

Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Airborne Geophysics

TOTAL COST: \$173,900.00

AUTHOR(S): Christopher Leslie

SIGNATURE(S): 

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-4-661

YEAR OF WORK: 2013

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5527625

PROPERTY NAME: Rabbit North

CLAIM NAME(S) (on which the work was done): 1024017, 1024018, 1024019, 1024020, 1024021, 1024049, 1024050, 1024074, 1024075, 1024167

COMMODITIES SOUGHT: Cu, Au

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 092INE 045, 114, 130, 147

MINING DIVISION: Kamloops

NTS/BCGS: 92I 10, 92I 07

LATITUDE: 50 ° 36 '39.18 " LONGITUDE: 120 ° 40 '53.9 " (at centre of work)

OWNER(S):

1) Tower Resources Ltd.

2)

MAILING ADDRESS:

912 - 1112 West Pender St., Vancouver, BC

V6E 2S1, Canada

OPERATOR(S) [who paid for the work]:

1) Tower Resources Ltd.

2)

MAILING ADDRESS:

912 - 1112 West Pender St., Vancouver, BC

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PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):

Nicola Group, andesite, lapilli tuff, Durand Stock, monzonite, diorite, Triassic, Jurassic, alkalic porphyry, epithermal, skarn, copper, gold, chalcocopyrite, bornite, magnetite, potassic alteration, calc-potassic alteration, propylitic alteration

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 3715 4997 4016 4216 16099 13677 13721

14871 20868 29342 21268 21384 14110 16558 9134 22508 22531 22729 and those listed in 34777

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping _____			
Photo Interpretation _____			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic _____			
Electromagnetic _____			
Induced Polarization _____			
Radiometric _____			
Seismic _____			
Other _____			
Airborne 2,900 line kilometers		All 10 claims listed above	173,900.00
GEOCHEMICAL (number of samples analysed for...)			
Soil _____			
Silt _____			
Rock _____			
Other _____			
DRILLING (total metres; number of holes, size)			
Core _____			
Non-core _____			
RELATED TECHNICAL			
Sampling/assaying _____			
Petrographic _____			
Mineralographic _____			
Metallurgic _____			
PROSPECTING (scale, area) _____			
PREPARATORY / PHYSICAL			
Line/grid (kilometres) _____			
Topographic/Photogrammetric (scale, area) _____			
Legal surveys (scale, area) _____			
Road, local access (kilometres)/trail _____			
Trench (metres) _____			
Underground dev. (metres) _____			
Other _____			
		TOTAL COST:	173,900.00

Assessment Report

2013 High Resolution Airborne Magnetic Geophysical Survey, Rabbit North Property,
South Central British Columbia

Kamloops Mining Division

British Columbia

NTS: 92I/10

Latitude: 50° 37' N

Longitude: 120° 42' W

For Work Done on Tenures:

1024017	1024049
1024018	1024050
1024019	1024074
1024020	1024075
1024021	1024167

For Owners:

Tower Resources Ltd.
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By

Christopher D. Leslie, M.Sc.

Submitted: January 16th, 2015

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Summary

The Rabbit North Property is located 18 kilometers west of the city of Kamloops in the Thompson Plateau of south central British Columbia. The property comprises 34 mineral tenures totalling 16,378 hectares, of which 24 “core” tenures (2848 ha) are under option from R. Bruaset and D. Cooke, and 10 tenures (13,530 ha) are owned 100% by Tower Resources Ltd. Exploration expenditures described herein are applied to the 10 mineral tenures which Tower owns a 100% interest.

The Rabbit North Property is in the active and significant Kamloops mining division. The road accessible property is approximately 14.5 kilometres west of the producing New Afton mine operated by New Gold Inc. and approximately 28 kilometres east northeast of the producing Highland Valley mine operated by Teck Resources Limited, Canada's largest copper producer.

The property is centered on an Upper Triassic - Lower Jurassic aged zoned alkaline intrusion termed the Durand Stock. The stock has a mapped dimension of approximately 3.5 by 2.5 kilometers, however, the true size of the intrusion is inferred to be larger based on historic drill core and airborne magnetics presented herein. The stock is cored by compositions of syenite and monzonite and is rimmed by magnetite bearing diorite. The Durand Stock intrudes volcanic rocks of the Upper Triassic Nicola Group. Alkalic porphyry related copper and gold mineralization is related to the Durand Stock and is hosted in all phases of the stock and also in country rocks of the Nicola Group.

Following the acquisition of the core 2884 hectares of mineral tenures, Tower completed a detailed regional data compilation. Based on interpretations derived from this compilation Tower staked an additional 13,530 hectares of mineral tenure to cover newly identified regional geophysical anomalies. The majority of these anomalies are located north of the Durand Stock. The resolution of the regional magnetic data is coarse, therefore Tower flew a detailed high resolution airborne magnetic geophysical survey to refine these regional anomalies and to provide insight into the regional geology and structure. The helicopter magnetic survey described in this report was flown on easterly oriented lines at 100 meter separation covering a survey block with dimensions of approximately 29 by 11 kilometers. In total, 2,900 line kilometers of data was collected between December 4th and December 9th, 2013 by Precision GeoSurveys Inc of Vancouver.

Introduction

This report introduces a high-resolution helicopter-borne magnetic geophysical survey flown by Precision GeoSurveys Inc. Data was collected between December 4th and December 9th, 2013 over the Rabbit North property for Tower Resources Ltd.

The purpose of this report is to introduce the geophysical survey and to refer the reader to a comprehensive summary report authored by Jenny Poon of Precision Geosurveys Inc. This report, with accompanied maps, is attached as Appendix A.

Location and Access

The Rabbit North Property is in south-central British Columbia in the area of Greenstone Mountain, 8km northeast of the town of Logan Lake and 15km west of the city of Kamloops (Figures 1, 2). The property is situated in the Kamloops Mining Division. The property is centered at 50°37' N latitude, 120°42' W longitude (662708E 5609723N, UTM zone 10), on NTS mapsheets 92I/10 and 92I/07 within the Thompson Plateau.

The easiest access to the center of the Rabbit North property is from the south via the Paska Lake Road, which meets Highway 97D (Meadow Creek Road) approximately 14km east of Logan Lake and 9km west of the junction with Highway 5 (Coquihalla Highway). The Paska Lake Road continues for nine kilometres to the north, where it becomes the Dominic Lake Road. The center of the property is located eight kilometres north along the Dominic Lake Road. The northern part of the property is easily accessed by four wheel drive vehicle via the Trans-Canada Highway (highway 1) and Greenstone Road. The turnoff for the Greenstone Road is approximately 9 kilometers west along Highway 1 from the intersection with Highway 5 south of Kamloops. Roads have rarely been deactivated; only deadfall and water hinder access in most areas. In the northern portion of the claims the Duffy Lake Road (Greenstone Road) and Dairy Lake Road are main trunk roads. From these main roads the majority of the claims are accessible.

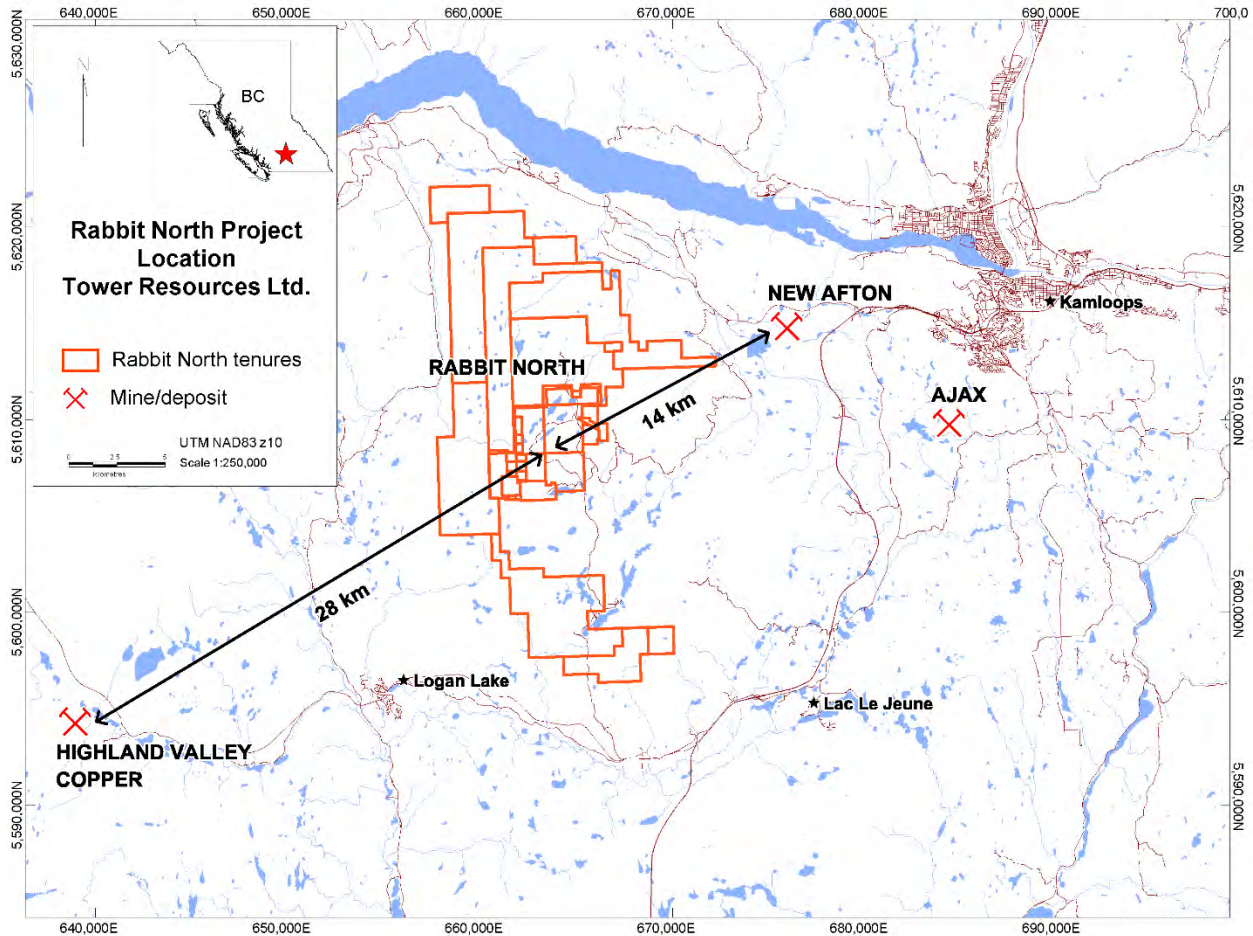


Figure 1. Map showing the location of the Rabbit North Project

Physiography, Vegetation and Climate

The property is in south-central British Columbia in the physiographic division known as the Thompson Plateau. The property is situated on the northwest margin of an undulating northeast-trending plateau with an average elevation of 1600m. On the property scale the plateau dominates the central to southeastern portion of the property, with a parallel valley dominating the northwest portion.

The claims generally cover rolling treed upland, with isolated swampy meadows and forested ridges. The valley on the northwest portion of the claims contains several small lakes and minor marshland. Elevations range from 550 metres above sea level near Kamloops Lake on the northern margin of the claims to 1710m on the flanks of Greenstone Mtn. at the eastern claim boundary. A significant portion (~30%) of the property has been logged by clear-cut methods in the last several decades and is covered by immature timber. The property is forested with lodgepole pine, spruce, balsam fir, and locally douglas fir.

Outcrop or subcrop is common on the plateau comprising most of the property. On the topographically subdued northwest part of the property outcrop or subcrop is very rare and overburden is thick. Though the property is in temperate southern BC, owing to the high elevation the area is characterized by short, hot and dry summers and long moderate but snowy winters. A suitable period for exploration is from late May to late October. Water courses are generally dry by mid-summer.

Greenstone Mountain Provincial Park, a small park on the peak of Greenstone Mountain, abuts the property to the east.

Claims and Ownership

The Rabbit North property consists of 34 contiguous mineral tenures totalling 16,378 hectares located in the Kamloops Mining Division in the Thompson Plateau of south-central British Columbia (fig. 2). Of the 34 tenures a total of 10 tenures (13530 ha) have work applied to them as detailed in this report (grey tenures in Figure 2 and outlined in Table 1). These are the tenures for which Tower Resources owns a 100% interest. The remaining 24 tenures (2848 ha; black tenures in Figure 2) are under option by Tower Resources, from R. Bruaset and D. Cooke and no expenditures are applied to these tenures. The “Good To Date” dates are conditional on approval of this report.

Table 1. Rabbit North Property Tenures - 100% Tower

Tenure Number	Claim Name	Owner	Map Number	Issue Date	Good To Date	Area (ha)
1024017		252849 (100%)	092I	2013/nov/27	2017/feb/11	2028.6311
1024018		252849 (100%)	092I	2013/nov/27	2017/feb/11	2048.2812
1024019		252849 (100%)	092I	2013/nov/27	2017/feb/11	1843.6648
1024020	RABBIT NORTH	252849 (100%)	092I	2013/nov/27	2017/feb/11	1986.1212
1024021	RABBIT NORTH	252849 (100%)	092I	2013/nov/27	2017/feb/11	1928.1538
1024049		252849 (100%)	092I	2013/nov/28	2017/feb/11	307.0411
1024050		252849 (100%)	092I	2013/nov/28	2017/feb/11	470.5582
1024074		252849 (100%)	092I	2013/nov/29	2017/feb/11	2054.1657
1024075		252849 (100%)	092I	2013/nov/29	2017/feb/11	678.2112
1024167		252849 (100%)	092I	2013/dec/02	2017/feb/11	184.9329

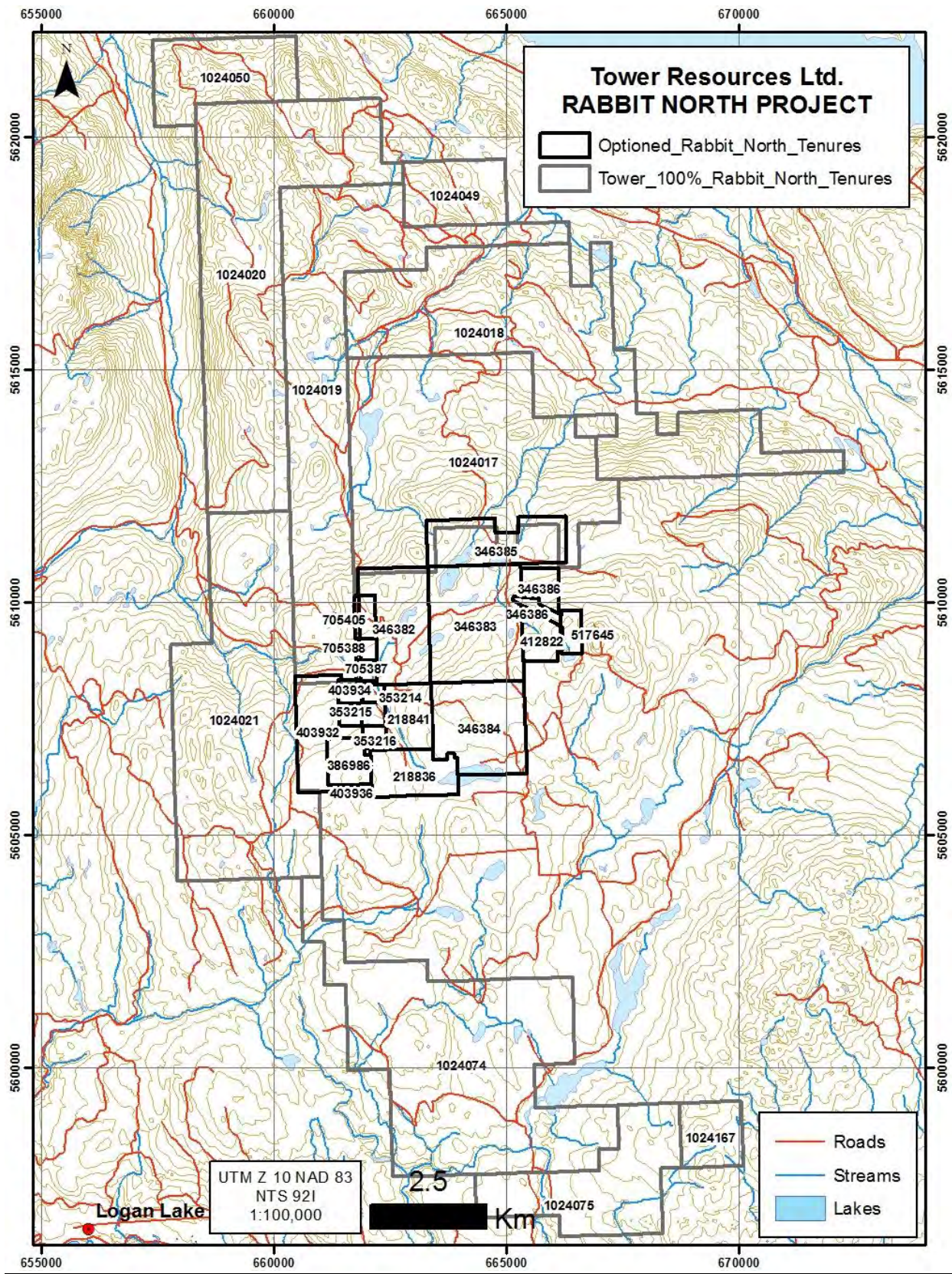


Figure 2. Map showing Rabbit North Mineral tenures. Grey tenures have work applied as detailed herein.

Previous Exploration

Previous work in the area of the Rabbit North Property is described in B.C. Ministry of Energy and Mines and Responsible for Core Review assessment reports, which are available on the Ministry's ARIS website. By far, the majority of historic work was concentrated on claims overlying the Durand Stock, whereas ground to the north and south has seen limited work historically. Relevant report numbers encompassing the entire property include: 325 (Stevenson 1960), 1009 (Dirom 1967), 1099 (Brynelsen and Knauer 1967), 2511 (Hamilton, 1970), 3713 (Cooke 1972), 3715 (Timmins 1972), 4008 (Halloy and Goudie 1972), 4016 (Gutrath and Nielsen 1972), 4216 (Elwell 1972), 4997 (Pendergast 1974), 5673 (Bruaset 1975), 7337 (Scott 1979), 9134 (Ashton 1991), 13677 (Morrison 1985), 13721 (Morrison 1985), 14110 (Sookochoff 1985), 14871 (Morrison 1988), 16558 (LaRue 1986), 8238 (Bruaset 1980), 17550 (Lovang 1988), 17669 (Elliott 1988), 20320 (Bond and Tsang 1990a), 20424 (Bond and Tsang 1990b), 20648 (Bond and Tsang 1990c), 20649 (Bond and Tsang 1990d), 20793 (Bruaset 1990), 21125 (Pearson and Wong 1990), 21384 (Morrison 1991), 22508 (LaRue 1992), 22531 (Jackisch 1992), 22729 (Noakes 1992), 23721 (Wagner 1995), 24785 (Bruaset 1996), 25124 (Bruaset 1997), 25790 (Bruaset 1998), 25941 (Bruaset 1999), 27348 (Bruaset 2004a), 27570 (Bruaset 2004b), 32228 (Bruaset 2011a), 32546 (Bruaset 2011b), 34777 (Peterson 2014). The following is a summary of the historical work completed on the entire Rabbit North property:

Core Tenures

In 1959 and 1960 Kennco Explorations conducted exploration for molybdenum over the DRG claim group, in the area of the today's Rabbit South property. A soil geochemical survey (Mo, Cu), geological mapping, and reconnaissance IP survey partially overlapped the southeast portion of the modern Rabbit North property. Two short (<15m) drill holes were completed in the same area (Stevenson 1960). A large Mo soil geochemical survey was conducted by Dominic Lake Mining Co. in 1966, focusing on the same area. A reconnaissance Cu-Mo soil geochemical survey was also completed over the Durand Stock (Dirom 1967). A reconnaissance Cu soil geochemical survey encompassing the southwestern portion of the Durand Stock was conducted in 1967 by Noranda (Brynelsen and Knauer 1967).

The property ("Rag Claims", on and around the Durand Stock) was staked by Cominco in 1969. Cominco (and Mid-North Explorations, for Cominco) carried out IP, ground magnetic, and soil sampling surveys on the property between 1970 and 1980, as well as mapping (Hamilton 1970, Halloy and Goudie 1972, Scott 1979). In addition, 18 percussion drill holes were completed in 1970 (Hamilton 1970), 18 in 1972, and 5 in 1980 (Bruaset 1980). The Western Magnetite and Central Monzonite Zones were targeted, and several property-scale exploration holes were drilled. Two diamond drill holes were completed in 1975 in the Western Magnetite Zone (Bruaset 1975).

Teck staked the GS claims over the central and eastern portion of the Durand Stock and conducted soil, ground magnetic, and VLF-EM surveys in 1988 (Lovang 1988). Cominco was also active in 1988, completing a soil geochemical survey (Elliott 1988). In 1990 Teck (in a joint venture with Cominco) carried out soil geochemical, ground magnetic, and VLF-EM surveys on the combined Rag/GS Claims, over the western part of the Durand Stock (Bond and Tsang 1990a). They also conducted soil geochemistry, VLF-EM, and ground magnetic surveys over the Happy Days Claims (now Rabbit South); one of the two grids is mostly contained by the modern Rabbit North property (Bond and Tsang 1990b). This work was followed by a percussion drilling program on both properties (Bond and Tsang 1990c, Bond and Tsang 1990d); all holes are encompassed by the Rabbit North Property. On the Rag/GS Claims the Central Monzonite Zone was targeted, and on the Happy Days Claims prospective Cu-Au targets were drilled.

R. Bruaset and D. Cooke began acquiring the modern claims in 1989. In 1990 they performed a soil geochemical survey on the west side of the property, grab sampling, and petrography (Bruaset 1990). Noranda optioned and conducted work on the Rabbit claims in 1990, carrying out an IP survey and soil geochemical survey, and grab sampling (Pearson and Wong 1990); part of the soil survey and a short IP line were completed west of Dominic Lake on the modern Rabbit North property, while the bulk was completed on the modern Rabbit South property. In 1992 two IP lines of a large survey by Cominco also covered this area of the Rabbit North property (Jackisch 1992). Cominco completed a single percussion hole north of Dominic Lake on the Happy Days Claims in 1994 to test an IP anomaly; the hole returned elevated Cu and Mo (Wagner 1995). Teck and Cominco had allowed their claims to lapse by the end of 1995; Bruaset and Cooke staked these areas, and optioned them to separate companies as Rabbit North (Cu, Au focus) and Rabbit South (Mo focus).

ProAm Explorations optioned the Rabbit North property from Bruaset and Cooke and funded a 1996 program, completing an IP survey (targeting gold mineralization), large enzyme leach soil survey, and infill conventional soil survey (Bruaset 1996). In 1997 the largest diamond drilling program on the property to date was completed, in two phases. The first phase (13 holes) yielded 10m of 12.5g/t Au in 97-07, and 31.5m of 0.16g/t Au and 0.37% Cu in 97-09. The second phase (8 holes) followed up on these two areas (east of the Western Magnetite Zone and the Chrysocolla Zone respectively), drilling 33m of 0.76g/t Au with 0.27% Cu in 97-17 in the Chrysocolla Zone (Bruaset 1997). This was followed by a biogeochemical (tree bark) survey in the area south of the Chrysocolla Zone (Bruaset 1998), and trenching (including mapping and grab sampling) in 1998 (Bruaset 1999).

No further work was conducted until 2003, when Auterra Ventures optioned the property. The 2003 program included 11 trenches (including mapping and grab sampling), a ground mag and VLF-EM survey, and petrography (Bruaset 2004a). The 2003 program laid the groundwork for the seven diamond drill holes completed in 2004. Epithermal gold mineralization was the primary target; all holes were completed in the area of the Chrysocolla Zone (Bruaset 2004b). Hole 04-07 assayed 0.18% Cu and 0.17g/t Au over 86m (from surface), and 04-02 (drilled through young basalt cover) assayed 0.32g/t Au over the length of the hole. Auterra Ventures abandoned the option due to lack of funding and the property reverted 100% to Bruaset and Cooke.

In 2010 and 2011 Bruaset conducted prospecting and mapping over several targets, and petrology and petrography on numerous samples (Bruaset 2011a, 2011b). No further work was completed before Tower Resources optioned the property in 2013. Tower conducted a multidisciplinary reconnaissance level program in 2013 consisting of induced polarization and ground magnetic geophysical surveys and rock-chip sampling (Peterson 2014).

Northern, Western and Southern Tenures

Historically exploration north of the Durand Stock was focused on precious metal mineralization associated with large areas of strong carbonate and clay alteration zones primarily near and north of Duffy Lake. Programs consisted of small footprint soil geochemical surveys, ground magnetic surveys, geological mapping and limited percussion drilling. In 1972 Consolidated Cleveland Resources Ltd conducted a program consisting of prospecting, soil geochemistry and magnetic surveys over the Hard 1-6 claims (Timmins 1972) which were 14 kilometers south of Savona. Nine geochemical anomalies and two EM conductors were identified in these surveys and a recommendation for a small diamond drill program was made to test for copper mineralisation. Guthrath and Nielsen (1972) and Elwell (1972) explored areas within the M.M. claims and the K.M./B.W./Rock claims respectively near Duffy creek for copper mineralization and completed ground magnetic, geological and soil geochemical surveys. Large zones of

alteration and anomalous geochemistry were reported. In 1974 ABCO Petroleum Ltd conducted a magnetometer and a small IP survey consisting of two lines over the PAM group of claims located along Duffy Creek (Pendergast 1974). Coincident magnetic and chargeability anomalies were reported and a drill program was recommended. Morrison worked the British 1-5 in 1985 and 1986 located directly north of Duffy Creek (Morrison 1985a, 1986) and approximately 25km due west of Kamloops and the Golden Ring claims (Morrison 1985b) in 1985 located ~3.5 kilometers north of the British Claims. Programs consisted mainly of ground magnetometer, VLF and soil surveys with one small IP survey.

The western extension of the claims has seen limited previous exploration. A single drill hole was completed in 1984 (DH 84-1), by Green Valley Mine Inc. (Sookochoff, 1985). It targeted a coincident IP and VLF-EM anomaly identified in the area by previous surveys (not publicly available), near an arsenic-rich sample from a trench. It intersected a “volcanic sandstone” with one sample (of four submitted) containing anomalous arsenic. They followed up with two small IP surveys in the area (La Rue, 1986; 1987).

On the southern tenures, a soil survey was conducted by Noranda Exploration on a small portion of the current claims (Ashton, 1981), 4km southwest of Dominic Lake where the southern claim package connects to the western claims. Weakly anomalous Cu and Zn was recovered and no further exploration was completed. An IP survey in the same area was conducted in 1991 (La Rue, 1992) with no encouraging results. A reconnaissance IP survey was conducted over part of the southern claims in 1991 for Cominco, but no anomalies were identified on the current Tower claim package (Jackisch, 1992). A reconnaissance soil survey was also carried out by Cominco in 1992, which outlined several small coincident Cu and Zn soil anomalies west of Paska Lake (Noakes, 1992).

Regional Geology, Geophysics and Metallogeny

The Rabbit North property is located within the Intermontane Belt, which locally comprises the Stikine, Cache Creek and Quesnel terranes. These terranes are composed of late Paleozoic to mid-Mesozoic marine volcanic and sedimentary rocks and mid-Mesozoic to late Cenozoic marine and non-marine sedimentary and volcanic rocks. The property lies within the Quesnel terrane, a long-lived late Paleozoic to mid-Mesozoic arc bounded to the east by the oceanic Slide Mountain terrane (and pericratonic rocks), and to the west by the oceanic Cache Creek terrane.

The Quesnel terrane consists mainly of Late Triassic submarine volcanic and volcanoclastic rocks (Nicola group on the property) which overlie the arc's Paleozoic sedimentary basement. Regionally to the south, between Merritt and Princeton, the Nicola Group is divided into three north-trending structural belts which are bounded by faults (Preto 1979) and are termed the eastern, central and western belts. The belts are comprised of rock units of varied lithology but are of similar composition and mode of origin. The Nicola Group rocks underlying the Rabbit North project belong to the eastern volcanic belt and comprise mostly augite and hornblende porphyritic mafic volcanic rocks, breccias and tuffs. Alkaline to calc-alkaline intrusions of equivalent to Late Triassic to Early Jurassic age intrude these rocks, and are highly prospective for porphyry Cu (+Au, +Mo) deposits. Several of these intrusions have been mapped in the Rabbit North claims area; the Rabbit North core claims are centred on the Durand intrusion.

Early to Middle Jurassic sedimentary rocks unconformably overlie these volcanic rocks and intrusives (Ashcroft Formation in the project area). In middle Eocene time the subducted Resurrection plate supported

magmatism producing the trench-parallel (ie. NW-SE) oriented Challis-Kamloops volcanic belt in the BC interior (Ewing 1980, 1981; Dostal et al 1998; Breitsprecher et al 2003). These volcanics are preserved in many locations throughout the area. The region was covered by an ice sheet in the Pleistocene; thick till deposits and glacial markers are visible in many areas (Bobrowsky 2002).

Monger and McMillan (1989) compiled the only geological map of the area between the Guichon Creek batholith and the Iron Mask batholith, at 1:250000 scale. Figure 3 outlines the regional geology of the Rabbit North area; the geology was most recently compiled by the British Columbia Geological Survey in 2005 (Massey et al., 2005). The digital maps from this compilation are available on the Ministry's website.

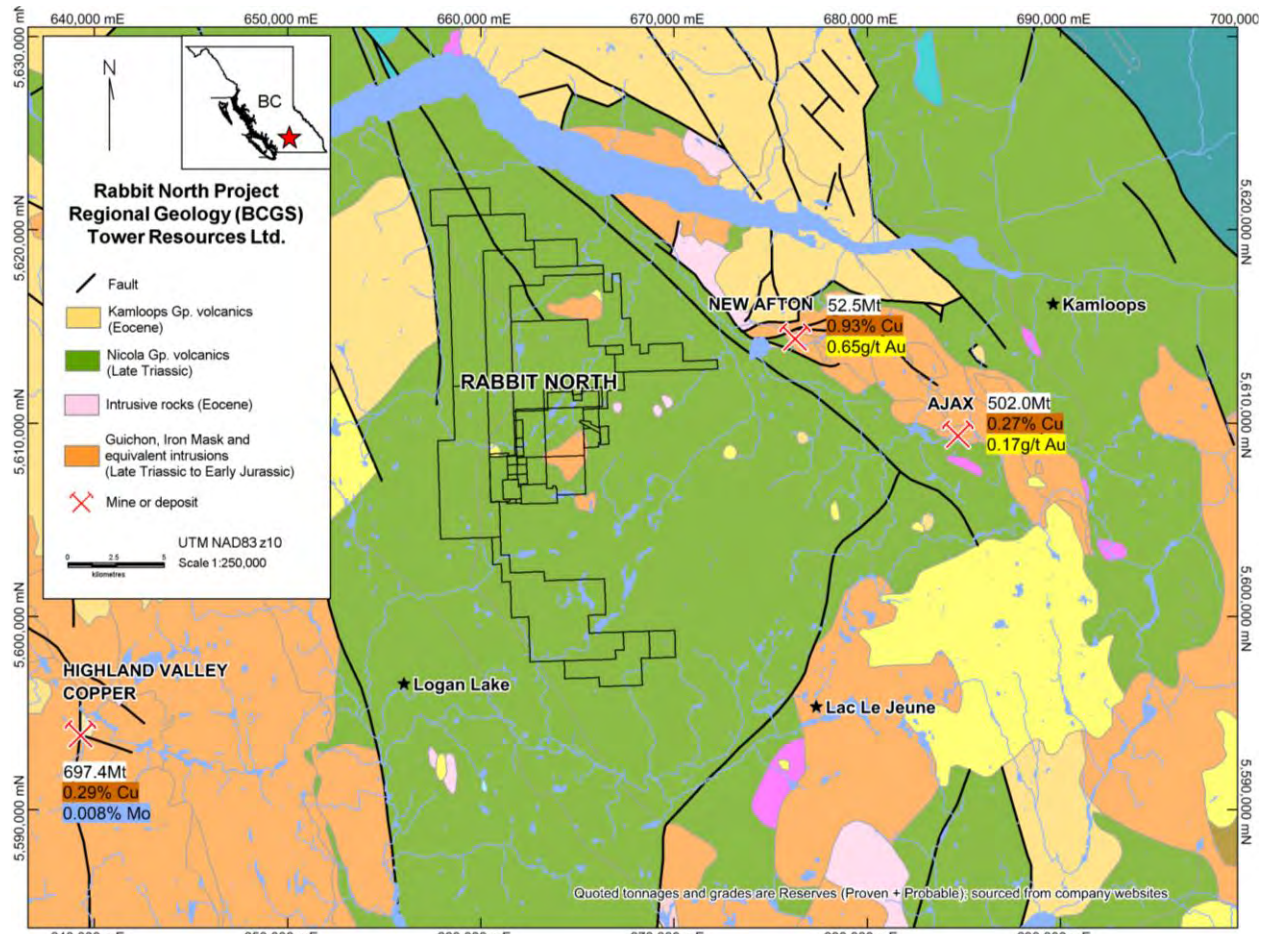


Figure 3. Map showing the regional geology

There are several significant deposits of Late Triassic to Early Jurassic age, of both alkalic and calc-alkaline types, in the Rabbit North area. The Highland Valley Copper mine, in the Guichon Creek batholith 28km west of Rabbit North, has produced (to 2005) 3.33Mt Cu (average grade of 0.43%) and 0.044Mt Mo (average grade of 0.03%) from five major calc-alkaline porphyry deposits (BCGS 2014). The Iron Mask batholith to the east of Rabbit North is host to at least 10 Cu-Au deposits. The Afton alkalic porphyry deposit produced 23.0Mt of 0.85% Cu and 0.52g/t Au (BCGS 2014), while the New Afton alkalic porphyry deposit, currently mined and accessed from the historic Afton pit, has a measured and indicated resource of 82.7Mt at 1.0% Cu and 0.80g/t Au (Newgold Inc, 2013). Also of significance and currently under development is the Ajax project, which consists of the historically mined Ajax West and Ajax East deposits. They produced 7.9Mt at 0.37% Cu and 0.27g/t Au (Logan and Mihalyuk 2005), and as of 2011 had a

measured and indicated resource of 512.0Mt of 0.31% Cu and 0.19g/t Au (Kuhl and Reid 2011). Immediately to the southeast of the Durand intrusion (on the Rabbit South property) is the Roper Lake intrusion, of unknown but possibly Cretaceous age, which hosts significant molybdenum mineralization.

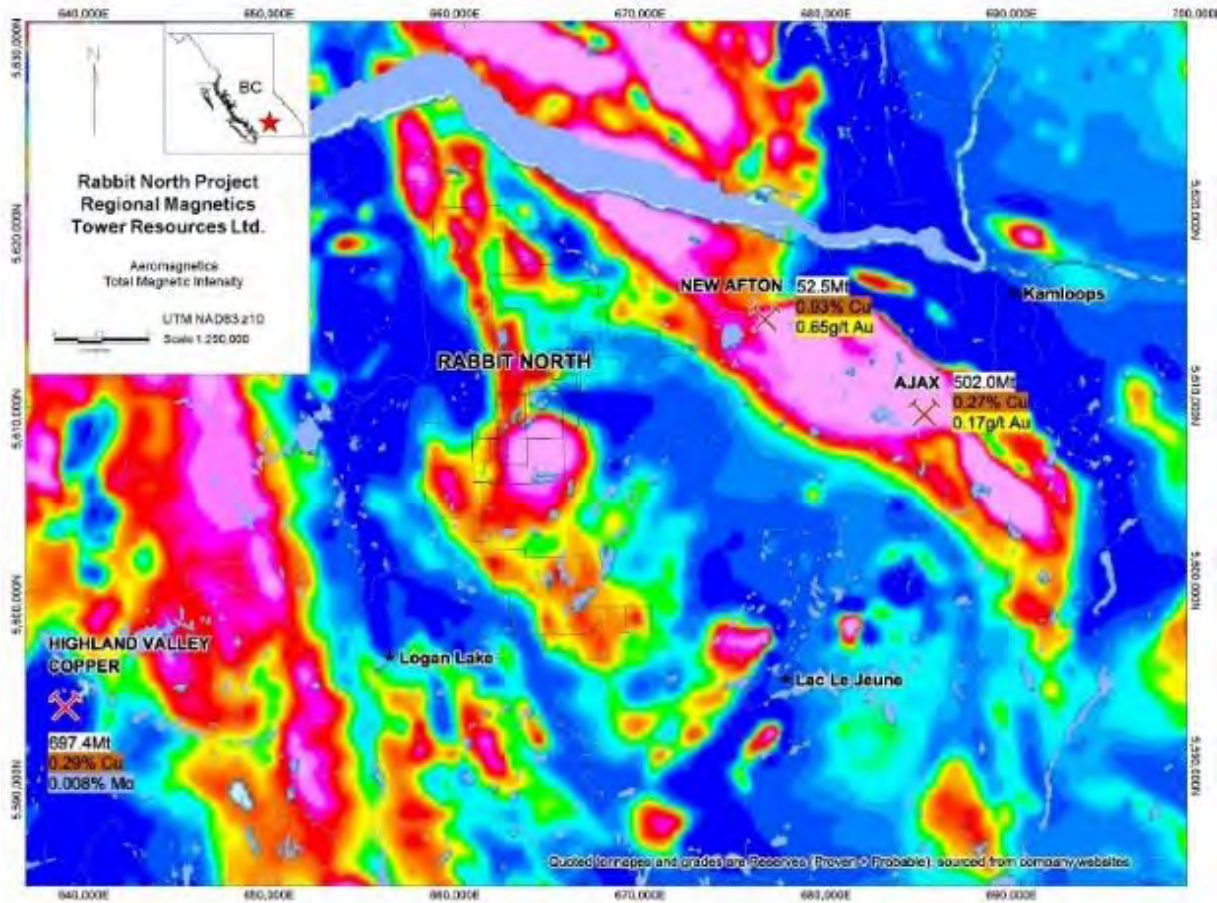


Figure 4. Map showing the regional TMI data

The government regional magnetic data (fig. 4) from Mapplace shows a prominent magnetic-high anomaly in the center of the claim block which corresponds to the Durand Stock. This anomaly forms part of larger north-south trend of magnetic-high anomalies. Furthermore, the regional geological map (fig. 3) shows this northern trend to be underlain primarily by volcanic rocks of the Nicola Group where only one unnamed Triassic aged intrusion is mapped to the north (fig. 3). Clearly, there is a need for robust high resolution magnetic data coupled with detailed geological mapping to resolve these geophysical features and to identify additional intrusive rocks of Durand age.

Property Geology

The Rabbit North property geology is best discussed in reference to the core claims covering the Durand Stock as these claims have been the focus of detailed historic geological studies. The surrounding claims

to the north, west and south have had limited historic geological mapping programs conducted on them, therefore property geology in these areas is best interpreted from regional geological maps.

The Rabbit North core claims are centred on the Durand stock, a 3.5 x 2.5 km multi-phase alkaline intrusive of Late Triassic to Early Jurassic age (fig. 5). The intrusion is hosted in Nicola Group rocks, broadly characterized as basaltic to andesitic, augite ± plagioclase-phyric submarine volcanics and volcanoclastics. Here, in the “eastern belt” of the Nicola Group, a distal volcano-sedimentary facies is represented, with augite-porphyrific basalt to andesite with minor sedimentary horizons (Mortimer, 1987). Breccia textures are common. Way-up indicators are visible in these rocks on the southwest portion of the core claims, with bedding showing a consistent 042°/60° dip (right hand rule) and appearing overturned.

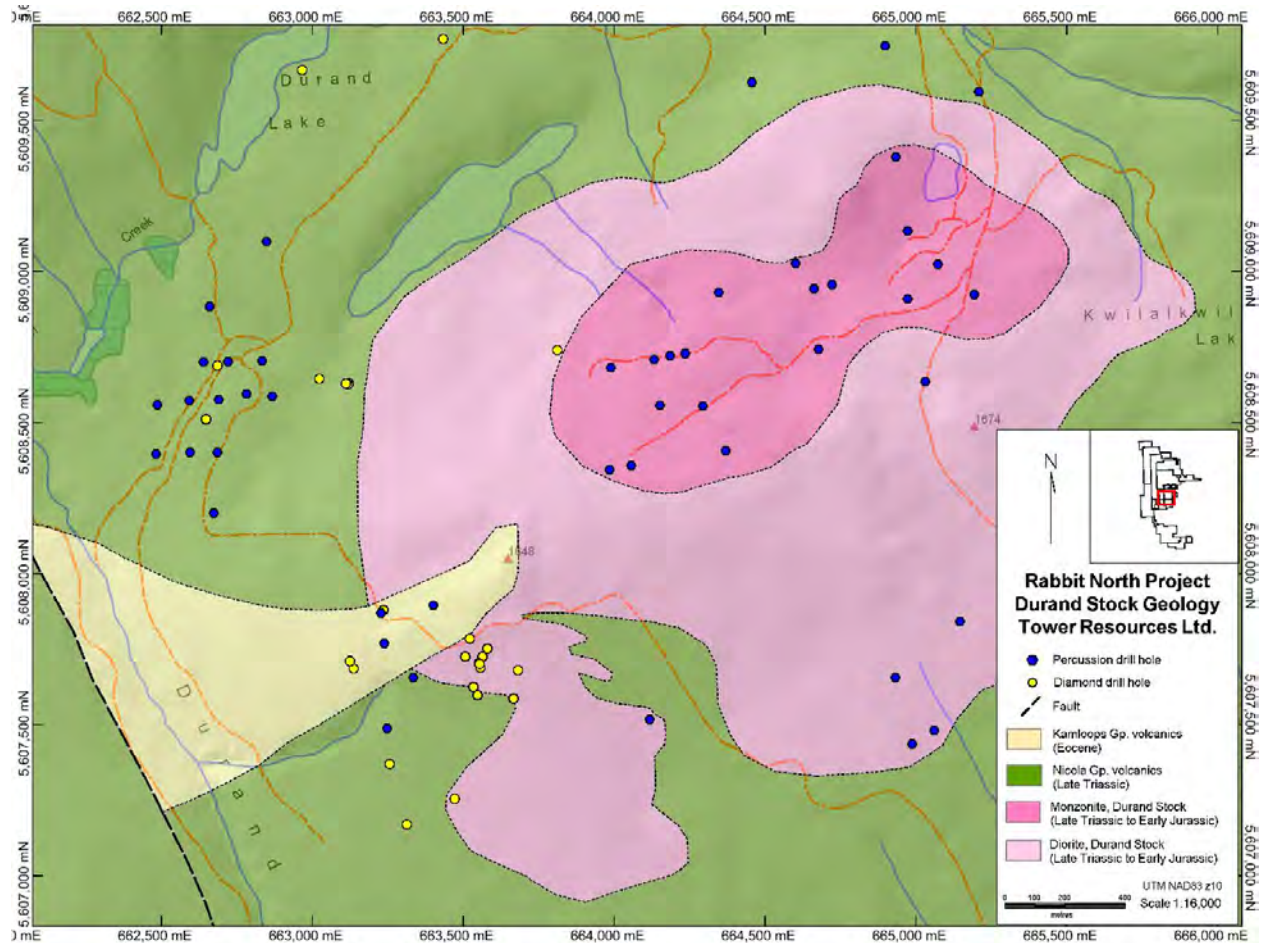


Figure 5. Property Geology (from Peterson 2014)

The Durand stock intrudes the Nicola Group rocks; xenoliths of Nicola volcanics are visible. Two phases of the Durand intrusion are easily identified, an older diorite and a younger monzonite (to monzodiorite and syenite) phase that is nested within the diorite. The diorite phase is augite +/- hornblende porphyritic and generally coarse grained and characterized by abundant disseminations to stringers of primary magnetite. In the slightly finer grained biotite bearing monzonite (to syenite) phase, distinctive megacrystic K-feldspar with simple twinning is a common feature. Magnetite is much less abundant than in the diorite, with fine disseminations. Modal quartz abundance in both phases is generally <1%. Near the margins of the intrusion, the contact with Nicola rocks is difficult to identify and terms “microdiorite” and “microdiorite breccia” is used. The microdiorite is compositionally similar to the main diorite phase, however it is finer grained and

commonly augite porphyritic. It is interpreted to represent a coeval highlevel phase of the intrusion of similar age of the Nicola volcanics rocks.

There are widespread occurrences of smaller calc-alkaline, granite to diorite intrusives, typically dikes. These crosscut porphyry-style mineralization and may be related to the Roper Lake intrusion to the southeast. They are related to quartz-pyrite veins and breccias which are mineralized (gold). Colliform chalcedony veins (e.g. DDH 97-18) are typical of “mesogene” late veins reported from the Kamloops area (such as at New Afton).

These features are crosscut by dikes of unmineralized quartz-hornblende-phyrlic latite(?) and other unmineralized dikes. These lithologies are also overlain by Eocene(?) basalts presumed to be part of the Kamloops Group, which are <50m thick and occur west of the Chrysocolla Zone.

Within the Durand stock, porphyry related mineralization and alteration varies depending on host rock type. Within the diorite and microdiorite, disseminated, vein hosted and clotted chalcopryite + pyrite is associated with epidote + magnetite is the dominant calc-potassic alteration phase which is typically pervasive and patchy and also vein hosted (e.g., Chrysocolla). Local and discrete crosscutting potassium feldspar veins with lesser albite are also observed. Within the monzonite phase copper sulphides (i.e., chalcopryite +/- bornite) are selectively replacing magmatic mafic minerals (e.g., biotite and magnetite) associated with sericite + chlorite + epidote +/- weak clay alteration (e.g., Central Monzonite Zone). There is also a late(?) pervasive calcic alteration. Locally within the microdiorite/Nicola volcanics(?) alteration is pervasive and consists of strong albite + biotite with lesser epidote + chlorite. Clotted and disseminated chalcopryite +/- bornite + pyrite are associated (e.g., Chrysocolla and Western Magnetite zones).

Work Completed in 2013

In total, 2,900 line kilometers of data was collected between December 4th and December 9th, 2013 by Precision GeoSurveys Inc of Vancouver. The helicopter magnetic survey described below was flown on easterly oriented lines at 100 meter separation covering a survey block with dimensions of approximately 29 by 11 kilometers.

The reader is referred to a detailed logistics and summary report detailing the survey and the technical parameters authored by Jenny Poon of Precision GeoSurveys is attached in Appendix A.

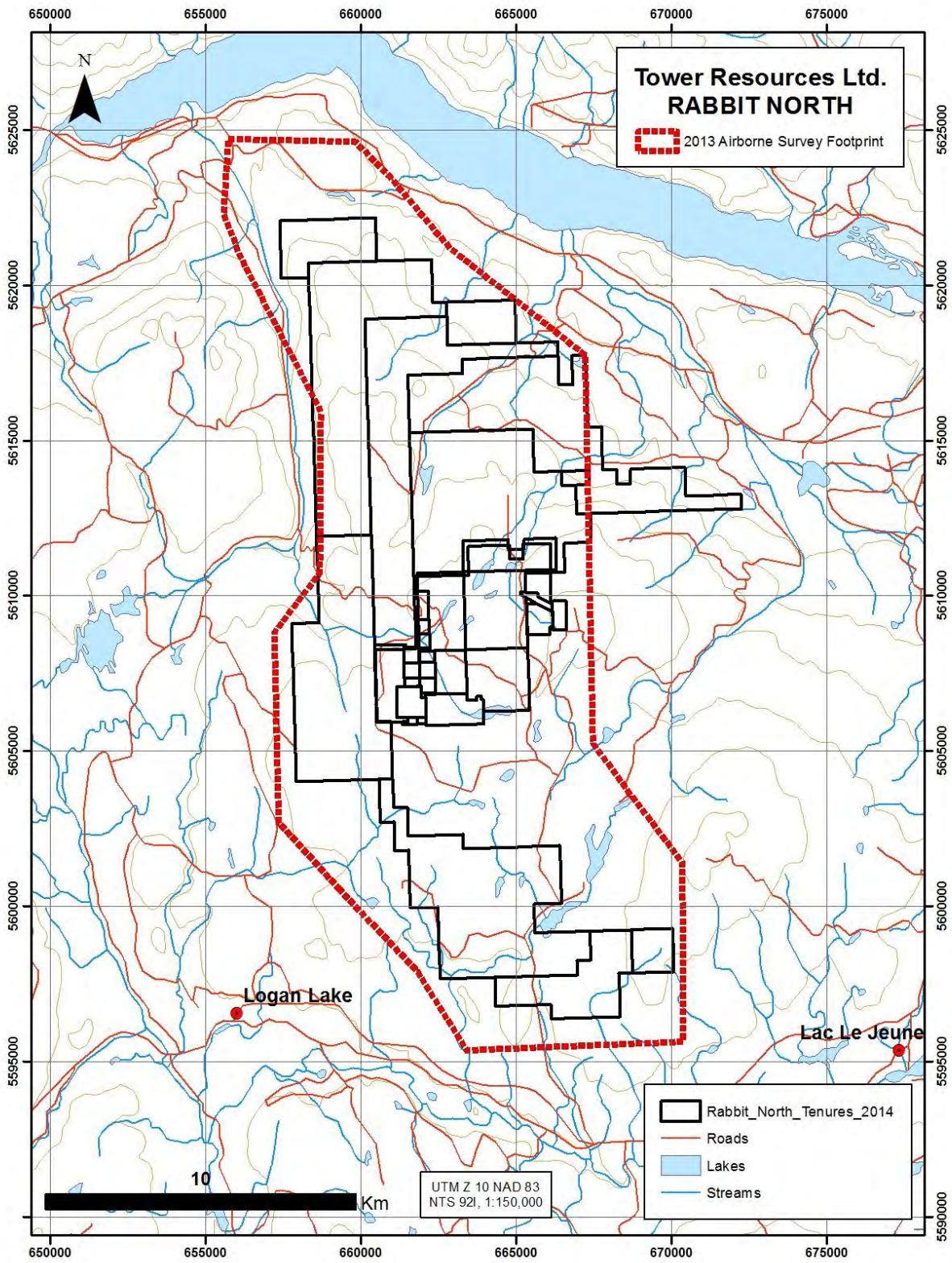


Figure 6. Map showing footprint of the 2013 heli-borne magnetic survey

Discussion

The purpose of the survey was to provide high resolution magnetic data to assist in the interpretation of the property geology and to help define drill targets in areas proximal to the Durand Stock. The Durand Stock comprises an oval shaped magnetic high rim measuring 4.0 by 3.5 kilometers, with a magnetic low core. Magnetic highs proximal to the stock are also observed where magnetite alteration is documented in Nicola Group volcanic rocks or microdiorite of the Durand stock. Furthermore, the prominent magnetic-low anomaly in the center is related to the monzonite core phase of the Durand stock. The monzonite phase has trace magmatic magnetite and there is no documented hydrothermal magnetite, thus producing a magnetic low. Magnetic highs of similar magnitude have been identified in areas with limited historic exploration proximal to the Durand Stock. These anomalies are considered significant targets for follow-up. Furthermore, the survey effectively identified new magnetic highs, lineaments and breaks which may represent possible intrusions and structures in unexplored areas where publically available, low resolution magnetic data exhibits coarse featureless anomalies.

North and to the west of the prominent Durand stock magnetic anomaly there are three observed targets (A, B, and C, Figure 7) worthy of immediate follow-up. Target A is a magnetic-low ring that spans at least 2.8 kilometers east-west. Portions of this anomaly are coincident with areas of shearing and potential skarn mineralization as noted by Gutrath and Nielsen (1972). Furthermore, this anomaly is on the southern margin the mapped unnamed Triassic intrusion as shown on regional geological maps. The porphyry Cu potential of this intrusion has not historically been evaluated. Target B is located 3.8 kilometers north of the Durand stock anomaly and is characterized by a large heterogeneous magnetic high bound to the south by a prominent magnetic-low anomaly. This area has not been investigated historically and shows magnetic features typical of faulting (e.g., sharp break in magnetics trending southwest-northeast) and magnetite destructive alteration (e.g., mag low in center of target). Target C is located approximately 5.7 kilometers west-southwest of the center of the Durand stock. This anomaly is considered important is it is a magnetic-high in an area with no historic exploration. Furthermore, this anomaly lies on the regional west-southwest trend that links the Ironmask batholith (New Afton mine) with the Durand Stock and finally with the Guichon batholith (Highland Valley mine).

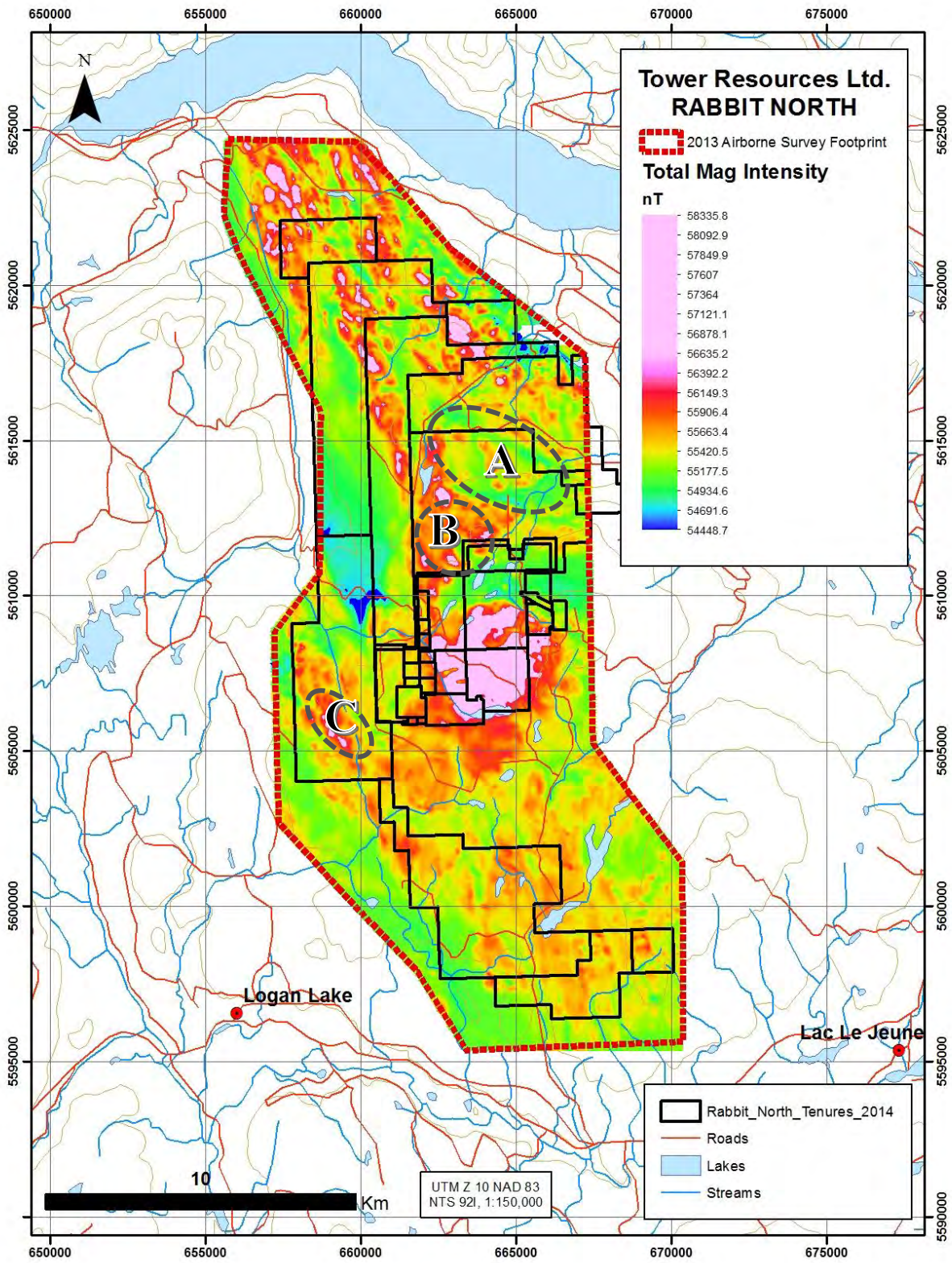


Figure 7. Map showing 2013 total magnetic intensity data with three target areas

Conclusion and Recommendations

The helicopter-borne magnetic survey described in this report was flown on easterly oriented lines at 100 meter separation covering a survey block with dimensions of approximately 29 by 11 kilometers. In total, 2,900 line kilometers of data was collected between December 4th and December 9th, 2013 by Precision GeoSurveys Inc of Vancouver. The reader is referred to Appendix A for a complete geophysical report with accompanied high-resolution maps.

The geophysical data acquired is considered robust and is of high quality. The total magnetic intensity (TMI) data is clearly an improvement on the government's regional publically available data. This data better defines the internal geometry and structure of the Durand Stock, picks out regional structures and fundamentally enhances project interpretations based on magnetics.

It is recommended that a reconnaissance mapping (e.g., 1:20,000 scale) and sampling program be completed focused on ground-truthing new magnetic anomalies (A, B, and C, Figure 7) located north and west of the Durand stock. The aim of this phase should be to define porphyry targets worthy of detailed follow-up. Also, it is recommended that a detailed deposit-scale mapping program be completed over the prominent magnetic anomaly associated with the Durand stock. The aim of this phase should be to refine the geological map and provide insight into magmatic versus hydrothermal magnetite and the resulting geophysical anomalies. Furthermore, internal magnetic breaks within the Durand stock should be focused on as they may be favorable structures for porphyry copper emplacement.

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Statement of Costs

Exploration Work type	Comment	Days			Totals
Personnel (Name)* / Position	Field Days	Days	Rate	Subtotal*	
Christopher Leslie - VP Ex	Survey design and prep	1	\$600.00	\$600.00	
				\$600.00	\$600.00
Office Studies	List Personnel				
Report preparation	Christopher Leslie	3.0	\$600.00	\$1,800.00	
				\$1,800.00	\$1,800.00
Airborne geophysics	Line Kilometres				
Magnetics (Precision Geosurveys)	2,888 Line kms,			\$171,500.00	
				\$171,500.00	\$171,500.00
TOTAL Expenditures					\$173,900.00

Statement of Qualifications

I, Christopher Leslie, M.Sc., certify that:

1. I am a consultant for Tower Resources Ltd with a business address located at:
912 – 1112 Pender St.
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Canada
2. I am a consultant with a business address at:
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V5N 2K7
3. I have a B.Sc. degree in geology from the University of Alberta obtained in 2006 and a M.Sc. degree in geology from the University of British Columbia obtained in 2009.
4. From May 1st 2005 to May 1st 2009, I was employed as a geologist in Canada primarily during summer field seasons. Since May 1st 2009, I have worked full time in mineral exploration as a geologist.
5. I designed the 2013 Rabbit North geophysical survey outlined in this report, therefore I am personally familiar with the work conducted in 2013.

Dated this 16th day of January, 2015



Signature

Christopher Leslie, M.Sc.

Appendix A: Precision Geosurveys Inc. Report

AIRBORNE GEOPHYSICAL SURVEY REPORT



Rabbit North Survey Block Prepared for Tower Resources Ltd.

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December 2013

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1.0 Introduction

This report outlines the geophysical survey operations and data processing procedures taken during the high resolution airborne magnetic survey flown at the Rabbit North survey block for Tower Resources Ltd. The survey area is located west of Kamloops, BC (Figure 1). The geophysical survey was started out on December 04, 2013 and completed on December 09, 2013.



Figure 1: Block location map.

1.1 Survey Area

The Rabbit North survey block is located approximately 25.7 km west of Kamloops, BC and south of Kamloops Lake (Figure 2).



Figure 2: Rabbit North survey block location relative to Kamloops, BC on Google Earth.

The Rabbit North survey block is approximately 8.7 km by 22.9 km (Figure 3). A total of 2888 line kilometers of magnetic data were flown for this survey; this total includes tie lines and survey lines.



Figure 3: Rabbit North survey block boundary in red.

The Rabbit North survey block survey lines were flown at 100 meter spacing at a 090°/270° heading; the tie lines were flown at 1000 meter spacing at a heading of 000°/180° (Figures 4 and 5).



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



Figure 5: Terrain View – Rabbit North survey block with actual survey and tie lines outlined in yellow, and the survey block boundary in red.

Several tall electrical transmission lines at the northern part of the Rabbit North block caused the pilot to fly over the power lines higher than contract specifications for short distances. In the north east corner of the block, the pilot had to shorten a total of 13 km (survey and tie lines) to avoid flying over residences and to mitigate harassment of livestock. This area is shown by the blue circle on the map (Figure 6). In addition, there were a few short flight line deviations to avoid flying directly over livestock at the northern part of the survey grid.

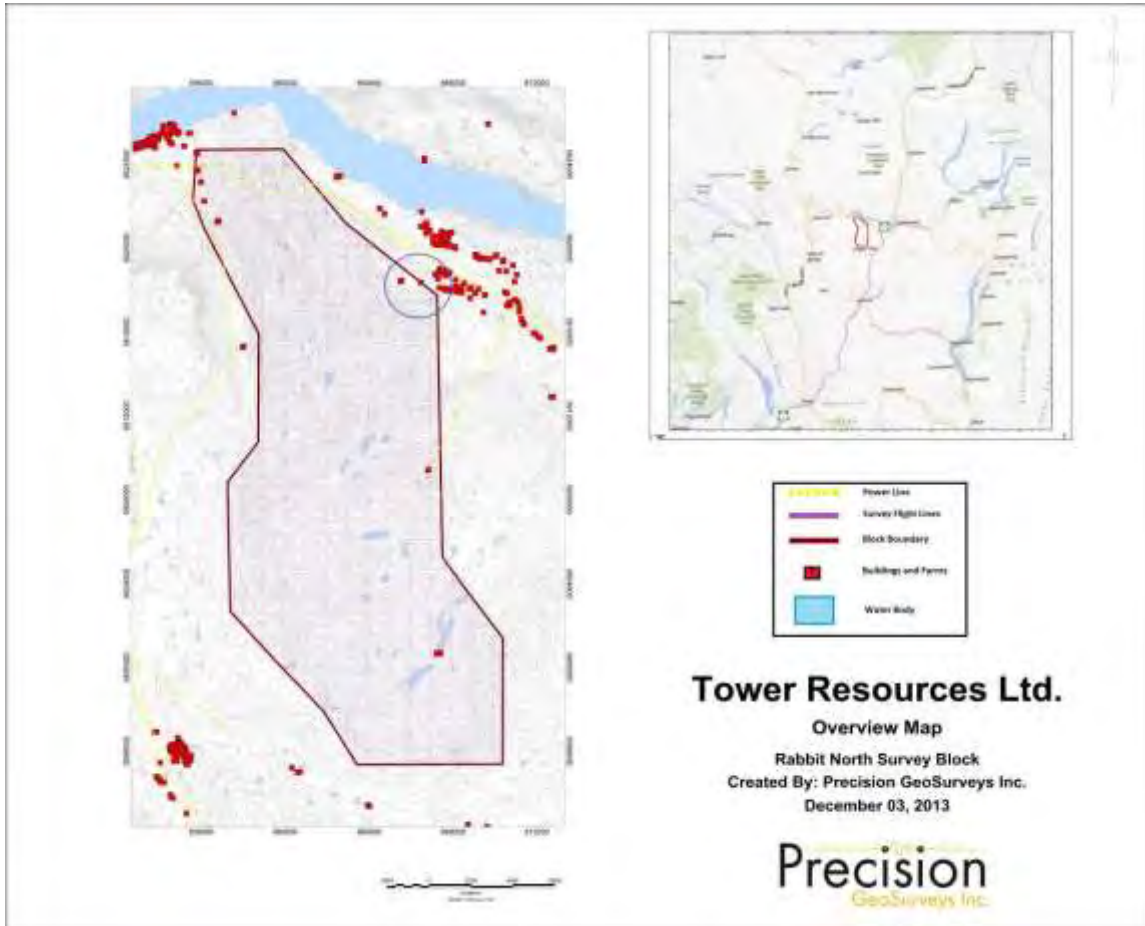


Figure 6: Overview map of the Rabbit North survey block. Blue circle highlights the flight deviation due to the presence of residences and livestock.

1.2 Survey Specifications

The geodetic system used for this survey is WGS 84 and the area is contained in zone 10N (Figure 7). All map and grid products are converted to NAD 83 Zone 10N. A total of 2888 line km was flown. The survey data acquisition specifications and coordinates for the survey are specified as follows (Tables 1 to 2).

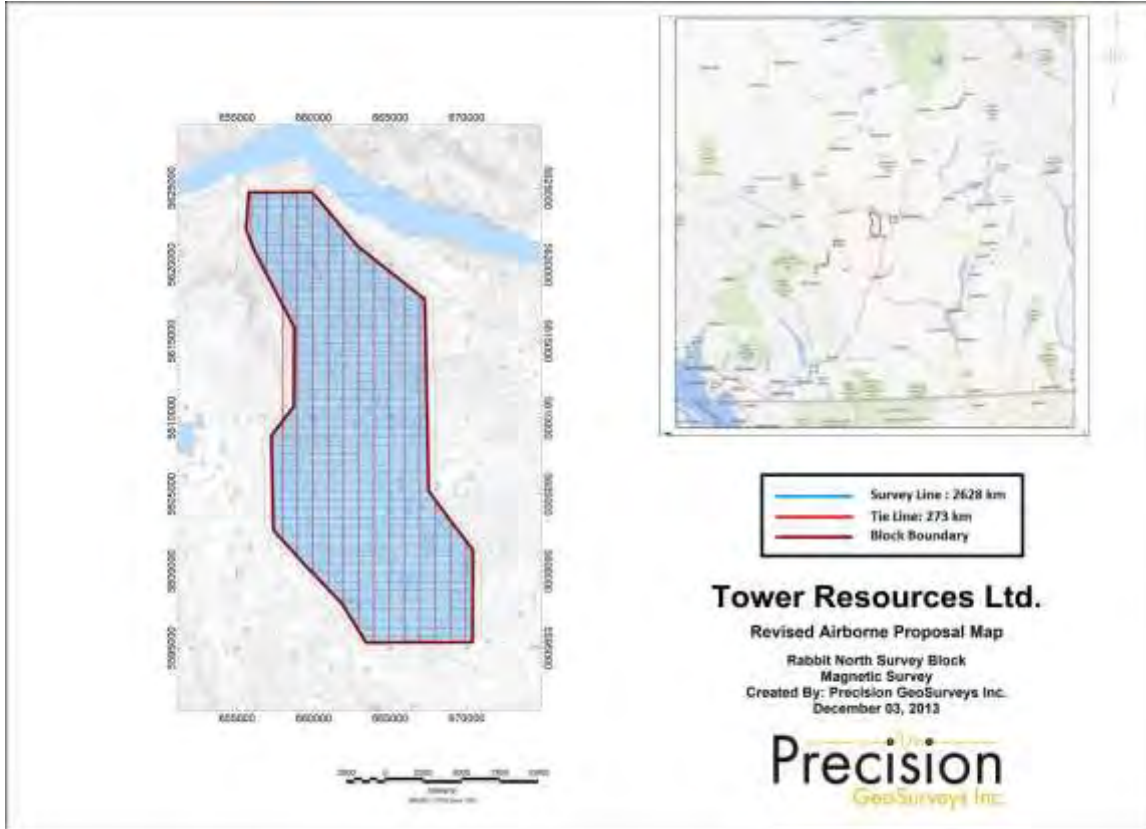


Figure 7: Survey map of Rabbit North survey block showing proposed survey lines (blue), tie lines (red), and the survey boundary (brown).

Survey Block	Line Spacing m	Planned Survey Line km	Planned Tie Line km	Survey Line Orientation	Nominal Survey Height m	Actual Survey Height	Total Planned Line km	Total Actual Flown km
Rabbit North	100	2628	273	090°/270°	40	44	2901	2888
Total							2901	2888

Table 1: Rabbit North survey block acquisition specifications.

Longitude	Latitude	Easting	Northing	N/S	E/W
120.75171311	50.53476571	659325	5600505	N	W
120.77858799	50.55479083	657355	5602674	N	W
120.77797143	50.61020288	657214	5608835	N	W
120.75639270	50.62701346	658684	5610750	N	W
120.75377322	50.67334705	658713	5615907	N	W
120.78845334	50.71904495	656110	5620914	N	W
120.79549057	50.73150938	655572	5622285	N	W
120.79219275	50.75311405	655733	5624694	N	W
120.73349762	50.75217645	659877	5624716	N	W
120.71929502	50.74101632	660916	5623505	N	W
120.69277357	50.71969037	662862	5621193	N	W
120.63251434	50.68738784	667230	5617736	N	W
120.63465156	50.57501719	667478	5605238	N	W
120.61759503	50.55921653	668742	5603520	N	W
120.59567645	50.53959810	670365	5601389	N	W
120.59858689	50.48562666	670353	5595382	N	W
120.69641508	50.48734394	663408	5595353	N	W
120.71772700	50.51055635	661816	5597886	N	W
120.75171311	50.53476571	659325	5600505	N	W

Table 2: Rabbit North block survey polygon coordinates using WGS 84 in zone 10N.

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 were collected to serve in the exploration of the Rabbit North survey block for potential copper-gold 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. 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.

3.0 Survey Operations

Precision GeoSurveys flew the survey out of Tunkwa Lake Resort, 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 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 Tunkwa Lake Resort, BC with an accessible helicopter landing site. The lodge is approximately 5.1 km west of the Rabbit North survey block (Figure 8).



Figure 8: Base of operation at Tunkwa Lake Resort, BC.

The Precision crew consisted of four members:

- Harmen Keyser and Ola Vaage– Pilots
- Christina Larocque – Operator
- Jenny Poon – On-site Geophysicist

The survey was started on December 04, 2013 and completed on December 09, 2013. The survey did not encounter any delays.

3.2 Base Station Specifications

Two magnetic base stations were set up before the survey to ensure that diurnal magnetic activity was recorded during the survey flight. In this case, two GEM GSM 19T base stations (Figure 9) GEM 3 (Serial # 5081669) and GEM 4 (Serial # 2065370) were located west of the Rabbit North survey block (see Table 3).

Station name	Easting/ Northing	Longitude/ Latitude	Datum/ Projection
GEM 3 (Serial # 5081669)	0652321E, 5607895N	120° 50' 50.860" W 50° 36' 10.896" N	WGS 84, Zone 10N
GEM 4 (Serial # 2065370)	0652321E, 5607894N	120° 50' 50.862" W 50° 36' 10.864" N	WGS 84, Zone 10N

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 steel objects, vehicles, or power lines that could affect the survey data.



Figure 9: GEM 3 (left) and GEM 4 (right) magnetic base station locations.

The diurnal magnetic variations recorded from the stationary base station was 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 8.0.1, the quality of the data was inspected to see if it met the contract specifications (see Table 4). If survey and tie lines exhibit excessive navigational deviation (left/right or up/down) from the contract specifications, or were considered to be inferior quality, the lines were re-flown. All suspect anomalies, especially those found on a single flight line, were re-flown. Any re-flight lines were a minimum of 1000 m long, survey line re-flights crossed at least two tie lines, and tie line re-flights crossed at least 10 survey lines where applicable. All data were confirmed and verified by a geophysicist before the survey helicopter and crew demobilized on December 09, 2013.

Specification	Technology	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 +/- 10 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 0.30 nT peak to peak for distances greater than 1 km or more (provided noise is not due to geological or cultural features).

Table 4: Contract re-flight specifications.

4.0 Aircraft and Equipment

All geophysical and subsidiary equipment are carefully installed on Precision GeoSurvey's aircraft. For this survey, a magnetometer, a data acquisition system, base stations, laser altimeter, and a pilot guidance unit (PGU) 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 Rabbit North survey block using a Eurocopter AS350 helicopter (Figure 10), registration C-GOHK. The survey lines were flown at a nominal line spacing of one hundred (100) meters and the tie lines were flown at one (1) kilometers spacing for the magnetometer. The average survey elevation was 44 meters vertically above ground.



Figure 10: Eurocopter AS350 equipped with mag stinger for magnetic data acquisition.

4.2 Equipment

4.2.1 AGIS

The Airborne Geophysical Information System, AGIS, (Figure 11), 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, temperature, cosmic radiation, barometric pressure, atmospheric humidity and survey altitude can all be monitored on the AGIS monitor for immediate QC.



Figure 11: AGIS operator display installed in the Eurocopter AS350B2.

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 12). 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 12: View of the mag stinger.

4.2.3 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 positioned west of the survey block, in an area with low magnetic gradient, to give accurate magnetic field data for the survey area. 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.

4.2.4 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 x 1 m² diffuse target with 50% (+/- 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.

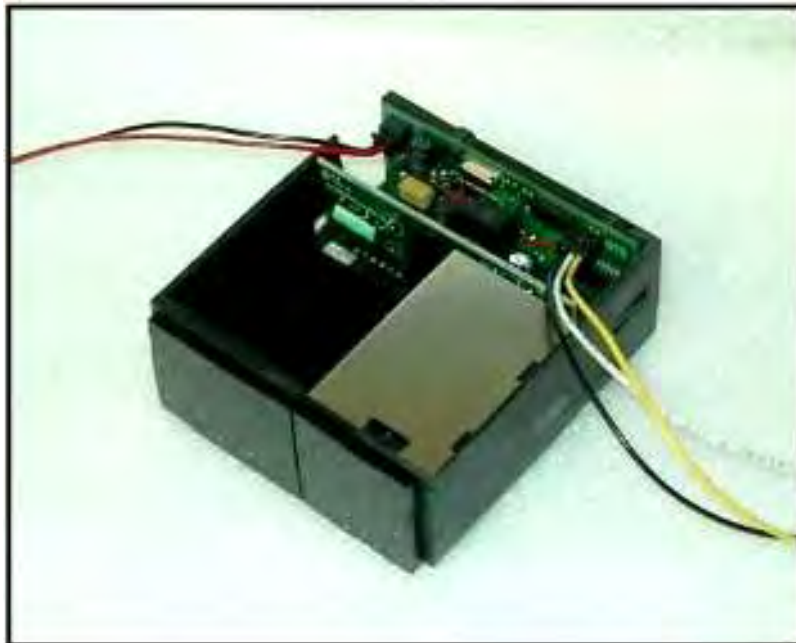


Figure 14: Opti-Logic RS800 laser altimeter.

4.2.5 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.

4.2.6 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).

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 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 ($000^{\circ}/180^{\circ}$ and $090^{\circ}/270^{\circ}$ in the case of this survey) at an altitude (typically $> 1,500$ m AGL) where there is no ground effect in the magnetic data. In each heading, 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.

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.

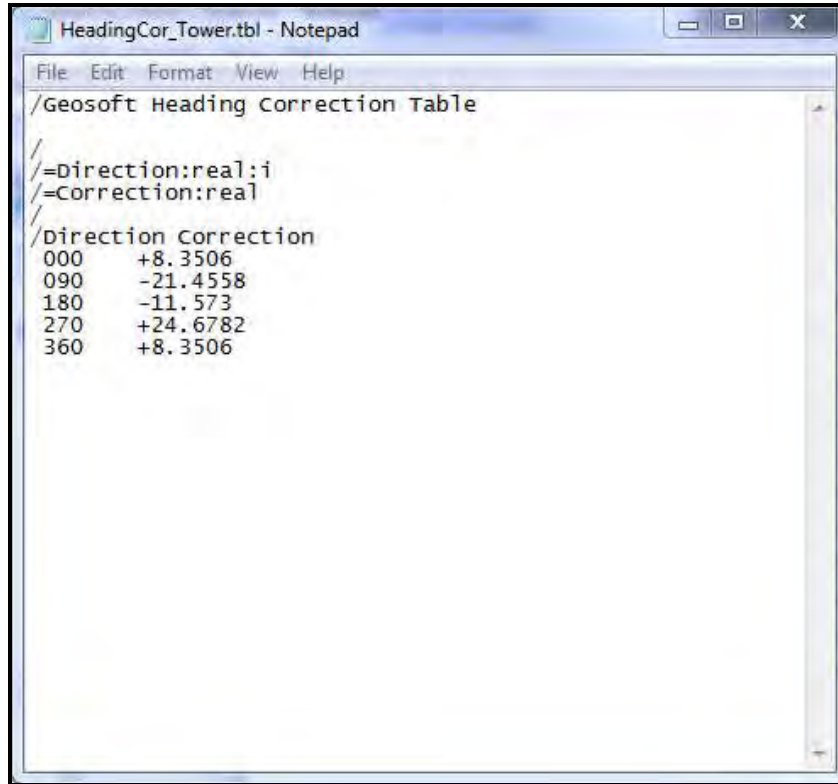
The test was flown in the four orthogonal headings over an identifiable magnetic anomaly (ie. Truck, Trailer, etc.) at survey speed and height. A lag of 10 fiducials (1.0 seconds) was determined from the lag test.

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 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.

Line Number	Fiducials	Heading	Mag (nT)	Average (nT)
L0	1141.70	N - 000°	55464.1278	
L090	715.50	E - 090°	55493.9342	
L180	1019.90	S - 180°	55484.0514	
L270	828.10	W - 270°	55447.8002	
				55472.4784

Table 5: Heading error test data format flown on December 04, 2013.



```
HeadingCor_Tower.tbl - Notepad
File Edit Format View Help
/Geosoft Heading Correction Table
/
/=Direction:real:i
/=Correction:real
/
/Direction Correction
000 +8.3506
090 -21.4558
180 -11.573
270 +24.6782
360 +8.3506
```

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

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 8.0.1 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 and Calculation of the First Vertical Derivative

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.

The first vertical derivative was computed from the Total Magnetic Intensity (TMI) data. Long wavelengths and vertical rate of change were suppressed in the magnetic field. Therefore, the edges of magnetic anomalies were highlighted and spatial resolution was increased.

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 Rabbit North survey block at 30 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 (CVG) - first vertical derivative of TMI

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 Rabbit North survey block. The following map products were prepared:

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

- 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

All maps were prepared in North America – Canada and USA System (NAD 83) and UTM zone 10N.

7.4 Report

The report provides information about the acquisition procedures and magnetic processing, and presentation of the Rabbit North 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 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	12-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 Hz at 1Hz 6 to \leq 10pTrms/ \sqrt Hz at 1Hz <6pTrms/ \sqrt 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 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
- Grids
- Maps

Magnetic Database:

Abbreviations used in the GDB files listed below:

Channel	Units	Description
X_WGS84	m	UTM Easting – WGS 84 Zone 10 North
Y_WGS84	m	UTM Northing – WGS 84 Zone 10 North
X_NAD 83	m	UTM Easting – NAD 83 Zone 10 North
Y_NAD 83	m	UTM Northing – NAD 83 Zone 10 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)
Line		Line numbers
GPSfix		GPS fix
GPStime	Hours:min:secs	GPS time (UTC)
Geos_m	m	Geoidal separation
Galt	m	GPS height – WGS 84 Zone 10 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

Grids: Rabbit North survey block, NAD 83 Datum, Zone 10N

FILE NAME	DESCRIPTION
RabbitNorth_DTM_30m.grd	Rabbit North survey block digital terrain model gridded at 30 m cell size
RabbitNorth_TMI_30m.grd	Rabbit North survey block total magnetic intensity gridded at 30 m cell size
RabbitNorth_RMI_30m.grd	Rabbit North survey block residual magnetic intensity gridded at 30 m cell size
RabbitNorth_CVG_30m.grd	Rabbit North survey block calculated vertical gradient gridded at 30 m cell size

Maps: Rabbit North survey block, NAD 83 Datum, Zone 10N (jpegs and pdfs)

FILE NAME	DESCRIPTION
TowerResources_RabbitNorth_FlightLines_30m	Rabbit North survey block plotted actual flight lines
TowerResources_RabbitNorth_DTM_30m	Rabbit North survey block digital terrain model
TowerResources_RabbitNorth_TMI_30m	Rabbit North survey block total magnetic intensity
TowerResources_RabbitNorth_TMI_with_FlightLines_30m	Rabbit North survey block total magnetic intensity with plotted actual flight path
TowerResources_RabbitNorth_RMI_30m	Rabbit North survey block residual magnetic intensity
TowerResources_RabbitNorth_CVG_30m	Rabbit North survey block calculated vertical gradient

Appendix C

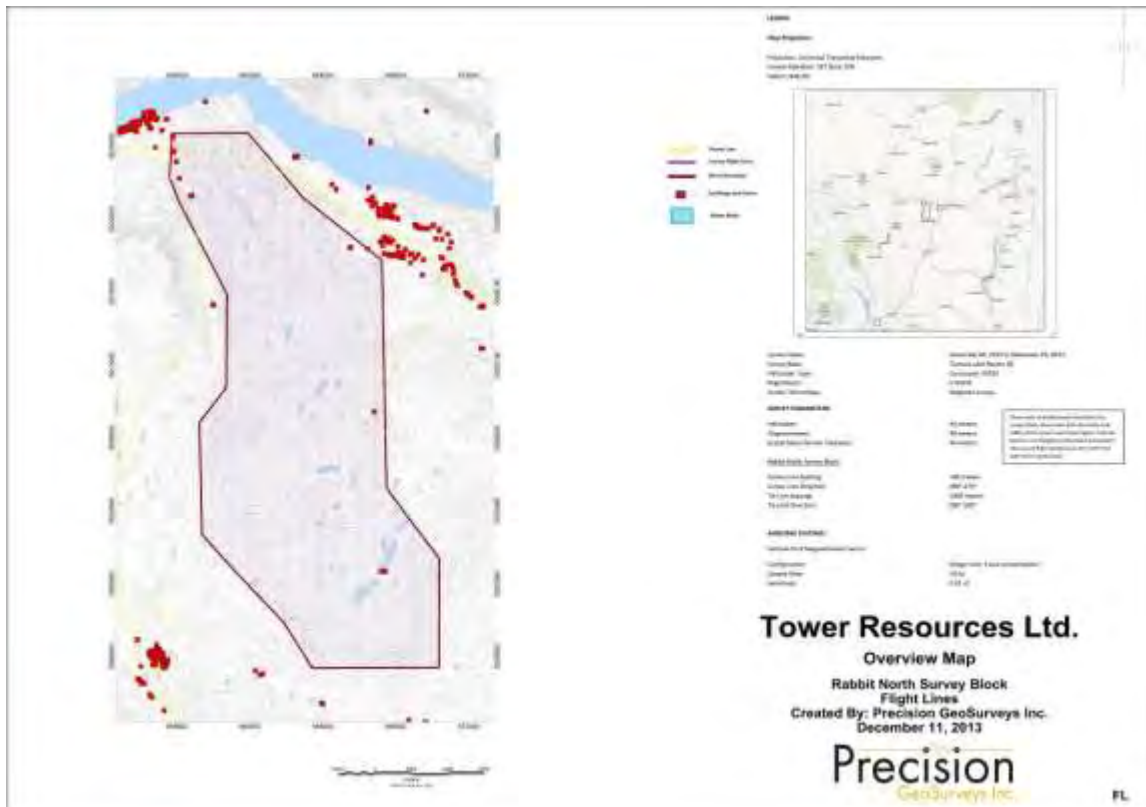
Rabbit North survey block Maps

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

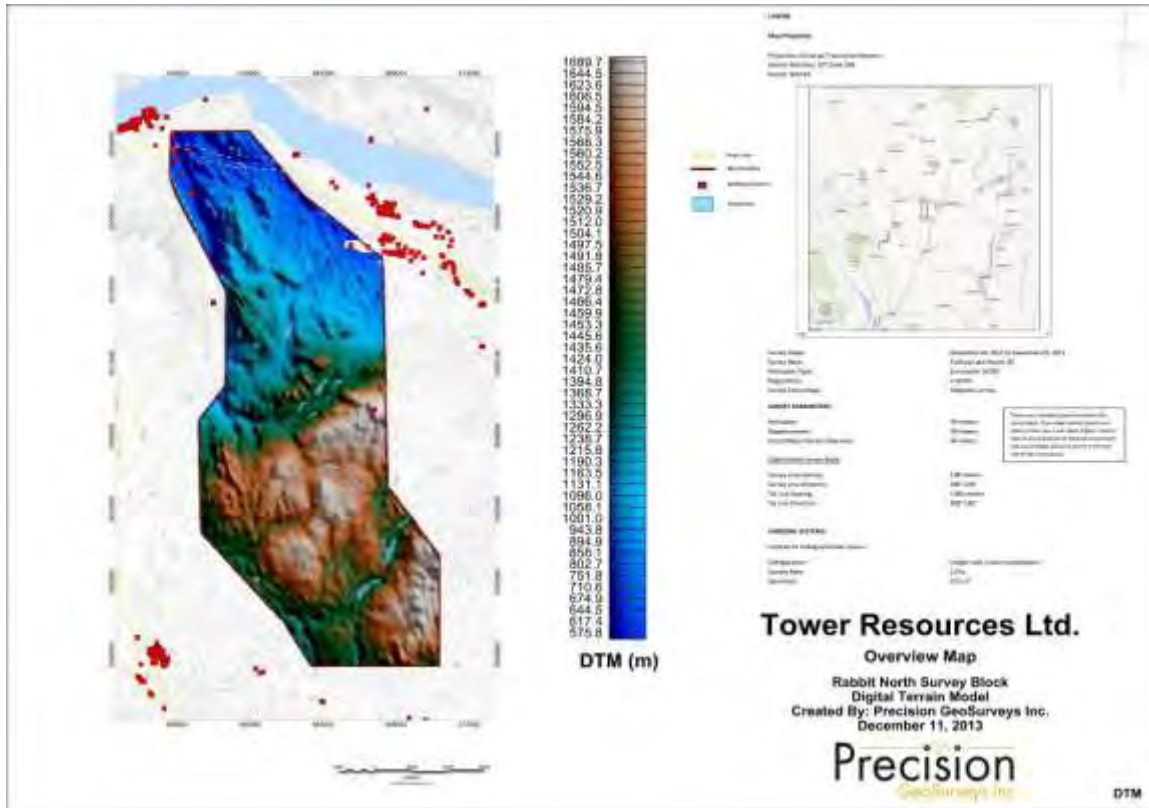
- Flight Lines (FL)
- Digital Terrain Model (DTM)

Magnetic Maps (colour image with elevation contour lines):

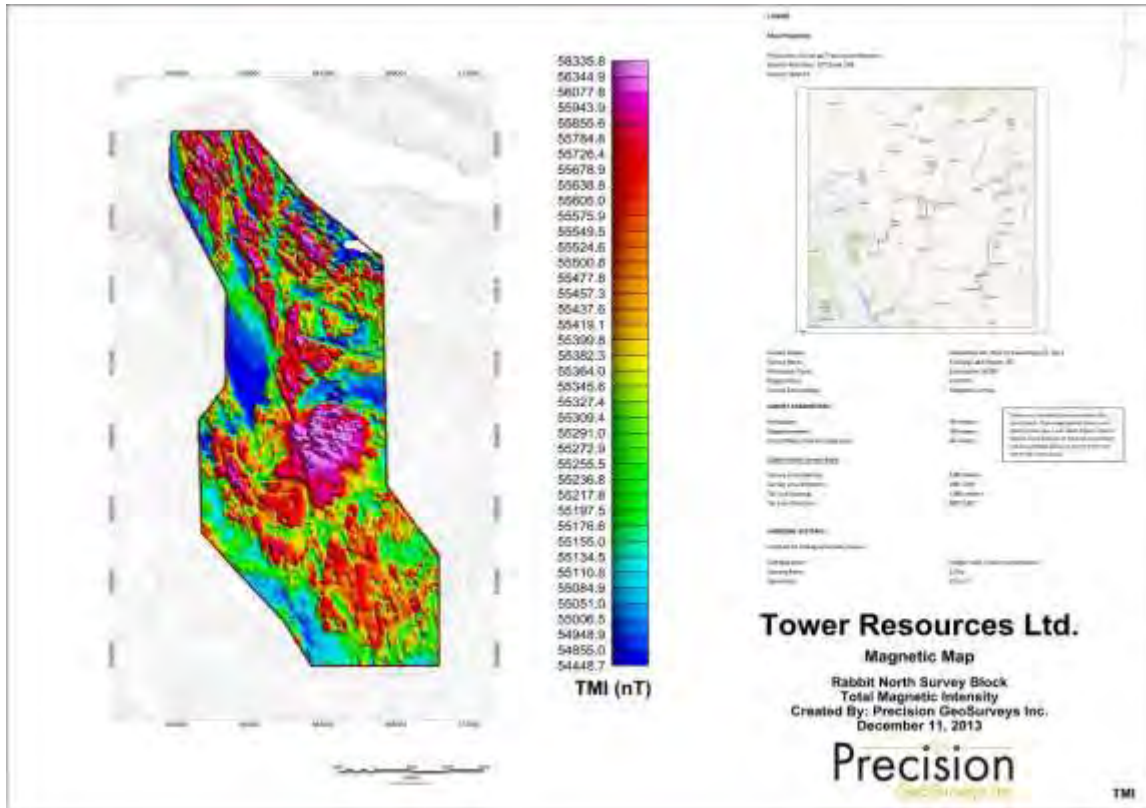
- Total Magnetic Intensity (TMI)
- Total Magnetic Intensity (TMI_wFL) with flight lines
- Residual Magnetic Intensity (RMI)
- Calculated Vertical Gradient (CVG)



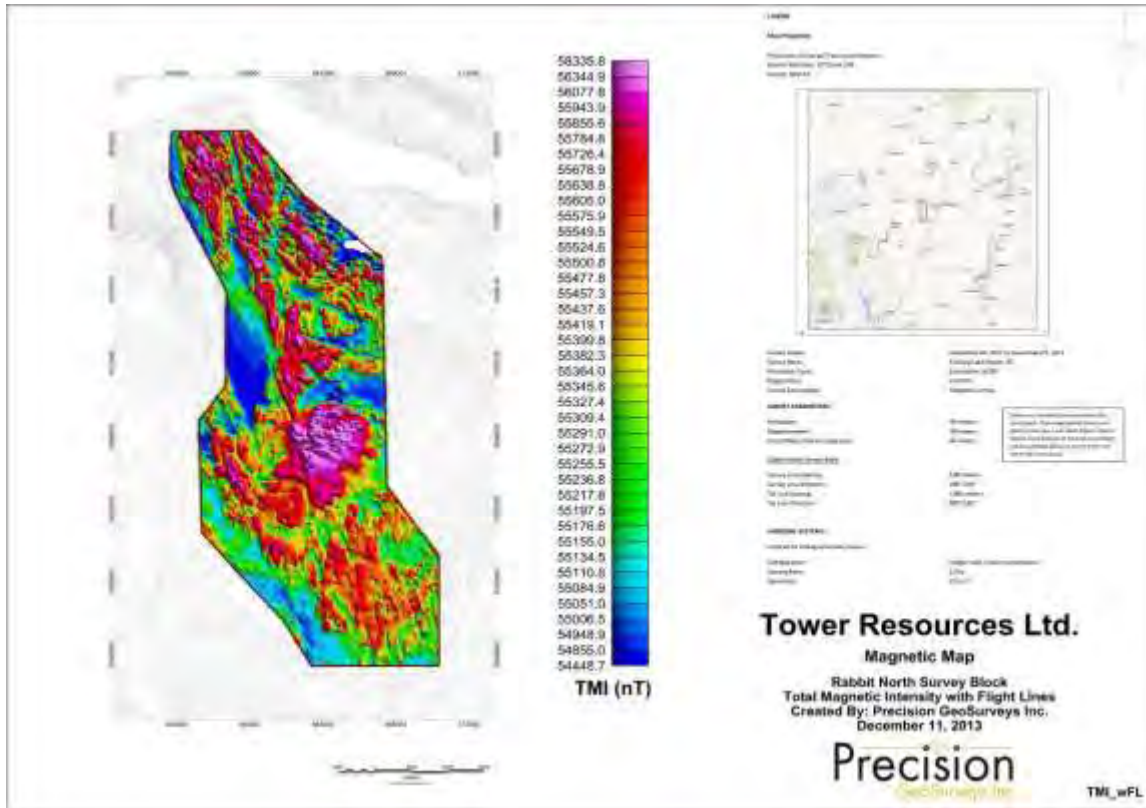
Map 1: Rabbit North survey block actual flight lines.



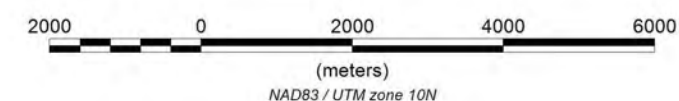
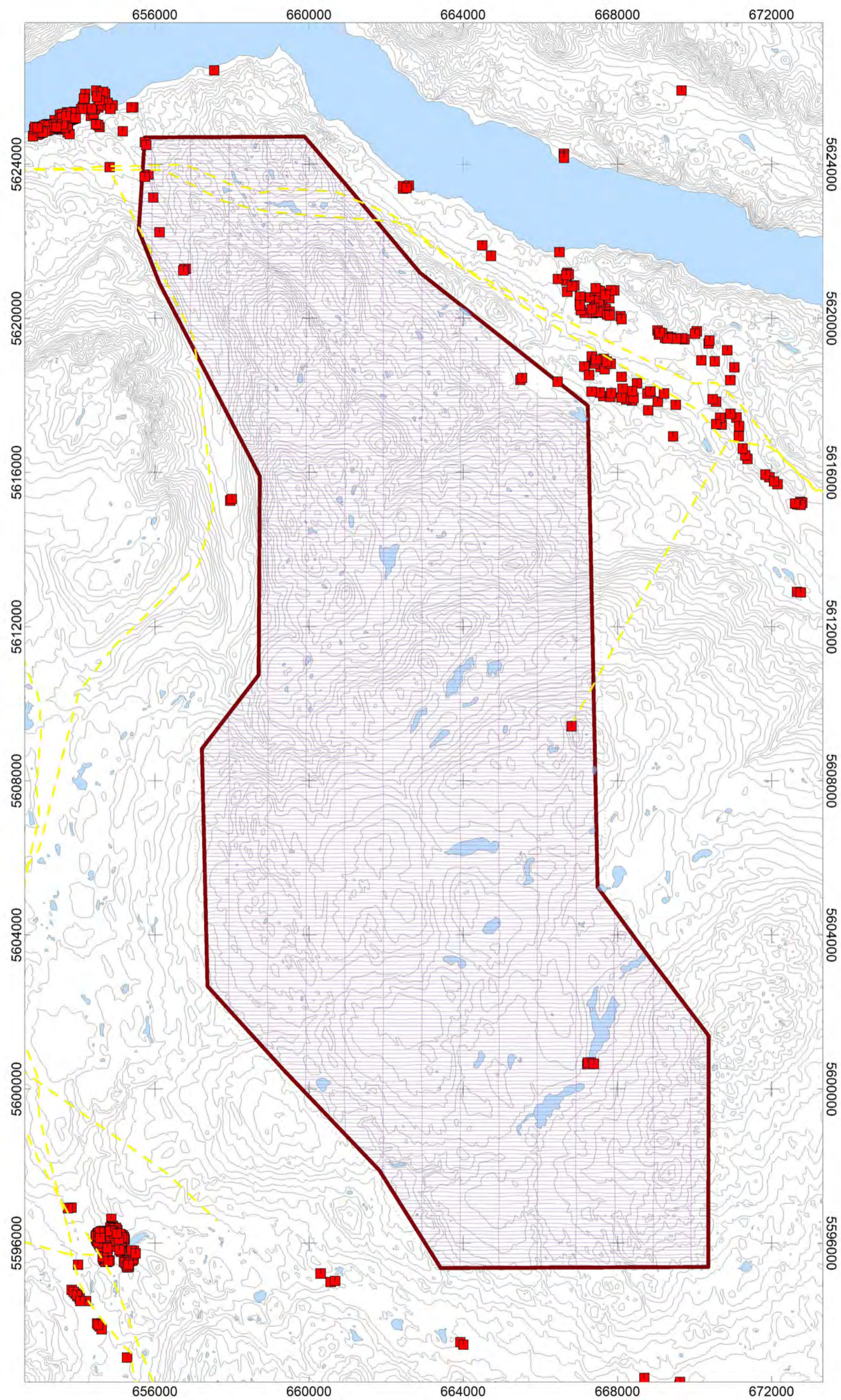
Map 2: Rabbit North survey block digital terrain model.



Map 3: Rabbit North survey block total magnetic intensity.



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



LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 237 Zone 10N
 Datum: NAD 83

- Power Line
- Survey Flight Lines
- Block Boundary
- Buildings and Farms
- Water Body



Survey Dates: December 04, 2013 to December 09, 2013
Survey Base: Tunkwa Lake Resort, BC
Helicopter Type: Eurocopter AS350
Registration: C-GOHK
Survey Technology: Magnetic survey.

SURVEY PARAMETERS:

Helicopter: 40 meters
Magnetometer: 40 meters
Actual Mean Terrain Clearance: 44 meters

Rabbit North Survey Block:

Survey Line Spacing: 100 meters
Survey Line Direction: 090°-270°
Tie Line Spacing: 1000 meters
Tie Line Direction: 000°-180°

AIRBORNE SYSTEMS:

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

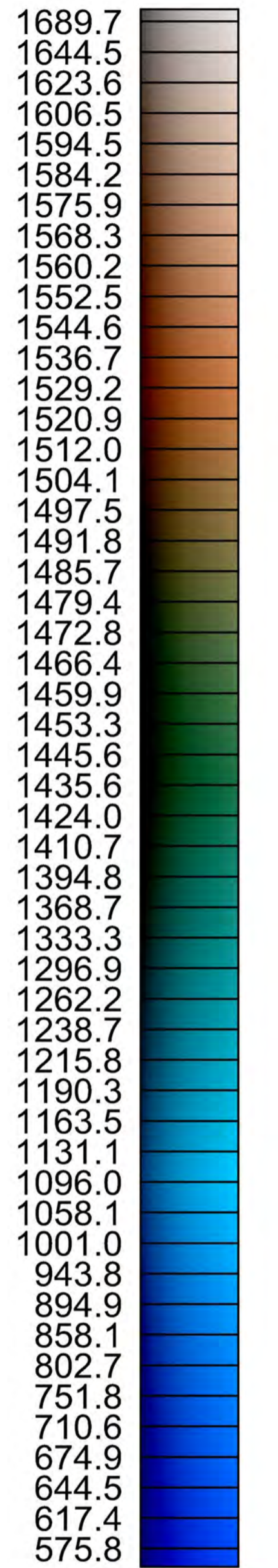
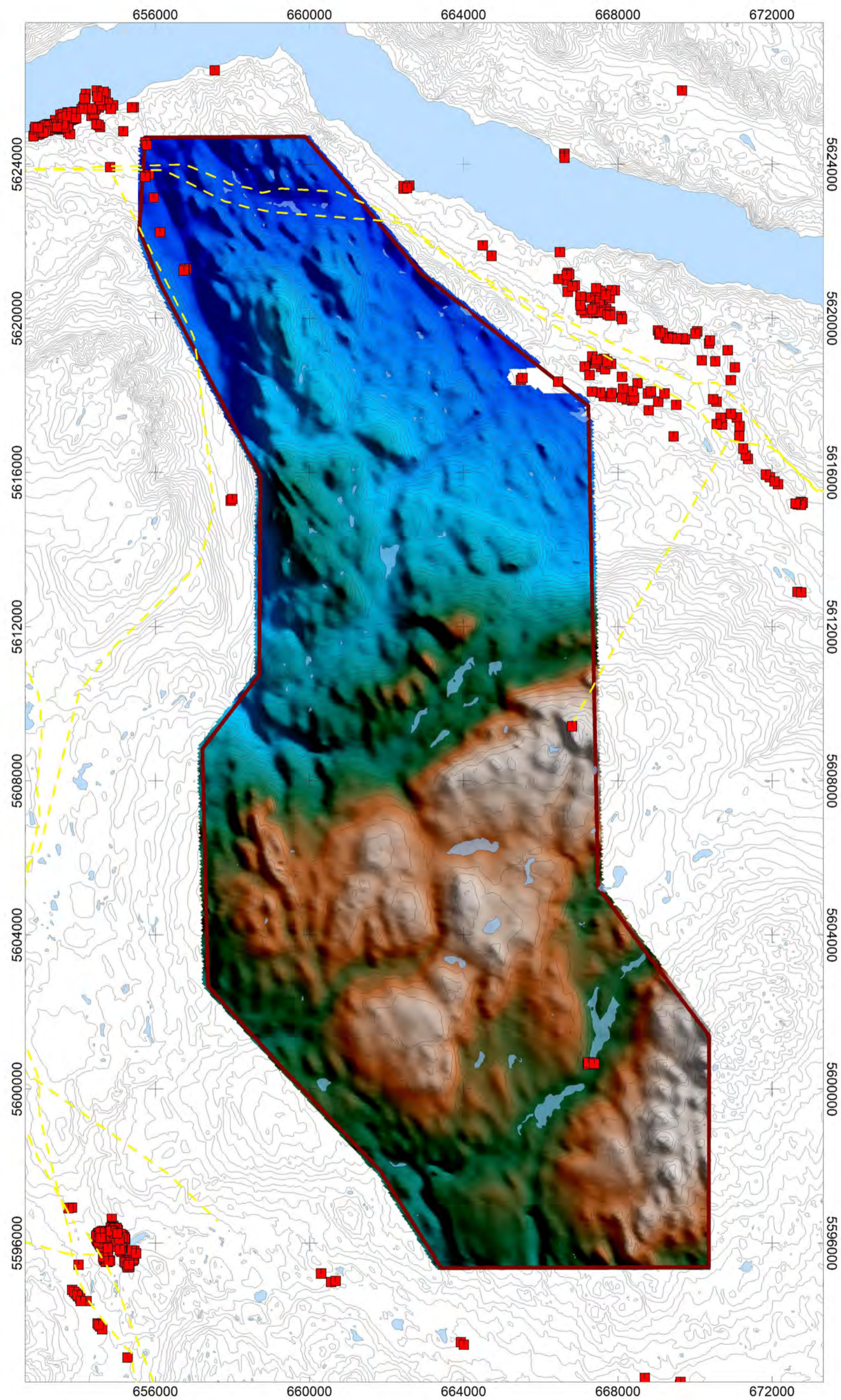
There were multiple power-line within the survey block, thus under pilot discretion and safety of the crew it was flown higher. Cultural feature and mitigation of livestock harassment had caused flight deviation on the north east side of the survey block.

Tower Resources Ltd.

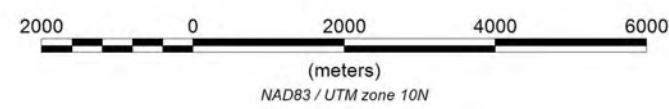
Overview Map

**Rabbit North Survey Block
 Flight Lines
 Created By: Precision GeoSurveys Inc.
 December 11, 2013**









DTM (m)



LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 237 Zone 10N
 Datum: NAD 83

-  Power Line
-  Block Boundary
-  Buildings and Farms
-  Water Body



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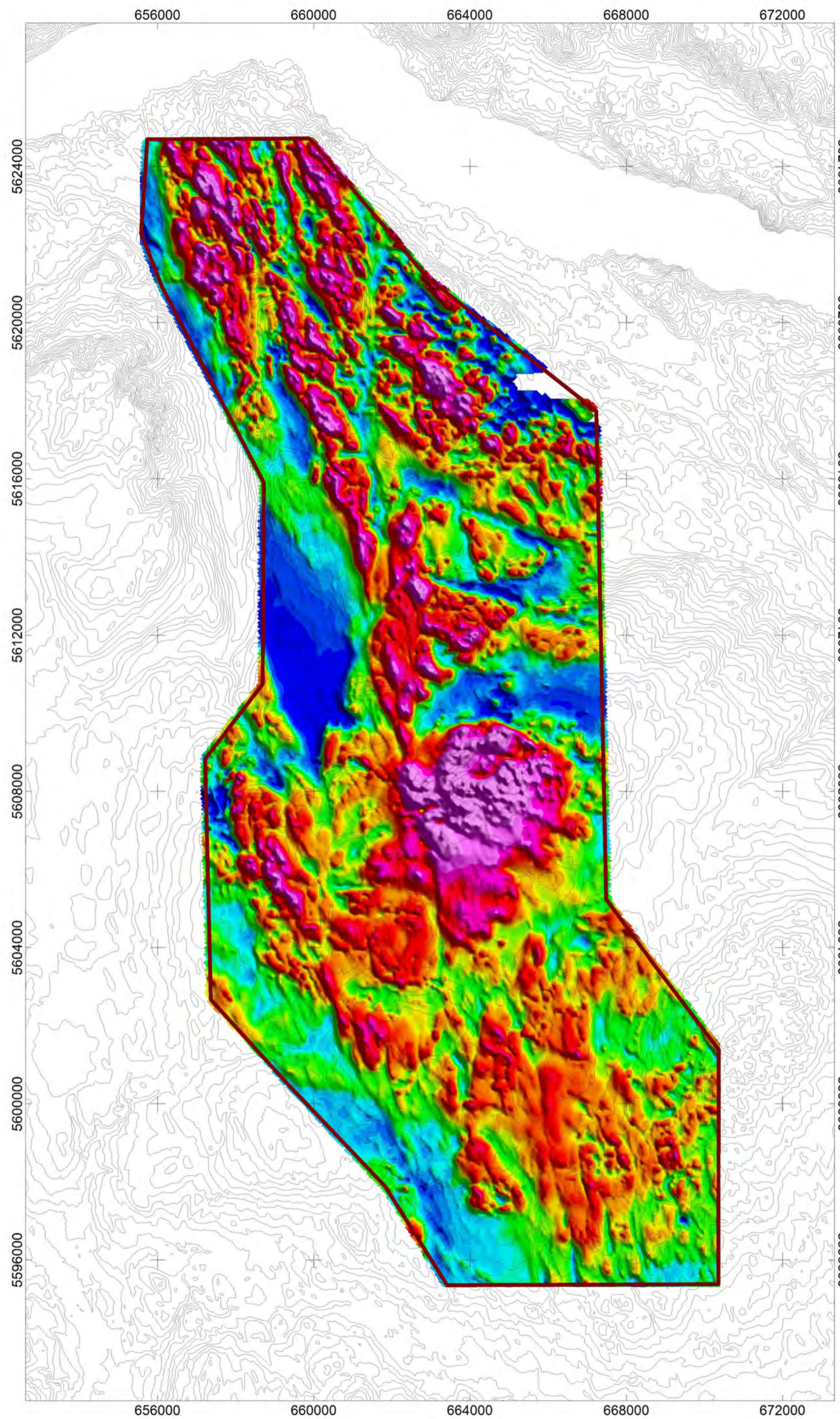
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Tower Resources Ltd.

Overview Map

Rabbit North Survey Block
 Digital Terrain Model
 Created By: Precision GeoSurveys Inc.
 December 11, 2013

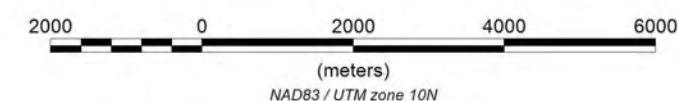




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 55006.5
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 54855.0
 54448.7



TMI (nT)



LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 237 Zone 10N
 Datum: NAD 83



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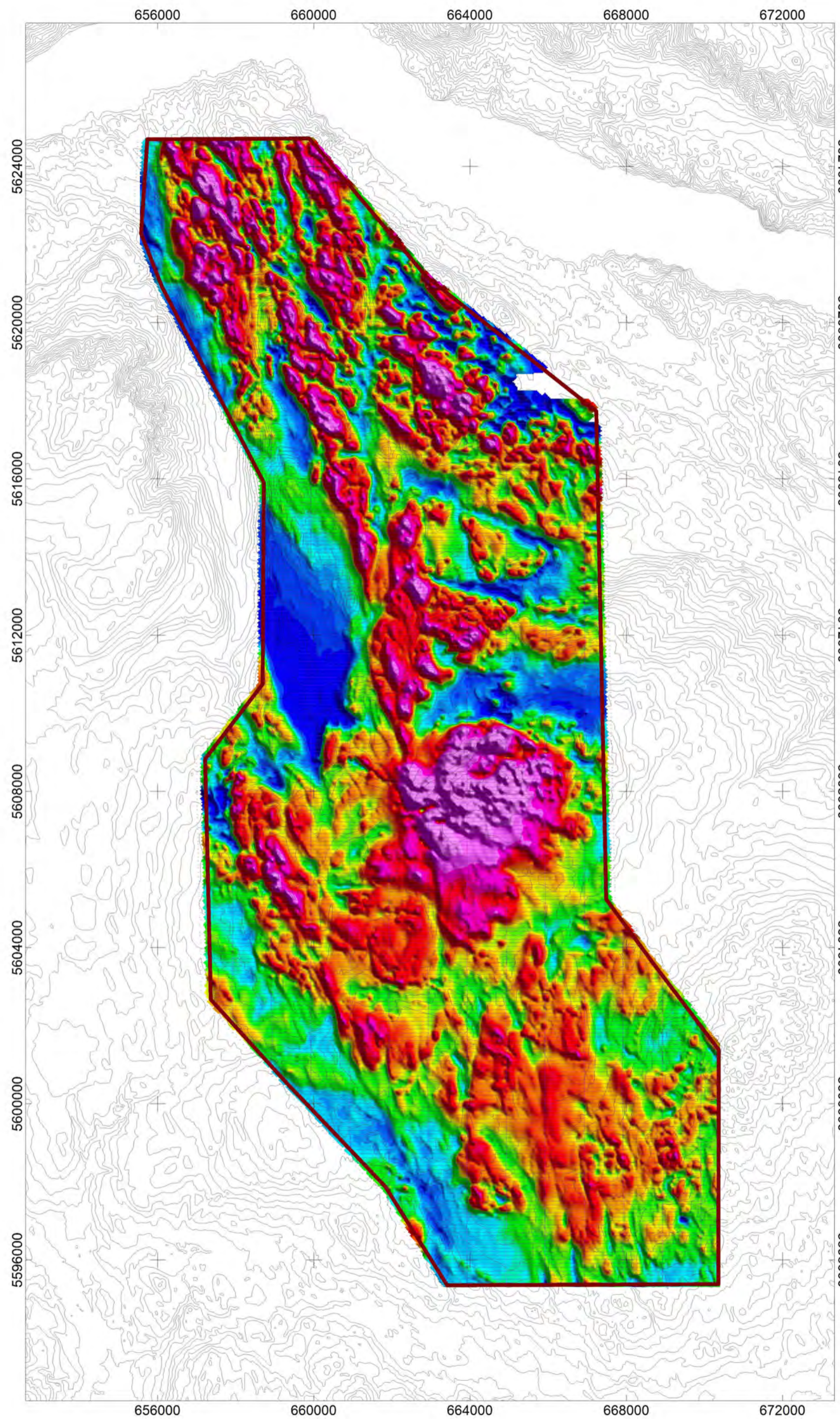
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Tower Resources Ltd.

Magnetic Map

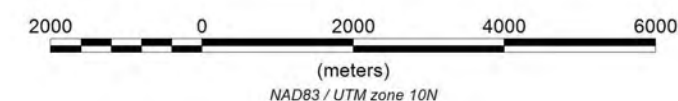
Rabbit North Survey Block
 Total Magnetic Intensity
 Created By: Precision GeoSurveys Inc.
 December 11, 2013





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 54448.7

TMI (nT)



LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 237 Zone 10N
 Datum: NAD 83



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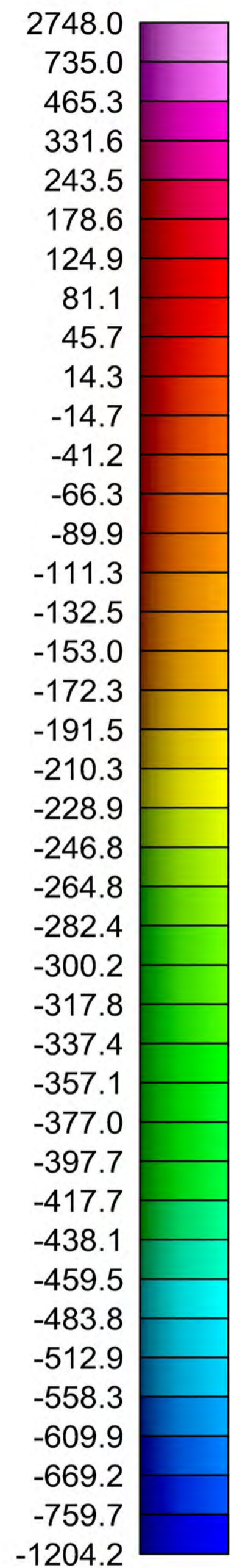
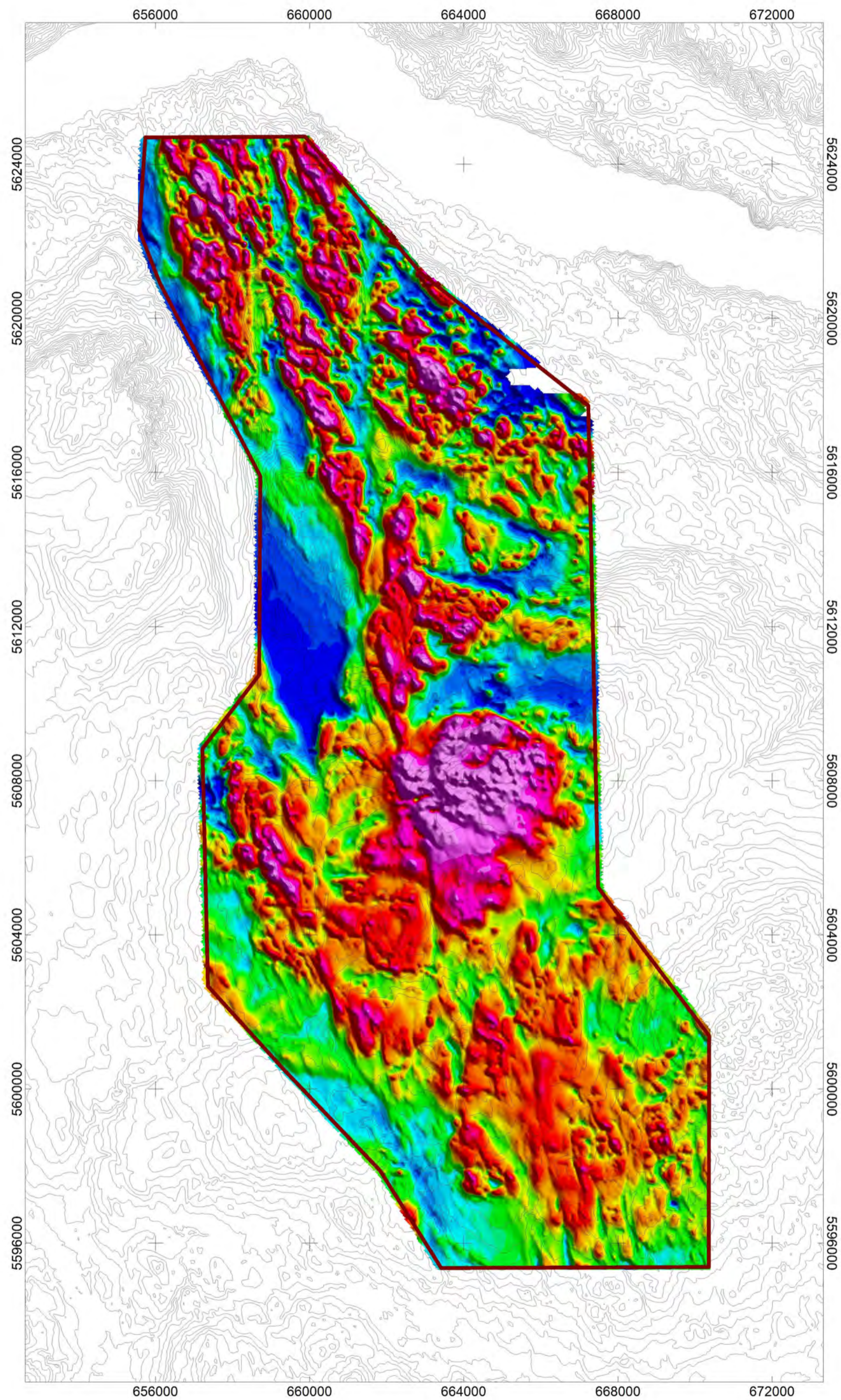
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Tower Resources Ltd.

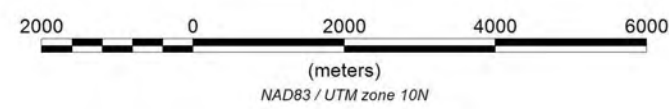
Magnetic Map

Rabbit North Survey Block
 Total Magnetic Intensity with Flight Lines
 Created By: Precision GeoSurveys Inc.
 December 11, 2013





RMI (nT)



LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 237 Zone 10N
 Datum: NAD 83



Survey Dates: December 04, 2013 to December 09, 2013
 Survey Base: Tunkwa Lake Resort, BC
 Helicopter Type: Eurocopter AS350
 Registration: C-GOHK
 Survey Technology: Magnetic survey.

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 Tie Line Spacing: 1000 meters
 Tie Line Direction: 000°-180°

AIRBORNE SYSTEMS:

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

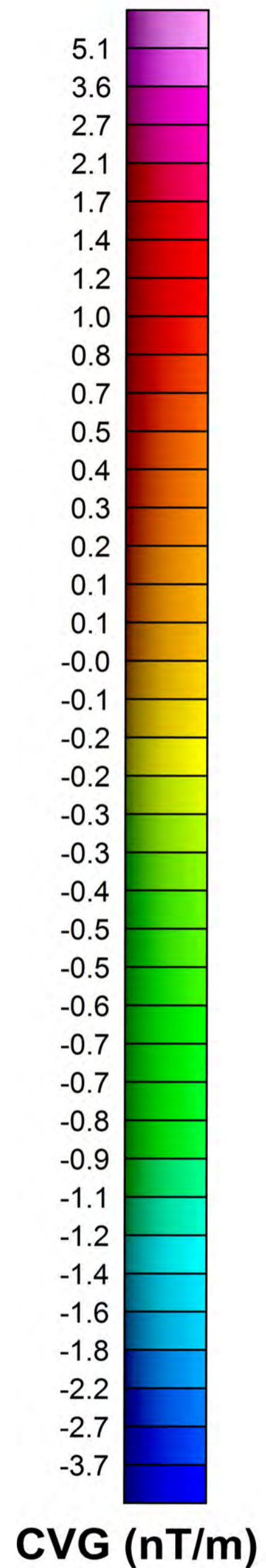
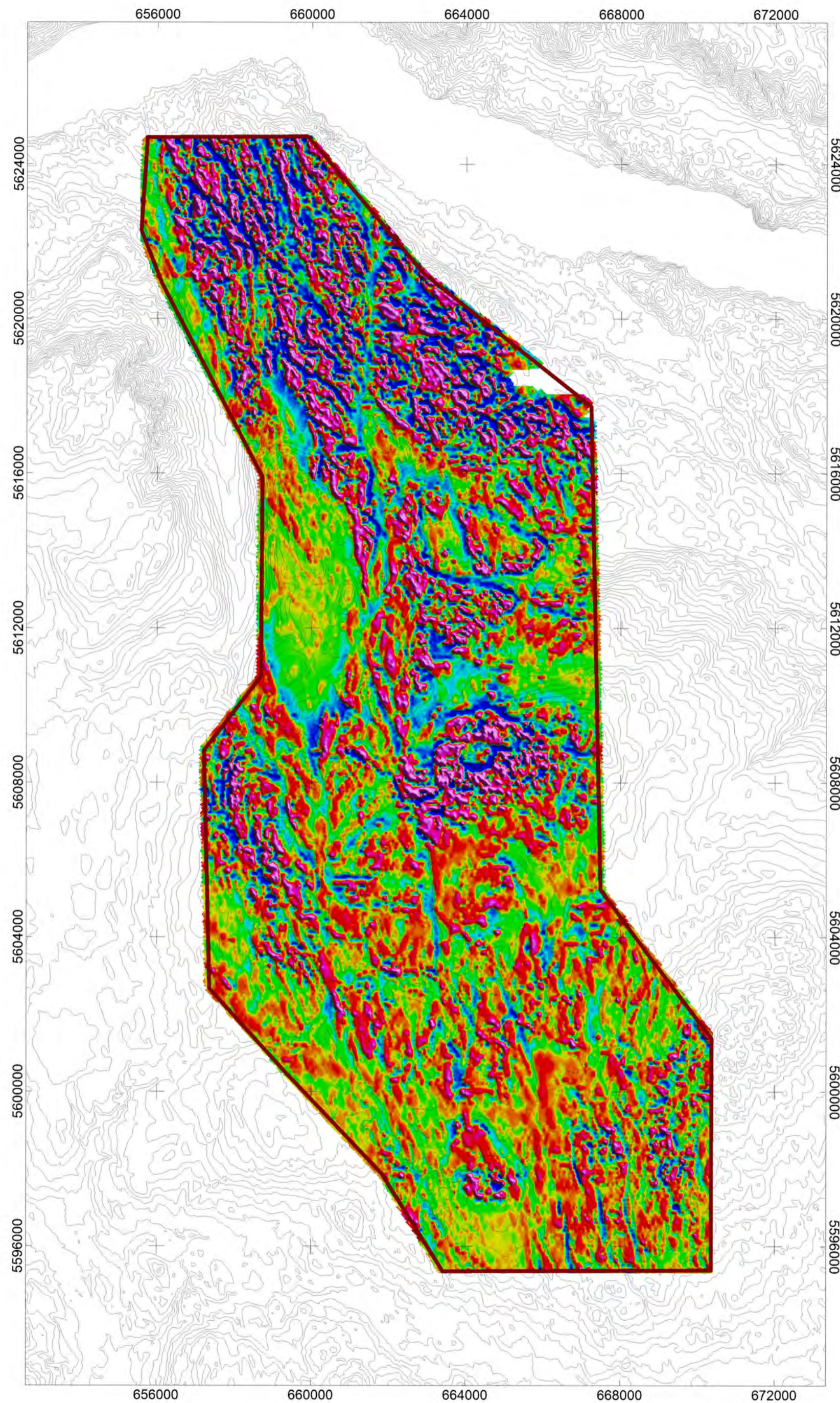
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Tower Resources Ltd.

Magnetic Map

Rabbit North Survey Block
 Residual Magnetic Intensity
 Created By: Precision GeoSurveys Inc.
 December 11, 2013





LEGEND

Map Projection:

Projection: Universal Transverse Mercator
 Central Meridian: 237 Zone 10N
 Datum: NAD 83



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Tower Resources Ltd.

Magnetic Map

Rabbit North Survey Block
 Calculated Vertical Gradient
 Created By: Precision GeoSurveys Inc.
 December 11, 2013

