

**Assessment Report**  
**Airborne Geophysical Surveying**  
**On the**  
**DEET Property**  
**Northern Tiger Resources Inc.**

YC83837 – YC83840 (REPEX 1-4), YC95151 – YC95170 (REPEX 5-24),  
YD18405 (REPEX 96), YD18410 – YD18441 (REPEX 49-80),  
YD18908 – YD18931 (REPEX 25-48), YD19060 – YD19074 (REPEX 81-95)

Livingstone Creek area,

61°18'60"N Latitude, 134°12'50"W Longitude  
UTM NAD 83 Datum 542086E, 6798312N, Zone 8

**Whitehorse Mining District**

NTS Sheet 105E/08, Zone 8  
October 20 - 22, 2010

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**April 20, 2011**

## Summary

During the fall of 2010, Northern Tiger Resources Inc. (Northern Tiger) contracted Precision GeoSurveys Inc to conduct an airborne radiometric and magnetic geophysical survey over the DEET property. A total of 463.9 line kilometres of radiometric and magnetic data were flown from October 20-22, 2010.

The DEET property consists of 96 unpatented quartz mining claims in one contiguous block covering 2,005.2 hectares (4,955 acres) located about 85 km northeast of Whitehorse, Yukon. The property covers Minfile Showing 105E 053 hosting bedrock and placer gold/silver mineralization (Yukon Minfile, 2011). REPEX claims 1-24 were staked in August, 2009 by 37999 to cover the showing and REPEX 25-96 claims were added in late January, 2010. In June of 2010, Northern Tiger Resources Inc signed an option agreement with 37999 to acquire 100% interest in the REPEX claims (Northern Tiger Press Release, June 22, 2010). Prior to ownership by 37999, the DEET property was staked by Archer, Cathro and Associates in the 1980s and later optioned and transferred to subsequent junior companies following the discovery of gold-bearing vein float (Yukon Minfile, 2011).

The DEET property is located within a northwest-trending belt of Lower Mississippian metasediments and metavolcanics of the Snowcap complex that have been intruded by Early Mississippian tonalite gneiss (Colpron, 2005). The d'Abbadie fault zone to the east of the property is the dominant control on bedrock deformation forming Late Cretaceous N-S trending folds and faults (Colpron, 2005). This structural control is consistent with work funded by 37999 indicating a NNW - SSE strike of foliation and veins on the property (Power, 2009). Power also describes bedrock cover as thin residual soil at higher elevations and till at elevations below 1000m (2009).

In August of 2009, 37999 funded a prospecting and mapping program over the property locating N-S trending, galena-pyrite-chalcopyrite-sphalerite-bearing vein material dubbed the, "Gold Bug Showing" (Power, 2009). Assays of the vein material returned values up to 14 g/t Au and 383 g/t Ag. Soil geochemical surveys recorded anomalous responses in gold, lead, arsenic and antimony up-slope of the showing, but additional rock samples are required to confirm the extent of the mineralized quartz vein. A VLF-EM survey was also conducted over the Gold Bug Showing, but failed to detect any significant conductors (Power, 2009).

Recommendations for 2011 consist of additional sampling, mapping and prospecting over the property. A more widespread soil geochemical survey should be conducted across the property to identify other areas of interest as well as collecting due diligence samples from the existing showings. Particular attention should be paid to mapping the extent of the anomalous zones. It is suggested that exploration be conducted from a field camp based on the DEET property. Proposed expenditures, including report writing and digitization stand at **CDN\$63,570**; with a 15% contingency fee proposed expenditures stand at **CDN\$73,105.50**.

## Table of Contents

	<b><u>Page</u></b>
Summary	2
1.0 Introduction and Terms of Reference	
1.1 Introduction	5
1.2 Sources of Information	5
1.3 Terms of Reference	5
2.0 Property Description and Location	6
3.0 Physiography, Climate, Access and Infrastructure	
3.1 Physiography and Climate	11
3.2 Access, Infrastructure and Local Resources	11
4.0 History	12
5.0 Geology	
5.1 Regional Geology	13
5.2 Property Geology	13
6.0 Deposit Model	14
7.0 Mineralization	15
8.0 Exploration	16
9.0 Discussion and Conclusions	
9.1 Discussion	16
9.2 Conclusions	17
10.0 Recommendations	
10.1 Recommendations	18
10.2 Recommended Budgets	19
11.0 References	20

## List of Tables

	<u>Page</u>
Table 1: Claim Status	9

## Figures

Figure 1: Location Map	7
Figure 2: Regional Location Map	8
Figure 3: Claim Map	10

## Appendices

Appendix 1: Statement of Qualifications	
Appendix 1a: Certificate of Author	21
Appendix 1b: Certificate of Supervisor	22
Appendix 2: Statement of Expenditures	23
Appendix 3: Precision GeoSurveys Airborne Geophysical Report	24

## Maps

Map 1: Geology Map (from Power's 2009 Report)	In pocket
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## **1.0 Introduction**

### **1.1 Introduction**

The DEET property, located in the Livingstone Creek area approximately 85 kilometres northeast of Whitehorse, Yukon, consists of 96 quartz mining claims in one contiguous block covering 2,005.2 hectares (4,955 acres). REPEX claims 1-24 were staked in August, 2009 by 37999 and REPEX 25-96 claims were added in late January, 2010. In June of 2010, Northern Tiger Resources Inc. signed an option agreement with 37999 to earn 100% interest in the DEET property (Northern Tiger Resources Press Release, June 22, 2010). A brief exploration program consisting of a radiometric and magnetic airborne geophysical survey was conducted by Precision GeoSurveys Inc for Northern Tiger Resources Inc between October 20 and 22, 2010.

This report will focus on details of the October 2010 airborne geophysical survey conducted on the REPEX 1-96 claims, including tabulation and interpretation of results. Interpretation and results of the geophysical survey are outlined in the geophysical report written by Precision GeoSurveys Inc, which is attached in its entirety as Appendix 3.

### **1.2 Sources of Information**

As previous companies did not file assessment reports on work conducted over the DEET Minfile occurrence, little historical data pertaining to the property is available. Regional geological data and MINFILE data was taken from the Yukon Geology Survey website. The majority of information was obtained from a report written by Mike Power outlining details of the August, 2009 exploration program.

### **1.3 Terms of Reference**

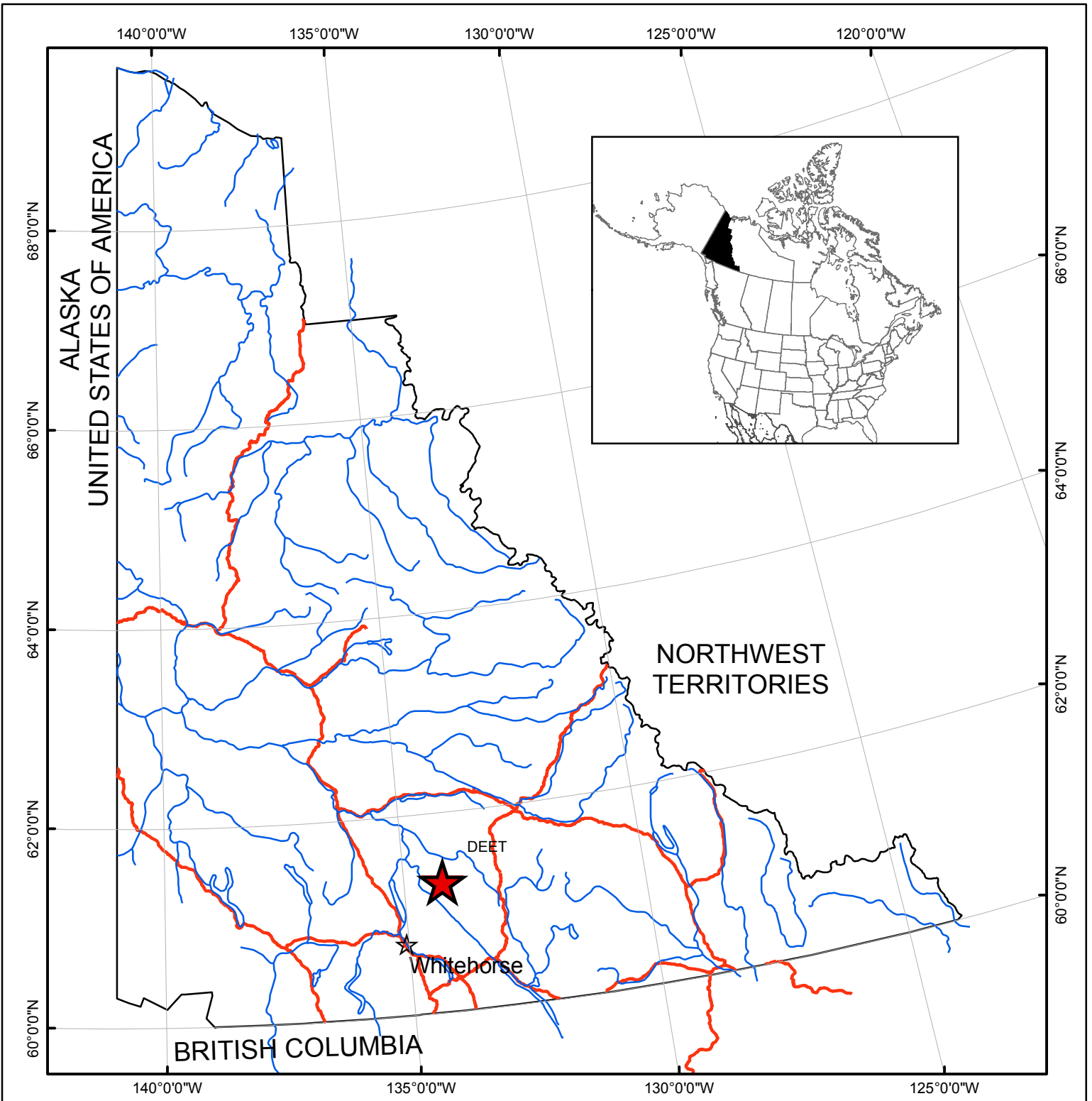
This report was prepared to satisfy requirements for Assessment Report filing by the Yukon Mining Recorder, Ministry of Energy, Mines and Resources, Government of Yukon.

## **2.0 Property Description and Location**

The DEET property consists of 96 quartz mining claims (Table 1, Figures 1-3) in one contiguous block covering 2,005.2 hectares (4,955 acres), 85 kilometres northeast of Whitehorse. It is centred at 61°18'60"N Latitude, 134°12'50"W Longitude (UTM NAD 83 Datum 542086E, 6798312N, Zone 8) within NTS map sheet 105E/08. The property has not undergone a legal survey.

REPEX claims 1-24 were staked in August, 2009 by 37999 and REPEX 25-96 claims were added in late January, 2010. In June of 2010, Northern Tiger Resources Inc. signed an option agreement with 37999 to earn 100% interest in the DEET property (Northern Tiger Resources Press Release, June 22, 2010).


No mineral reserves or resources have been delineated on the property to date. No hard rock mine workings, tailings ponds or waste deposits exist within the project area. No special environmental concerns or liabilities are known for this area.




**Legend**

-  DEET Property
-  Watershed
-  Road
-  Yukon Border


N



Kilometers



0 50 100 200 300

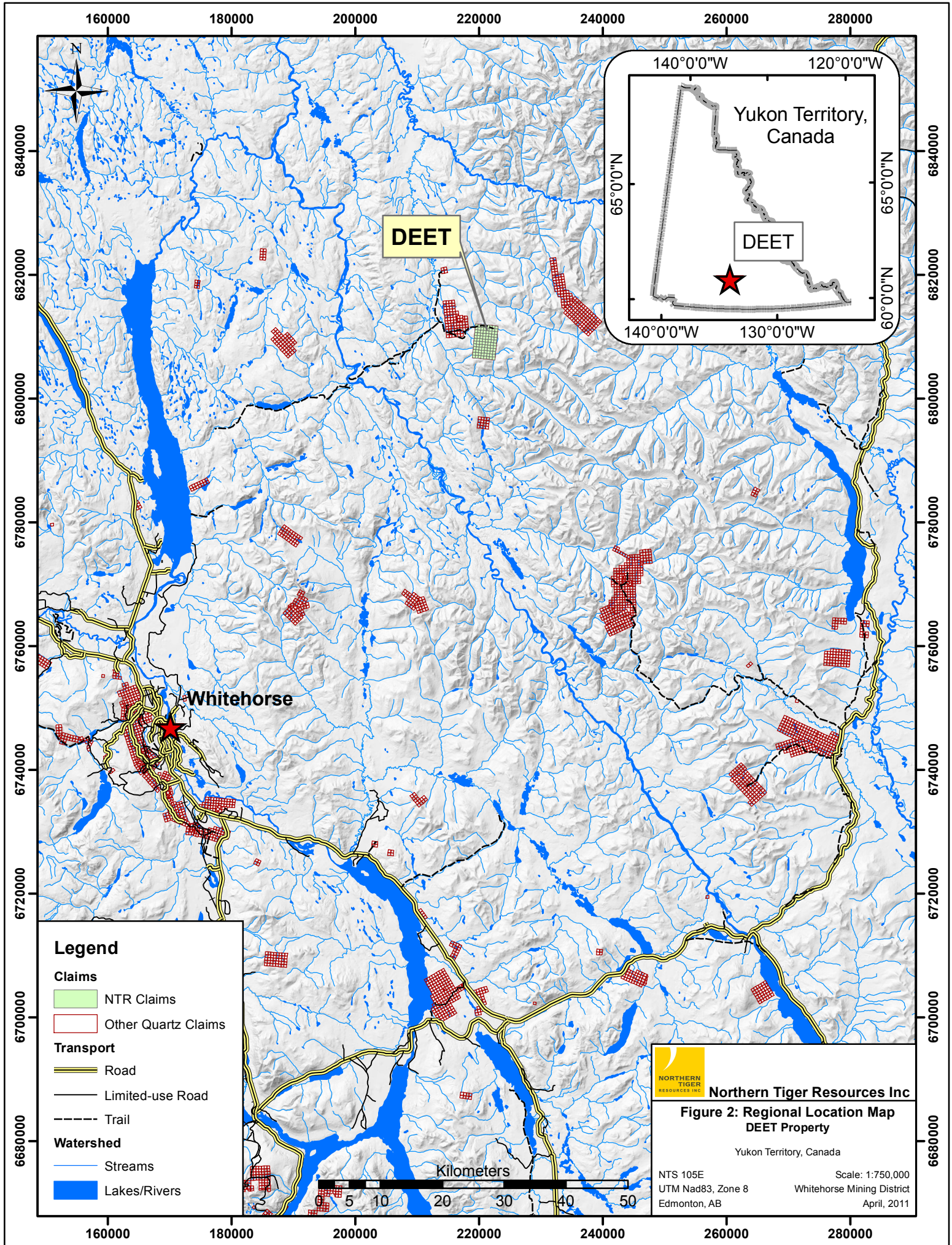


**Northern Tiger Resources Inc**

**Figure 1: Property Location Map**  
**DEET Property**

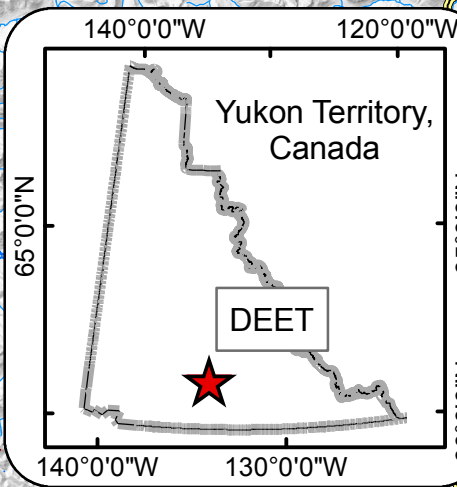
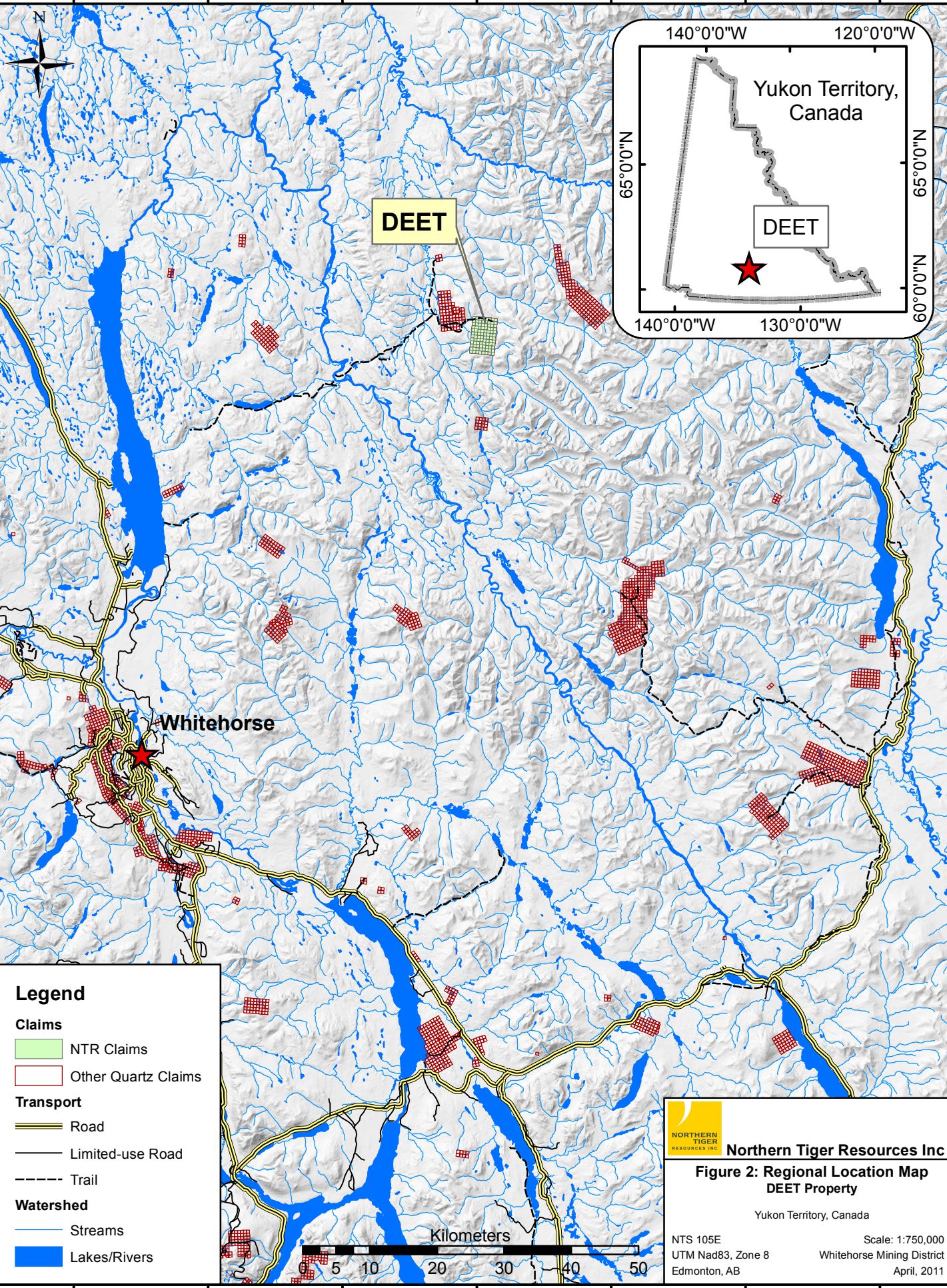
Yukon Territory, Canada

NTS 105E Scale: 1:6,000,000  
 UTM Nad83, Zone 8 Whitehorse Mining District  
 Edmonton, AB April, 2011



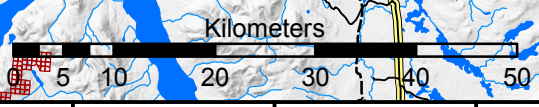
160000 180000 200000 220000 240000 260000 280000

6840000  
6820000  
6800000  
6780000  
6760000  
6740000  
6720000  
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6680000



**Legend**

- Claims**
  - NTR Claims
  - Other Quartz Claims
- Transport**
  - Road
  - Limited-use Road
  - Trail
- Watershed**
  - Streams
  - Lakes/Rivers



**NORTHERN TIGER RESOURCES INC**

**Figure 2: Regional Location Map  
DEET Property**

Yukon Territory, Canada

NTS 105E  
UTM Nad83, Zone 8  
Edmonton, AB

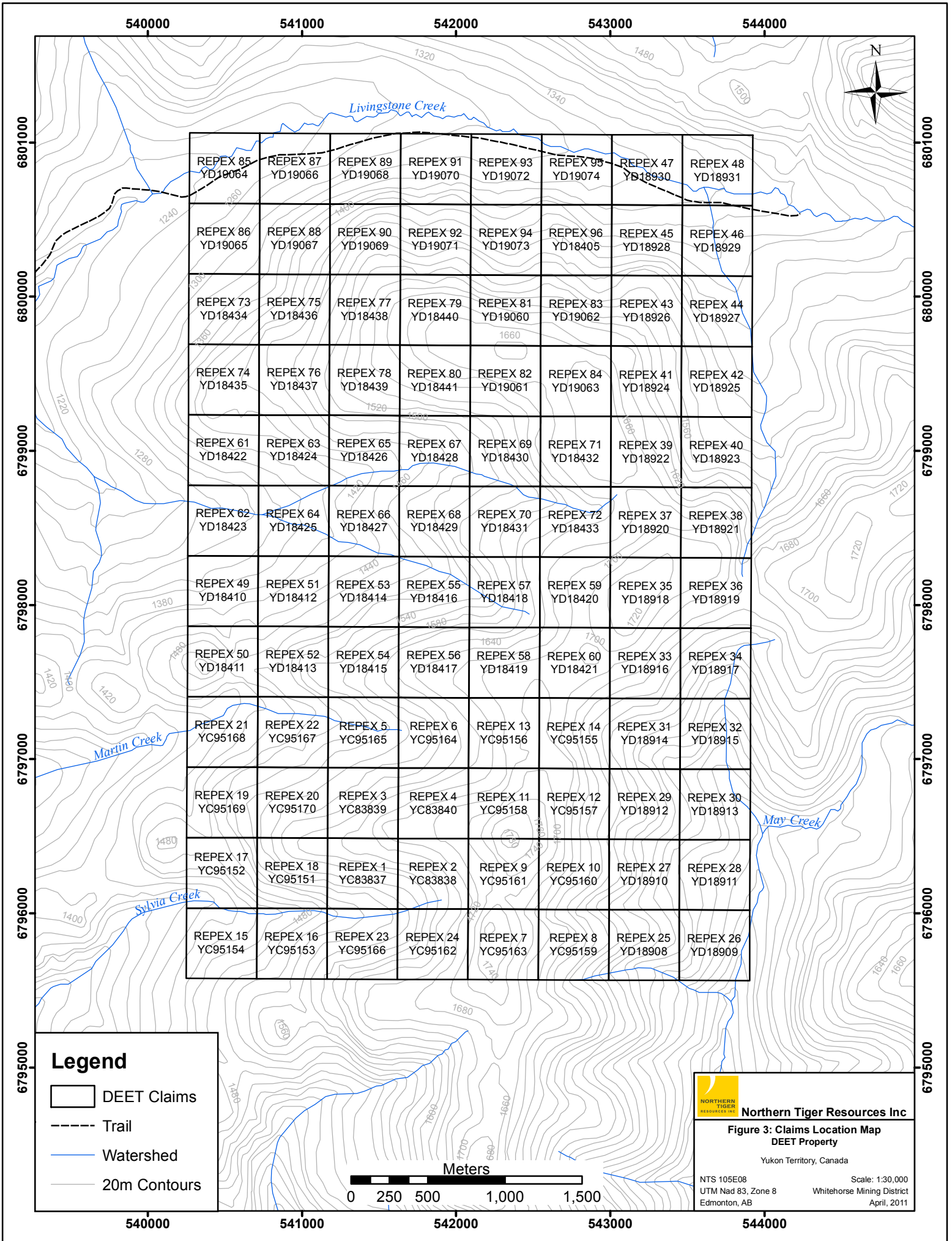
Scale: 1:750,000  
Whitehorse Mining District  
April, 2011

160000 180000 200000 220000 240000 260000 280000

**Table 1: Claims Status, DEET Property**  
**Northern Tiger Resources Inc.**

as of April 18, 2011

<b>Grant Number</b>	<b>Claim Name</b>	<b>Expiry Date</b>
YC83837 - YC83840	REPEX 1-4	17/03/2015
YC95151 - YC95170	REPEX 5-24	05/08/2015
YD18405	REPEX 96	21/01/2011
YD18410 - YD18421	REPEX 49-60	22/01/2011
YD18422 - YD18441	REPEX 61-80	21/01/2011
YD18908 - YD18931	REPEX 25-48	22/01/2011
YD19060 - YD19074	REPEX 81-95	21/01/2011



**Legend**

- DEET Claims
- Trail
- Watershed
- 20m Contours

**Northern Tiger Resources Inc**  
**Figure 3: Claims Location Map**  
**DEET Property**  
 Yukon Territory, Canada  
 NTS 105E08 Scale: 1:30,000  
 UTM Nad 83, Zone 8 Whitehorse Mining District  
 Edmonton, AB April, 2011

### **3.0 Physiography, Climate, Access and Infrastructure**

#### **3.1 Physiography and Climate**

The DEET Property is located in the Big Salmon Range of the Pelly Mountains just south of Livingstone Creek. Elevations range from 1250 m ASL to 1800 m ASL on the property. Intermittent streams at higher elevations drain into larger creeks surrounding the property including Livingstone, May, Sylvia and Martin Creeks. Permafrost commonly occurs along north-facing slopes.

Vegetation on the property consists of moss, lichen and low dwarf birch cover at higher elevations above 1400 m with willow and black spruce in lower areas. The tree line sits at approximately 1200 m in the property area.

The climate of the DEET property is typical of the Whitehorse area with long, cold winters and short summers. Annual temperature ranges from  $-40^{\circ}$  C in January to  $20^{\circ}$  C in July with precipitation averaging 26.7 cm. The snow-free period extends from mid-May through to late September making exploration most feasible from late May to late September, although drilling may continue until late October.

#### **3.2 Access and Infrastructure**

No permanent or currently serviced seasonal road access extends directly on to the property. A trail extends through the northern part of the property along the south side of Livingstone Creek, but its current state is unknown and it may require significant refurbishment.

The DEET property is large enough to contain any future mining, milling and waste disposal areas, although flat terrain is restricted to high elevations in the east-central area. Several major creeks exist throughout and surrounding the property (Livingstone, Martin, May, Sylvia) to provide an adequate water supply to service any future operations.

The City of Whitehorse, located 85 km northeast of the property, is a full service community with a population of about 23,000, including a sophisticated mineral exploration service community and an available workforce.

No permits are currently in place for exploration.

## 4.0 History

The DEET Property covers Yukon Minfile showing 105 E 53. The Deet claims were originally staked by Archer, Cathro & Associates in 1986 following the discovery of gold-bearing galena-sphalerite-quartz vein float (Yukon Minfile, 2011). In 1987, the property was sold to All-North Resources Ltd. then optioned briefly to Aurich Resources Ltd. and later transferred to Rexford Mines Ltd. in 1988 (Yukon Minfile, 2011). The DEET claims were allowed to lapse in early 1990, but were re-staked in August by Renoble Holding Inc. (Yukon Minfile, 2011). No assessment reports were filed by any of the companies that optioned the Deet claims. There was no further exploration conducted on the DEET Property until the area was re-staked by 37999 Yukon Inc. in March, 2009.

Other Minfile occurrences in the area include the Maybe (105 E 047), Marbee (105 E 48), Brenda (105 E 56) and Livingston (105 E 001). Little information is available on the Marbee and Brenda showings with their deposit types and commodities currently listed as unknown (Yukon Minfile, 2011). The Maybe Minfile showing was staked by DuPont of Canada Exploration Ltd. on a gold stream geochemical anomaly, but only minor galena and pyrite was reported in vuggy, limonitic quartz float without any significant gold content (Yukon Minfile, 2011). Livingston, on Livingstone Creek, is the only other significant precious metal occurrence in the area (Yukon Minfile, 2011). A 15 m adit was driven along a north-trending galena-bearing quartz vein at Livingston with assays from dump material returning 41.1 g/t Au, 363.4 g/t Ag, 5.4 % Pb and 0.1% Cu (Yukon Minfile, 2011). Other minerals associated with the vein include pyrite, chalcopyrite and minor sulphosalts.

Placer creeks near the property, including Livingstone, May, Sylvia and Martin Creeks, are documented in Lebarge (2002). The most significant placer production comes from Livingstone Creek, located immediately north of the DEET Property. Martin and Sylvia creeks are both gold-bearing, with Martin mined intermittently since the 1930's, and drain the property to the west. May Creek, draining the eastern side of the property, has been mined since the 1990's. The Livingstone Creek placer camp boasts an overall Au production amount of 50,000 ounces (Colpron, 2007).

## 5.0 Geology

### 5.1 Regional Geology

The regional geology on the DEET Property is summarized by Gordey & Makepeace (1999) and by Colpron (2007). The DEET Property is located in the Yukon-Tanana Terrane within an area bounded by two dextral strike-slip faults, the Big Salmon fault to the west and the d'Abbadie fault in the east (Colpron, 2007). Rock units trend NNW-SSE, sub-parallel to major structures. The dominant lithology is Early Mississippian tonalite to granodiorite gneiss ( $E_{Mt}$ ), interpreted to have intruded the metasedimentary/metavolcanic rocks of the Upper Devonian Snowcap complex (Colpron, 2007).

The tonalite gneiss ( $E_{Mt}$ ) is centrally located with respect to the bordering faults and bounded to the east and west by quartzite and psammitic schist ( $P_{SCp}$ ), locally chlorite schist ( $P_{SCv}$ ) to the west, of the Snowcap complex (Colpron, 2007). The easternmost units, adjacent to the d'Abbadie fault, are greenstone and serpentinitized peridotite of the Mendocina succession, likely pre Early Mississippian in age (Colpron, 2007). To the west, a black phyllite, marble Snowcap complex unit occurs in proximity to the Big Salmon fault (Colpron, 2007).

### 5.2 Property Geology

No property scale mapping was conducted on the DEET Property prior to acquisition by 37999 Yukon Inc. The property geology described here is based on geological mapping conducted in 2009 and described in the 2009 37999 Yukon Inc. report (Power).

Much of the property is underlain by tonalite augen gneiss ( $E_{Mt}$ ), described as being dark grey weathering medium grey, and strongly foliated with millimeter scale gneissic banding (Power, 2009). Rocks are locally silicified and tend to brecciated near fault zones with common iron staining near veins and minor endoskarn (Power, 2009). The tonalite gneiss is interpreted to be an Early Mississippian unit that intrudes metasedimentary and metavolcanic rocks of the Upper Devonian Snowcap complex (Colpron, 2007). Overburden in the area consists of 1-2 m, locally derived regosols at high elevations and boulder till in lower areas along creeks (Power, 2009).

Gneissosity-parallel foliation in the tonalite gneiss strikes  $100^{\circ}$  to  $180^{\circ}$ , averaging  $145^{\circ}$ , and dips  $35^{\circ}$  to  $70^{\circ}$ , averaging  $55^{\circ}$ , to the west (Power, 2009). One subvertical fault was located on the property with a strike of  $160^{\circ}$  and quartz vein orientation is subparallel to property foliation (Power, 2009).

## 6.0 Deposit Model

Two deposit models can be utilized as exploration targets on this property given two of the lithologies, tonalite-granodiorite and metavolcanic chlorite schist, present. In the eastern area, part of the regional geology is mapped as chlorite schist of the Upper Devonian Snowcap complex (Colpron, 2007). The economic potential of the chlorite schist is similar to the style of mineralization in the Mitchell-Sheba vein system of the Klondike goldfields. A second deposit model that can be applied is the reduced intrusion-related style of gold mineralization with the Mississippian tonalite-granodiorite as the host to gold-bearing quartz veins.

The Mitchell-Sheba vein system is hosted by chlorite schists, likely metavolcanic flows, with 'pods' of high-grade galena-chalcopryrite-tetrahedrite mineralization locally occurring in sheeted quartz veins (Liverton & Mann, 2010). It is interpreted that these 'pods' are deposited in a releasing bend within the sheeted vein system, in an extensional environment (Liverton & Mann, 2010). Some zones also contain stockwork veins hosting pyrite-arsenopyrite-galena-chalcopryrite-tetrahedrite mineralization, locally with carbonate alteration (Liverton & Mann, 2010). Another target within this deposit model are low grade quartz veins and disseminated mineralization occurring as extensive auriferous pyrite alteration zones associated with the veins (Liverton & Mann, 2010). Although the chlorite schist rocks on the DEET Property have not yet been explored, the area sits in a favourable structural and lithological setting with veins discovered elsewhere on the property that host a similar mineral suite (galena-chalcopryrite-tetrahedrite) to that of the Mitchell-Sheba vein system.

Reduced intrusion-related gold systems (RIRGS) are generally bulk tonnage and low-grade deposits of intrusion-hosted, sheeted quartz veins with an associated Au-Bi-Te-W signature (Hart, 2007). RIRGS may also exhibit mineral zonation with a proximal Au-W-As zone and an outer zone of Ag-Pb-Zn (Hart, 2007). Mineralization is typically localized in tensional zones that form in the brittle pluton carapace proximal to the country rock contact, being best developed when intruding sedimentary or metasedimentary country rocks (Hart, 2007). Globally, the most favourable time for RIRGS formation is the Phanerozoic, specifically the Cretaceous and a period from the Devonian to Carboniferous (Hart, 2007). Most of the DEET Property is underlain by Mississippian tonalite to granodiorite gneiss that has intruded metasedimentary and metavolcanic rocks, making the lithological setting ideal to form RIRGS veins. The presence of mineralized quartz veins within the intrusive rocks also exhibit potential RIRGS mineral signatures including Au-As-Ag-Pb-Zn.

## 7.0 Mineralization

Economic mineralization located on the property consists of quartz ( $\pm$  carbonate) veins with limonite and rare galena, pyrite, chalcopyrite and sphalerite (Power, 2009). Gold and silver values tend to be associated with sulphides in the vein systems, but veins are exposed as rubble or bedrock exposure with limited strike length (Power, 2009). Most veins have intense iron oxide alteration and locally malachite-fuchsite (emerald green) alteration. One significant occurrence known as the 'Gold Bug Showing' was discovered during 37999's 2009 program.

### *Gold Bug Showing*

The Gold Bug Showing is located near the centre of the property and comprises a 2-3 metre wide zone of mineralized quartz vein material trending 013° over 15 meters. Sulphide mineralization occurs in quartz boulder float and appears to be associated with a linear draw within the frost-heaved float.

The quartz-hosted galena, malachite, azurite $\pm$ tetrahedrite $\pm$ sphalerite is interpreted as vein material that is cross-cutting tonalite gneiss bedrock. Mineralization ratios are described as iron oxides $\gg$ galena $\gg$ malachite $\pm$ azurite $\pm$ tetrahedrite $\pm$ sphalerite with up to 10% galena. Massive to semi-massive iron oxides are always associated with quartz vein material as vugs, open space fillings at vein centres, or as banded pseudo-colliform textures. Galena occurs as finely disseminated euhedral crystals or sparsely disseminated blebs with associated malachite $\gg$ azurite along fractures within quartz veins (Power, 2009).

The best assays from the Gold Bug Showing include rock samples AS017 at 14.05 g/t Au and 383 g/t Ag with 5-10% galena plus yellow alteration described from the hand sample, AS019 at 1.06 g/t Au and 24 g/t Ag with <1.5% galena plus limonite, and AS021 with 5.98 g/t Au and 116 g/t Ag with 1% galena plus malachite.

## **8.0 Exploration**

The 2010 program, conducted from October 20, 2010 to October 22, 2010, consisted of a 463.9 line-kilometere radiometric and magnetic airborne geophysical survey. Survey lines were flown at 100 metre spacings at a heading of 090°/270° with 1 km tie lines flown perpendicular to the survey lines. A geophysical report outlining the data and results collected during the survey was prepared by Precision GeoSurveys and is included in its entirety as Appendix 3.

## **9.0 Discussion and Conclusions**

### **9.1 Discussion**

The 2010 airborne geophysical survey yielded plots of total magnetic intensity, potassium, thorium and uranium. The total magnetic intensity grid clearly shows magnetic highs and lows that correspond to geological boundaries from regional geology mapped by Colpron (2007). There are also several small, linear, north-south trending magnetic highs that occur within the area mapped as tonalite gneiss. One of these linear magnetic highs corresponds to the location of the original Deet Minfile occurrence. These small-scale linear magnetic features require further exploration to identify the source of the magnetic anomaly and the potential for identifying mineralized zones.

No significant features were identified from the potassium, thorium and uranium maps and no correlation could be made to mineralized zones.

## 9.2 Conclusions

The following conclusions may be made from the 2010 program, in combination with earlier exploration:

- Significant gold mineralization occurs with galena, pyrite, chalcopyrite and sphalerite in a north-trending quartz vein (Gold Bug Showing).
- No significant VLF-EM response is associated with the Gold Bug Showing and the vein does not appear to be a conductor (Power, 2009).
- Small soil grids established proximal to identified showings in 2009 resulted in elevated gold, silver, lead, zinc, antimony, arsenic values upslope of the showing. This may be due in part to glacial processes (Power), but requires further exploration to identify the extent of the vein upslope of the surface expression.
- Based on rock and soil statistics, 37999 identified Au, Ag, Zn, Pb, Sb, and As as suitable elements to examine soil response in order to locate additional bedrock mineralization, thus soil geochemistry, in combination with prospecting, is one of the most useful tools to locate mineralized zones.
- In addition to outlining the major rock unit boundaries on the property, the 2010 total magnetic intensity grid identified several small, linear, north-south trending magnetic highs within the tonalite gneiss. One of these highs corresponds to the original location of the Deet Minfile showing. Magnetic highs from the airborne survey should be investigated for potential to locate mineralized quartz veins hosted by the tonalite gneiss.

## **10.0 Recommendations**

### **10.1 Recommendations**

The 2009 program funded by 37999 Yukon Ltd. focused exploration and sampling proximal to the main gold occurrence known as the Gold Bug Showing. Some due diligence rock and soil sampling should be conducted across the Gold Bug Showing in attempt to repeat high grades reported from the 2009 program. More detailed mapping of the showing is also necessary in attempt to identify the extent of the mineralized zone.

In addition to work on the main showing, a larger soil sampling and prospecting grid across the entire property is recommended to identify additional showings. Particular attention should be paid to areas identified as magnetic highs by the 2010 airborne geophysical survey to determine whether these can be used for future exploration targeting..

The program is recommended to be done by a 2 or 3-person crew based from a field camp on the DEET Property. The camp would be mobilized in by helicopter from Whitehorse. Traverses would be conducted by foot from the field camp. The project duration, including mobilization and demobilization is estimated at 10 days. Proposed expenditures, including report writing and digitization stand at **CDN\$63,570**; with a 15% contingency fee proposed expenditures stand at **CDN\$73,105.50**.

## 10.2 Recommended Budget

Assumes a 3-person field camp.

Pre-program preparation:	\$ 2,110
Wages: Project Geologist: 10 days @ \$425/day:	\$ 4,250
Technician 1 (Prospector?): 10 days @ \$375/day:	\$ 3,750
Technician 2: 10 days @ \$325/day:	\$ 3,250
Clerical work:	\$ 300
Helicopter support: 4 hours @ \$1,200/hr, incl. fuel:	\$ 4,800
Rock sampling: 50 samples @ \$37/sample:	\$ 1,850
Soil/ silt sampling: 1000 samples @ \$34/sample:	\$34,000
Shipping: 1050 samples @ \$3/sample:	\$ 3,150
Sample "Standards":	\$ 300
Groceries: 30 person-days @ \$50/day:	\$ 1,500
Accommodations (pro-rated):	\$ 300
Fuel, camp	\$ 160
Gear rental (hand-held radios) 10 days @ \$30/day:	\$ 300
Satellite telephone rental: 10 days @ \$15/day:	\$ 150
	<b>Field Total: \$58,370</b>
Report Writing: 5 days at \$425 per day:	\$ 3,400
<u>Digitizing:</u>	<u>\$ 1,800</u>
	<b>Sub-Total: \$63,570</b>
	<u>15% Contingency: \$ 9,535.50</u>
	<b>Project Total: \$73,105.50</b>

## 11.0 References

Colpron, M., 2006: Geology and mineral potential of the Yukon-Tanana Terrane in the Livingstone Creek area (NTS 105E/8), south-central Yukon. *In* Yukon Exploration and Geology 2005, D.S. Emond, G.D. Bradshaw, L.L. Lewis and L.H. Weston (eds.), Yukon Geological Survey, p. 93-107.

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Lebarge, W.P., 2002: Yukon Placer Database 2002, INAC: Exploration and Geological Services Division.

Liverton, T. and Mann, W., 2011: Quartz vein gold mineralization in the Klondike Schist: The Mitchell-Sheba system, central Klondike district, Yukon. *In* Yukon Exploration and Geology, K.E. MacFarlane, L.H. Weston and C. Relf (eds.), Yukon Geological Survey, p. 149-160.

Power, M., 2009: Prospecting and Geological Investigations at the DEET Property, Livingstone Creek Area, Yukon Territory; Report for 37999 Yukon Inc.

Yukon Geological Survey, 2011: Yukon Minfile website, Ministry of Energy, Mines and Resources, Government of Yukon.

## **Appendix 1a: Certificate of Author**

I, Bonnie E. Pollries, Geol.I.T., hereby certify that:

- 1) I am Geologist employed by:  
Northern Tiger Resources Inc.  
Suite 220, 17010 103Ave  
Edmonton, Alberta
- 2) I graduated with a Bachelor of Science Degree in geology from the University of Alberta, Edmonton, Alberta, in 2009.
- 3) I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA) as a Geologist in Training.
- 4) I have worked as a geologist for a total of 2 years since my graduation from the University of Alberta.
- 5) I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I do not yet fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
- 6) I have not had prior involvement with the property that is the subject of the Technical Report.
- 7) I am not aware of any material facts or material changes with respect to the subject matter of the technical report not contained within the report, of which the omission to disclose makes the report misleading.
- 8) I consent to the filing of the Technical Report with the Mining Recorder’s Office, Ministry of Energy, Mines and Resources, Government of Yukon.

Dated this 20<sup>th</sup> Day of April, 2011.

**“Bonnie Pollries”**

Bonnie Pollries, BSc, Geol.I.T.  
Address: Suite 220 – 17010 103Ave  
Edmonton, Alberta T5S 1K7  
Telephone: 780-428-3465  
Fax: 780-428-3476  
E-mail: bpollries@northern-tiger.com

## **Appendix1b: Certificate of Supervisor**

I, Dennis J M Ouellette, PGeo, hereby certify that:

- 1) I am a self-employed Consulting Geologist of:  
Tigerstar Geoscience  
Edmonton, Alberta
- 2) I graduated with a Bachelor of Science Degree in geology from Brandon University, Brandon, Manitoba, in 1984.
- 3) I am a member in good standing of the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA).
- 4) I have worked as a geologist for a total of 26 years since my graduation from Brandon University.
- 5) I have read the definition of “qualified person” set out in National Instrument 43-101 (“NI 43-101”) and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfill the requirements to be a “qualified person” for the purposes of NI 43-101.
- 6) I have not had prior involvement with the property that is the subject of the Technical Report.
- 7) I am not aware of any material facts or material changes with respect to the subject matter of the technical report not contained within the report, of which the omission to disclose makes the report misleading.
- 8) I have read National Instrument 43-101 and Form 43-101F1: however this is an Assessment Report and has not been prepared in compliance with that instrument and form.
- 9) I consent to the filing of the Technical Report with the Mining Recorder’s Office, Ministry of Energy, Mines and Resources, Government of Yukon.

Dated this 20<sup>th</sup> Day of April, 2011.

**“Dennis Ouellette”**

Dennis Ouellette, BSc, PGeo  
Address: Suite 220 – 17010 103Ave  
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E-mail: douellette@northern-tiger.com

**Appendix 2: Statement of Expenditures****DEET Claims, Northern Tiger Resources Inc.**

<b>Type of Work</b>	<b>No. of Units</b>	<b>Value/Unit</b>	<b>Value</b>
Airborne Geophysical Survey:	1		\$40,628.55
Report writing, digitizing (estimate):	5	\$ 250.00	\$ 1,250.00
Supplies, report writing:			\$ 280.00
<b>Totals:</b>			<b>\$42,158.55</b>

**Appendix 3: Precision GeoSurveys Airborne Geophysical Report**

# Precision GeoSurveys Inc.

## **Airborne Geophysical Survey Report Deet**

Prepared for: Northern Tiger Resources  
November 10, 2010



Precision GeoSurveys Inc.  
520-355 Burrard Street, Vancouver, Canada V6C 2G8  
[www.precisiongeosurveys.com](http://www.precisiongeosurveys.com)

## **Table of Contents**

1.0	Introduction.....	1
2.0	Geophysical Data.....	2
2.1	Magnetic Data.....	2
2.2	Radiometric Data.....	3
3.0	Survey Operations.....	3
4.0	Equipment.....	4
4.1	AGIS.....	4
4.2	Spectrometer.....	5
4.3	Magnetometer.....	5
4.4	Base Station.....	6
4.5	Laser Altimeter.....	6
5.0	Data Processing.....	7
5.1	Magnetic Processing.....	7
5.2	Radiometric Processing.....	8
5.3	Final Data Format.....	8
	Appendix A: Maps.....	9

## 1.0 Introduction:

This report outlines the survey operations and data processing actions taken during the airborne geophysical survey flown at the Deet Block. The airborne geophysical survey was flown by Precision GeoSurveys Inc. for Northern Tiger Resources. The geophysical survey, carried out on October 20, 2010 to October 22, 2010 saw the acquisition of gamma ray spectrometer data and magnetic data.



Figure 1: Deet Block area location relative to Livingstone Creek, YT.

The Deet Block located east of Livingstone Creek, YT (Figure 1). It is located approximately 81 km north-east of Whitehorse, YT (Figure 2). The survey area itself is approximately 7 km by 6 km. A total of 463.9 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 heading of 090°/270°; the tie lines were flown at 1 km spacings at a heading of 000°/180°.



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, Precision Geosurveys provides an integrated system for collecting both airborne gamma ray spectrometer and magnetic data to serve in the exploration of the Deet Block which contains rocks that host a suite of gold deposit.

### 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 Deet 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 32.9 meters vertically above ground. The experience of the pilot helped to ensure that the data quality objectives were met and that the safety of the flight crew was never compromised given the potential risks involved in airborne surveying.



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

The base of operations for this survey was the Livingstone Creek airstrip located approximately 5 km east of the Deet block. The Precision crew consisted of a total of three members:

Ola Vaage and Harmen Keyser – Pilot  
Peter Barker – Operator  
Jenny Poon – Operator/ On site Geophysicist

The survey started and completed on October 20, 2010 to October 22, 2010. The survey was delayed due to low cloud cover and completed under variable snow covered conditions.

#### 4.0 Equipment:

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

#### 4.1 AGIS:

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



Figure 4: AGIS installed in the Bell 206.

The AGIS was manufactured by Pico Envirotec; therefore the system uses standardized Pico software and external sources are connected to the system via RS-232 serial communication cables. The AGIS data format is easily converted into Geosoft or ASCII

file formats by a supplied conversion program called PEIView. Additional Pico software allows for post survey quality control procedures.

#### 4.2 Spectrometer:

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



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

#### 4.3 Magnetometer:

The magnetometer used by Precision GeoSurveys is a Scintrex cesium vapor CS-3 magnetometer. The system was housed in a front mounted “stinger” (Figure 6). The CS-3 is a high sensitivity/low noise magnetometer with automatic hemisphere switching and a wide voltage range, the static noise rating for the unit is +/- 0.01 nT. On the AGIS screen the operator can view the raw magnetic response, the magnetic fourth difference and the survey altitude for immediate QC of the magnetic data. The magnetic data are recorded at 10 Hz. A magnetic compensator is also used to remove noise created by the movement of the helicopter as it pitches, rolls and yaws within the Earth’s geomagnetic field.



Figure 6: View of the mag stinger.

#### 4.4 Base Station:

For monitoring and recording of the Earth’s diurnal magnetic field variation, Precision GeoSurveys uses a Scintrex proton precession Envi Pro magnetometer as its base station (Figure 7). This is mounted as close to the survey 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 CS-3 magnetometer.



Figure 7: Scintrex Envi Pro proton precession magnetometer.

#### 4.5 Laser Altimeter:

The pilot is provided with terrain guidance and clearance with an Acuity AccuRange Ar3000 laser altimeter (Figure 8). This is attached at the aft end of the magnetometer

boom. The Ar3000 sensor is a time-of-flight sensor that measures distance by a rapidly-modulated and collimated laser beam that creates a dot on the target surface. The maximum range of the laser altimeter is 300 m off of natural surfaces with 90% reflectance and 3 km of special reflectors. Within the sensor unit, reflected signal light are collected by the lens and focused onto a photodiode. Through serial communications and analog outputs, the distance data is transmitted and collected by the AGIS at 10 Hz.



Figure 8: Acuity AccuRange AR3000 laser altimeter.

## 5.0 Data Processing:

After all the data are collected after a survey flight several procedures are undertaken to ensure that the data meet a high standard of quality.

In this survey, spectrometer data were collected but not processed as snow was still present up in the mountains and the data collected may not be usable. Hence, only magnetic 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 ( $000^{\circ}/152^{\circ}$  and  $080^{\circ}/217^{\circ}$  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 was collected simultaneously with the magnetic data and with thick deposit of snow (more than 10 inches) lag correction of 1.4 secs was corrected for the radiometric data only.

## 5.3 Final Data Format

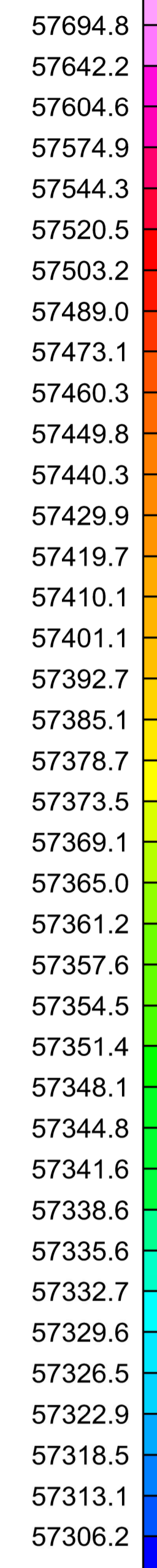
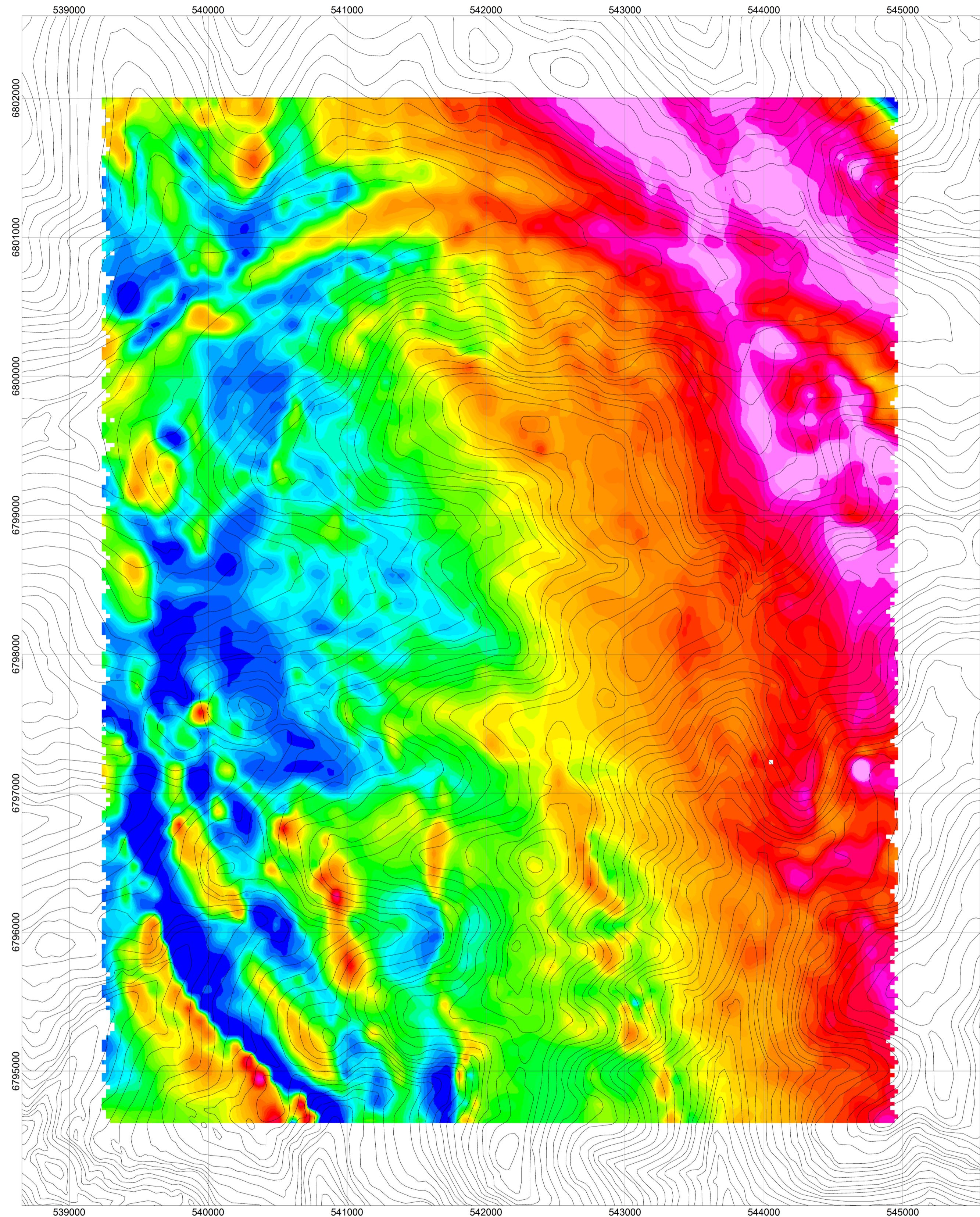
Abbreviations used in the GDB files are as follows:

X – Easting in WGS84, UTM zone 8N  
Y – Northing in WGS84, UTM zone 8N  
GPStime – GPStime  
basemag – diurnal data  
mag – total magnetic field  
galt – gps altimeter readings  
lalt – laser altimeter readings  
dtm – digital terrain model  
k\_lag – lag corrected potassium  
tc\_lag – lag corrected total count  
ur\_lag – lag corrected uranium  
th\_lag – lag 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

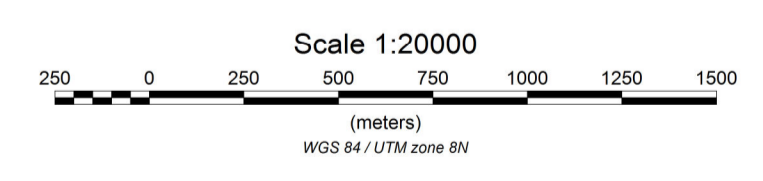
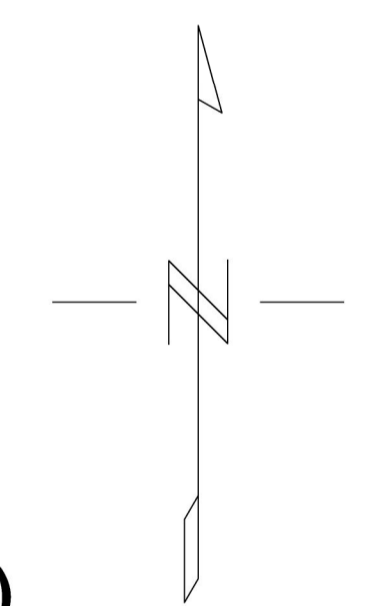
separate files are provided for each format, one for the processed magnetics and one for the lag corrected radiometric data.

Appendix A  
Maps

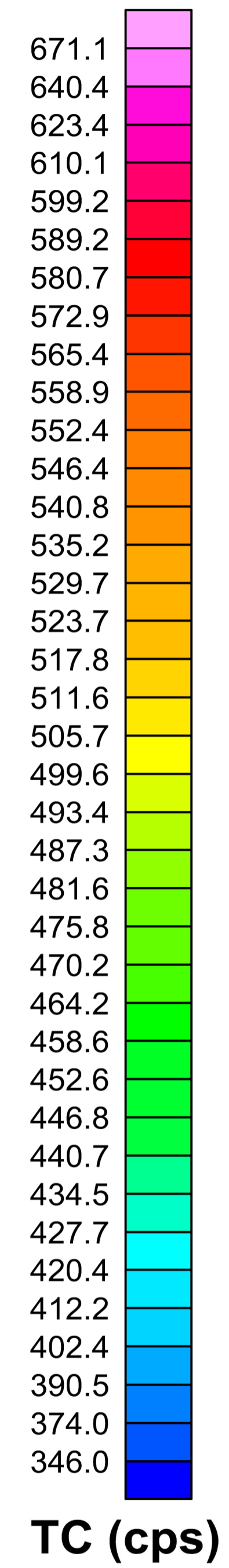
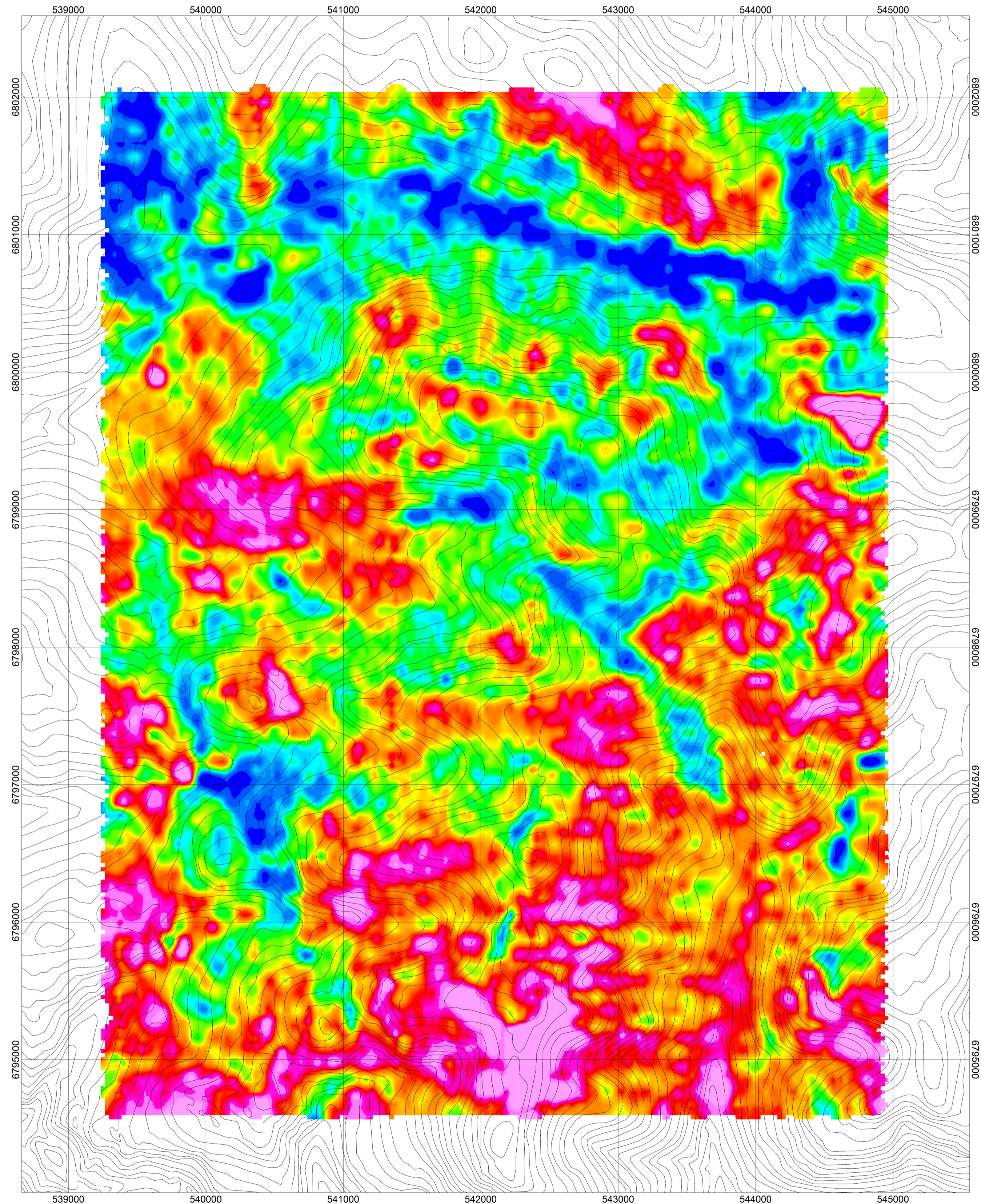


**Total Magnetic Intensity (nT)**

**Survey and Equipment:**  
 -Survey flown on October 20, 2010 to October 22, 2010.  
 -Survey Base: Livingstone Creek airstrip, YT  
 -Scintrex CS-3 cesium vapor magnetic sensor used to sample the Earth's magnetic field at 10Hz.  
 -All radiometric data sampled at 1Hz by 8.4L of NaI synthetic crystal.  
 - Due to variable snow cover, radiometric data are corrected for lag only.

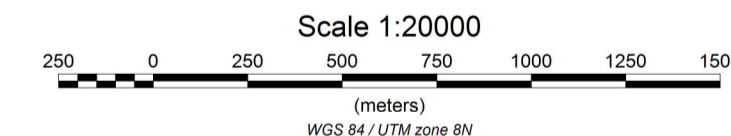
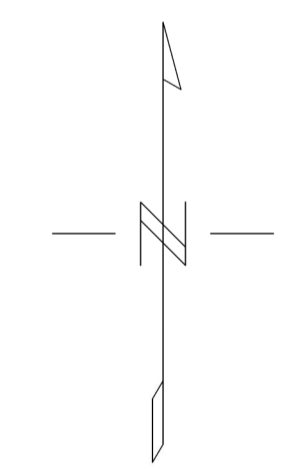


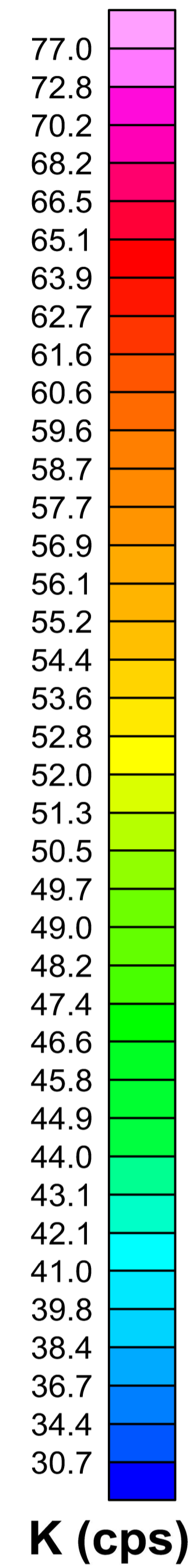
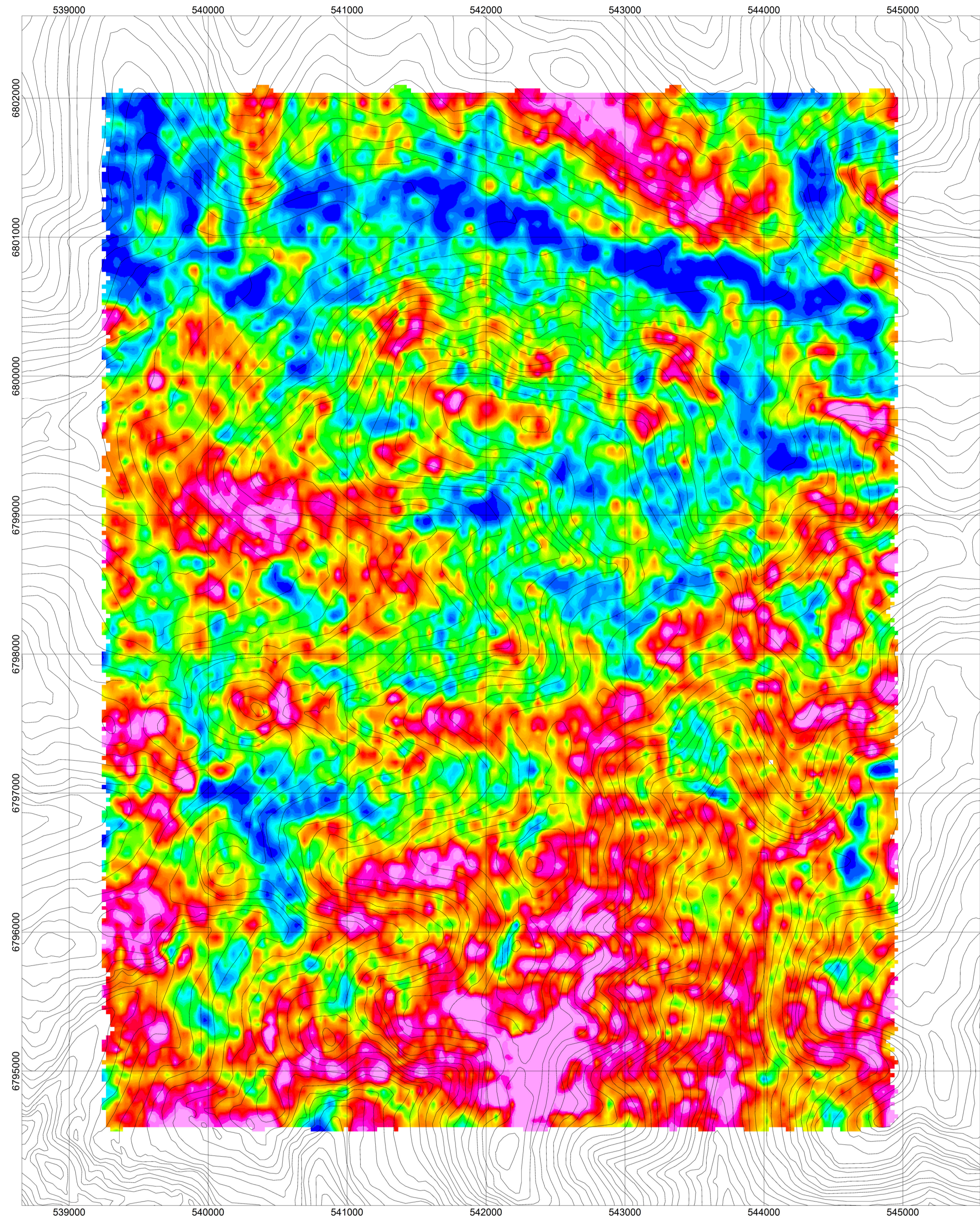
**Northern Tiger Resources**  
 Deet Block  
 Total Magnetic Intensity  
 Created By: Precision GeoSurveys Inc.  
 November 10, 2010



**Survey and Equipment:**

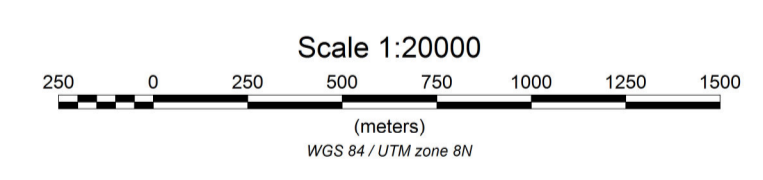
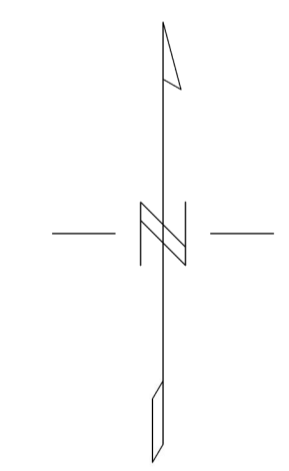
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- Scintrex CS-3 cesium vapor magnetic sensor used to sample the Earth's magnetic field at 10Hz.
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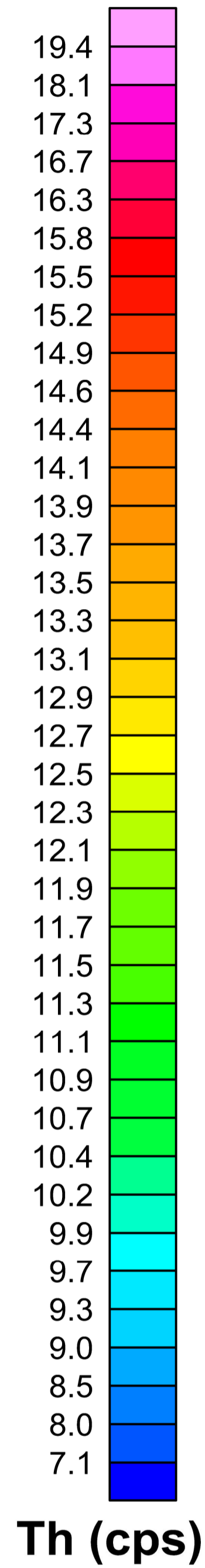
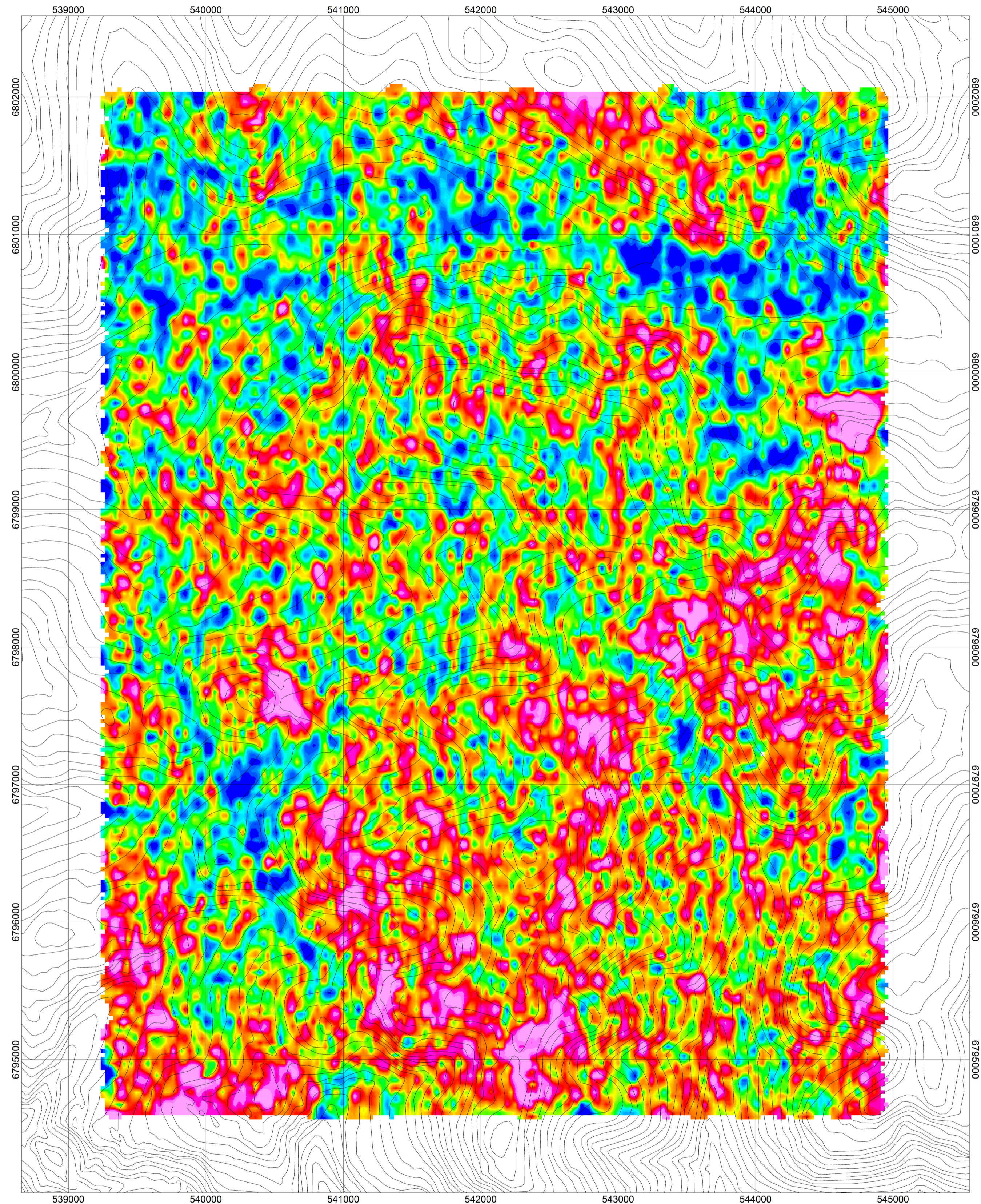




**Survey and Equipment:**

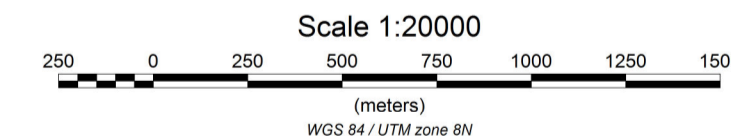
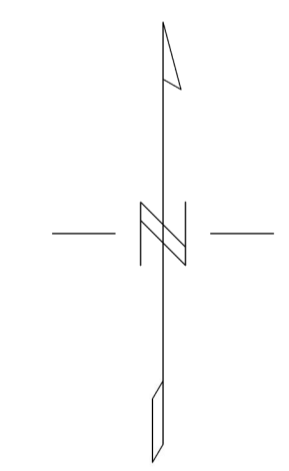
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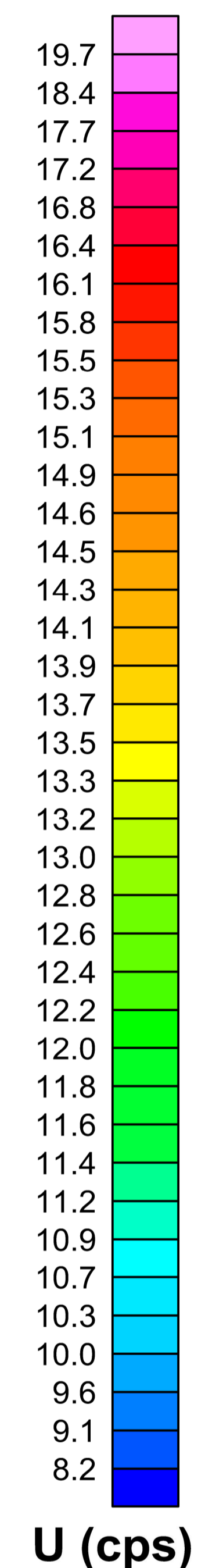
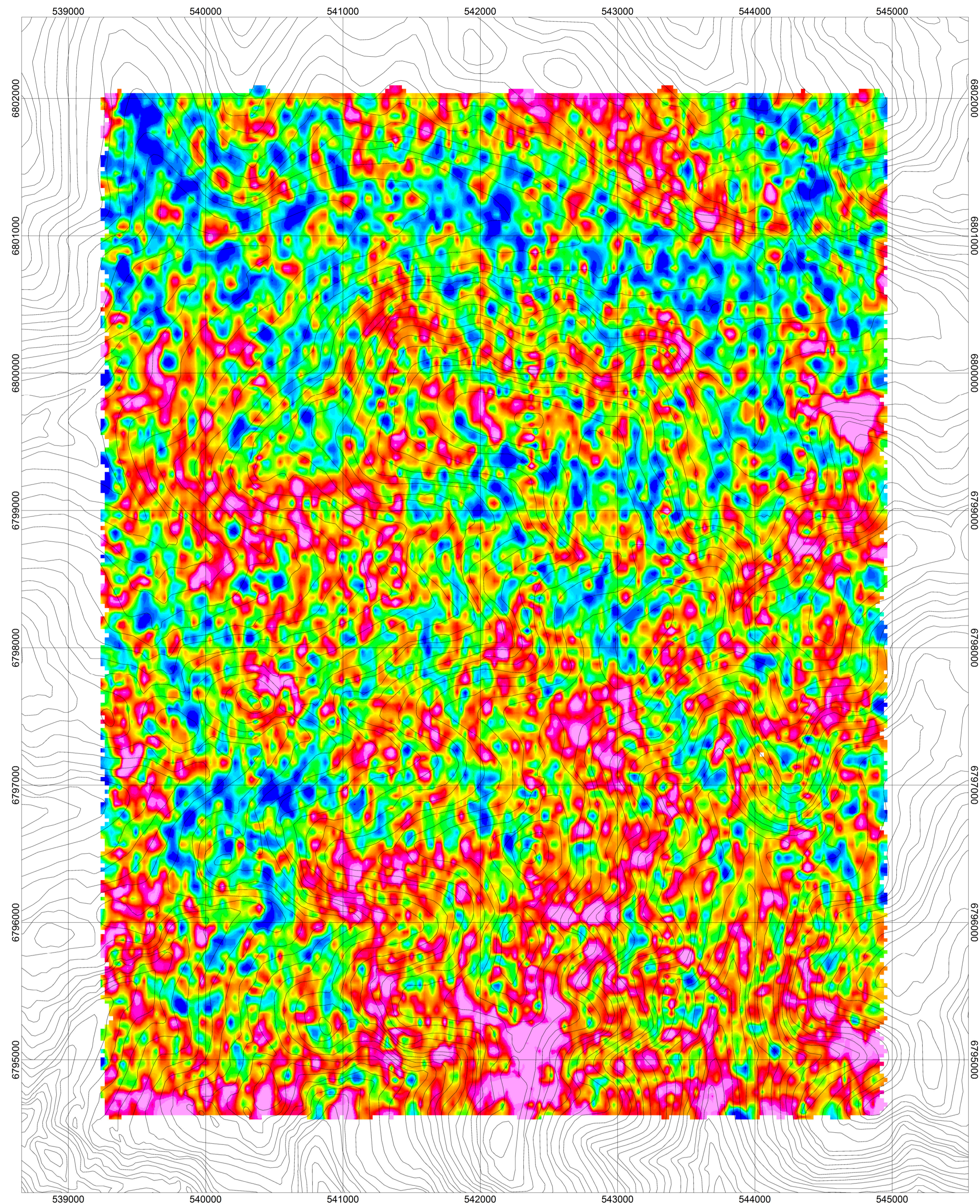




**Survey and Equipment:**

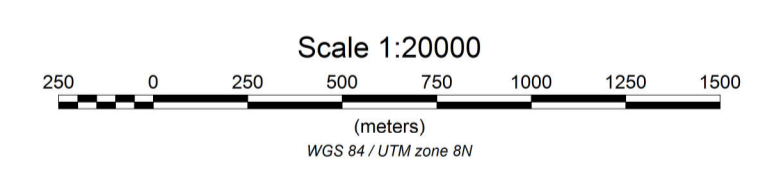
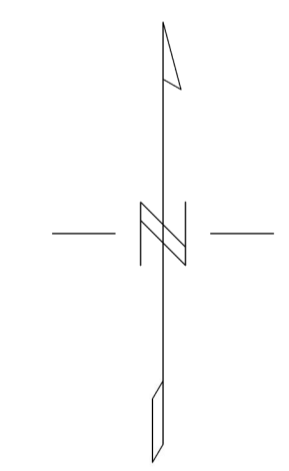
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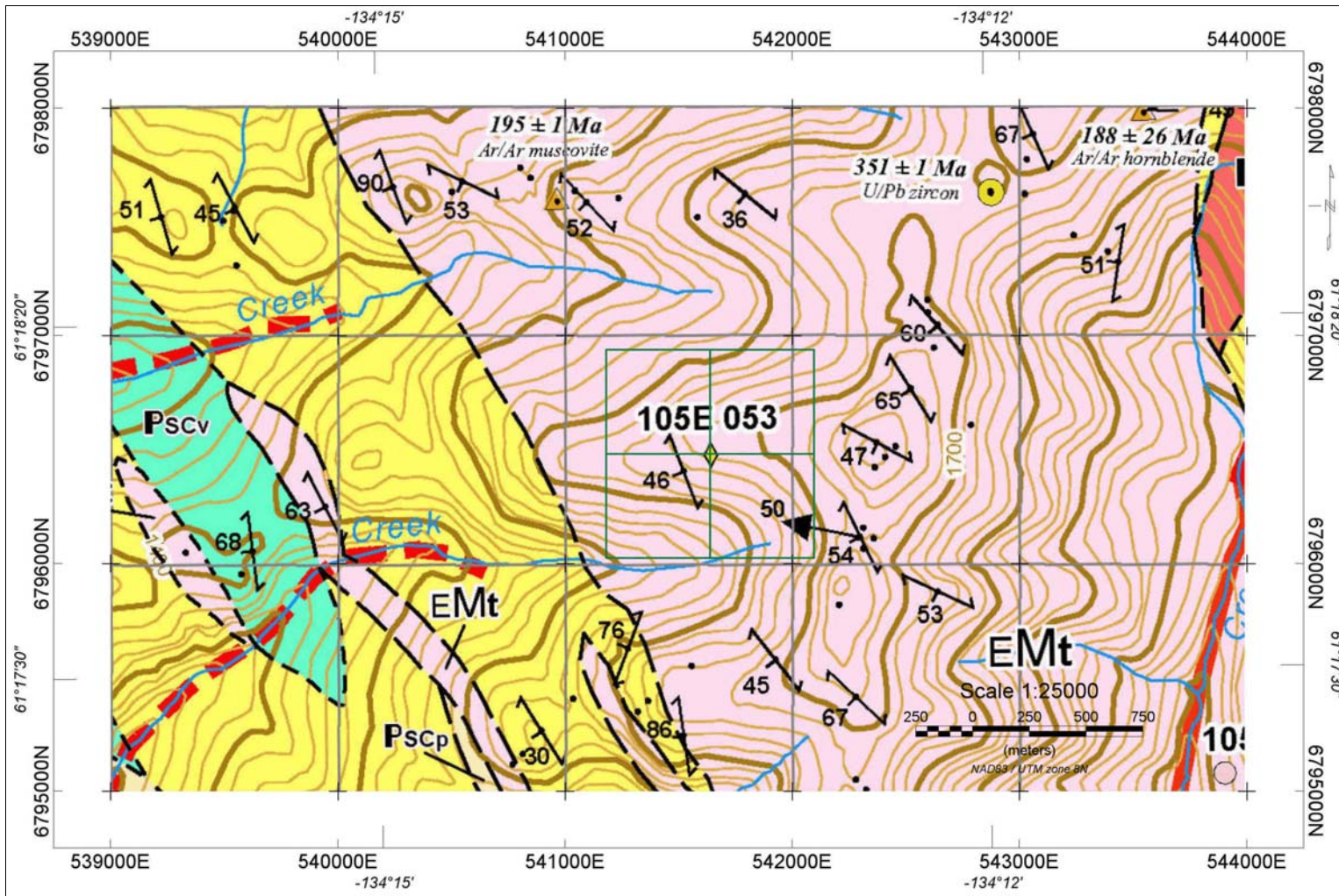




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Map 1: Regional geology in the area of the DEET Property, after Colpron (2005) & Power (2009).

From DEET Property 2009 report.