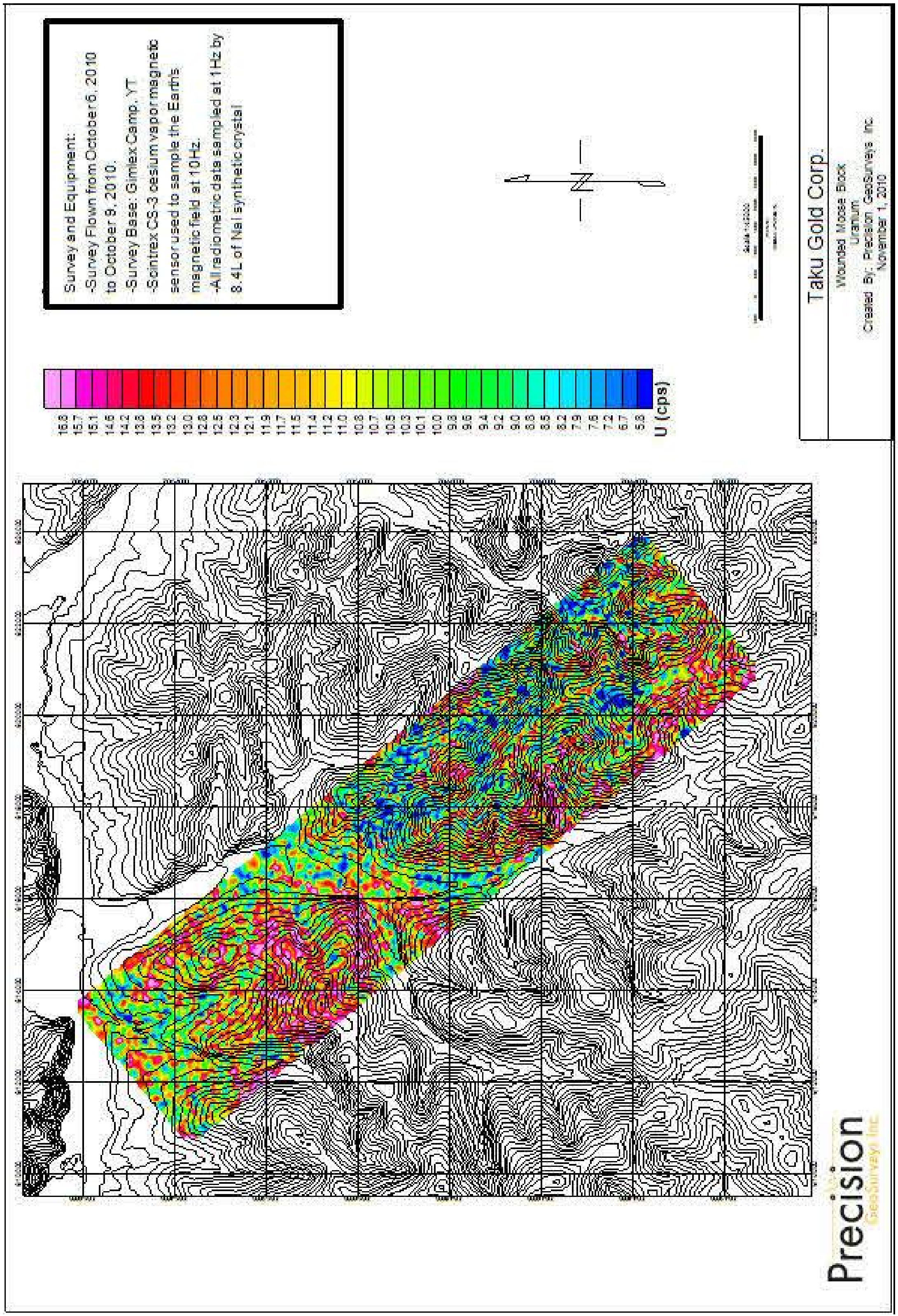
Map 1: Wounded Moose Block total magnetic intensity.



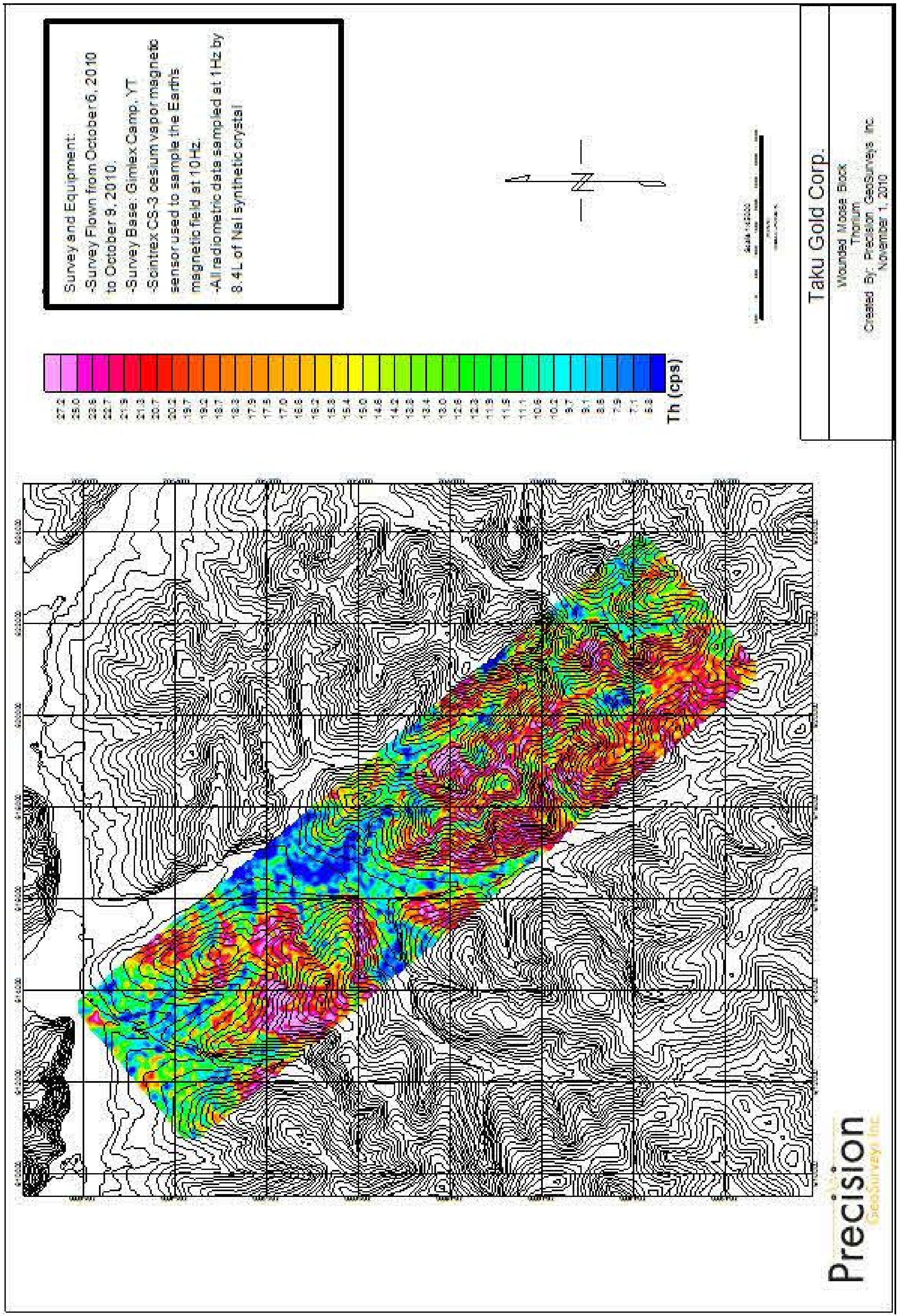
Map 2: Wounded Moose Block total count.



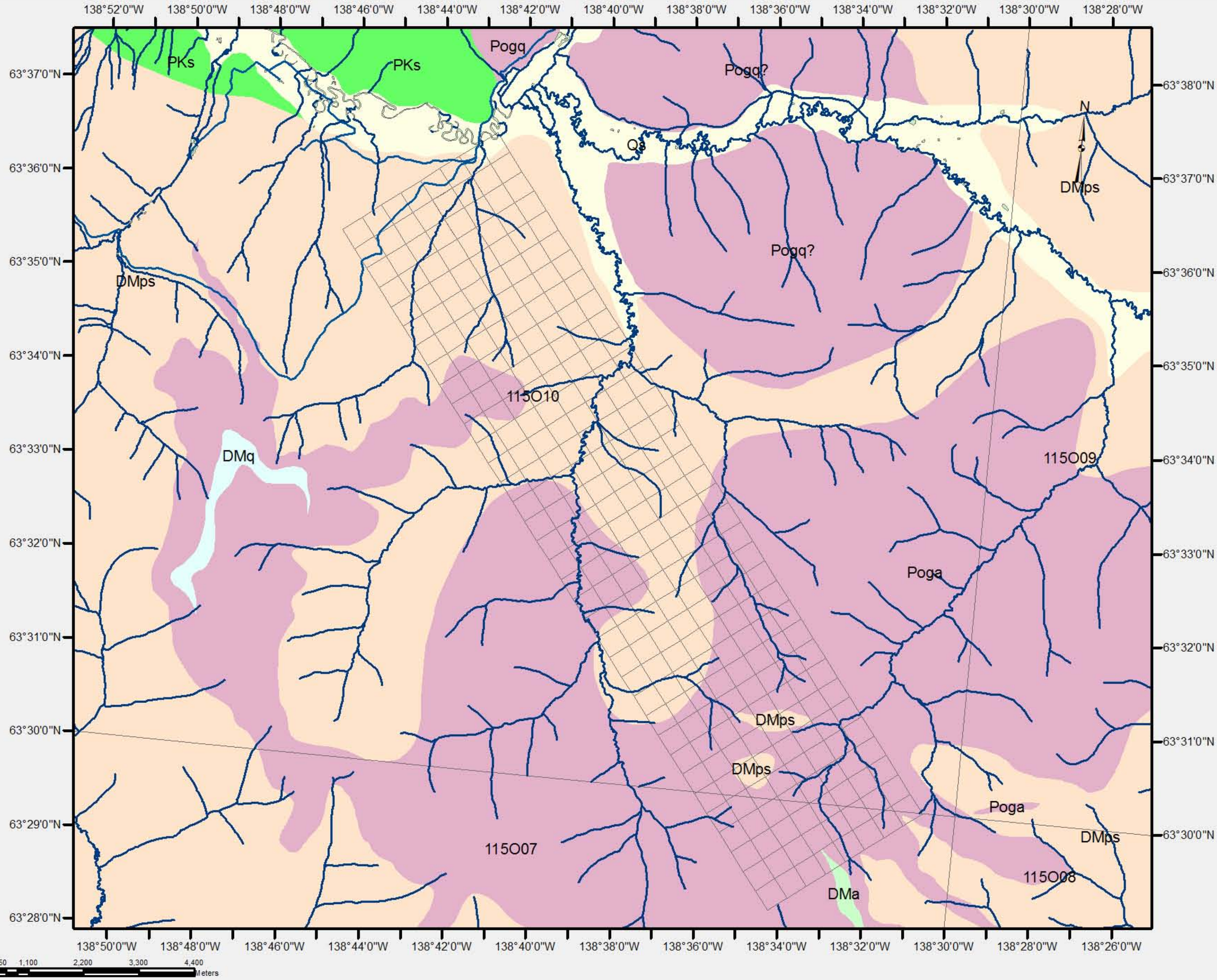
Map 3: Wounded Moose Block potassium.



Map 4: Wounded Moose Block uranium.



Map 5: Wounded Moose Block thorium.



Wounded Moose Claims

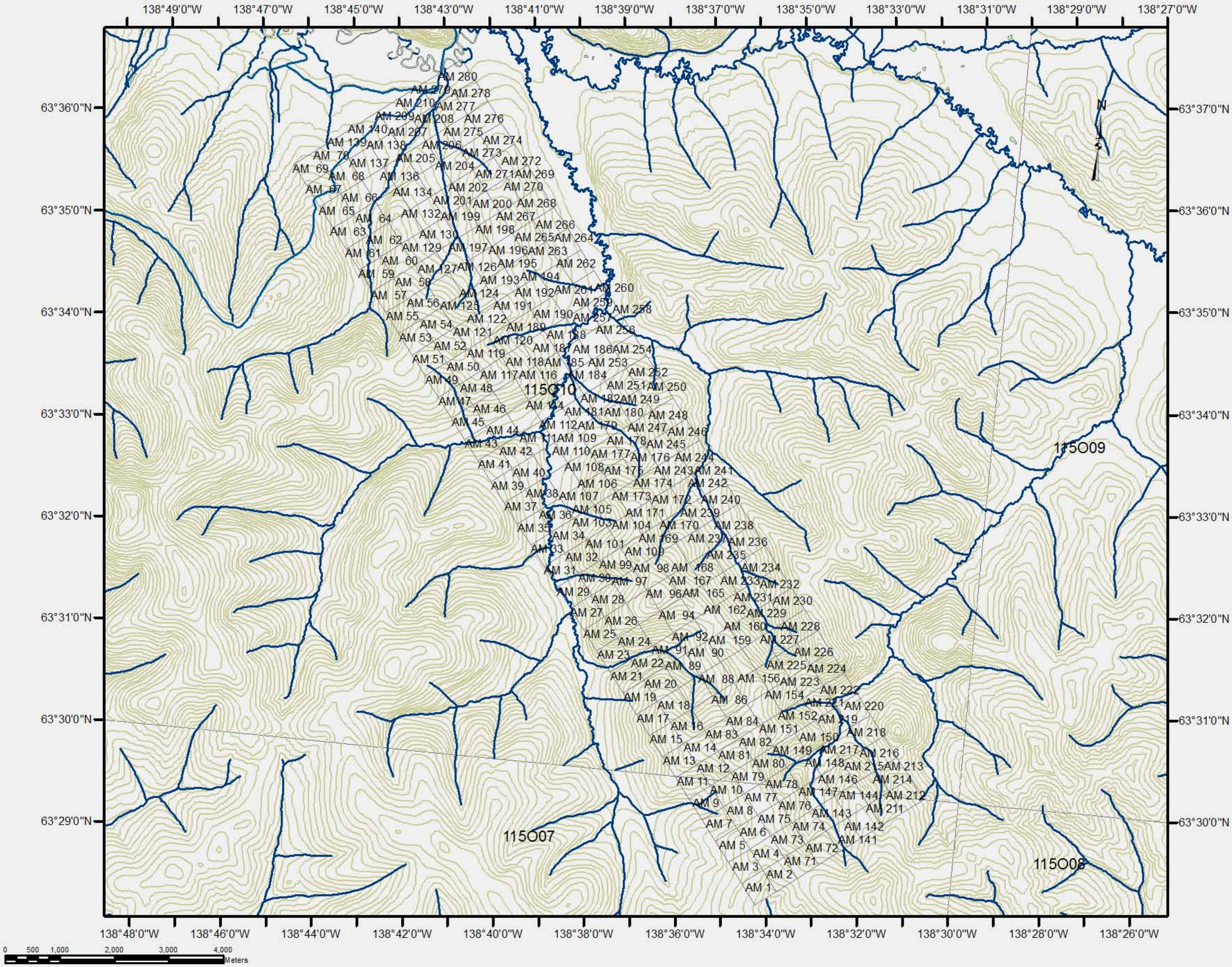
Wounded Moose Claims

Regional Geology

Nad 83, Yukon Albers Projection

Regional Geology Legend (from S.P. Gordey and J.J. Ryan, GSC Open File 4970)

UNIT	AGE	DESCRIPTION
Qs	Quaternary	Fluvial silt, sand and gravel
Pogq	Permian	ORTHOGNEISS (YOUNGER, 264-259 Ma): Pog, undivided orthogneiss; Pogg, pink to orange K-feldspar rich, granitic orthogneiss, commonly includes or associated with Poga; Poga, mainly K-feldspar augen orthogneiss, exhibits various states of strain
Poga	Permian	ORTHOGNEISS (YOUNGER, 264-259 Ma): Pog, undivided orthogneiss; Pogg, pink to orange K-feldspar rich, granitic orthogneiss, commonly includes or associated with Poga; Poga, mainly K-feldspar augen orthogneiss, exhibits various states of strain
PKs	Permian	KLONDIKE SCHIST: muscovite-chlorite-quartz-feldspar schist, chlorite schist, chlorite phyllonite; local cleaved lapilli tuff with preserved primary texture, probably derived from Pv
DMps	Devonian to Mississippian?	QUARTZ-MICA SCHIST: undivided metasedimentary rocks dominated by metapsammite, semipelite and metapelite; commonly quartz-garnet-biotite-muscovite schist possibly derived from siliceous siltstone; commonly finely interlayered with garnet metapelite;
DMa	Devonian to Mississippian?	AMPHIBOLITE: amphibolite schist and gneiss; metabasite; probably derived from mafic to intermediate volcanic or volcaniclastic rocks; locally associated with psammite or interlayered with orthogneiss
DMq	Devonian to Mississippian?	QUARTZITE: banded to massive, grey to white quartzite; apparantly clastic in origin, or in part, possibly derived from metachert



Wounded Moose Claims

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Nad 83, Yukon Albers Projection

Grant #	Claim	Grant #	Claim	Grant #	Claim	Grant #	Claim	Grant #	Claim
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YD28704	AM 4	YD28750	AM 50	YD28910	AM 110	YD28956	AM 156	YD29002	AM 202
YD28705	AM 5	YD28751	AM 51	YD28911	AM 111	YD28957	AM 157	YD29003	AM 203
YD28706	AM 6	YD28752	AM 52	YD28912	AM 112	YD28958	AM 158	YD29004	AM 204
YD28707	AM 7	YD28753	AM 53	YD28913	AM 113	YD28959	AM 159	YD29005	AM 205
YD28708	AM 8	YD28754	AM 54	YD28914	AM 114	YD28960	AM 160	YD29006	AM 206
YD28709	AM 9	YD28755	AM 55	YD28915	AM 115	YD28961	AM 161	YD29007	AM 207
YD28710	AM 10	YD28756	AM 56	YD28916	AM 116	YD28962	AM 162	YD29008	AM 208
YD28711	AM 11	YD28757	AM 57	YD28917	AM 117	YD28963	AM 163	YD29009	AM 209
YD28712	AM 12	YD28758	AM 58	YD28918	AM 118	YD28964	AM 164	YD29010	AM 210
YD28713	AM 13	YD28759	AM 59	YD28919	AM 119	YD28965	AM 165	YD29011	AM 211
YD28714	AM 14	YD28760	AM 60	YD28920	AM 120	YD28966	AM 166	YD29012	AM 212
YD28715	AM 15	YD28761	AM 61	YD28921	AM 121	YD28967	AM 167	YD29013	AM 213
YD28716	AM 16	YD28762	AM 62	YD28922	AM 122	YD28968	AM 168	YD29014	AM 214
YD28717	AM 17	YD28763	AM 63	YD28923	AM 123	YD28969	AM 169	YD29015	AM 215
YD28718	AM 18	YD28764	AM 64	YD28924	AM 124	YD28970	AM 170	YD29016	AM 216
YD28719	AM 19	YD28765	AM 65	YD28925	AM 125	YD28971	AM 171	YD29017	AM 217
YD28720	AM 20	YD28766	AM 66	YD28926	AM 126	YD28972	AM 172	YD29018	AM 218
YD28721	AM 21	YD28767	AM 67	YD28927	AM 127	YD28973	AM 173	YD29019	AM 219
YD28722	AM 22	YD28768	AM 68	YD28928	AM 128	YD28974	AM 174	YD29020	AM 220
YD28723	AM 23	YD28769	AM 69	YD28929	AM 129	YD28975	AM 175	YD29021	AM 221
YD28724	AM 24	YD28770	AM 70	YD28930	AM 130	YD28976	AM 176	YD29022	AM 222
YD28725	AM 25	YD28785	AM 85	YD28931	AM 131	YD28977	AM 177	YD29023	AM 223
YD28726	AM 26	YD28786	AM 86	YD28932	AM 132	YD28978	AM 178	YD29024	AM 224
YD28727	AM 27	YD28787	AM 87	YD28933	AM 133	YD28979	AM 179	YD29025	AM 225
YD28728	AM 28	YD28788	AM 88	YD28934	AM 134	YD28980	AM 180	YD29026	AM 226
YD28729	AM 29	YD28789	AM 89	YD28935	AM 135	YD28981	AM 181	YD29027	AM 227
YD28730	AM 30	YD28790	AM 90	YD28936	AM 136	YD28982	AM 182	YD29028	AM 228
YD28731	AM 31	YD28791	AM 91	YD28937	AM 137	YD28983	AM 183	YD29029	AM 229
YD28732	AM 32	YD28792	AM 92	YD28938	AM 138	YD28984	AM 184	YD29030	AM 230
YD28733	AM 33	YD28793	AM 93	YD28939	AM 139	YD28985	AM 185	YD29031	AM 231
YD28734	AM 34	YD28794	AM 94	YD28940	AM 140	YD28986	AM 186	YD29032	AM 232
YD28735	AM 35	YD28795	AM 95	YD28941	AM 141	YD28987	AM 187	YD29033	AM 233
YD28736	AM 36	YD28796	AM 96	YD28942	AM 142	YD28988	AM 188	YD29034	AM 234
YD28737	AM 37	YD28797	AM 97	YD28943	AM 143	YD28989	AM 189	YD29035	AM 235
YD28738	AM 38	YD28798	AM 98	YD28944	AM 144	YD28990	AM 190	YD29036	AM 236
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YD28740	AM 40	YD28800	AM 100	YD28946	AM 146	YD28992	AM 192	YD29038	AM 238
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YD28742	AM 42	YD28902	AM 102	YD28948	AM 148	YD28994	AM 194	YD29040	AM 240
YD28743	AM 43	YD28903	AM 103	YD28949	AM 149	YD28995	AM 195	YD29041	AM 241
YD28744	AM 44	YD28904	AM 104	YD28950	AM 150	YD28996	AM 196	YD29042	AM 242
YD28745	AM 45	YD28905	AM 105	YD28951	AM 151	YD28997	AM 197	YD29043	AM 243
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Grant #	Claim
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YD29046	AM 246
YD29047	AM 247
YD29048	AM 248
YD29049	AM 249
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YD29058	AM 258
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YD29061	AM 261
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YD29063	AM 263
YD29064	AM 264
YD29065	AM 265
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YD29067	AM 267
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YD29069	AM 269
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