

Assessment Report  
**HELICOPTER MAGNETIC AND RADIOMETRIC SURVEY**  
for  
**LOGAN RESOURCES LTD.**

on the  
**HEIDI CLAIMS PROJECT**  
Klondike River Area, Ogilvie Mountain Area, Y.T.  
Mayo and Dawson Mining Districts

**MAPSHEET 116A-05**  
Latitude 64° 22' 00", Longitude 137° 36' 00"

Survey Conducted by  
Donegal Developments Ltd.  
August 6 - August 27, 2007

Report by  
Ronald F. Sheldrake,  
Donegal Developments Ltd.

**October 30, 2007**

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MAP 2 – Reduced to Pole Magnetic Map	1:50,000
MAP 3 – Reduced to Pole Shaded Map	1:50,000
MAP 4 – GPS Sensor Height Map	1:50,000
MAP 5 – Radiometric Total Count Map	1:50,000
MAP 6 – Radiometric Thorium Count Map	1:50,000
MAP 7 – Radiometric Uranium Count Map	1:50,000
MAP 8 – Radiometric Potassium Count Map	1:50,000
MAP 9 – Radiometric Ternary Map (Th/U/K)	1:50,000
MAP 10 – Interpretation Map	1:50,000

## LIST OF FILES ON THE CD – SHELL PROJECT

FILE NAME	DESCRIPTION
Maps 1 to 10	PDF files
Final Mag.gdb	Geosoft Data File
Final Spec.gdb	Geosoft Data File
Format for Mag and Spec.txt	Text file
Geosoft Map viewer	Zip of executable file



## **1. SUMMARY**

This report provides information about the acquisition, processing, and presentation of the radiometric and magnetic survey data that was collected over the Heidi Project located 50 km East of the Dempster Highway in the Yukon Territory.



*Illustration 1: 500D Geophysical System*

N-S traverses were selected to test the radiometric and magnetic responses to copper mineralization that is known to occur on the claims.

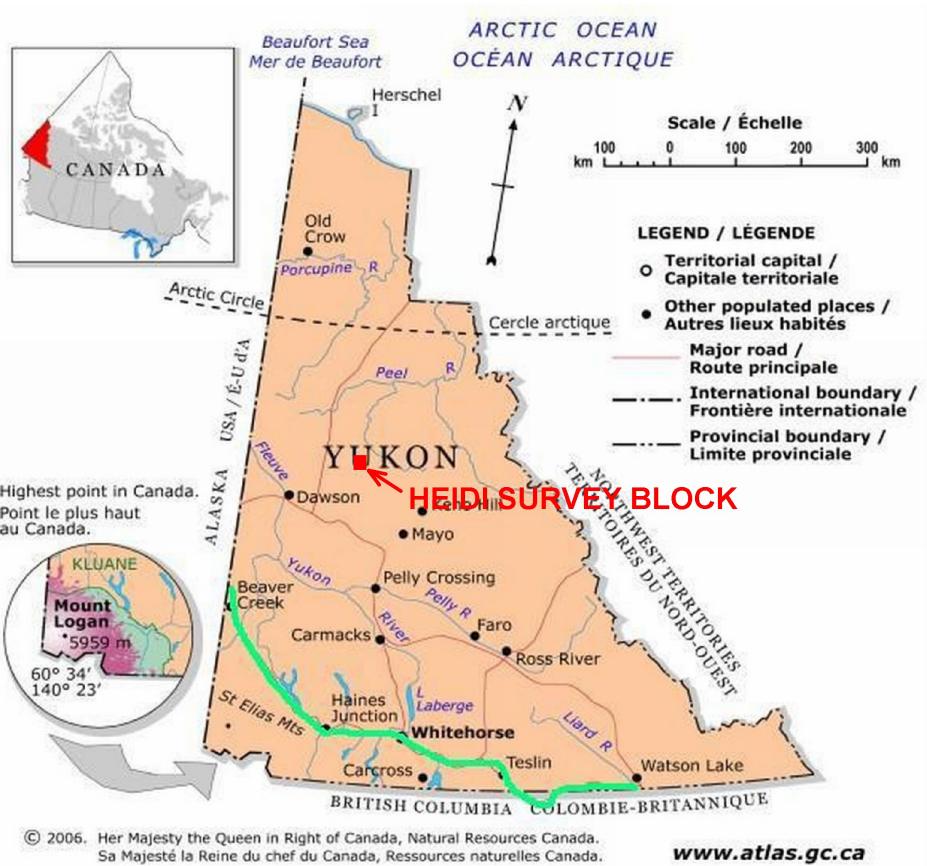
The helicopter radiometric and magnetometer program was undertaken by Donegal Developments Ltd of Vancouver, B.C. on behalf of Logan Resources Ltd. The survey totalled 920 km. The survey was flown during the period between August 6, 2007 and August 27, 2007.

Note that this geophysical report will later form part of a more comprehensive one that will cover the details of geology, geochemistry, drill results and exploration history of the property.

This survey program comprised part of a program involving 19 separate survey blocks within the Yukon Territory from near the Arctic Circle in the North near to the B.C. border in the South. Many of the survey blocks were away from infrastructure, so that jet fuel had to be moved to the survey site by helicopter making survey costs particularly high. The Heidi survey was one of four surveys undertaken from the base of operations in Dawson City, so that if the weather was unsatisfactory on a project any given day, an alternate project was flown.

## 2. LOCATION OF SURVEY

The Heidi Claims are located about 50 km E of the Dempster Highway.



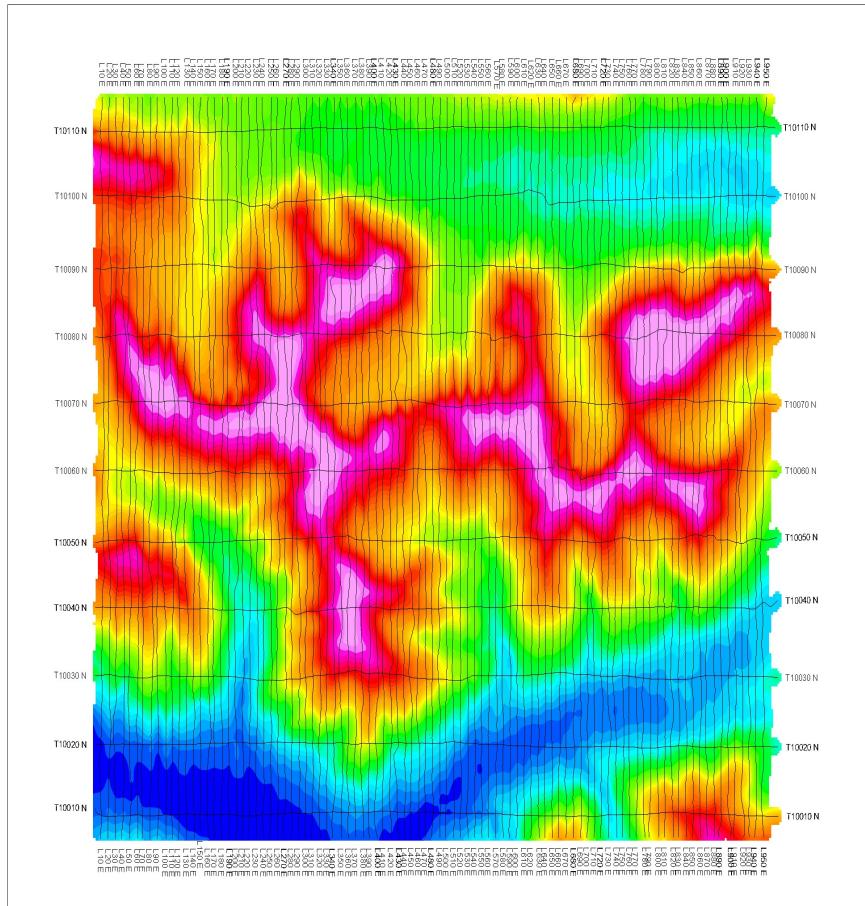
*Illustration 2: Heidi Survey Location*

## 3. SURVEY GRID, PROCEDURE AND PERSONNEL

### *3.1 Survey Grid*

This survey was based from Dawson City and comprised of 92 surveylines (816 km) and 11

tie lines (104 km) for a total of 920 km as shown on the map-image below.



*Illustration 3: Heidi Flight Path on Topographic Image*

### **3.2      *Magnetic Surveying Procedure***

Magnetic measurements in a helicopter or fixed wing aircraft are recorded (to an accuracy of 1/10 of a nanotesla- abbreviated “nT”) as the aircraft is flying along a pre-determined flight path, normally an orthogonal survey grid of lines and tie lines. At the same time, a second magnetometer, the magnetic base-station, is located in a magnetically quiet area ( no vehicles or powerlines, etc.) that records the “magnetic diurnal,” which is the varying magnetic field as a function of time. It is beneficial to have the base station in, or near, the survey area, but that is often not practicable. The magnetic measurements were made at an interval of 1/25 per second,

so that on average, the reading interval on the ground were less than 1.0 meter.

The data are processed by subtracting the magnetic diurnal variation from the airborne data. The magnetic data are also further improved by correcting the data using the tie-line data intersection points to produce a smooth, internally corrected map. However, maps may still be slightly noisy and, further micro-leveling correction may be made after the data has been gridded. This process removes small noise variations along the traverses that may arise between the tie lines.

### ***3.3 Radiometric Surveying Procedure***

Radiometric surveying is a complex procedure, normally done in two stages. The data is collected (with various calibration information) and processed in the field in a preliminary fashion. The field processing involve checking the validity of all the data and making preliminary maps. At this stage, the radiometric data are mapped in units of counts per second (cps). (The radiometric measurements were made at an interval of 1.0 seconds, so that on average, the readings on the ground were less than 30.0 meters.)

The final processing involves merging the calibration information with the preliminary data to produce radiometric units in concentrations of potassium, uranium and thorium. (This processing has not as yet been completed on the present data.)

The corrections include applying sensor stripping ratios, altitude attenuation coefficients, temperature and pressure corrections, radon contamination corrections, aircraft and skyshine factors. These corrections are described in the International Atomic Energy Agency document IAEA-IECDOC-1363 “***Guidelines for Radioelement Mapping using Gamma Ray Spectrometry Data,***” July 2003

### ***3.4 Survey Personnel***

The Donegal Developments Ltd. crew for this survey comprised:

1. Ron Sheldrake, geophysicist and project manager
2. Mary Sheldrake, data person

3. Lawrence Jay, electrical engineer and equipment operator.

The Prism Helicopter Ltd. crew for this survey comprised:

4. Loren Leeuw, Geoff Tait and Dave Law, pilots
5. Bill Clifford, aircraft engineer

#### **4. EQUIPMENT USED FOR THIS SURVEY**

The equipment used for this survey was a new radiometric and magnetic system provided by PicoEnvirotec of Downsview, Ontario. It was specifically configured for the 500D helicopter installation and included the following equipment:

- A Scintrex CS-3 high-sensitivity Cesium magnetometer mounted in a cantilevered “stinger”
- A Billingsly TFM-100 Tri-axial Fluxgate Magnetometer
- A Pico-Envirotec GRS-10 self-stabilizing 256 channel gamma-ray spectrometer with 16.8 litres “downward looking” NaI(Tl) sensors and 4.2 litres of “upward looking” NaI(Tl) sensor.
- A CSI-Wireless Omnistar navigation system with a pilot steering indicator
- A Pico-Envirotech AGIS Data Acquisition System
- A Terra TRA-3000/TRI-30 Radar Altimeter.
- Campbell Scientific Model-CS500 Temperature and Relative Humidity Probe
- A SETRA Model 276 digital barometric altimeter/pressure transducer.
- Power distribution console with power supplies.

The magnetic base station equipment included:

- A PGIS (PicoEnvirotec) basestation processor
- Scintrex Cesium CS-3 Magnetometer

Details and specifications of the above equipment are provided on the PicoEnvirotec website, [www.picoenvirotec.com](http://www.picoenvirotec.com).

## **5. GEOPHYSICAL TECHNIQUES**

### ***5.1 Magnetic Method***

Magnetometer data are used to identify rock types, faults, and alteration zones. Much of the time, the magnetic responses arise from the minerals magnetite and pyrrhotite, and although ilmenite, chromite, and platinum and other minerals are magnetic, they are much less so.

Magnetic maps provide a picture of the distribution of magnetic materials in the subsurface rocks. In general, localized magnetic responses (sometimes they are called “anomalies”) that arise from the surface and near surface distributions of magnetic materials, are of shorter wavelength than those that arise from deeper seated sources.

Occasionally, magnetic responses right away lead to the detection of commercial orebodies, although this is rare. For example, a massive sulphide ore-body might contain pyrrhotite as one of its constituent minerals, and the magnetic maps will therefore identify and “outline” the orebody. However, there is a whole spectrum of magnetic responses that can arise due to mechanical, metamorphic and geochemical changes in rocks

Sometimes, the challenge can be more sophisticated since mineralization may be related to non-magnetic rocks, therefore the magnetic parameter is sometimes used in its negative aspects; a search for magnetic depletion zones.

### ***5.2 Radiometric Method***

Gamma-ray spectrometer surveys are utilized for mapping the concentration and distribution of naturally occurring radioelements. The use of an airborne gamma-ray spectrometer allows for the in-situ analysis of radioelement concentrations of naturally occurring Potassium (K), Uranium (U) and Thorium (Th).

The concentrations of K, U, and Th can be diagnostic in the mapping of rocks and soils. In the exploration for uranium, gold, copper tin and tungsten mineralization is often related to K alteration so that radiometric data provide a vital exploration tool..

Radioactivity measurements from an airborne platform are dependent upon the detection of

gamma rays produced through radioactive decay of the nuclide to be detected. Radiometric data are fundamentally statistical. The primary field data is collected in units of counts per second (cps) and a wide range of corrections are normally made to convert the count per second (cps) units to “equivalent concentrations” of the three radio nuclides, K, U, and Th. Data adjustments include applying stripping ratios, altitude attenuation coefficients, temperature and pressure effects, radon contamination correction, aircraft and skyshine factors. These alterations to the data are described in the International Atomic Energy Agency document **“Guidelines for Radioelement Mapping using Gamma Ray Spectrometry Data.”**

The radiometric data presented in this report are, at this stage, uncorrected for the above factors. As a result some radon contamination can be seen on the Radiometric Count Map.

Also, R.B.K. Shives et al (1997) provide a comprehensive discussion of the potential of radiometric surveying for a wide range of deposits in **“The detection of Potassic Alteration by Gamma Ray Spectrometry – Recognition Related to Mineralization,”** published in *Exploration 97.*

## **6. DATA PRESENTATION**

These days most geoscientists are finding that computer images are most convenient for their interpretations. However, paper map-images remain an important part of the deliverables. The present survey data are presented as colour image-maps, produced at a scale of 1:50,000. Note that all maps, grids and data are located using coordinate system **NAD83 Zone 8N**. All digital data are provided on CD/DVD in Geosoft format.

The magnetic data are corrected for diurnal variation, heading and lag variations and are tie line corrected and micro-levelled.

The radiometric data are presented as radiometric count maps, and are uncorrected for attenuation, stripping, radon gas contamination and background effects.

### ***6.1 Image Map Deliverables***

1. Total Magnetic Intensity Map (TMI)
2. Reduced to Pole Magnetic Map
3. Reduced to Pole Shaded Map

4. GPS Sensor Height Map
5. Radiometric Total Count Map
6. Radiometric Thorium Count Map
7. Radiometric Uranium Count Map
8. Radiometric Potassium CountMap
9. Radiometric Ternary Map (Th, U, K)
10. Interpretation Map

## ***6.2        Digital Data Deliverables***

PDF versions of maps and processed digital data (in Geosoft format) are provided. A full description of the formats are included as a text file on the CD/DVD that comes with this report.

## **7.        DISCUSSION OF THE SURVEY DATA**

### ***7.1        Magnetic and Radiometric Data***

An interpretation of the magnetic and radiometric data are presented on Map 10 – Interpretation. As is evident from previous magnetic surveys (regional GSC ) the data indicate the outline of a very deep seated intrusive feature towards the East (principally off the present survey area) and a nearer surface active magnetic zone in the centre of the survey area.

Respectfully submitted,

Donegal Developments Ltd.

Ronald F. Sheldrake, B.Sc. (Geophysics)

## **BIBLIOGRAPHY**

1. R.B.K. Shives, B.W. Charbonneau, Ken L. Ford, “*The detection of Potassic Alteration by Gamma Ray Spectrometry – Recognition Related to Mineralization,*” published in **Exploration 97 - Geophysics and Geochemistry at the Millenium, 1997**
2. Regional GSC 2 km Aeromagnetic Data, NRCN
3. International Atomic Energy Agency document “*Guidelines for Radioelement Mapping using Gamma Ray Spectrometry Data.*”

**APPENDIX 1 – STATEMENT OF QUALIFICATIONS, R. SHELDRAKE**

I, **Ronald F. Sheldrake**, do certify that:

- 1) I received a B.Sc. in Geophysics from the University of British Columbia in 1974.
- 2) I have practised the profession of exploration geophysics for in excess of 30 years, much of that time collecting, compiling and reporting on airborne geophysical surveys.
- 3) This report is written solely by Ronald F. Sheldrake, except where other credit is given.

October 30, 2007

Ronald F. Sheldrake  
Donegal Developments Ltd.

**APPENDIX 2 – EXPENDITURES FOR PROJECT**

	<u>Costs/Charges</u>
1) Mobilization costs (pro rated),	\$ 5,060.00
2) Geophysical Survey costs including vehicle usage, food, lodging, helicopter and fuel (920 km X \$165.00/km),	\$ 151,800.00
3) Reporting Costs-	\$ 5,750.00
<b>TOTAL EXPENDITURE</b>	<b>\$162,610.00</b>
<b>TOTAL EXPENDITURE PER CLAIM, (220 Claims)</b>	<b>\$ 739.14</b>

### **APPENDIX 3 – LISTING OF CLAIMS WITH EXPIRY DATES**

**(NOTE THE NUMBER OF CLAIMS)**

Logan Resources Ltd.  
 Heidi Property, Mayo and Dawson Mining Districts  
*203 Claims listed (should be 220 Claims) 18 oct 07*

Grant Number	Claim Name	Claim Number	Operation	Claim Expiry Date	NTS Map Number
			Recording Date		
YC39455	Heidi	37	4/1/2005	4/1/2012	116A05
YC39456	Heidi	38	4/1/2005	4/1/2012	116A05
YC39457	Heidi	39	4/1/2005	4/1/2012	116A05
YC39458	Heidi	40	4/1/2005	4/1/2012	116A05
YC39459	Heidi	41	4/1/2005	4/1/2012	116A05
YC39460	Heidi	42	4/1/2005	4/1/2012	116A05
YC39461	Heidi	43	4/1/2005	4/1/2012	116A05
YC39462	Heidi	44	4/1/2005	4/1/2012	116A05
YC39463	Heidi	45	4/1/2005	4/1/2012	116A05
YC39464	Heidi	46	4/1/2005	4/1/2012	116A05
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YC39466	Heidi	48	4/1/2005	4/1/2012	116A05
YC39467	Heidi	49	4/1/2005	4/1/2012	116A05
YC39468	Heidi	50	4/1/2005	4/1/2012	116A05
YC39469	Heidi	51	4/1/2005	4/1/2012	116A05
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YC10780	Heidi	3	1/3/2003	1/3/2013	116A05
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YC10783	Heidi	6	1/3/2003	1/3/2013	116A05
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YC10786	Heidi	9	1/3/2003	1/3/2013	116A05
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YC10790	Heidi	13	1/3/2003	1/3/2013	116A05
YC10791	Heidi	14	1/3/2003	1/3/2013	116A05

*Logan Resources Ltd.- Heidi Claims, YT – Helicopter Survey August 2007*

YC10792	Heidi	15	1/3/2003	1/3/2013	116A05
YC10793	Heidi	16	1/3/2003	1/3/2013	116A05
YC10794	Heidi	17	1/3/2003	1/3/2013	116A05
YC10795	Heidi	18	1/3/2003	1/3/2013	116A05
YC10796	Heidi	19	1/3/2003	1/3/2013	116A05
YC10797	Heidi	20	1/3/2003	1/3/2013	116A05
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*Logan Resources Ltd.- Heidi Claims, YT – Helicopter Survey August 2007*

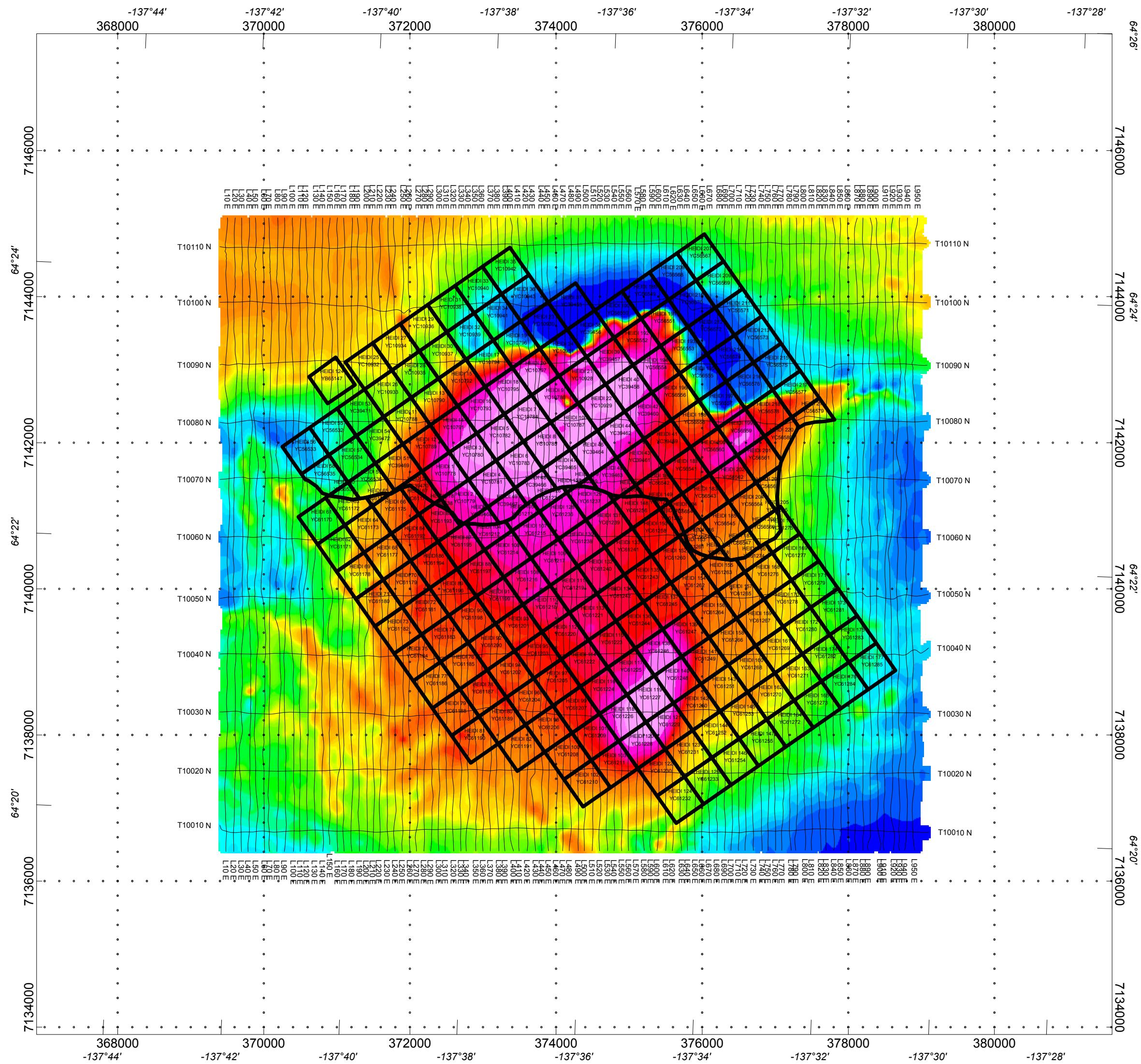
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*Logan Resources Ltd.- Heidi Claims, YT – Helicopter Survey August 2007*

YC61236	Heidi	128	7/5/2007	7/5/2008	116A05
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YC61253	Heidi	145	7/5/2007	7/5/2008	116A05
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YC61259	Heidi	151	7/5/2007	7/5/2008	116A05
YC61260	Heidi	152	7/5/2007	7/5/2008	116A05
YC61261	Heidi	153	7/5/2007	7/5/2008	116A05
YC61262	Heidi	154	7/5/2007	7/5/2008	116A05
YC61263	Heidi	155	7/5/2007	7/5/2008	116A05
YC61264	Heidi	156	7/5/2007	7/5/2008	116A05
YC61265	Heidi	157	7/5/2007	7/5/2008	116A05
YC61266	Heidi	158	7/5/2007	7/5/2008	116A05
YC61267	Heidi	159	7/5/2007	7/5/2008	116A05
YC61268	Heidi	160	7/5/2007	7/5/2008	116A05
YC61269	Heidi	161	7/5/2007	7/5/2008	116A05
YC61270	Heidi	162	7/5/2007	7/5/2008	116A05
YC61271	Heidi	163	7/5/2007	7/5/2008	116A05
YC61272	Heidi	164	7/5/2007	7/5/2008	116A05
YC61273	Heidi	165	7/5/2007	7/5/2008	116A05
YC61274	Heidi	166	7/5/2007	7/5/2008	116A05
YC61275	Heidi	167	7/5/2007	7/5/2008	116A05
YC61276	Heidi	168	7/5/2007	7/5/2008	116A05
YC61277	Heidi	169	7/5/2007	7/5/2008	116A05
YC61278	Heidi	170	7/5/2007	7/5/2008	116A05
YC61279	Heidi	171	7/5/2007	7/5/2008	116A05

*Logan Resources Ltd.- Heidi Claims, YT – Helicopter Survey August 2007*

YC61280	Heidi	172	7/5/2007	7/5/2008	116A05
YC61281	Heidi	173	7/5/2007	7/5/2008	116A05
YC61282	Heidi	174	7/5/2007	7/5/2008	116A05
YC61283	Heidi	175	7/5/2007	7/5/2008	116A05
YC61284	Heidi	176	7/5/2007	7/5/2008	116A05
YC61285	Heidi	177	7/5/2007	7/5/2008	116A05
YC56532	Heidi	55	7/5/2007	7/5/2008	116A05
YC56533	Heidi	56	7/5/2007	7/5/2008	116A05
YC56534	Heidi	57	7/5/2007	7/5/2008	116A05
YC56535	Heidi	58	7/5/2007	7/5/2008	116A05
YC56536	Heidi	59	7/5/2007	7/5/2008	116A05
YC56537	Heidi	60	7/5/2007	7/5/2008	116A05
YC56538	Heidi	178	7/5/2007	7/5/2008	116A05
YC56541	Heidi	181	7/5/2007	7/5/2008	116A05
YC56542	Heidi	182	7/5/2007	7/5/2008	116A05
YC56543	Heidi	183	7/5/2007	7/5/2008	116A05
YC56544	Heidi	184	7/5/2007	7/5/2008	116A05
YC56545	Heidi	185	7/5/2007	7/5/2008	116A05
YC56546	Heidi	186	7/5/2007	7/5/2008	116A05
YC56547	Heidi	187	7/5/2007	7/5/2008	116A05
YC56548	Heidi	188	7/5/2007	7/5/2008	116A05
YC56549	Heidi	189	7/5/2007	7/5/2008	116A05
YC56550	Heidi	190	7/5/2007	7/5/2008	116A05
YC56551	Heidi	191	7/5/2007	7/5/2008	116A05
YC56552	Heidi	192	7/5/2007	7/5/2008	116A05
YC56553	Heidi	193	7/5/2007	7/5/2008	116A05
YC56554	Heidi	194	7/5/2007	7/5/2008	116A05
YC56555	Heidi	195	7/5/2007	7/5/2008	116A05
YC56556	Heidi	196	7/5/2007	7/5/2008	116A05
YC56557	Heidi	197	7/5/2007	7/5/2008	116A05
YC56558	Heidi	198	7/5/2007	7/5/2008	116A05
YC56559	Heidi	199	7/5/2007	7/5/2008	116A05
YC56560	Heidi	200	7/5/2007	7/5/2008	116A05
YC56561	Heidi	201	7/5/2007	7/5/2008	116A05
YC56562	Heidi	202	7/5/2007	7/5/2008	116A05
YC56563	Heidi	203	7/5/2007	7/5/2008	116A05
YC56564	Heidi	204	7/5/2007	7/5/2008	116A05
YC56565	Heidi	205	7/5/2007	7/5/2008	116A05
YC56566	Heidi	206	7/5/2007	7/5/2008	116A05


**INSTRUMENTATION:**

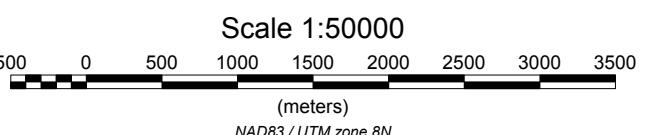
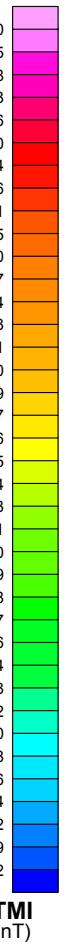
Spectrometer: GRS10-256/ 16.8 l up/4.2 l down  
 Magnetometer: MMS-4/ CS-3 Cesium  
 DAS: AGIS-XP  
 Navigation: GPS CSI  
 Radar Altimeter: TRA3000  
 Temperature/Humidity: HC-S3  
 Barometer: Setra M276  
 Magnetic Base Station: PGIS/ CS-3 Cesium

**SPECIFICATIONS:**

MTC: 50 m  
 Line Interval: 100m  
 Tie Line Interval 800m  
 Magnetometer Noise: less than 1.0 nT  
 Spectrometer: Internal calibration/ Sample calibrated (U)

**CORRECTIONS**

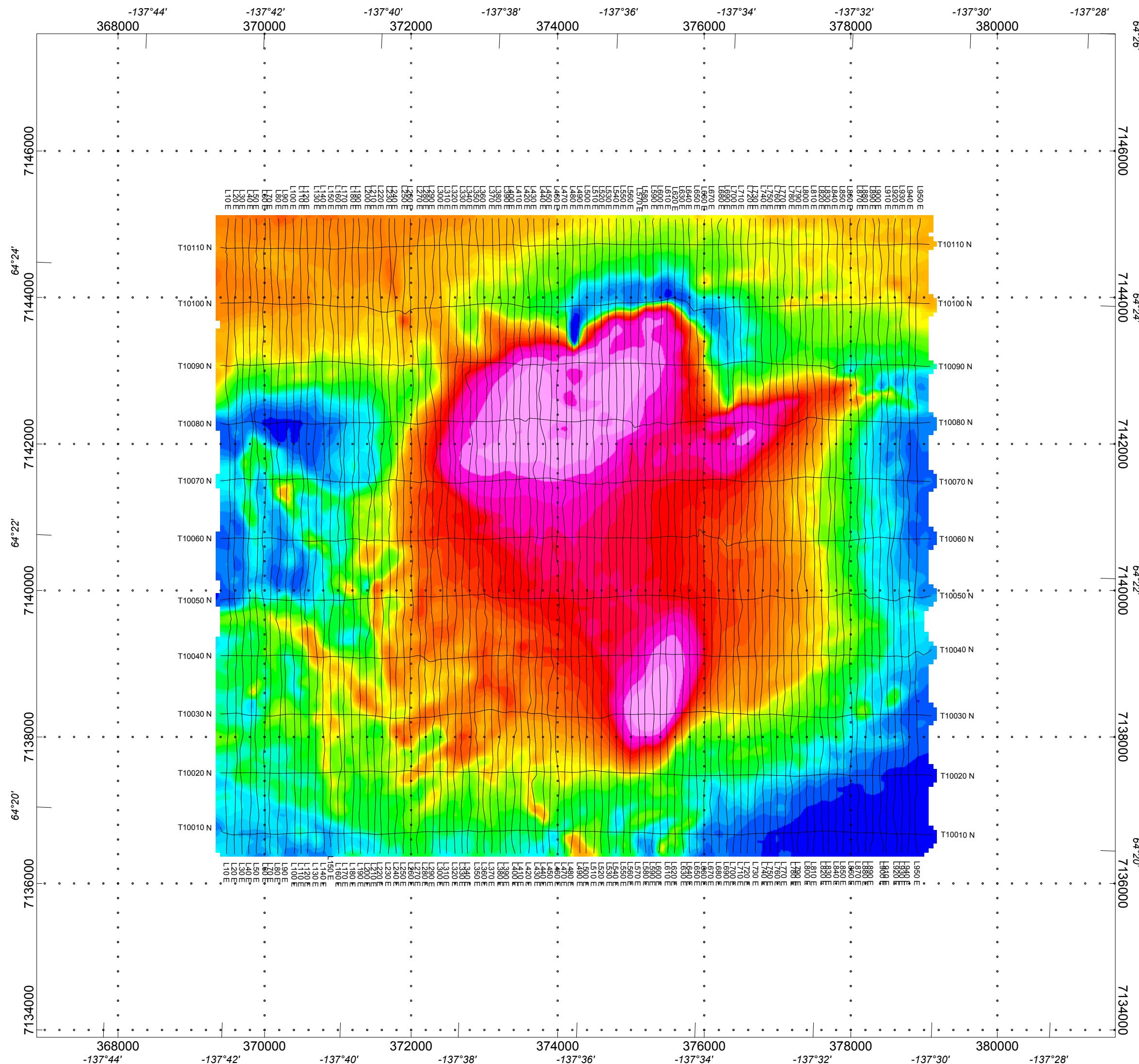
Diurnal Variation  
 Lag Corrections  
 Heading Corrections  
 Tie Line Corrections  
 Microlevelling



**LOGAN RESOURCES LTD.**  
**TOTAL MAGNETIC INTENSITY MAP (nT)**  
**HEIDI PROPERTY, YUKON TERRITORIES**  
**MAP 1**

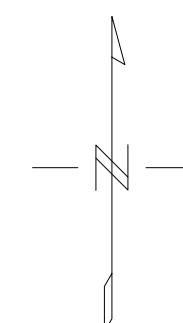
Magnetic Declination: 26 Degrees East  
 Magnetic Inclination: 79 Degrees

Donegal Developments Ltd., Vancouver



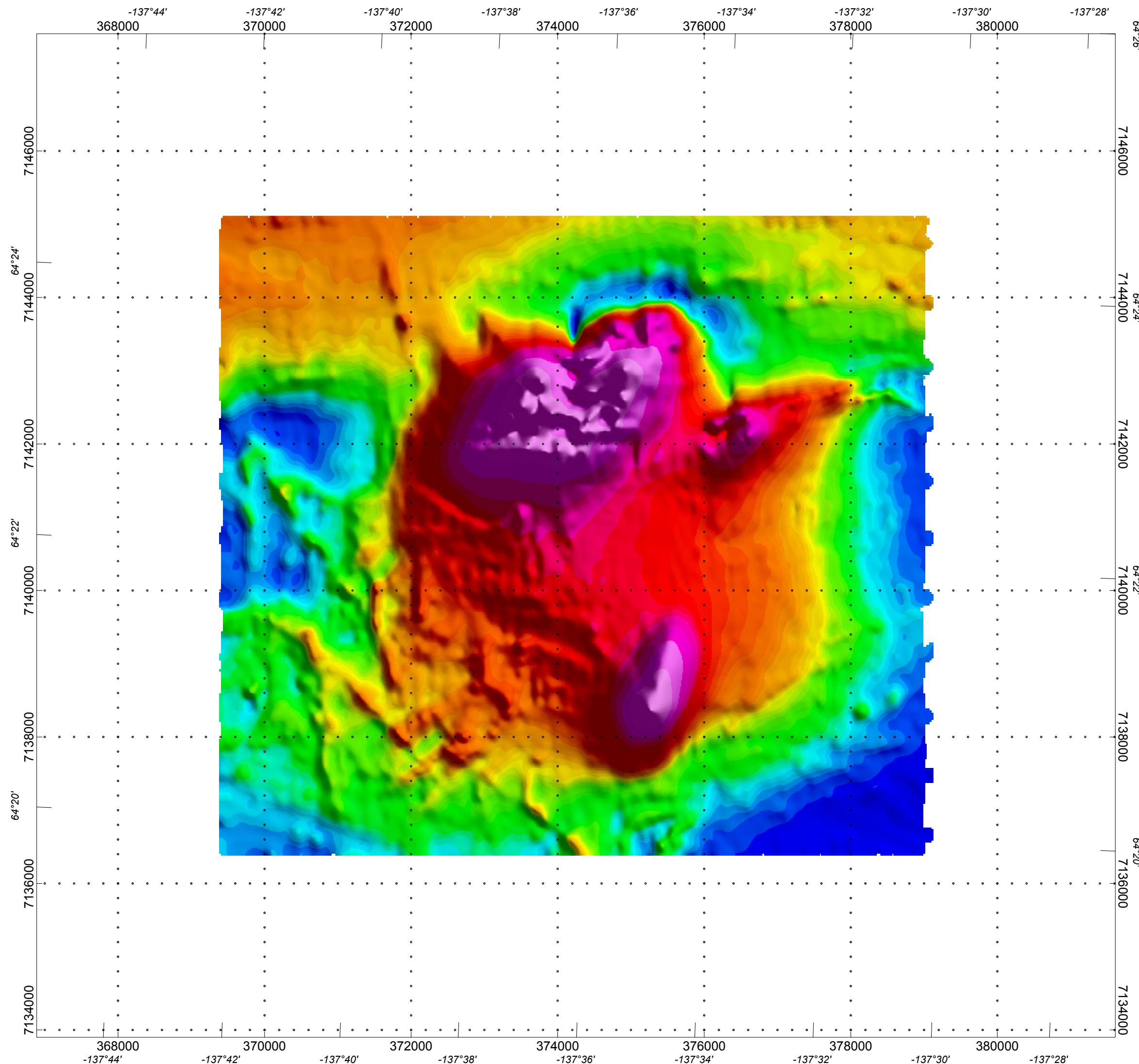
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58043  
58001  
57980  
57974  
57969  
57961  
57952  
57945  
57940  
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57914  
57913  
57912  
57910  
57909  
57908  
57906  
57904  
57902  
57898

RTP  
(nT)



Scale 1:50000  
500 0 500 1000 1500 2000 2500 3000 3500  
(meters)  
NAD83 / UTM zone 8N

LOGAN RESOURCES LTD.	
<b>REDUCED TO POLE MAGNETIC MAP (nT)</b>	
<b>HEIDI PROPERTY, YUKON TERRITORIES</b>	
MAP 2	Magnetic Declination: 26 Degrees East Magnetic Inclination: 79 Degrees
Donegal Developments Ltd., Vancouver	



#### INSTRUMENTATION:

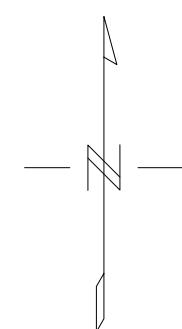
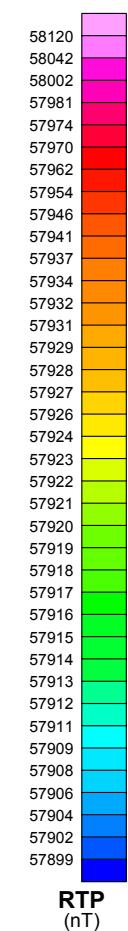
Spectrometer: GRS10-256/ 16.8 l up/4.2 l down  
 Magnetometer: MMS-4/ CS-3 Cesium  
 DAS: AGIS-XP  
 Navigation: GPS CSI  
 Radar Altimeter: TRA3000  
 Temperature/Humidity: HC-S3  
 Barometer: Setra M276  
 Magnetic Base Station: PGIS/ CS-3 Cesium

#### SPECIFICATIONS:

MTC: 50 m  
 Line Interval: 100m  
 Tie Line Interval 800m  
 Magnetometer Noise: less than 1.0 nT  
 Spectrometer: Internal calibration/ Sample calibrated (U)

#### CORRECTIONS

Diurnal Variation  
 Lag Corrections  
 Heading Corrections  
 Tie Line Corrections  
 Microleveling

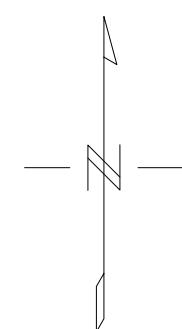
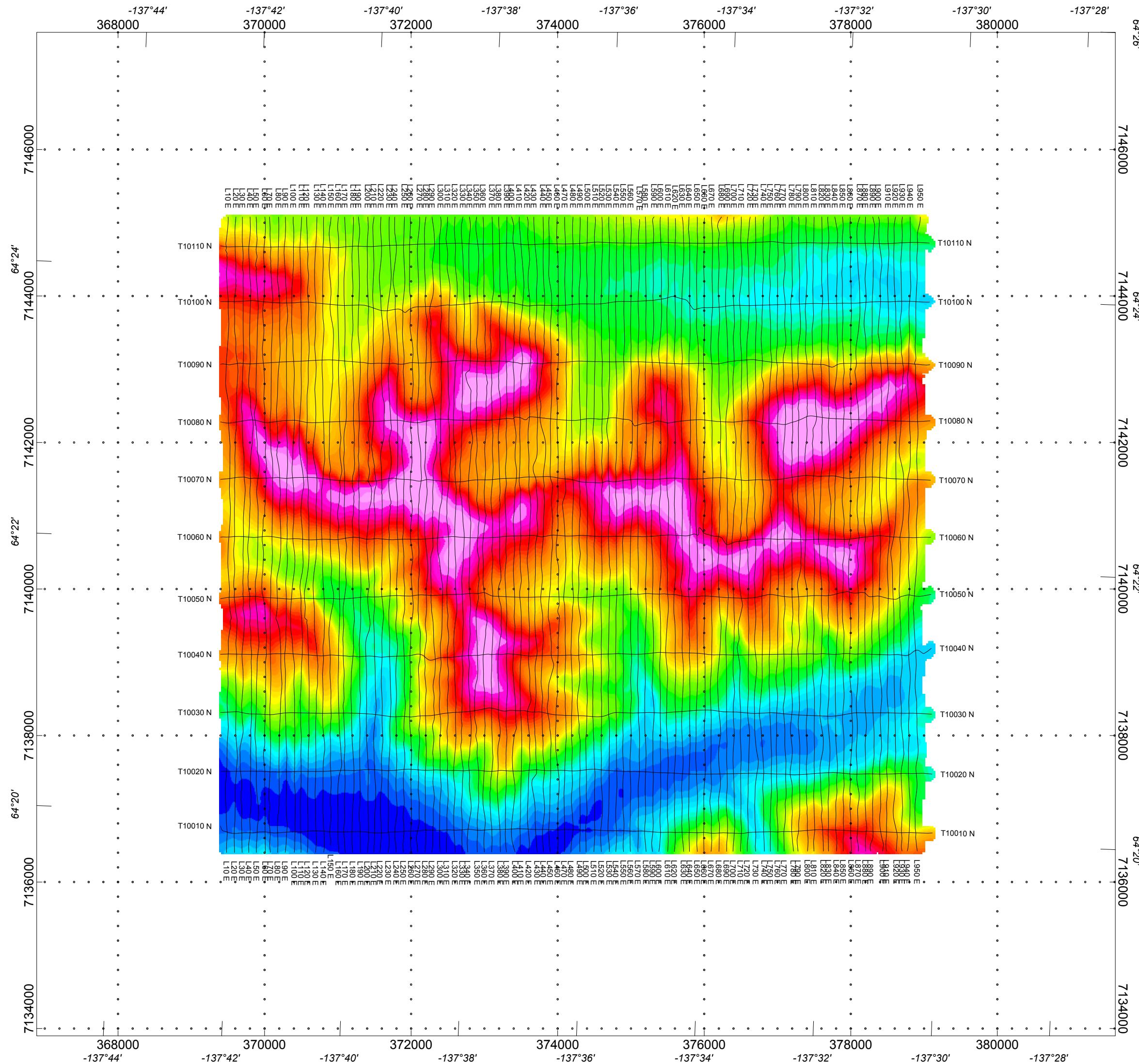


Scale 1:50000  
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 (meters)  
 NAD83 / UTM zone 8N

LOGAN RESOURCES LTD.
REDUCED TO POLE SHADED MAP (nT)
HEIDI PROPERTY, YUKON TERRITORIES
MAP 3

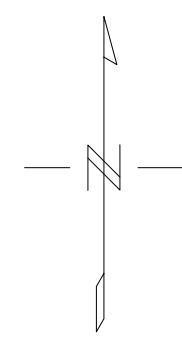
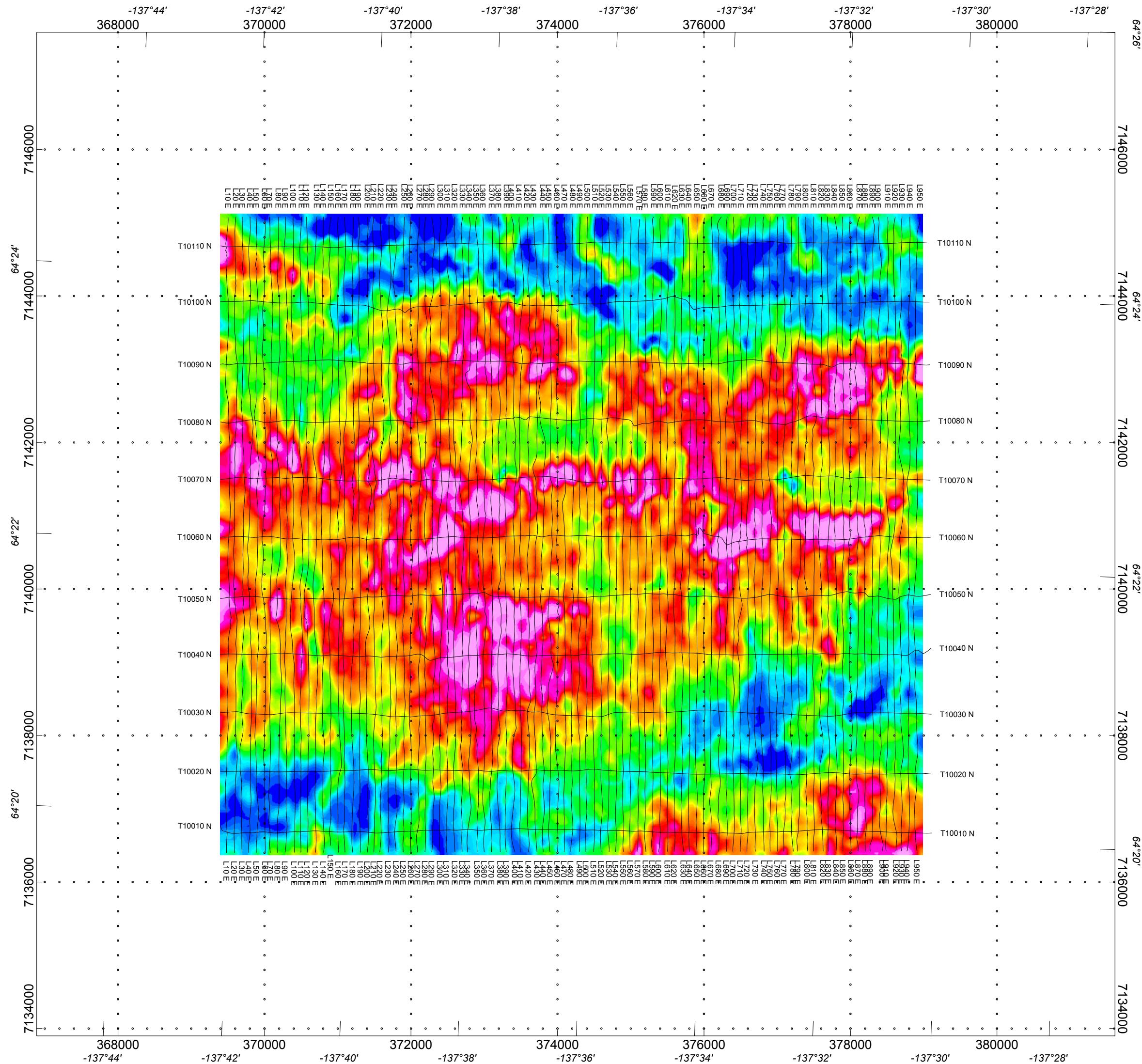
Magnetic Declination: 26 Degrees East  
 Magnetic Inclination: 79 Degrees

Donegal Developments Ltd., Vancouver



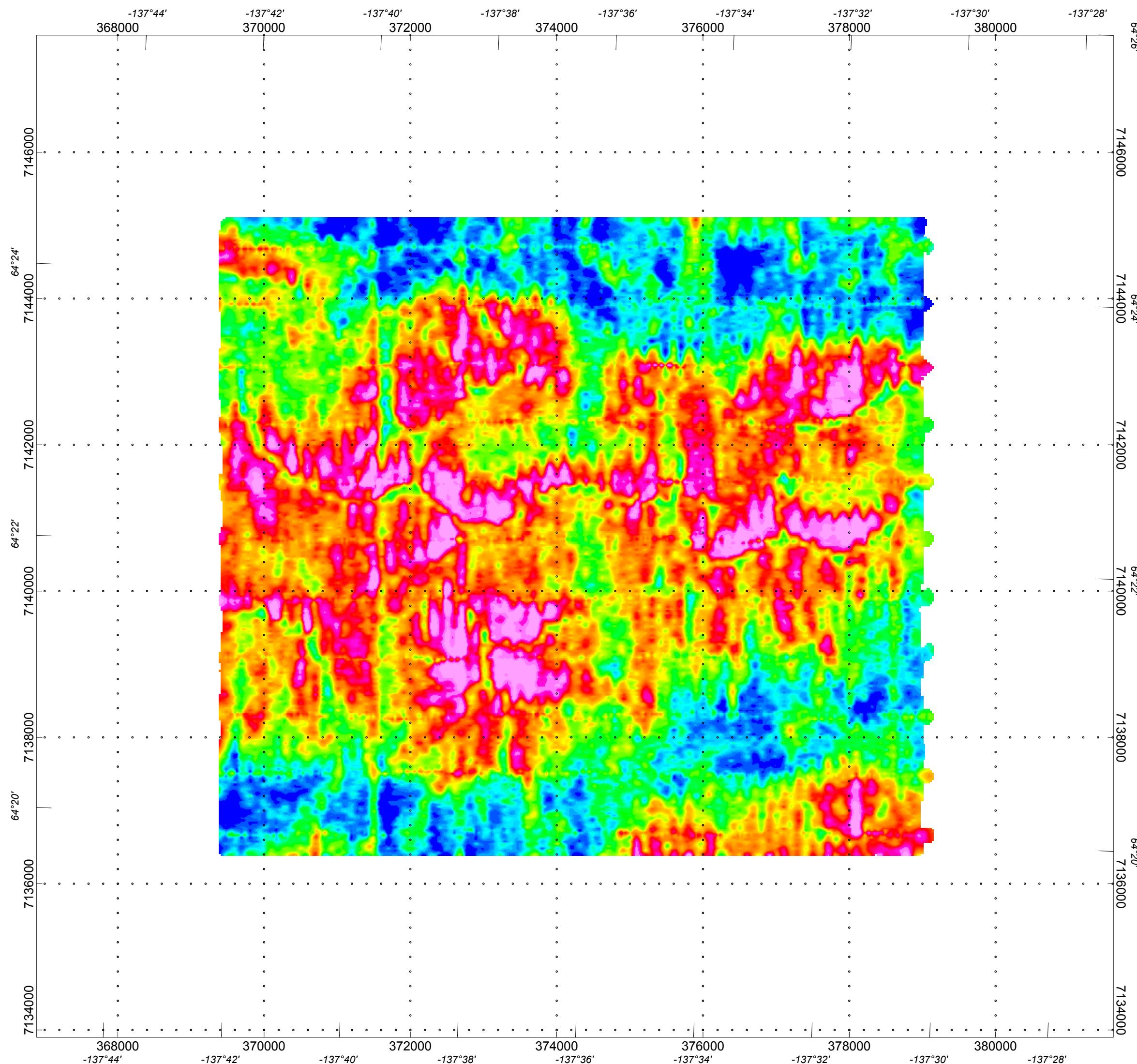
Scale 1:50000  
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 (meters)  
 NAD83 / UTM zone 8N

LOGAN RESOURCES LTD.	
GPS SENSOR HEIGHT MAP (nT)	
HEIDI PROPERTY, YUKON TERRITORIES	
MAP 4	
Magnetic Declination: 26 Degrees East	
Magnetic Inclination: 79 Degrees	
Donegal Developments Ltd., Vancouver	



Scale 1:50000  
 500 0 500 1000 1500 2000 2500 3000 3500  
 (meters)  
 NAD83 / UTM zone 8N

<b>LOGAN RESOURCES LTD.</b>	
<b>RADIOMETRIC TOTAL COUNT MAP (nT)</b>	
<b>HEIDI PROPERTY, YUKON TERRITORIES</b>	
<b>MAP 5</b>	
Magnetic Declination: 26 Degrees East Magnetic Inclination: 79 Degrees	
Donegal Developments Ltd., Vancouver	


**INSTRUMENTATION:**

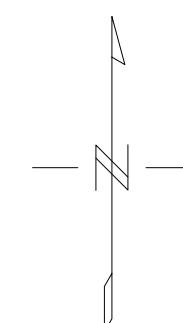
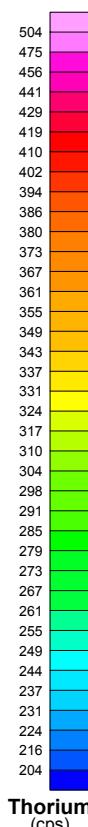
Spectrometer: GRS10-256/ 16.8 l up/4.2 l down  
 Magnetometer: MMS-4/ CS-3 Cesium  
 DAS: AGIS-XP  
 Navigation: GPS CSI  
 Radar Altimeter: TRA3000  
 Temperature/Humidity: HC-S3  
 Barometer: Setra M276  
 Magnetic Base Station: PGIS/ CS-3 Cesium

**SPECIFICATIONS:**

MTC: 50 m  
 Line Interval: 100m  
 Tie Line Interval 800m  
 Magnetometer Noise: less than 1.0 nT  
 Spectrometer: Internal calibration/ Sample calibrated (U)

**CORRECTIONS**

Diurnal Variation  
 Lag Corrections  
 Heading Corrections  
 Tie Line Corrections  
 Microlevelling

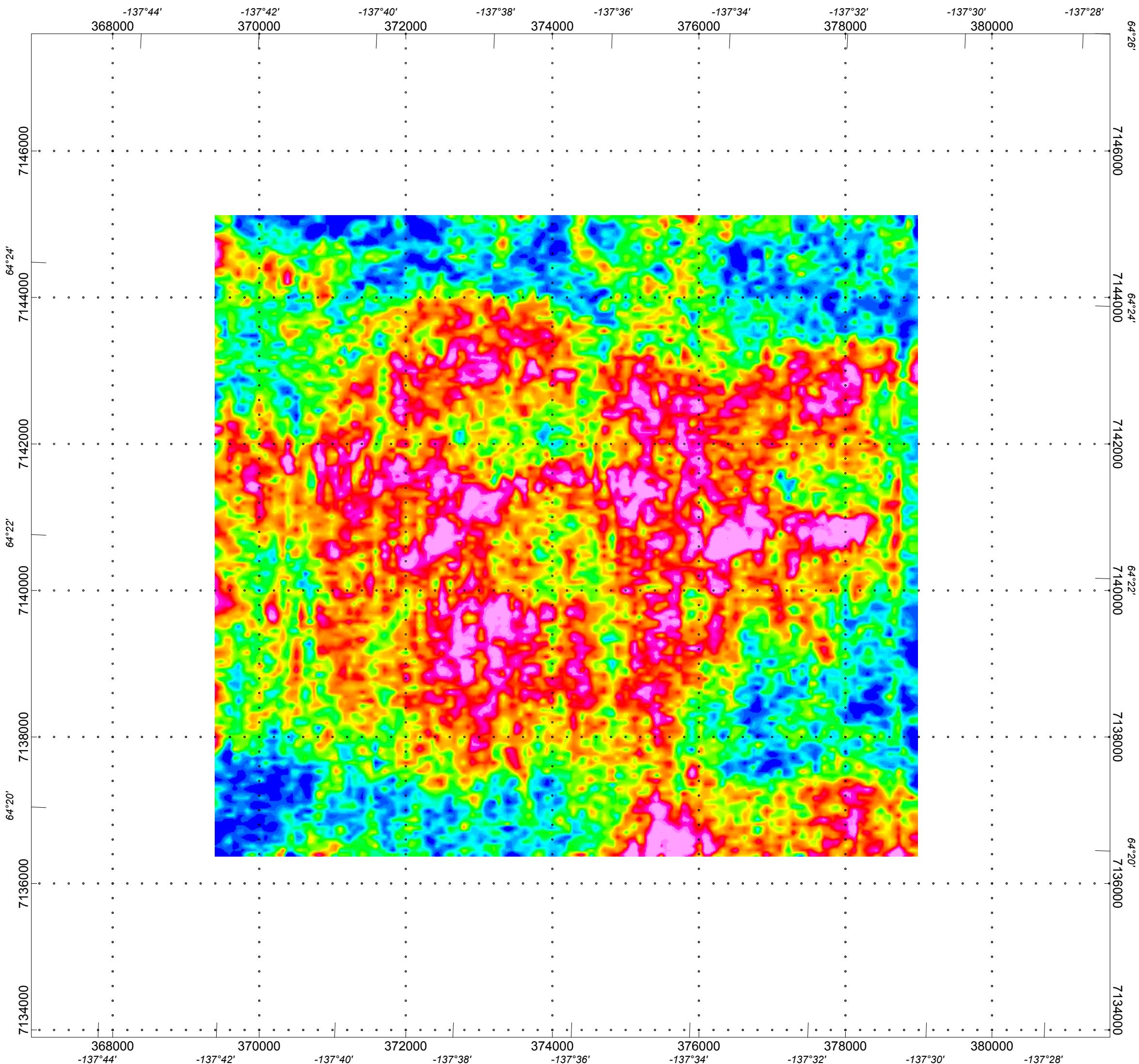


Scale 1:50000  
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 (meters)  
 NAD83 / UTM zone 8N

**LOGAN RESOURCES LTD.**  
**RADIOMETRIC THORIUM COUNT MAP (cps)**  
**HEIDI PROPERTY, YUKON TERRITORIES**  
**MAP 6**

Magnetic Declination: 26 Degrees East  
 Magnetic Inclination: 79 Degrees

Donegal Developments Ltd., Vancouver



**INSTRUMENTATION:**

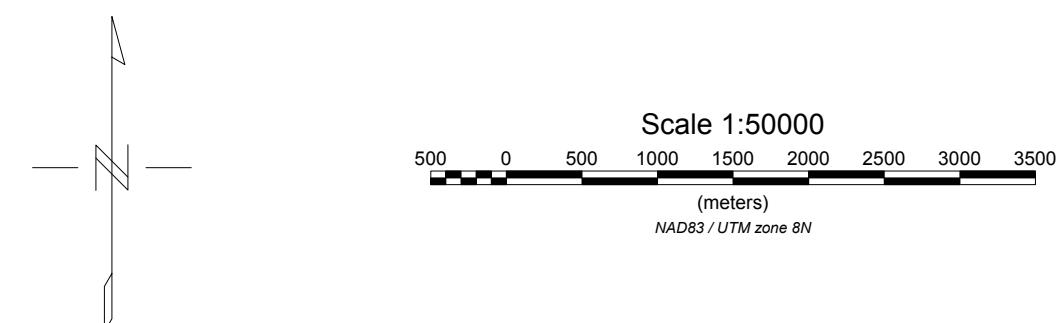
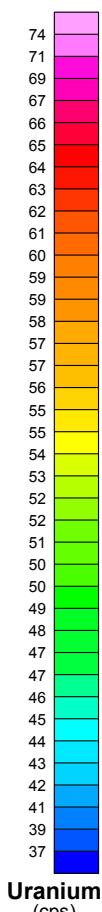
Spectrometer: GRS10-256/ 16.8 l up/4.2 l down  
 Magnetometer: MMS-4/ CS-3 Cesium  
 DAS: AGIS-XP  
 Navigation: GPS CSI  
 Radar Altimeter: TRA3000  
 Temperature/Humidity: HC-S3  
 Barometer: Setra M276  
 Magnetic Base Station: PGIS/ CS-3 Cesium

**SPECIFICATIONS:**

MTC: 50 m  
 Line Interval: 100m  
 Tie Line Interval 800m  
 Magnetometer Noise: less than 1.0 nT  
 Spectrometer: Internal calibration/ Sample calibrated (U)

**CORRECTIONS**

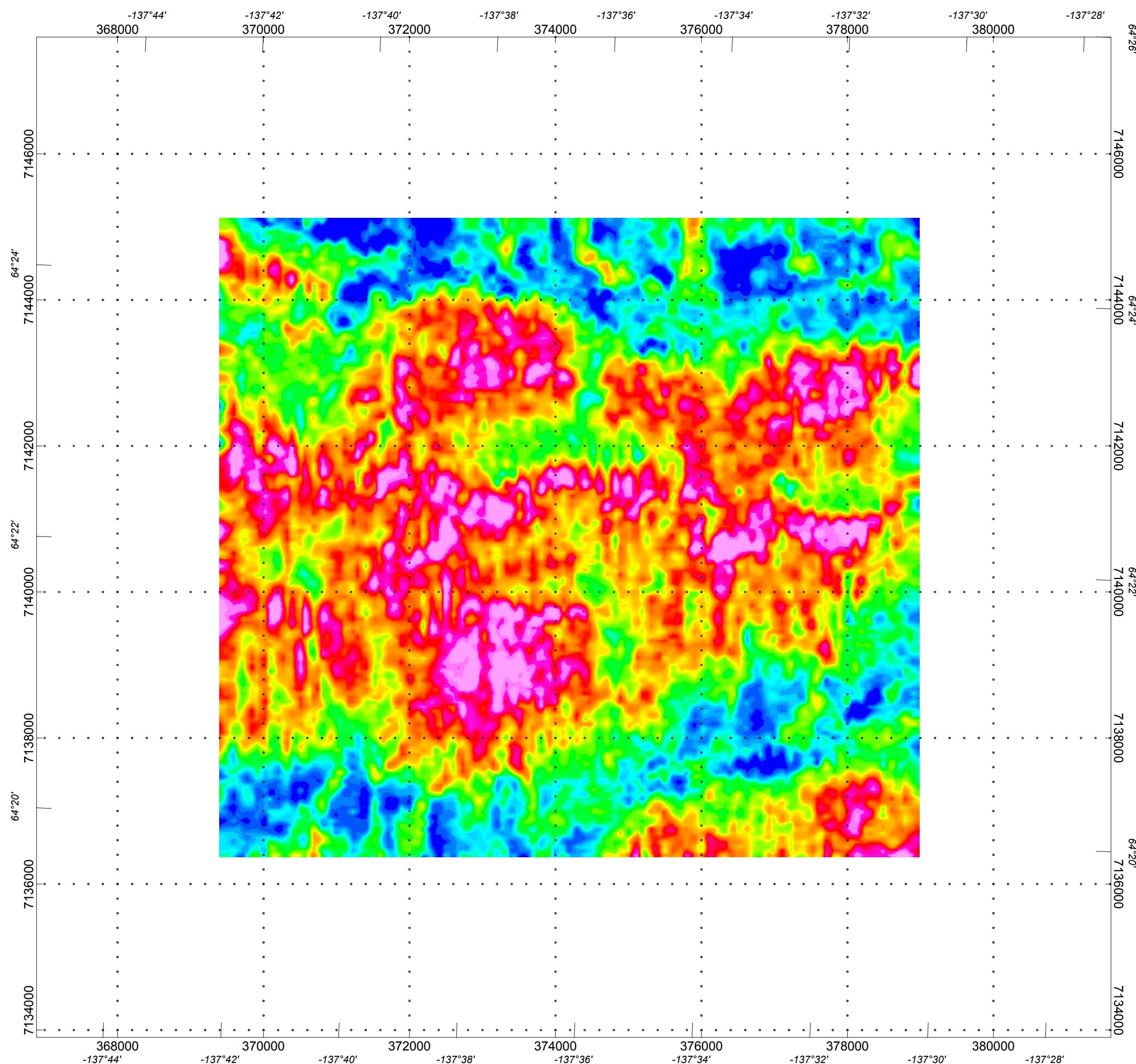
Diurnal Variation  
 Lag Corrections  
 Heading Corrections  
 Tie Line Corrections  
 Microlevelling



<b>LOGAN RESOURCES LTD.</b>
<b>RADIOMETRIC URANIUM MAP (cps)</b>
<b>HEIDI PROPERTY, YUKON TERRITORIES</b>
<b>MAP 7</b>

Magnetic Declination: 26 Degrees East  
 Magnetic Inclination: 79 Degrees

Donegal Developments Ltd., Vancouver



**INSTRUMENTATION:**

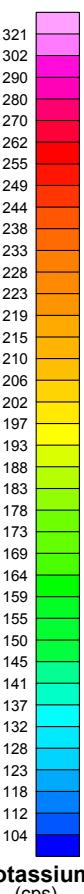
Spectrometer: GRS10-256/ 16.8 l up/4.2 l down  
 Magnetometer: MMS-4/ CS-3 Cesium  
 DAS: AGIS-XP  
 Navigation: GPS CSI  
 Radar Altimeter: TRA3000  
 Temperature/Humidity: HC-S3  
 Barometer: Setra M276  
 Magnetic Base Station: PGIS/ CS-3 Cesium

**SPECIFICATIONS:**

MTC: 50 m  
 Line Interval: 100m  
 Tie Line Interval 800m  
 Magnetometer Noise: less than 1.0 nT  
 Spectrometer: Internal calibration/ Sample calibrated (U)

**CORRECTIONS**

Diurnal Variation  
 Lag Corrections  
 Heading Corrections  
 Tie Line Corrections  
 Microlevelling

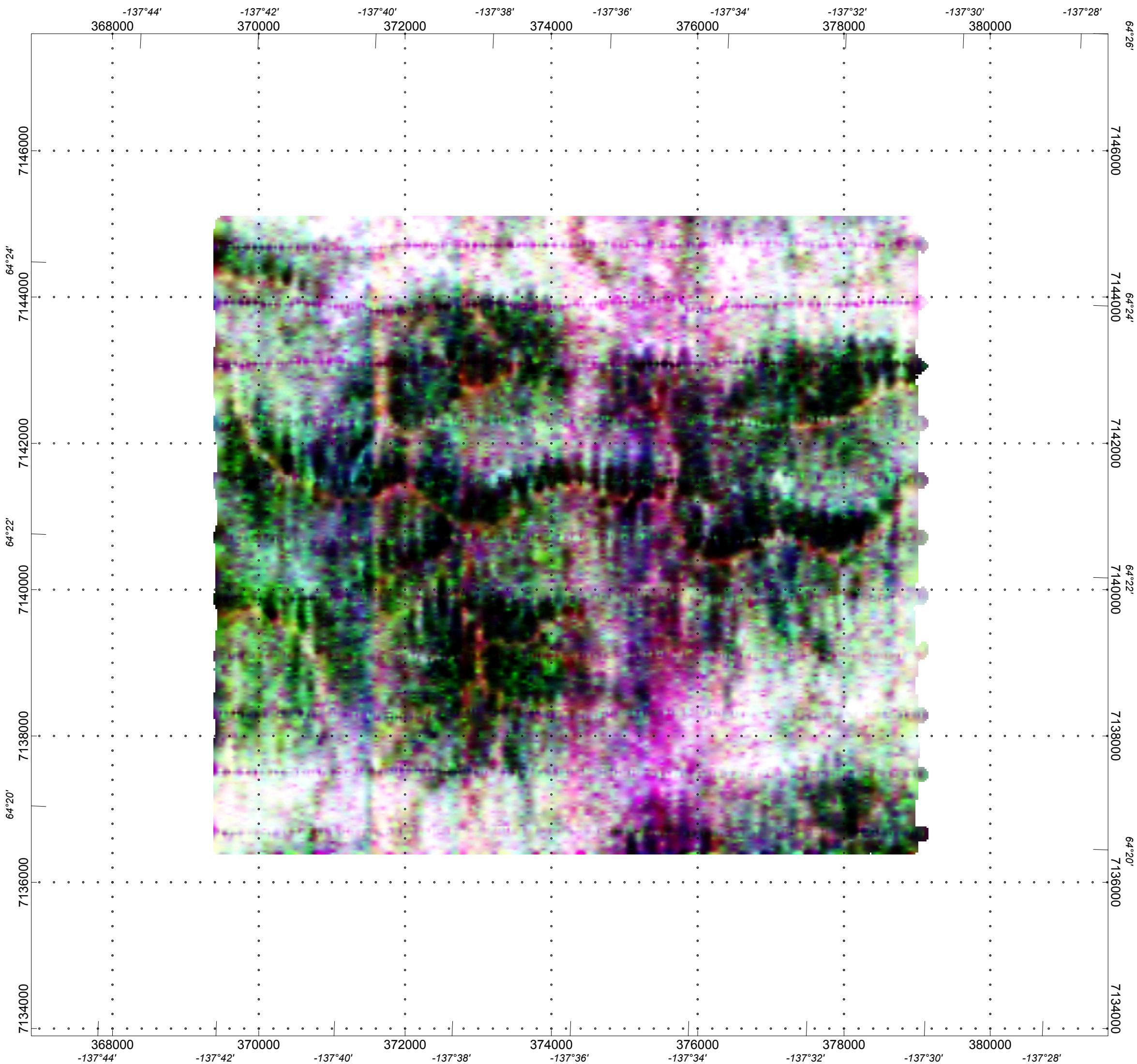


**LOGAN RESOURCES LTD.**

**RADIOMETRIC POTASSIUM COUNT MAP (cps)**  
**HEIDI PROPERTY, YUKON TERRITORIES**  
**MAP 8**

Magnetic Declination: 26 Degrees East  
 Magnetic Inclination: 79 Degrees

*Donegal Developments Ltd., Vancouver*



**INSTRUMENTATION:**

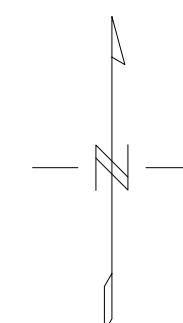
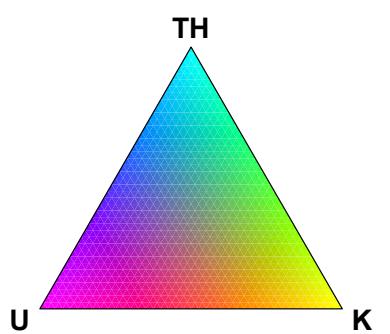
Spectrometer: GRS10-256/ 16.8 l up/4.2 l down  
 Magnetometer: MMS-4/ CS-3 Cesium  
 DAS: AGIS-XP  
 Navigation: GPS CSI  
 Radar Altimeter: TRA3000  
 Temperature/Humidity: HC-S3  
 Barometer: Setra M276  
 Magnetic Base Station: PGIS/ CS-3 Cesium

**SPECIFICATIONS:**

MTC: 50 m  
 Line Interval: 100m  
 Tie Line Interval 800m  
 Magnetometer Noise: less than 1.0 nT  
 Spectrometer: Internal calibration/ Sample calibrated (U)

**CORRECTIONS**

Diurnal Variation  
 Lag Corrections  
 Heading Corrections  
 Tie Line Corrections  
 Microleveling

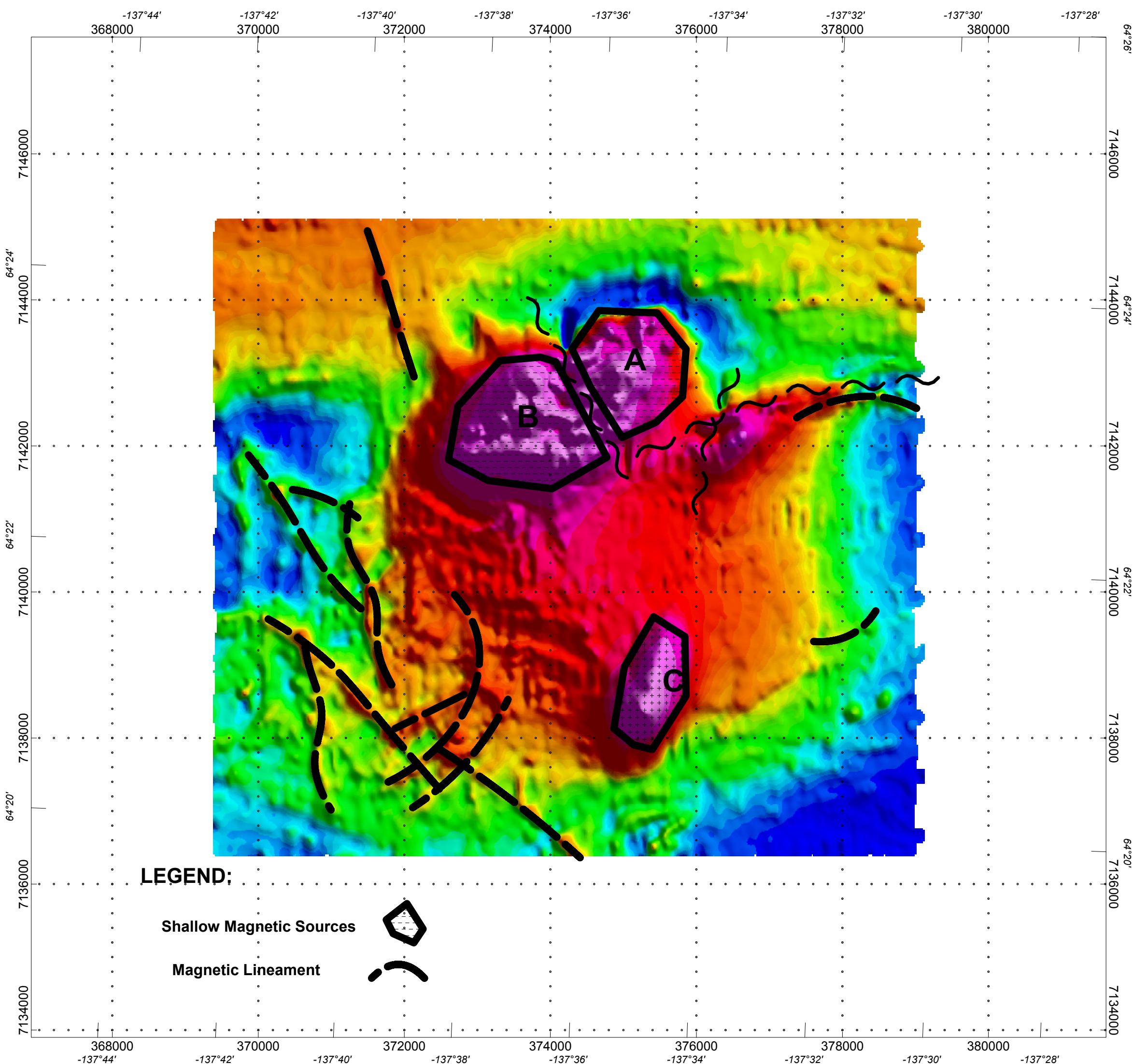


Scale 1:50000  
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 (meters)  
 NAD83 / UTM zone 8N

LOGAN RESOURCES LTD.
TERNARY RADIOMETRIC MAP
HEIDI PROPERTY, YUKON TERRITORIES
MAP 9

Magnetic Declination: 26 Degrees East  
 Magnetic Inclination: 79 Degrees

Donegal Developments Ltd., Vancouver



**INSTRUMENTATION:**  
 Spectrometer: GRS10-256 / 16.8 l up/4.2 l down  
 Magnetometer: MMS-4/ CS-3 Cesium  
 DAS: AGIS-XP  
 Navigation: GPS CSI  
 Radar Altimeter: TRA3000  
 Temperature/Humidity: HC-S3  
 Barometer: Setra M276  
 Magnetic Base Station: PGIS/ CS-3 Cesium

**SPECIFICATIONS:**  
 MTC: 50 m  
 Line Interval: 100m  
 Tie Line Interval 800m  
 Magnetometer Noise: less than 1.0 nT  
 Spectrometer: Internal calibration/ Sample calibrated (U)

**CORRECTIONS**  
 Diurnal Variation  
 Lag Corrections  
 Heading Corrections  
 Tie Line Corrections  
 Microlevelling

58120  
58042  
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57974  
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57962  
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57913  
57912  
57911  
57909  
57908  
57906  
57904  
57902  
57899  
RTP (nT)

Scale 1:50000  
 500 0 500 1000 1500 2000 2500 3000 3500  
 (meters)  
 NAD83 / UTM zone 8N

LOGAN RESOURCES LTD.
INTERPRETATION MAP
HEIDI PROPERTY, YUKON TERRITORIES
MAP 10

Magnetic Declination: 26 Degrees East  
 Magnetic Inclination: 79 Degrees

Donegal Developments Ltd., Vancouver