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Ministry of Energy, Mines & Petroleum Resources
Mining & Minerals Division
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Analyses of magnetic data in the Vicinity of the Fox Prop **TOTAL COST:** $4,900.00

AUTHOR(S): Frederick A. Cook **SIGNATURE(S):** Frederick A. Cook Digitally signed by Frederick A. Cook DN: cn=Frederick A. Cook, o, ou, email=fcook@ucalgary.ca, c=CA Date: 2018.07.11 12:03:07 -07'00'

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): **YEAR OF WORK:** 2018

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): Event 5695618: Dates April19-21, 2018

PROPERTY NAME: Fox

CLAIM NAME(S) (on which the work was done): Fox 1 (750982), Fox 2 (751002), Fox 3 (843278),
Fox 4 (843280)

COMMODITIES SOUGHT: Precious metals, massive sulphides

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Omineca **NTS/BCGS:** 093F

LATITUDE: 53 ° 54 ' 51 " **LONGITUDE:** 125 ° 28 ' 16 " **(at centre of work)**

OWNER(S):
1) Kootenay Silver, Inc 2)

MAILING ADDRESS:
Suite 1820-1055 W. Hastings St.
Vancouver, BC V6E2E9

OPERATOR(S) [who paid for the work]:
1) Kootenay Silver, Inc 2)

MAILING ADDRESS:
Suite 1820-1055 W. Hastings St.
Vancouver, BC V6E2E9

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

silica veins; Tertiary volcanic rocks (Ootsa Lake, Endako); hydrothermal alteration

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:

Cook and Belton (AR34580)

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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	Enhanced magnetic processing	all	$2,400.00
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
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	Report		$2,500.00
		TOTAL COST:	$4.900.00

Assessment Report:

Analyses of Magnetic Data in the Vicinity of the Fox Property, Nechako Basin, central British Columbia

MTO event 5695618

North 53° 54' 51"; West 125° 28' 16"

UTM Zone 10 337700E, 5976750N

NTS map sheet 093F

Omineca Mining Division

by

F. A. Cook, Ph.D., P.Geo.
Salt Spring Imaging, Ltd.
128 Trincomali Heights
Salt Spring Island, B.C.

For

Property Operator: **Kootenay Silver Inc.**
Suite 1820-1055 W. Hastings St.
Vancouver, B.C. V6E 2E8

Property Owner: **Kootenay Silver, Inc.**
Suite 1820-1055 W. Hastings St.
Vancouver, B.C. V6E 2E8

July, 2018

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Appendix

1.0 Summary

Analyses of magnetic data in the vicinity of the Fox property in the Nechako basin of central British Columbia leads to the conclusions that some of the apparent structures delineated on the processed data are at odds with some interpreted features on the geological mapping. A prime reason for this is that geologic exposures are sparse and the area is largely covered by relatively young volcanic rocks which may mask underlying structures.

2.0 Introduction

Salt Spring Imaging Ltd. was retained by Kootenay Silver Inc., a British Columbia company, to analyse magnetic data in the vicinity of the Fox property in the Nechako Basin of central British Columbia(Figures 1and 2). The recent acquisition and release of relatively high resolution (62.5m grid spacing) airborne data by Geoscience BC (Trek Project) provides an opportunity to incorporate these data into property-scale interpretation, and then to combine these data with high resolution ground-based magnetic data that were acquired in 2013. This approach provides results that are geometrically at odds with interpretations displayed on geological mapping in the area and may help to develop new interpretations that could impact approaches for exploration. In addition, by incorporating the high resolution (25m grid spacing) results from the ground-based survey, detailed features that are visible at this scale appear to be spatially and geometrically coincident with surface geochemical samples that have anomalous gold. This report provides a brief description of the geological setting, a description of the available data, the data processing and interpretation.

The author is familiar with the geology and geophysics of the region, having been responsible for acquiring geophysical data in British Columbia since 1983 and as the transect leader for the Lithoprobe Southern Canadian Cordillera transect from 1985-1995 and Transect co-leader for the Lithoprobe Slave-Northern Cordillera transect from 1995-2005. Metric units are used throughout the report.

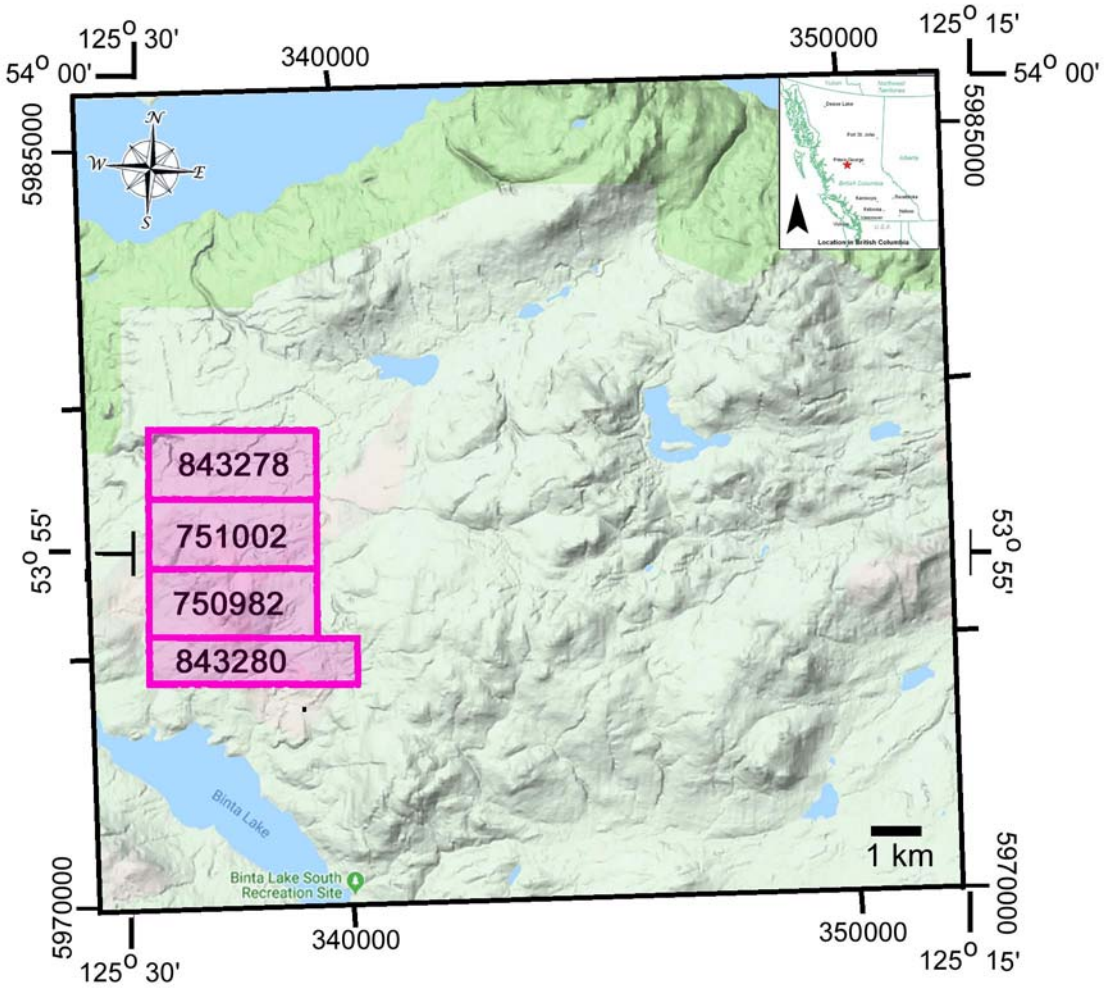

Figure 1. Digital topographic map with the Fox property claims indicated in magenta.

3.0 Property Description and Location

The Fox Property is a collection of claims that are located in central British Columbia (Figure 1) in the Nechako Basin. The approximate geographical limits of the property are the following: (degrees latitude, degrees longitude; UTM easting, UTM northing**):** northwest (53° 53’ 30”, 125° 29’ 43”; 336021, 5974344); northeast (53° 56’ 15”, 125° 26’ 43”; 339482, 5979327); southeast (53° 53’ 30”, 125° 25’ 58”; 340127, 5974201); southwest (53° 53’ 30”, 125° 29’ 43”; 336021, 5974344)**.**

The Fox property comprises four (4) mineral tenures containing approximately 1752 hectares (Table I). The mineral cell titles were acquired online and as such there are no posts or lines marking the location of the property on the ground.

Title Number	Claim Name/Property	Issue Date	Good To Date	New Good To Date	# of Days For-ward	Area in Ha	Applied Work Value	Sub-mission Fee
750982	FOX 1	2010/APR/17	2018/MAY/07	2018/Jul/14	68	457.22	$ 1277.71	$ 0.00
751002	FOX 2	2010/APR/17	2018/MAY/07	2018/Jul/14	68	457.09	$ 1277.34	$ 0.00
843278	FOX 3	2011/JAN/17	2018/MAY/07	2018/Jul/14	68	456.96	$ 1276.97	$ 0.00
843280	FOX 4	2011/JAN/17	2018/MAY/07	2018/Jul/14	68	381.11	$ 1065.02	$ 0.00

Table 1. Description of Fox property mineral titles.

4.0 Geological Setting

The property is situated in the northern portion of the Nechako basin in central British Columbia (Figures 1 and 2). In this part of the basin, surface exposures are poor, and are dominated by glacial deposits and scattered outcrops of late (Eocene) basalts of the Ootsa Lake and Endako groups, Cretaceous plutonic rocks and Jurassic Hazelton Group meta-sedimentary rocks ((Figure 2).

Mineralization with anomalous gold and silver concentrations is found in quartz veins that generally strike northeast (similar to shear zones that are interpreted to be present east of the property; Figure 2) and have steep dips. Veining occurs in a feldspar porphyry as silicified fracture filling with associated pyrite.

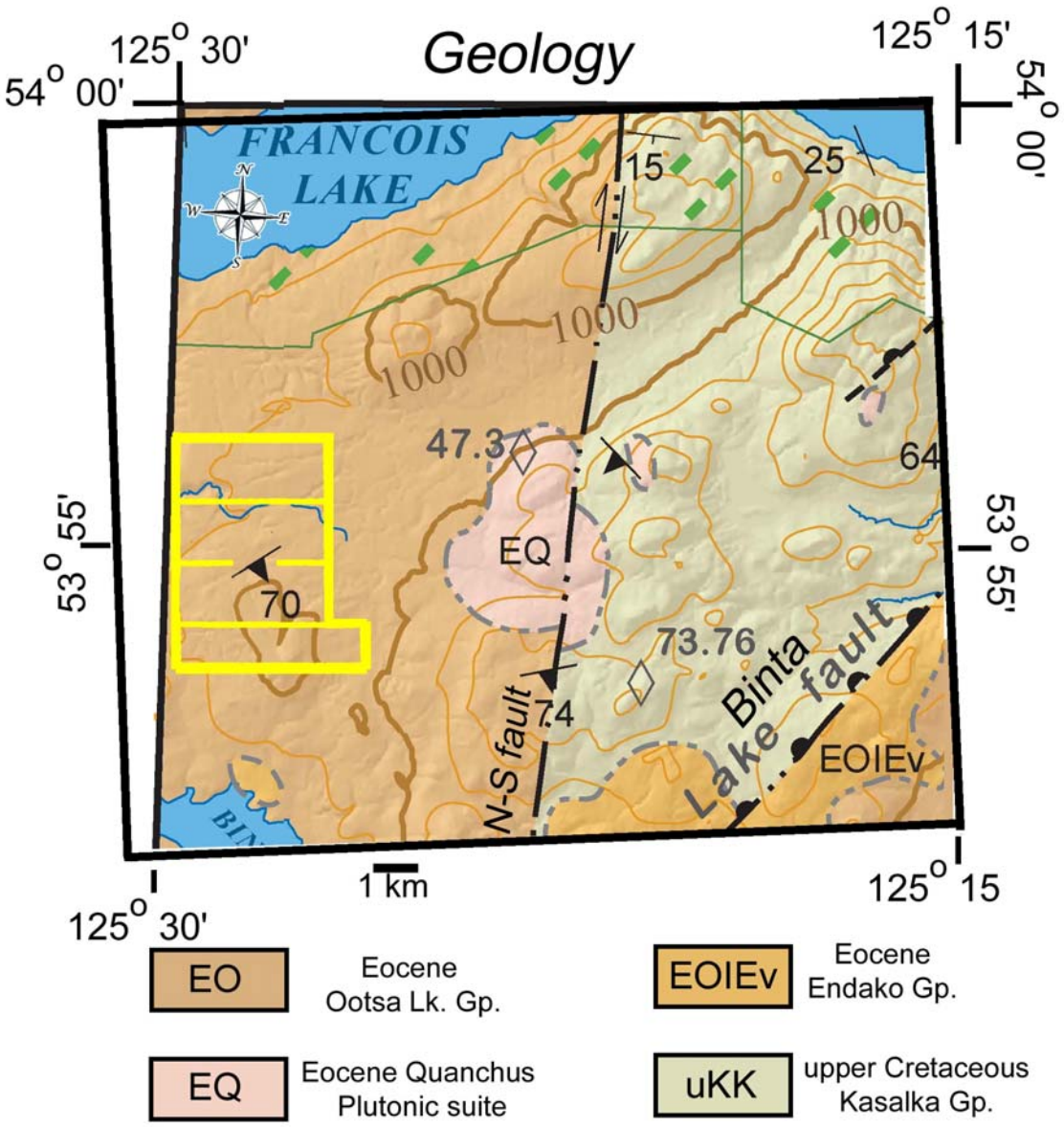

Figure 2. The Fox Property (yellow outlines) superimposed on the geologic map (modified from Angen et al. 2017) for the same area as in Figure 1. According to Angen et al (2017) the dash-dot pattern for the faults (e.g., Binta Lake fault and N-S fault) indicates they are interpreted from geophysical data.

5.0 Geophysical Data

5.1 *Data Sources*

There are three sources of magnetic anomaly data for this area. First, the NRCan data base (available at http://gdr.agg.nrcan.gc.ca/gdrdap/dap/search-eng.php) provides a regional context (grid sizes of 200m or 1000m), however, these data are not of sufficiently high resolution for property-scale analyses. Second, in 2013, Kootenay Silver acquired ground based VLF-EM and Magnetic data for the central part of the Fox property (Cook and Belton, 2014). The magnetic data were not analysed at that time beyond simply illustrating the results that had been recorded. Finally, Geoscience BC has released data from a large-scale survey that was acquired in this region (the TREK project; http://www.geosciencebc.com/s/TREK.asp). These data (Figure 3) were recorded with 250m line spacing, thus allowing 62.5m grid spacing. They are therefore substantially higher resolution that the regional NRCan data and can provide results that are similar to typical property-scale surveys.

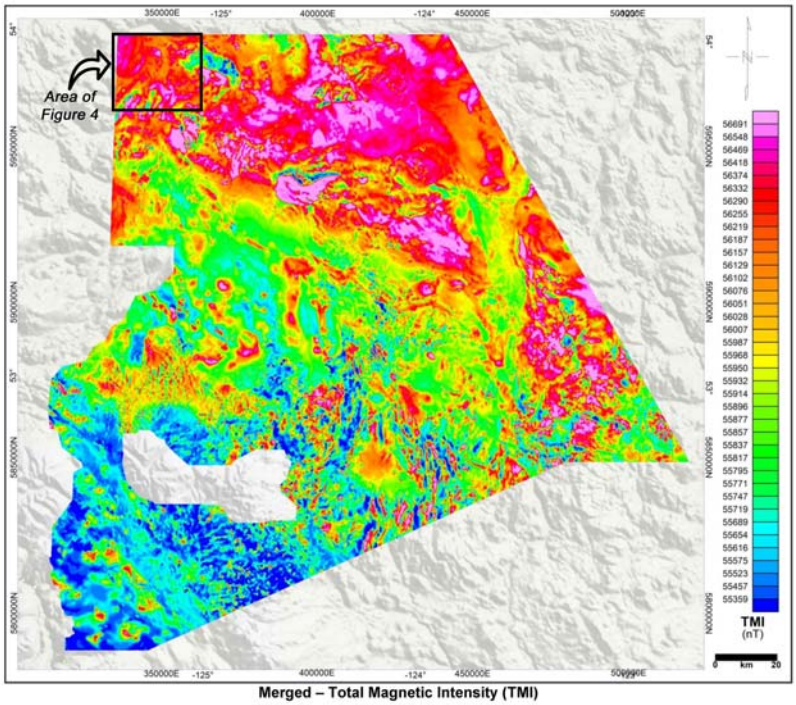

Figure 3. Map of the total magnetic intensity (TMI) for the TREK project region. The area that is outlined in the northwest corner is enlarged in Figure 4.

5.2 *Data Processing*

Because the objectives of the project are to provide analyses of data with sufficient detail to compare, and perhaps correlate, with local geological features, attempts were made to maintain high resolution and to account for potential variations that could affect the shapes and positions of anomalies. Accordingly, data processing efforts included removal of the International Geomagnetic Reference Field (IGRF) as well as reduction to the North Pole (RTP).

However, although the data were merged with previous surveys, the gridded data apparently did not have the IGRF removed prior to calculation of the Total Magnetic Intensity (TMI, Figure 3; see Aeroquest Airborne, 2014). Because the data in the northwest corner of the TREK area (where the Fox property is) were recorded along with the IGRF, by accessing the recorded data (after removal of any diurnal effects) here, the IGRF could be applied. Following this, the data were reduced to the North Pole with the result shown in Figure 4 for the area with the indicated in Figure 3. Once the data were processed to this point, filters based on gradients, wavelength and/or direction could be applied. In order to successively focus into the Fox property with enhanced resolution of the magnetic data, the results are presented for three increasingly detailed areas. Area 1 is the ~10x17 km area of the map shown in Figure 4; area 2 is ~6x6 km around the Fox property (Figure 4), and Area 3 is he ~0.7x0.8 km in the centre of the property (Figure 4).

Accordingly, Figure 5 shows magnetic anomalies for Area 2. In this image, there are a number of northwest-southeast linear features that are probably associated with the gridding and contouring. Although the major anomalies (typically trending northeast-southwest) can be enhanced by smoothing with filters such as bandpass filtering, the approach taken here is to apply a small upward continuation prior to further processing, many of which are based on gradients (e.g., tilt gradient).

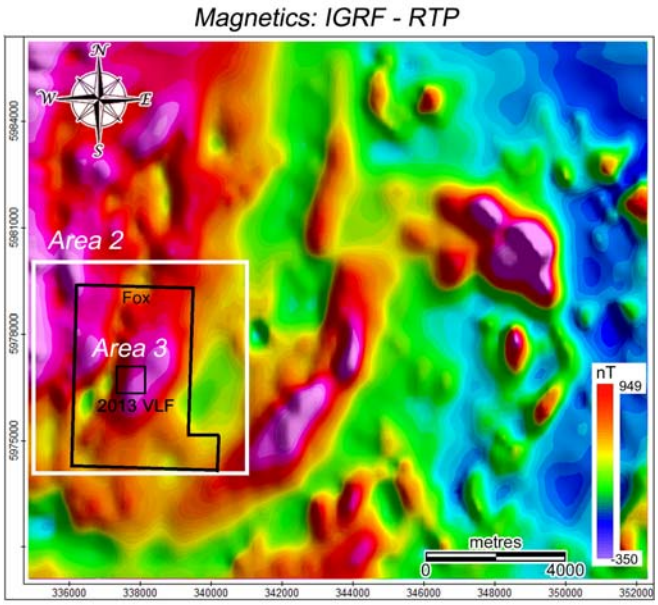

Figure 4. Total magnetic intensity (TMI) map of the northwest corner of the TREK aeromagnetic data after corrections for diurnal variations, the IGRF, gridding with a 62.5m grid cell size, and reduction to the North Pole. The two black outlined areas in the west are: 1) Fox property outline (larger rectangular area), and 2) the area of a high resolution ground-based VLF/magnetics survey (Cook and Belton, 2014). For ease of reference, the area of this map is called 'Area 1', the white outlined area is 'Area 2', and the small outlined area is 'Area 3'.

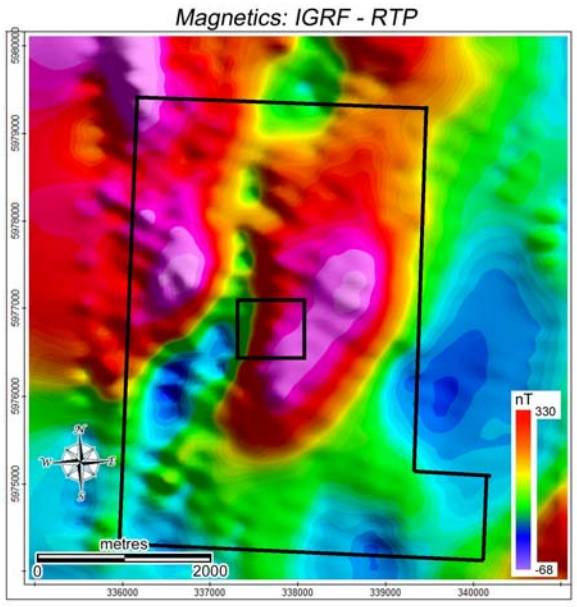

Figure 5. Magnetic data (IGRF removed, reduced to pole) for Area 2 in Figure 4. The northwest-southeast corrugated effect is noise that can be minimized with smoothing.

In addition to the airborne survey, a small grid of ground-based VLF/magnetics data was recorded in 2013. The grid is located near the centre of the Fox property (Area 3 of Figure 4) and consists of eight east-west lines spaced 100m apart and with 12.5m station spacing along each line (Figure 6). The 100m line spacing means that the data could be gridded at 25m, producing more detailed resolution that the airborne data for this small area (Figure 6) .

Because these data are in such a small area and were recorded over several days, IGRF removal was accomplished with a single value for the time of the survey. There are a number of small point-like anomalies (e.g., at approximately at 337560, 5977100) that may be due to station-to-station variations in signal, in readings, or in local magnetization. They are generally too small to be of interest here, even if they are not some noise effect. Accordingly, subsequent processing of these data was carried out after a smoothing filter (upward continuation) was applied.

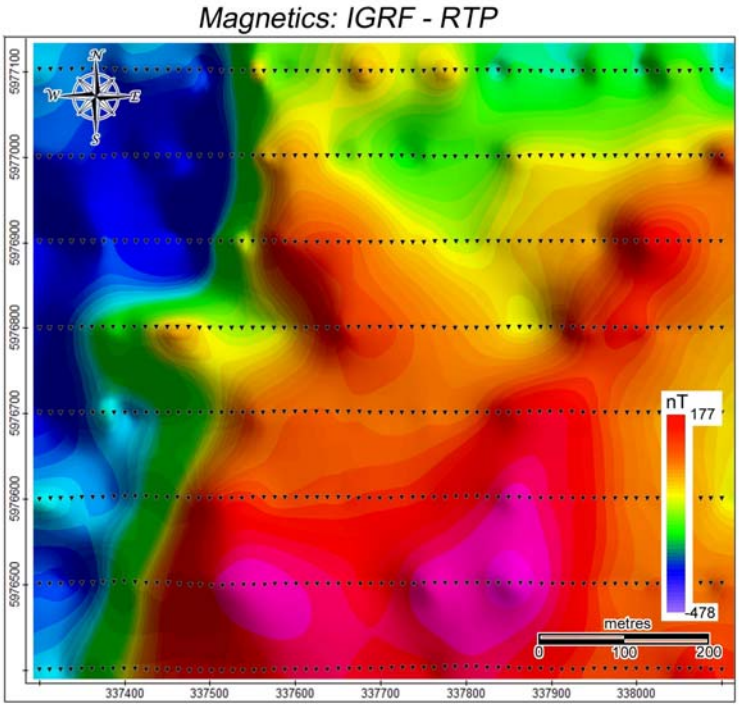

Figure 6. Magnetic data (IGRF removed, reduced to pole) for the ground-based magnetic data recorded in Area 3 (Figure 4) during a VLF-EM survey in 2013 (Cook and Belton, 2014). The dotted lines are the acquisition station locations.

6.0 Observations

The observations from the results of the processing are described in three parts: The large-scale area (e.g., area of Figure 4), the intermediate scale area (e.g., Area 2 of Figures 4 and 5) and the detail (Area 3 of Figures 4 and 6). The reason for this is that by starting with the large-scale area, we can then increasingly focus in on some of the detail that may benefit exploration.

6.1 Large Scale: Area 1

The large-scale area encompasses a region that is approximately 10 x 17 km (Figure 4). In an effort to map structural characteristics, a suite of gradient-based filters have been tested, with the results that appear to provide the most useful information illustrated here. For example, Figure 7 shows data in Area 1 after application of the tilt angle. The tilt angle provides an improved view of locations and geometry (in map view) of magnetic sources.

In Figure 7, most of the anomalies trend northeast-southwest. This is particularly true in the western half of the area, including the Fox property area. In addition, there appear to be clear, and sometimes prominent, offsets in anomalies that could be interpreted as faults. One such east-west offset is indicated by the arrow in Figure 7.

In order to determine the relationships between the magnetic anomalies and the geology, the map in Figure 7 has been superimposed onto the geology map (Figure 8) with some transparency. Two important observations stand out:

1. The interpreted faults on the geology map (e.g., Binta Lake fault in the southeast corner and a fault labelled here the 'N-S fault' in the centre of the map) do not appear to follow magnetic anomalies.
2. There do not appear to be any mapped structures in the geology that are associated with the clear east-west offset (arrow) in magnetic anomalies.

Another filtering approach for mapping structure is the Normalized Standard Deviation method (NSTD; Cooper and Cowan, 2008). In this approach, the variations in the anomalies are enhanced by application of the standard deviation within a window (5x5 grid points used here). The effect of this technique is to enhance variations in regions of low-

amplitude signals; it can thus be effective for mapping patterns that may not be visible in unprocessed data. Application of this technique to Area 1 is shown in Figure 9 and the results are superimposed with transparency on the geology map in Figure 10. As with the tilt angle, the anomaly patterns are dominantly northeast-southwest in the western half of the map area, and more irregular in the east. The apparent east-west offset (arrow) noted previously is also shown. As noted with tilt angle results (Figure 8), the N-S fault and Binta Lake fault do not appear to have expression in the magnetic anomaly patterns.

A third approach to mapping the structures is the application of the Generalized Derivative Operator (GDO; Cooper and Cowan, 2011). The GDO produces results that are similar to the tilt angle, but that have a directional component, analogous to shaded imaging. Figure 11 shows an application of this filter for an illumination inclination angle of 45^{o} and declinations from 0^{o} to 315^{o} in 45^{o} increments. One of the most notable observations from this approach is that the east-west offset (arrow in Figures 7 and 8) is visible on all of the images, but has the best definition on the 45/90 (45^{o} inclination and 90^{o} declination; arrow). This effect is expected for an east-west fault.

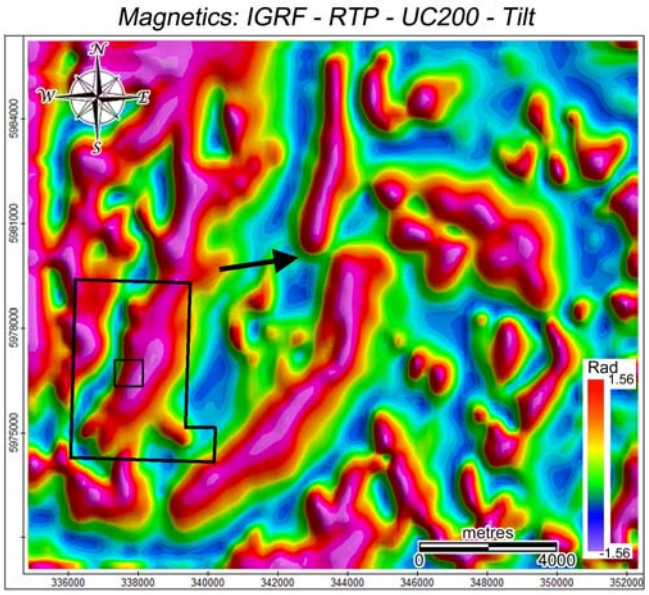

Figure 7. Magnetic anomaly data in the Area 1 (Figure 4) after application of an upward continuation (smoothing) of 200m followed by the tilt angle. The arrow points to an apparent sinistral offset of positive magnetic anomalies.

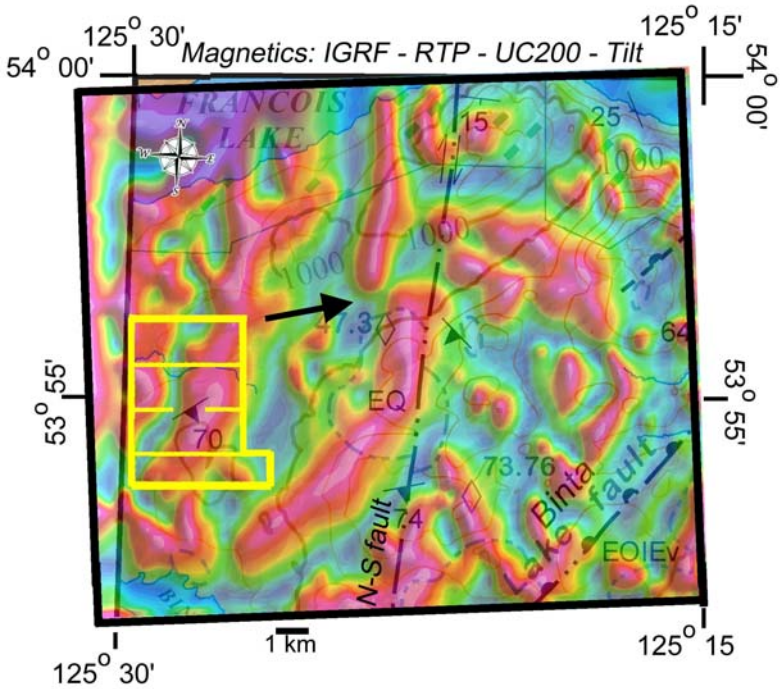

Figure 8. Results from the tilt angle in Figure 7 superimposed on geology map (Figure 2).

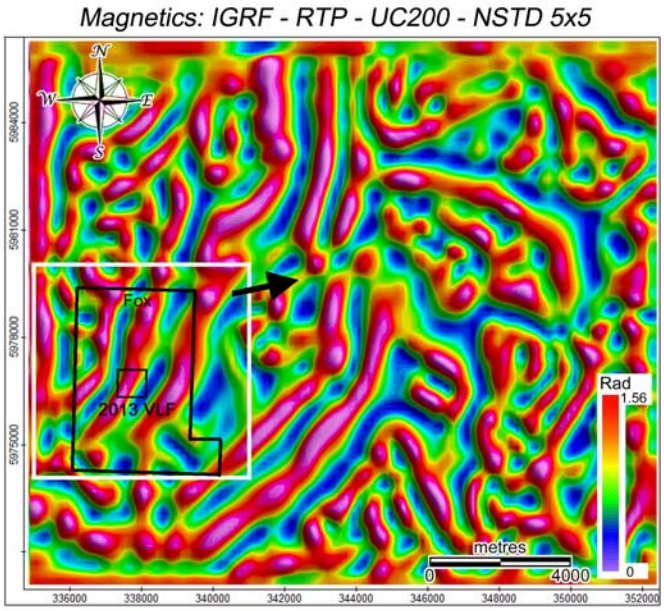

Figure 9. Results of application of the Normalized Standard Deviation (NSTD) filter for Area 1. Again, note the apparent offset in magnetic anomalies indicated by the arrow.

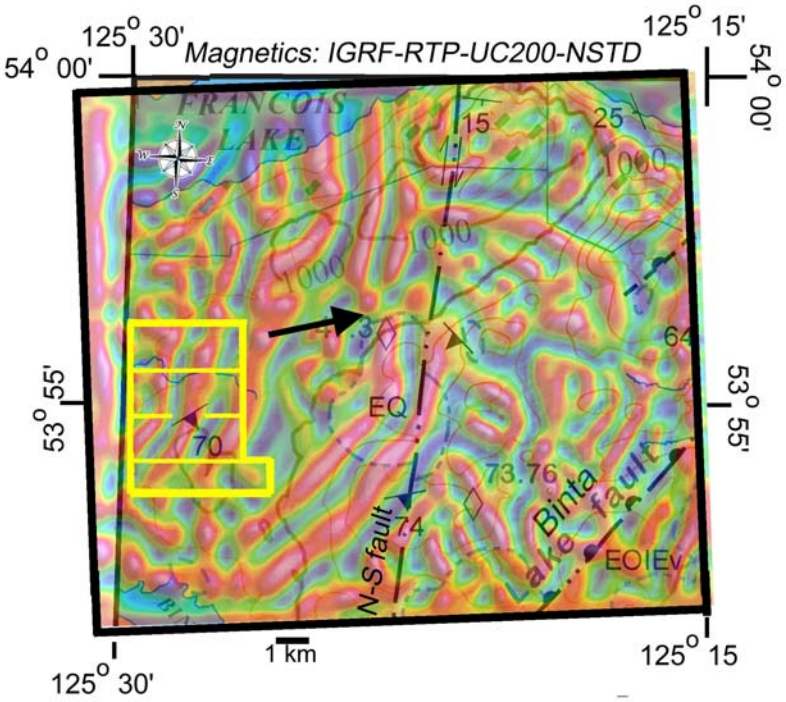

Figure 10. Results of the NSTD filter superimposed on the geology for Area 1.

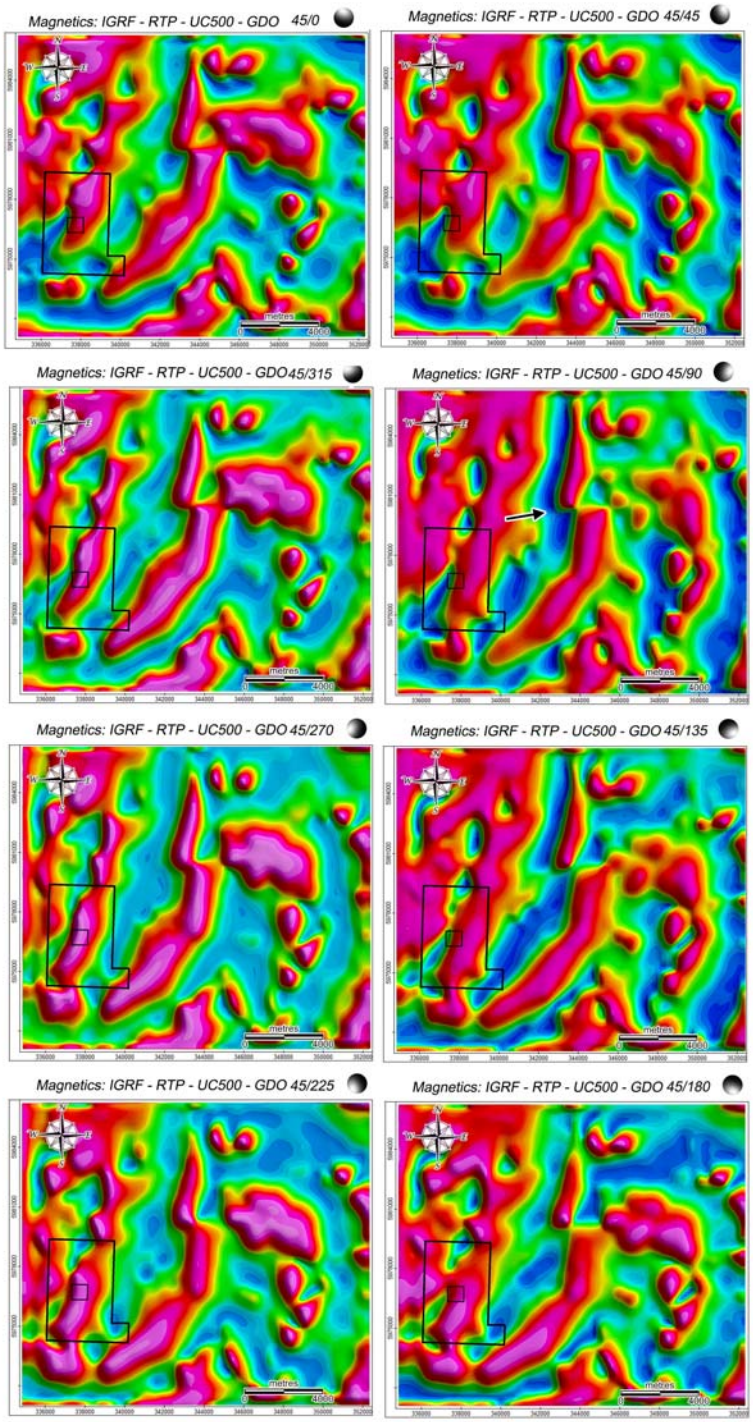

Figure 11. Results of applying the Generalized Derivative Filter (GDO) to the data in Area 1 after application of 500m upward continuation. The GDO is similar to the tilt angle, but includes a directional component. For each of these the first number (45) in the title is the inclination of the illumination. The second number (0, 45, 90…315) is the declination of the illumination.

6.2 Intermediate Scale: Area 2

The data in Area 2 (Figure 5) are shown in Figure 12 after application of 200m upward continuation (smoothing) followed by the tilt angle filter. Two observations are key. First, as noted previously, there is a prominent northeast-southwest orientation of the anomalies. It is not clear what these anomalies are associated with, as the area of the Fox property is underlain almost entirely by Eocene Ootsa lake Group volcanic rocks (Figure 2). Second, there is an obvious, but low amplitude 'corrugation' effect that is parallel to each of the edges of the data. These are edge effects that are not relevant to the interpretations. They appear here because the tilt angle (as do other gradient base filters) tends to enhanced weak (low amplitude) features, whether they are artefacts or not.

Application of the General Derivative Operator (GDO, Figure 13) provides similar images as the tilt angle with the directional component. In addition to the prominent northeast-southwest anomalies, there appear to be some small northwest-southeast anomalies that may be important for exploration (see below).

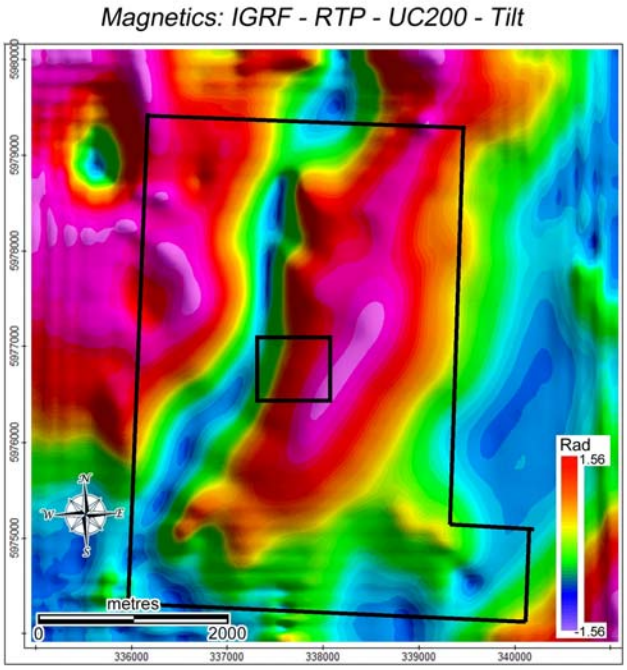

Figure 12. Magnetic data for Area 2 after application of 200m upward continuation followed by the tilt angle.

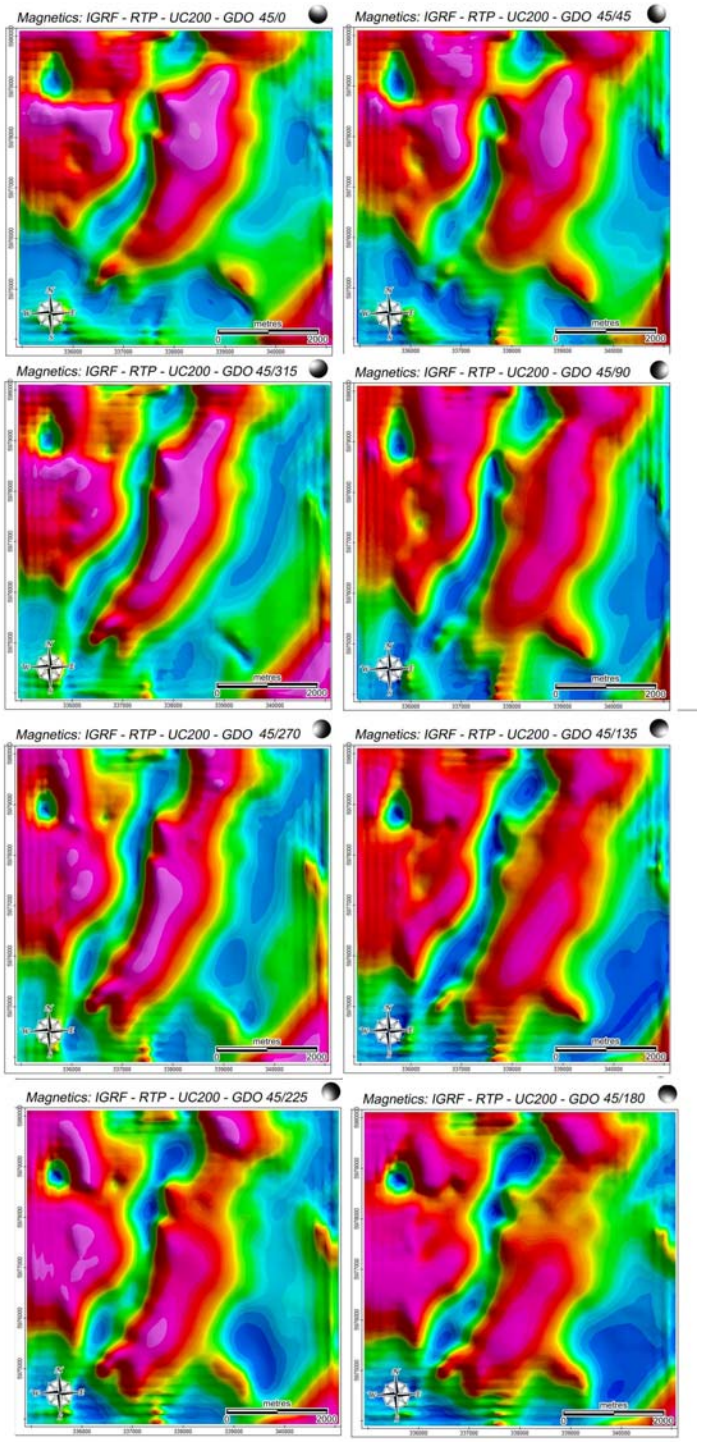

Figure 13. Results of applying the Generalized Derivative Filter (GDO) to the data in Area 2 after application of 200m upward continuation. As in Figure 11, for each of these, the first number (45) in the title is the inclination of the illumination. The second number (0, 45, 90…315) is the declination of the illumination. The corrugated effects near the edges are edge effects.

6.3 Detailed Scale: Area 3

Figure 14 shows the magnetic data from the detailed ground-based VLF/magnetics survey (Figure 6) that was acquired in 2013. The filters for this map include upward continued to 25m followed by the tilt angle. The most obvious feature of this result is that the regional magnetic high that is oriented northeast-southwest appears to have some texture that is not obvious in the Trek data. This is largely due to two factors: 1) the 25 m grid spacing for these data, and 2) the fact that the magnetometer was closer to the ground (i.e., closer to the magnetic sources) than the flights could have been.

While this result is expected (increase resolution usually provides increased detail), its significance for exploration may be apparent when the anomaly geometry is compared to the geochemistry of surface rock samples (Figure 15). In Figure 15, crosses represent all samples, and the inverted triangles represent samples with gold values greater than 100 ppb. Anomalous samples near the centre of the grid appear to line up along one of the northwest-southeast magnetic 'appendages'. The geological significance of this observation is unclear, as the source of the magnetic anomalies is unknown.

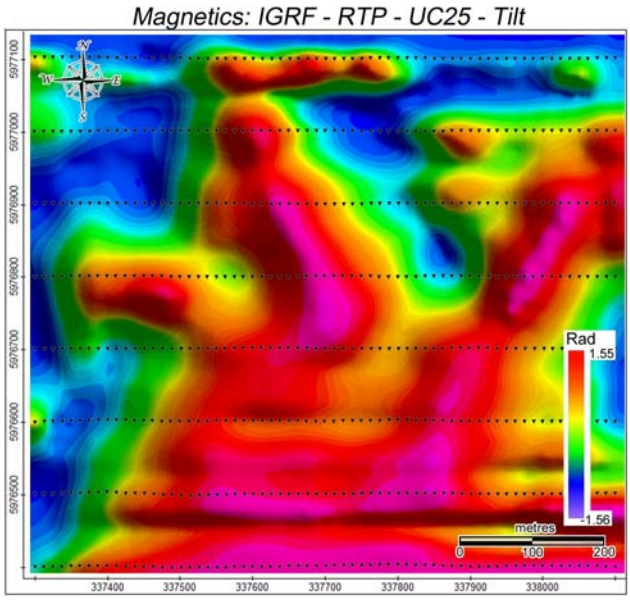

Figure 14. Magnetic anomaly data from detailed Area 3 after application of a 25m upward continuation followed by the tilt angle. Note the apparent enhanced definition of the 'appendages'.

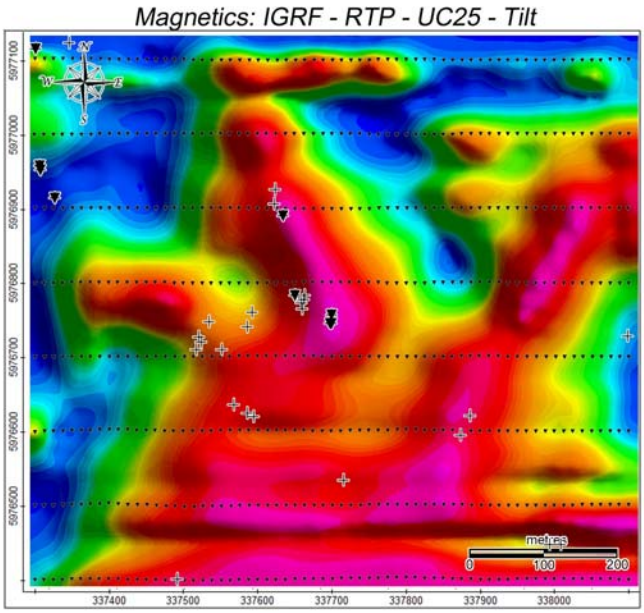

Figure 15. Same map as in Figure 14 with rock sample locations superimposed. The crosses represent sample locations; the inverted triangles represent samples with Au > 100ppb. Some vales in this area exceed 10000 ppb.

7.0 Summary and Conclusions

Analyses of gridded magnetic data in the vicinity of the Fox property has revealed three potentially important observations. First, the magnetic anomaly pattern does not appear to correspond to interpreted faults (e.g., Binta Lake fault, N-S fault) on the geologic map. As the notes to the geologic map indicate that these structures (especially the N-S fault) are drawn on the basis of geophysical data, it is not clear what geophysical data were used to interpret these faults.

Second, there appear to be very distinct offsets in the magnetic anomalies (arrow in Figures 7 through 10) that are not reflected in the geologic map. This observation suggests that there may be significant structural complications that are masked by the surface volcanic rocks. To the extent that mineral deposits in this area may be structurally controlled, this result may have some important implications for further exploration.

Finally, when the detailed magnetic anomaly data for the Fox VLF/magnetics survey are analysed for geometric and geochemical patterns, it appears that the samples with anomalous gold tend to be oriented northwest-southeast and coincicde with one or more northwest-southeast magnetic anomalies.

8.0 Recommendations

As with most geophysical data, the interpretations of the magnetic data are enhanced by detailed knowledge of the geology. In the area of the Fox property, the geological exposures are sparse and much of the area is apparently covered by late Tertiary volcanic rocks. Accordingly it will be increasingly necessary to apply a variety of geophysical methods and data processing techniques in order to delineate the structures that are associated with mineralization.

9.0 References

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Angen, J. J., Rahimi, M., Hart, C. J. R., Westberg, E., Logan, J. M., and Kim, R. 2017. Bedrock Geology, Trek Project Area, Northern Interior Plateau, Central British Columbia, Map 2017-06-01, scale 1:250,000.

Cook, F. A. and Belton, B. A. 2014. Analyses of VLF Geophysical Data, Fox Property, Nechako Basin, central British Columbia, BC Geological Survey Assessment Report 34580, 24pp.

Cooper, G. R. J. and Cowan, D. R. 2008. Edge enhancement of potential field Data using normalized statistics, Geophysics, v. 73, p. H1-H4.

Cooper, G. R. J., and Cowan, D. R. 2007. A generalized derivative operator for potential field data, Geophysical Prospecting, v. 59, p. 188-194.

10.0 Statement of Costs

Property:	Fox	
Event #	**5695618**	
Start - End Date:	April 19-21, 2018	
Tenure work done on:	All (see note below)	
Type of work done:	Geophysical	
F. Cook	April 19-21, 2018	
Magnetic Analyses	3 Man days @ 800	$ 2,400.00
	Report	2,500.00
	Total	$ 4,900.00

Note: Some of this work (section 6.1) was done on regional data and ere not specific to the Fox property. The three days of work are for the Fox (sections 6.2 and 6.3)…fac

11.0 Statement of Qualifications

I, Frederick A. Cook do hereby certify that:

1) I attained the degree of Doctor of Philosophy (Ph.D.) in geophysics from Cornell University in Ithaca, New York in 1981.
2) I have a B.Sc. in geology (1973) and an MSc. in Geophysics (1975) from the University of Wyoming in Laramie, Wyoming.
3) I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia (P. Geo. 2009). Previously, from 1984-2009, I was registered with the Association of Professional Engineers, Geologists and Geophysicists of Alberta as both a P. Geol. and a P. Goph.
4) I am a member of the American Geophysical Union and the Geological Society of America.
5) I have worked as a geophysicist/geologist for a total of 36 years since my graduation from university.
6) I have worked for the Continental Oil Company (1975-1977) and the University of Calgary (1982-2010).
7) I was the Director of the Lithoprobe Seismic Processing Facility at the University of Calgary from 1987-2003.
8) I have recently (2011) been appointed an International Consultant for the Chinese SinoProbe project.
9) I have a thorough knowledge of the geology of southern British Columbia based on extensive geological and geophysical field work.
10) I have authored more than 125 scholarly publications in peer-reviewed journals and books.
11) I was retained by Kootenay Silver Inc. to undertake analyses of the geophysical data in the vicinity of the Fox property.
12) I am the author of this report.
13) I am not aware of any material fact or material change with respect to the subject matter of this report, which is not reflected in this report.
14) I have no interest, direct or indirect, in the property.

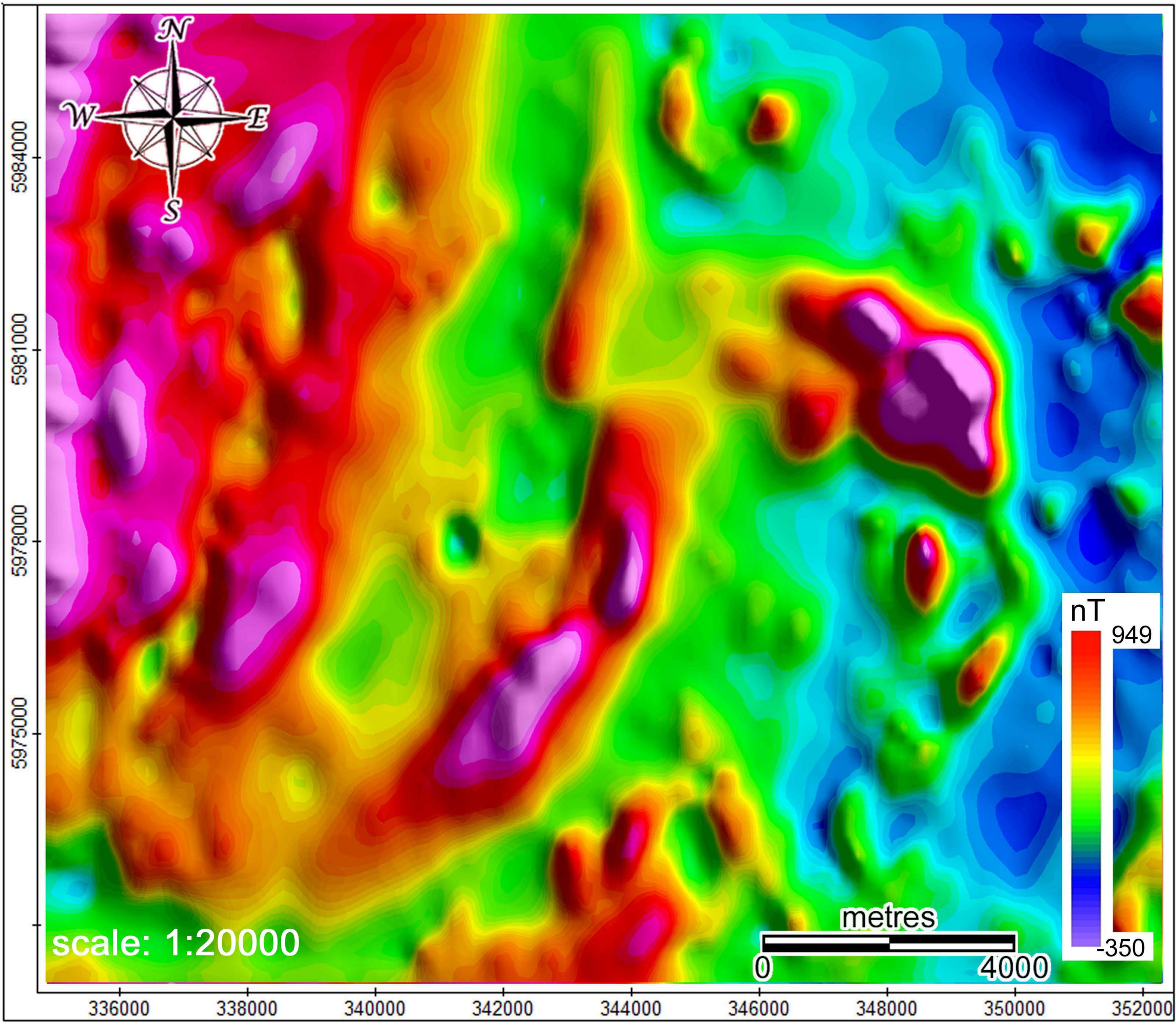
"signed and sealed" at Salt Spring Island, B.C.

Frederick A. Cook, P. Geo.
Salt Spring Imaging, Ltd
128 Trincomali Heights
Salt Spring Island, B.C.

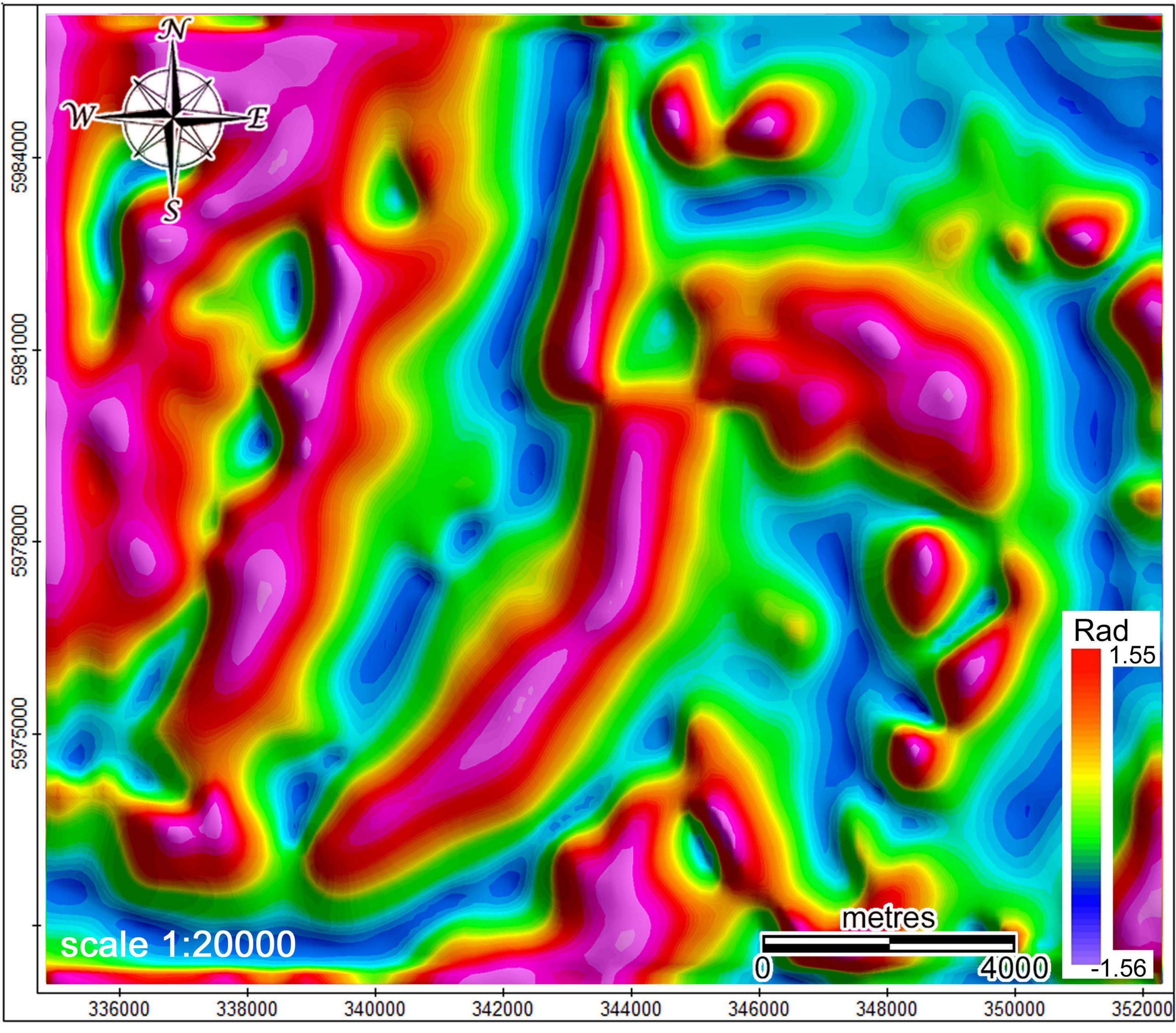
Dated at Salt Spring Island, B.C. this 10th day of July, 2018
Registration License No. 34585
Association of Professional Engineers and Geoscientists of British Columbia

Appendix: Selected Maps

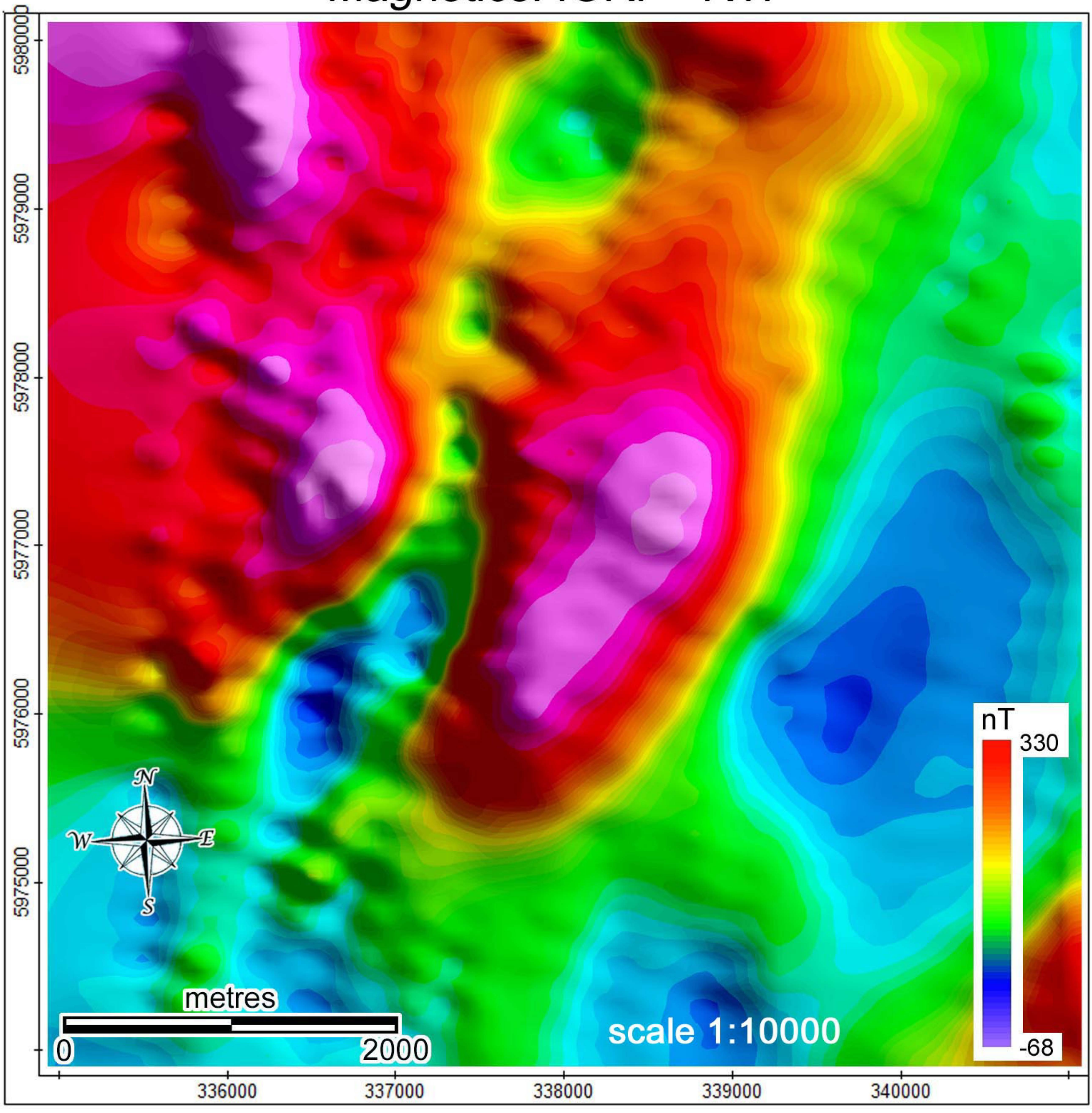
Magnetics: IGRF - RTP



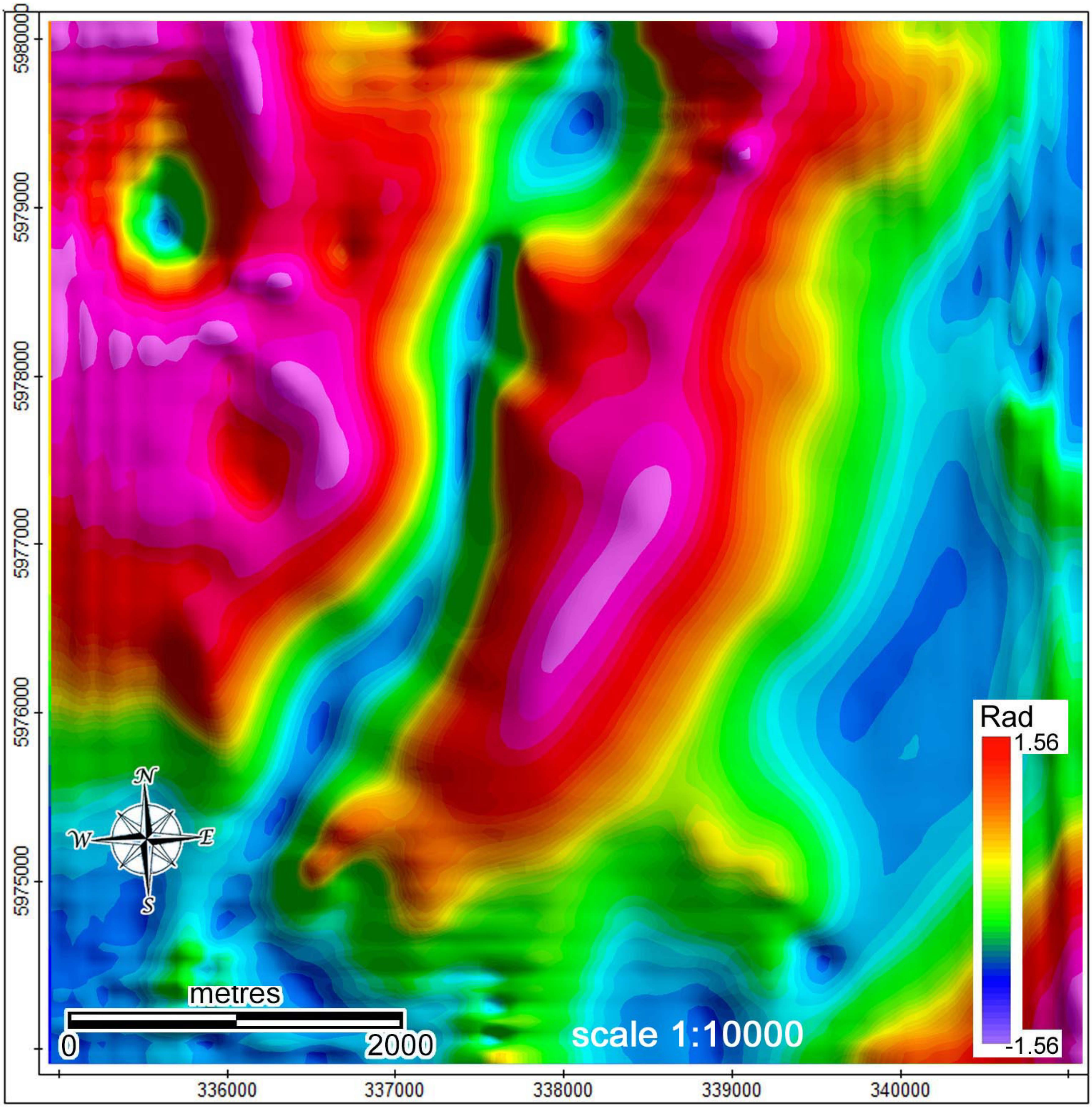
Magnetics: IGRF - RTP - UC500 - Tilt



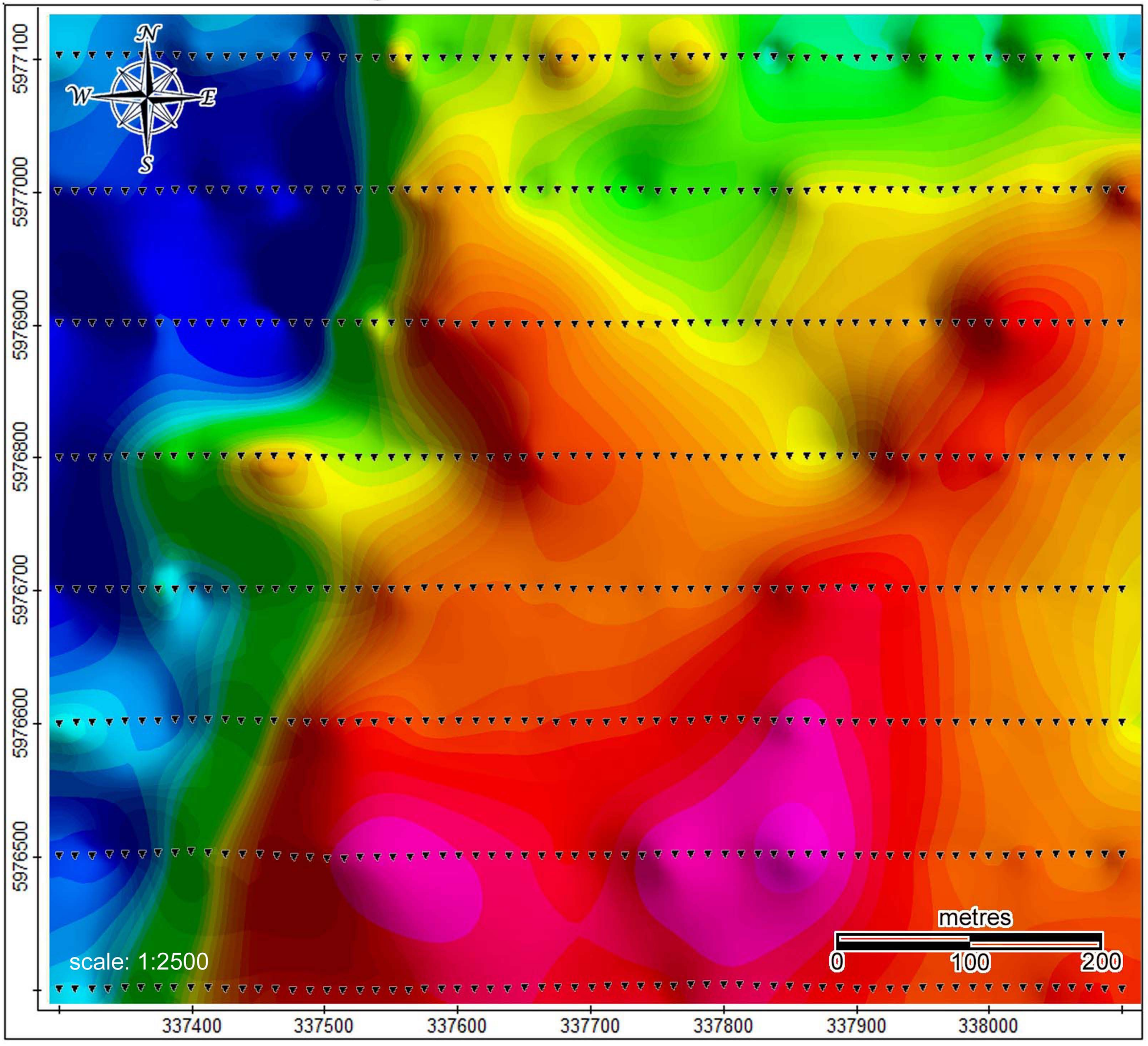
Magnetics: IGRF - RTP



Magnetics: IGRF - RTP - UC200 - Tilt



Magnetics: IGRF - RTP



Magnetics: IGRF - RTP - UC25 - Tilt