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REPORT ON A HELICOPTER-BORNE TIME DOMAIN ELECTROMAGNETIC AND MAGNETIC SURVEY AT HOYLE TOWNSHIP, TIMMINS, ONTARIO

Hoyle Project
Hoyle Township, Porcupine Mining Division, Northeastern Ontario

CANADA NICKEL COMPANY

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1.0 SUMMARY

Canada Nickel Company Inc ("Canada Nickel") contracted the services of Balch Exploration Consulting Inc. ("BECI", the "Contractor") with its head office at 11500 Fifth Line, Rockwood, Ontario, Canada, N0B 2K. BECI has performed a helicopter time domain electromagnetic and magnetic survey using the AirTEM™ system developed by Triumph Instruments. The survey was requested by Canada Nickel, in one of their claim groups in the Timmins region, Hoyle township.

The objective of this survey was to map the geology with magnetics and electromagnetics to identify potential horizons for gold mineralization. The Datum used to produce this report as well as the map products, grids and database is WGS-84. The projection is UTM, ZONE 17 N

Data was acquired over 1-day, on May 29th (4 flights). A fuel cache of drum fuel was placed at the Cedar Meadows Resort located about 12 km west of the survey area, in the city of Timmins. The system was flown back to Cochrane and disassembled, and electronics removed from the helicopter on May 30th.

The survey produced a total magnetic intensity, and 1st vertical derivative maps. An anomalous EM response was identified in early off-time, early mid off-time, mid off-time, mid late off-time, and late off-time. It is recommended that groundwork follow up the anomalies highlighted on this report.

2.0 PROPERTY DESCRIPTION

2.1 LOCATION AND ACCESS

The Hoyle claims are located approximately 16 km northeast of Timmins, Ontario near Highway 655 within the NTS topographic sheet 042A11. Figure 1 shows the location of the survey block.

The closest access road is Highway 655 that runs north from Timmins, Ontario to Highway 11.

Within the survey block there is a southeast oriented railway line. Just beyond the southeast corner of the mining claims is a tailings pond.

2.2 CLIMATE AND TOPOGRAPHY

The average daily temperature varies from a high of +24°C during July to a low of -10°C during January. During the survey, the weather was moderate to warm (10°C to 20°C). Annual snowfall is approximately 41 cm and annual rainfall is 5.26 cm. During the survey there was minimal rainfall and light winds.

The topography is flat and swampy in places. Total topographic variation is ~20 m, from 279 m to 300 m with a mean elevation of 288 m.

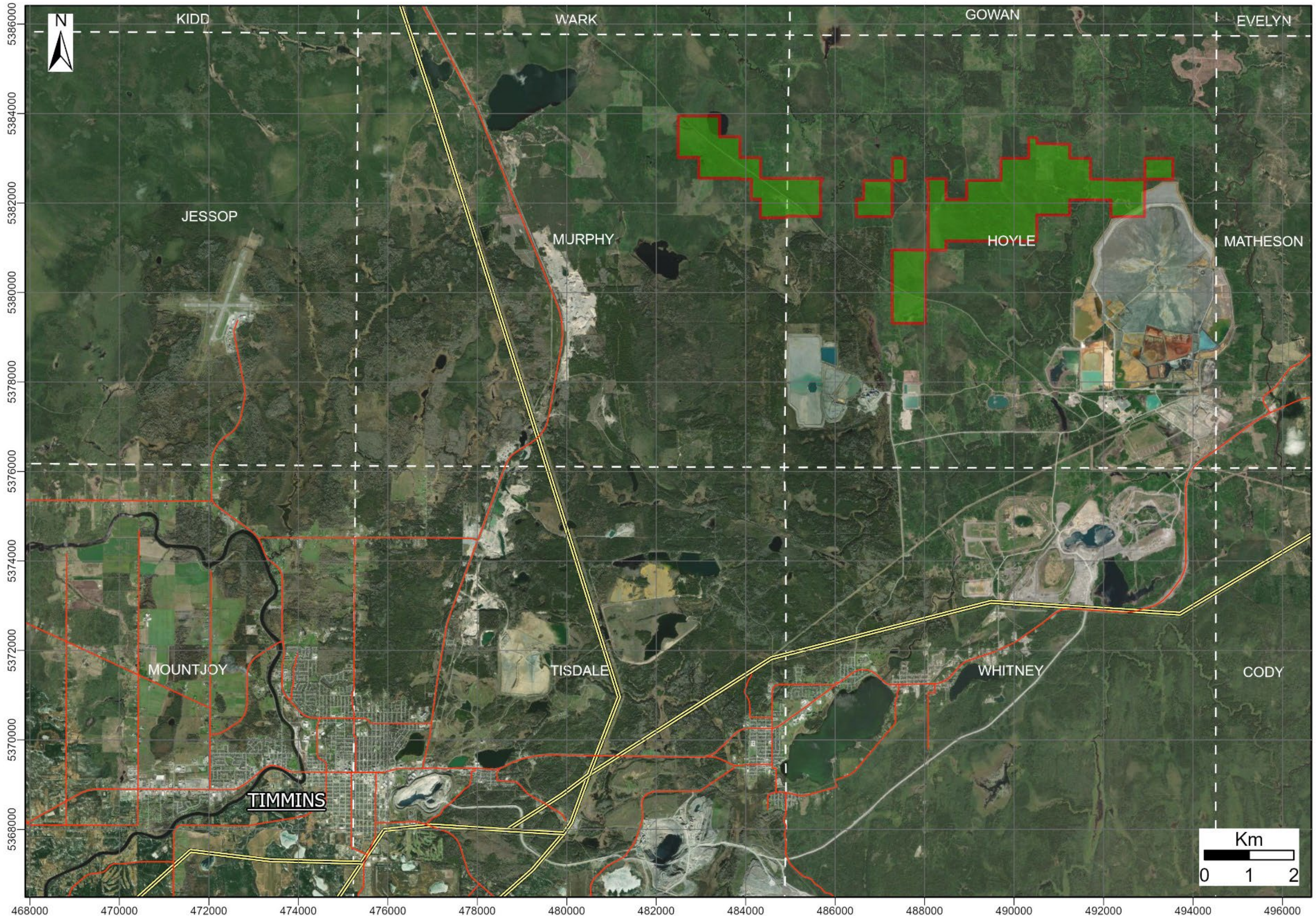

Figure 1 – Survey area showing the Hoyle Claim blocks flown, in green with red outline.

2.3 EXPLORATION HISTORY

The discovery of gold in the Abitibi Greenstone Belt near Timmins in 1908 founded the Porcupine Mining District and spurred decades of mineral exploration in the region. The advent of airborne geophysics in the mid-20th century enabled exploration campaigns in thick overburden covered areas of the Abitibi Belt.

The earliest assessment report on the Hoyle Property dates back to 1964. Below is a brief summary of exploration:

1964-1969: The area went through several compilations and electromagnetic surveys in the area, performed by several operators. (AFRI 42A11SE0160; 42A11SE0099; 42A11SE0088; 42A11SE0108; 42A11SE00107; 42A11SE0097; 42A11SE0093; 42A11SE0094; 42A11SE0092).

1969-1975: More geophysical surveys including EM VLF, magnetic and magnetometer surveys, primarily performed by 2 companies during this period, Hoyle Syndicate and LP industries (AFRI 42A11SE0094; 42A11SE8375).

1981: EM VLF resumed in Hoyle township by two operators, Rio Alto Expl. And Dawson Eldorado. (AFRI 42A11SE0077, 42A11SE0076)

1982- 1991: The area had continuous exploration efforts from multiple companies and included, Geological survey, Mapping, Airborne EM and Magnetic surveys, IP, remote imagery interpretations, Geochemical analysis and diamond drilling. Diamond drilling was performed by Kerr Adison Mines, Amax ltd, Dejour Mines and A Salo. (AFRI 42ASE0129; 42ASE0065; 42ASE0070; 42ANE0555; 42ASE0058; 42ASE0133; 42ASE0332; 42ASE0064; 42ASE0118; 42ASE0127; 42ASE0323; 42ASE0513; 42ASE0053; 42ASE0116; 42ASE0121; 42ASE0056)

1994-1997: Prospecting, diamond drilling, and IP and EM surveys predominantly from Moneta Porcupine Mines and Pentland Frith Ventures. (AFRI 42A11SE003; 42A11SE8900; 42A11SE0021; 42A11SE0035; 42A11SE0125).

2002-2012: Compilation, Prospecting, IP, airborne EM and geochemistry by Arvon Salo, Goldcorp, Northern Gold Mining and Gold Dynamics Corp. (42A11SE2024; 42A11SE2023; 42A11SE2022; 20000001653; 20000002220; 20000003939; 20000004714; 20000004716)

2.4 LAND TENURE

The mining claims are shown in Figure 2. Canada Nickel mining claims are shown in green and listed in table 1.

TENURE_#	TITLE_TYPE	CLAIM_DUE_
552784	SCMC	2023-02-28
552785	SCMC	2023-02-28
552786	SCMC	2023-02-28
552787	SCMC	2023-02-28
552788	SCMC	2023-02-28
552789	SCMC	2023-02-28
552790	SCMC	2023-02-28
552791	SCMC	2023-02-28
552792	SCMC	2023-02-28
552793	SCMC	2023-02-28
552794	SCMC	2023-02-28
552806	SCMC	2023-02-28
552805	SCMC	2023-02-28
536482	SCMC	2022-08-12
552796	SCMC	2023-02-28
552797	SCMC	2023-02-28
552799	SCMC	2023-02-28
552800	SCMC	2023-02-28
552801	SCMC	2023-02-28
552802	SCMC	2023-02-28
552850	SCMC	2023-02-28
552851	SCMC	2023-02-28
542227	SCMC	2022-10-14
542228	SCMC	2022-10-14
542229	SCMC	2022-10-14
542230	SCMC	2022-10-14
542231	SCMC	2022-10-14
536848	SCMC	2022-08-16
566505	SCMC	2022-08-14
566504	SCMC	2022-08-14
536522	SCMC	2022-08-12
536519	SCMC	2022-08-12

TENURE_#	TITLE_TYPE	CLAIM_DUE_
536523	SCMC	2022-08-12
536525	SCMC	2022-08-12
536526	SCMC	2022-08-12
520192	SCMC	2023-04-29
520216	SCMC	2023-04-30
520217	SCMC	2023-04-30
520218	SCMC	2023-04-30
536520	SCMC	2022-08-12
520160	SCMC	2023-04-27
520161	SCMC	2023-04-27
520163	SCMC	2023-04-27
520164	SCMC	2023-04-27
536478	SCMC	2022-08-12
520162	SCMC	2023-04-27
536479	SCMC	2022-08-12
536480	SCMC	2022-08-12
536481	SCMC	2022-08-12
536483	SCMC	2022-08-12
536484	SCMC	2022-08-12
536485	SCMC	2022-08-12
536486	SCMC	2022-08-12
536487	SCMC	2022-08-12
536488	SCMC	2022-08-12
536489	SCMC	2022-08-12
536490	SCMC	2022-08-12
536491	SCMC	2022-08-12
520219	SCMC	2023-04-30
520155	SCMC	2023-04-27
520156	SCMC	2023-04-27
520157	SCMC	2023-04-27
520158	SCMC	2023-04-27
520159	SCMC	2023-04-27

Table 1 - Mining Claims

2.5 DATA COLLECTION

The survey was flown using the WGS-84 Datum. The Datum used to produce this report as well as the map products, grids and database is WGS-84. The projection is UTM, ZONE 17 N. All references to UTM coordinates in this report are based on the WGS-84 Datum. The flight lines are shown in Figure 3 and summarized in Table 2.

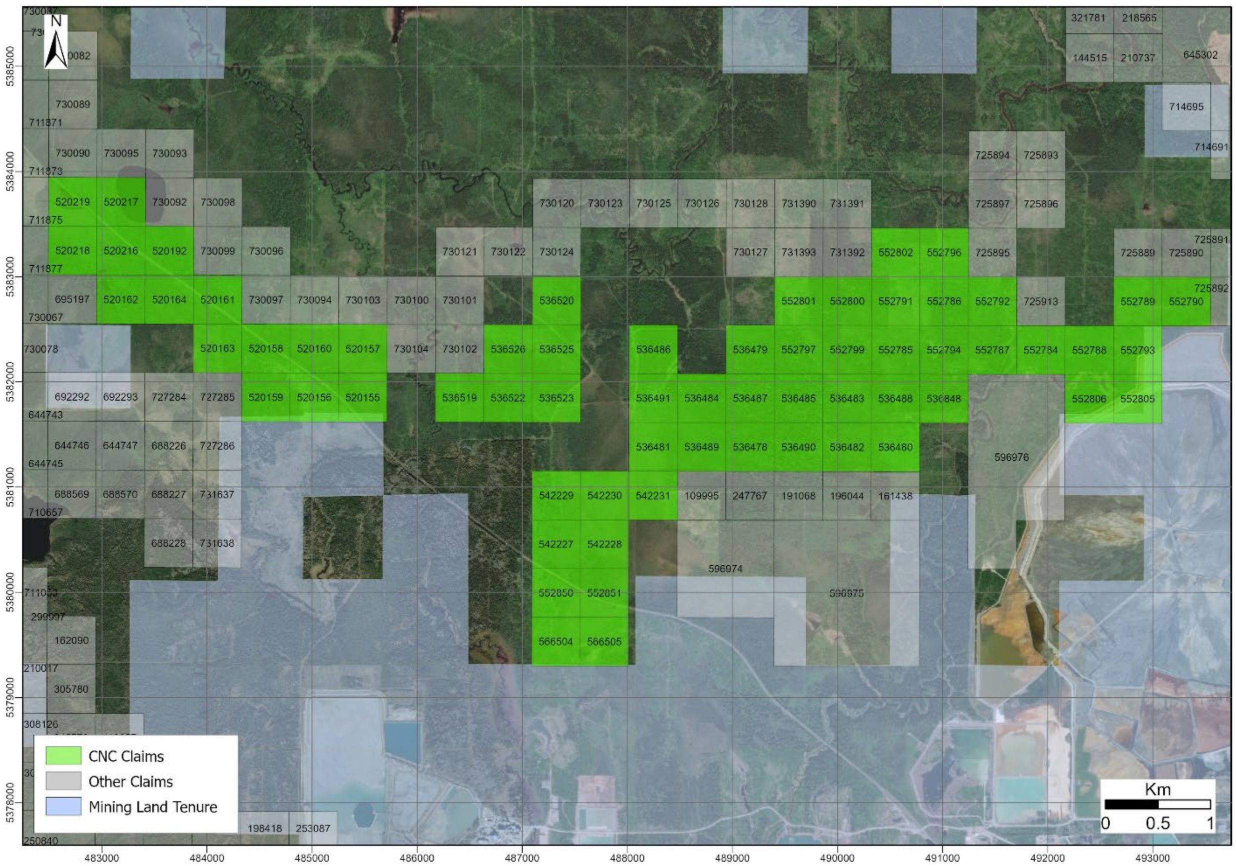

Figure 2 – Mining claims.

Survey Block	Area (km^2)	Line Type	Planned No. of Lines	Line Spacing (m)	Line Orientation	Nominal Survey Height (m)	Total Planned (km)	Total Actual (km)
Hoyle	38.6	Flight	110	100	0°/180°	40	384.4	370.2
		Tie	5	1000	90°/270°	40	45.3	23.7
		Totals					**429.7**	**393.9**

Table 2 – Summary of flight and tie line specifications.

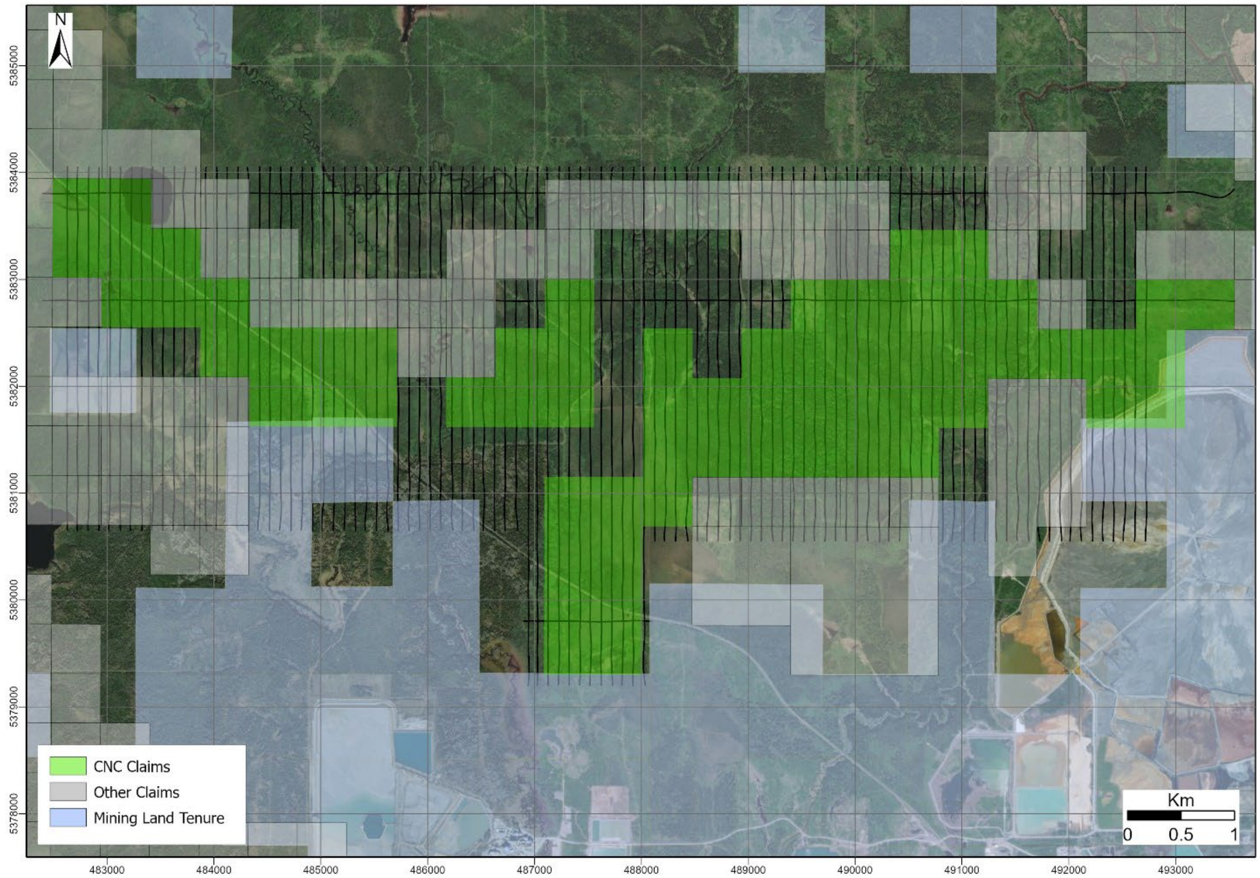

Figure 3 – Flight and tie lines within the surveyed area.

3.0 GEOLOGY

The Hoyle property is located a few kilometers north of a gold mineralized trend that hosts three past producing gold mines: Hoyle Pond, Owl Creek and Bell Creek. Gold in this area is associated with carbonatization, faulting, quartz veining and importantly, graphitic faults or sedimentary interflows. Volcanic rocks of the lower Tisdale group appear to be correlative with greywacke dominated metasediments of the Hoyle assemblage with conformable to sheared contacts between the volcanic and sedimentary units.

An east trending shear fabric overprints and is well developed within the Tisdale assemblage in the southern part of Hoyle Township, localized within narrow shear zones. Gold mineralization is associated with this fabric at the Bell Creek gold deposit and may have provided some structural control on mineralization at the Owl Creek and Hole Pond gold deposits. This fabric may be related to the Destor-Porcupine fault or a related splay (Berger, 1992). Late north to northwest trending brittle faults appear to have predominantly vertical movement and appear in some cases to have offset mineralization within the local gold deposits.

Gold mineralization in the area is predominantly hosted by the Tisdale assemblage within quartz veins and along wall rock/quartz vein margins. High grade gold mineralization occurs within quartz veins associated with alteration zones composed of carbonate, graphite, fg pyrite, and sericite. Trace elements associated with gold are arsenic, bismuth and tungsten (Berger, 1992).

Several of the zones mentioned above were discovered by identifying and drilling EM or IP conductors. Due to the lack of outcrop in the area, most of the exploration has been done through geophysical surveys starting in the early 1960's and continuing to the present.

There is little additional information on the geology at a property scale. The rocks underlying the higher magnetic signature areas are inferred to be mafic to possibly ultramafic volcanics of the Tisdale assemblage. The remainder of the property shows a relatively low and flat total field pattern, indicative of metasedimentary rocks in the area. Weak, but coherent magnetic high features within the interpreted metasedimentary sequence may represent volcanic rocks or small intrusives/dike of intermediate to mafic composition.

4.0 SURVEY SYSTEM

The following information is taken from the report submitted by BECI to Canada Nickel.

The survey system is comprised of an electromagnetic airframe and magnetic sensor housing connected to the helicopter via a tow cable and related and ancillary electronics and sensors inside the helicopter to control navigation, power and survey height. Combined, this system measures the response from sub-surface conductors containing minerals such as pyrrhotite and pyrite and the magnetic response from features containing minerals such as magnetite. The positions of these responses are measured using a differential GPS antenna and receiver. Flight height is measured by radar altimeter.

4.1 ELECTROMAGNETIC SYSTEM

The electromagnetic system (Figure 4) was developed by Triumph Instruments (Triumph) and is known as AirTEM^{TM}, a helicopter time domain electromagnetic (HTEM) system that is designed for mineral exploration, oil & gas exploration and geologic mapping. AirTEM^{TM} is based on the concept of a concentric transmitter and receiver geometry originally developed by Wally Boyko.

The AirTEM^{TM} (TS-150) system features an 8.54 m diameter transmitter weighing approximately 500 Kg and producing up to 150,000 Am^2 in transmitted power. The system records the full waveform and "X", "Y" and "Z" coil measurements for improved interpretation of complex conductor responses. Measurements of the total magnetic field are also provided.

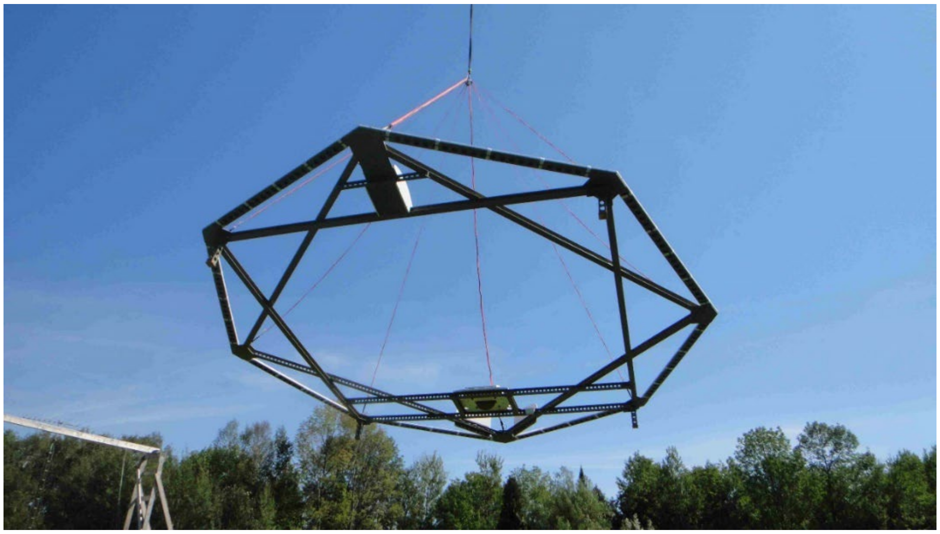

Figure 4 – The Triumph AirTEM™ TS-150 HTEM System.

Features

- Rigid concentric geometry
- Full waveform recording
- Software selectable base frequency
- Software selectable on-time period
- dB/dt off-time and on-time profiles
- Total magnetic field

Advantages

- Excellent early off-time response
- On-time conductance discrimination
- Excellent performance in rugged terrain
- Direct drilling of targets
- Improved nomogram correlation
- Interpretation software readily available

4.2 SYSTEM WAVEFORM

The AirTEM™ system uses a bipolar linear triangular pulse as shown in Figure 5. The on-time pulse is 33% of the half-cycle. The up-going and down-going portions of the pulse are 95% symmetric with the down-going pulse being slightly shorter in time duration.

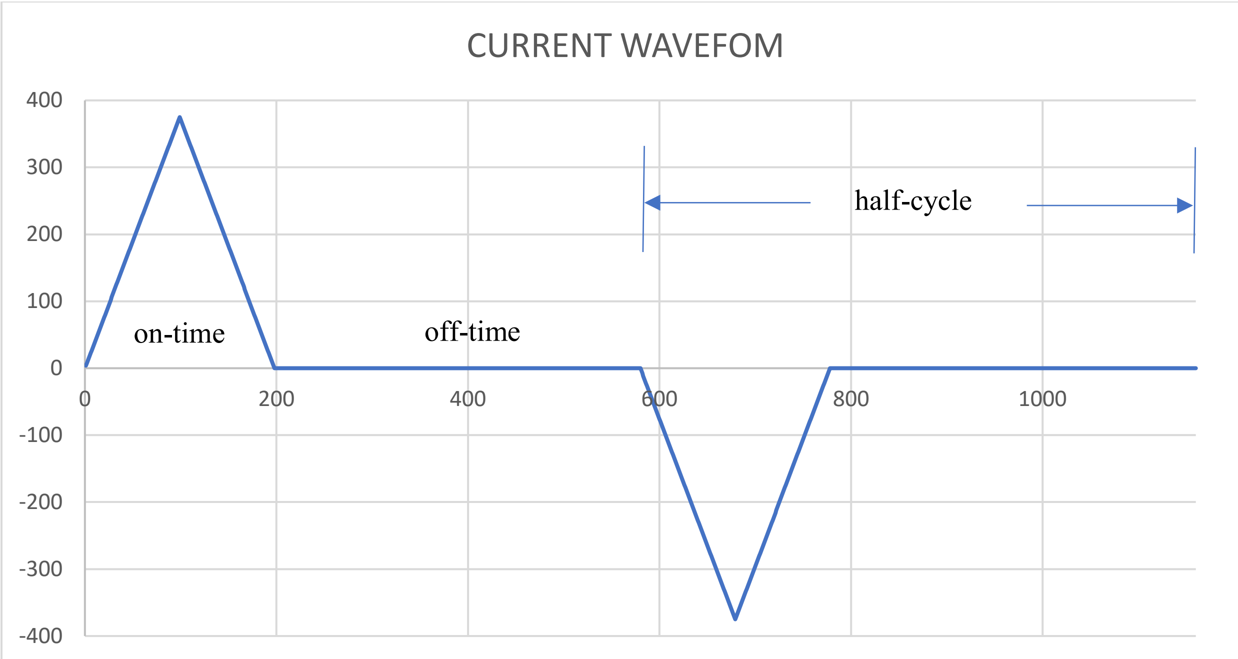

Figure 5 – The transmitter full cycle waveform is bi-polar and triangular with 95% on-time linearity.

4.3 BASE FREQUENCY

This survey was flown using a 90 Hz base frequency. At this frequency the bi-polar waveform produces half-cycles 180 times per second. The total half cycle period is the inverse of 180 Hz or 5,556 µs. For a one third duty cycle the on-time pulse is 1,850 µs in duration and the off-time pulse is 3,704 µs.

The data is stacked to a 10 Hz output sample rate. Each stack is the average of 18 half-cycles, 9 positives and 9 negatives. The negative half-cycles are rectified before being added to the positive cycles. The rectified and stacked half-cycles are stored at the 10 Hz sample rate.

The half-cycle is sampled at 105 kHz or one sample every 9.48 µs producing 580 half-cycle samples, 193 during the transmitter on-time and 387 during the off-time. During the on-time there are 99 up-going samples and 94 down-going samples.

4.4 TIME CHANNELS

The time channels are defined on a logarithmic scale starting at channel 10. Channels 1 through 9 are linearly spaced, have a 5 µs width and start 10 µs after the end of the on-time pulse. For a 90 Hz base frequency there are 41 off-time channels. The time channels used are listed in Table 2.

Channel	Start time (ms)	Channel	Start time (ms)
1	0.0100	26	0.4199
2	0.0150	27	0.4810
3	0.0200	28	0.5512
4	0.0250	29	0.6320
5	0.0300	30	0.7249
6	0.0350	31	0.8317
7	0.0400	32	0.9545
8	0.0450	33	1.0957
9	0.0500	34	1.2581
10	0.0557	35	1.4448
11	0.0622	36	1.6595
12	0.0698	37	1.9063
13	0.0784	38	2.1901
14	0.0884	39	2.5164
15	0.0998	40	2.8916
16	0.1130	~~41~~	~~3.3230~~
17	0.1281	~~42~~	~~3.8190~~
18	0.1455	~~43~~	~~4.3893~~
19	0.1655	~~44~~	~~5.0451~~
20	0.1885	~~45~~	~~5.7992~~
21	0.2150	~~46~~	~~6.6662~~
22	0.2454	~~47~~	~~7.6631~~
23	0.2803	~~48~~	~~8.8093~~
24	0.3205	~~49~~	~~10.1273~~
25	0.3667	~~50~~	~~11.6427~~

Table 3 – Time channels for the TS-150.

4.5 MAGNETIC SYSTEM

The airborne magnetometer system consists of the housing, the sensor and control module and Larmour frequency counter. The counter output rate is 10 Hz in digital RS 232 format. Power is provided to the sensor electronics via a 28 VDC power cable on the tow cable which is terminated to a 5-pin connector at the magnetometer housing. This cable also contains conductors that carry the RS 232 signal.

4.6 MAGNETOMETER SENSOR

The magnetometer sensor is a model CS-3 made by Scintrex Limited. It is an optical split-beam cesium magnetometer and consists of a sensor head with a 3-m cable connected to a sensor driver. The output of the sensor driver is a larmour frequency which is linearly proportional to the earth's magnetic field. The CS-3 is shown in Figure 6 and the sensor specifications are given in Table 3.

Figure 6 – Scintrex CS-3 magnetometer sensor, cable, and electronics.

4.7 LARMOUR COUNTER

The larmour frequency is input into a frequency counter made by Triumph Instruments. The counter can convert the magnetic field to a theoretical accuracy of 0.2 pT. The output of the frequency counter is a digital value of the magnetic field with +/- 0.001 nT resolution. This value is transmitted to the EM console at a 10 Hz output rate.

The larmour counter is not synchronized to the EM transmitter but is synchronized instead to the EM data system. This allows the frequency counter to average down the magnetic field caused by the on-time pulse from the EM transmitter. The noise resulting from lack of synchronization to the EM transmitter is removed using a high-cut frequency filter during processing which also removes the effects of dropouts when the magnetometer sensor loses lock with the magnetic field (common during turnarounds).

4.8 SENSOR HOUSING

The magnetometer sensor housing is made from a thin-wall fiberglass tube (see Figure 7). The manufacturer is AeroComp of London, Ontario. Within the housing a two-axis gimbal holds the sensor and can be rotated in both the horizontal and vertical plane. The sensor was set to the point 45^{o} degrees forward with a 25^{o} azimuth for this survey. The housing contains the sensor driver electronics and the larmour frequency counter.

Operating Principal	Self-oscillation split-beam Cesium Vapor (non-radioactive Cs-133)
Operating Range	15,000 to 105,000 nT
Gradient Tolerance	40,000 nT/meter
Operating Zones	10° to 85° and 95° to 170°
Hemisphere Switching	a) Automatic b) Control voltage c) Manual
Sensitivity	0.0006 nT √Hz rms
Noise Envelope	Typically, 0.002 nT P-P, 0.1 to 1 Hz bandwidth
Heading Error	+/- 0.25 nT (inside the optical axis to the field direction angle range 15° to 75° and 105° to 165°)
Absolute Accuracy	<2.5 nT throughout range
Output	a) Continuous Larmor frequency proportional to the magnetic field (3.49857 Hz/nT) sine wave signal amplitude modulated on the power supply voltage b) Square wave signal at the I/O connector, TTL/CMOS compatible
Information Bandwidth	Only limited by the magnetometer processor used
Sensor Head	Diameter: 63 mm (2.5") Length: 160 mm (6.3") Weight: 1.15 kg (2.6 lb)
Sensor Electronics	Diameter: 63 mm (2.5") Length: 350 mm (13.8") Weight: 1.5 kg (3.3 lb)
Cable, Sensor to Sensor Electronics	3 m (9' 8"), lengths up to 5 m (16' 4") available
Operating Temperature	-40°C to +50°C
Humidity	Up to 100%, splash proof
Supply Power	24 to 35 Volts DC
Supply Current	Approx. 1.5 A at start up, decreasing to 0.5 A at 20°C
Power Up Time	Less than 15 minutes at -30°C

Table 4 – Scintrex CS-3 specifications.

Figure 7 – Airborne magnetometer housing with tow cable.

4.9 BASE STATION MAGNETOMETER

A GSM-19 base station magnetometer (manufactured by Gem Systems) was used to record variations in the earth's magnetic field and referenced into the master database using a GPS UTC time stamp. This system is based on the Overhauser principle and records the total magnetic field to within +/- 0.02 nT at a one (1) second time interval.

The base station unit was erected in a geomagnetically quiet location behind Gogal Air Services in a forest. The data was reviewed periodically to ensure a quiet environment (Figure 8).

Figure 8 – Base station magnetometer used for diurnal corrections.

4.10 NAVIGATION

Navigation was provided by the AgNav Incorporated (AgNav-2 version) GPS navigation system (Figure 9 - left) for real-time locating while surveying. The AgNav unit was connected to a Tee-Jet GPS receiver (Figure 9 – right).

Also used was a Garmin 19x antenna and receiver located on the HTEM airframe. The Garmin 19x, which is capable of sub five-meter accuracy, was sampled at 10 Hz.

Figure 9 – AgNav main console (left) and Tee-Jet GPS receiver (right).

4.11 RADAR ALTIMETER

The radar altimeter transmitter and receiver antenna were fixed to the rear skids of the helicopter (one antenna on each skid) approximately 36” apart. The coaxial cables were fed through the floor of the helicopter and routed along the floor. Both coaxial cables connected to the controller which was located near the TDEM-2400 control unit. On the output side of the controller (Figure 10 - left) a proprietary 16-bit A/D convertor was connected proving digital input to the TDEM-2400 via RS 232 format. The altimeter signal was also fed into a digital read-out unit (Figure 10 - right) mounted on the dashboard of the helicopter in clear vision of the pilot to provide height above ground navigation.

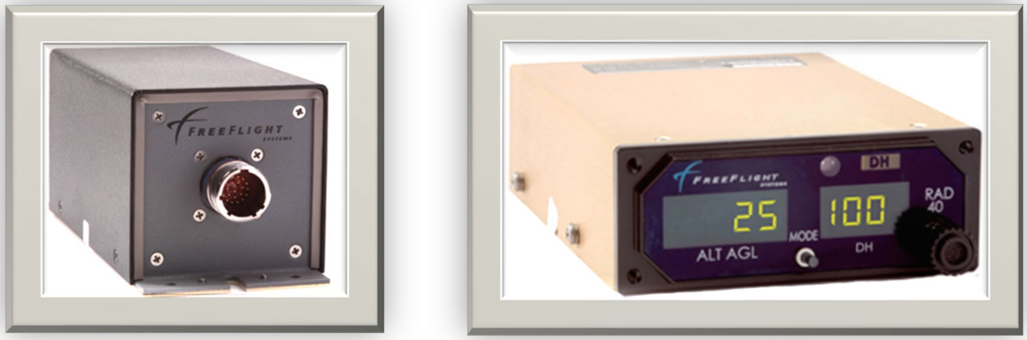

Figure 10 – Free flight radar altimeter controller and digital readout.

4.12 HELICOPTER

The helicopter used (Figure 11) was an AS 350 SD2 with registration C-FJPI, owned and operated by Expedition Helicopters and based in Cochrane, Ontario.

Figure 11 – The survey used an AS 350 SD2.

4.13 PERSONNEL

The following personnel were involved in the survey.

Individual	Position	Description
Nick Greenfield	Pilot	Helicopter pilot
Dan LeBlanc	Operator	Operated/maintained equipment
Stephen Balch	Processing	On-site processing, line-leveling, drift correction, diurnal corrections, tie-line leveling, reporting. Contractor representative
Chris Balch	Mapping	Plotting maps, printing report, folding and binding
Edwin Escarraga	Geologist	Canada Nickel representative

Table 5 – Summary of Personnel.

5.0 DATA ACQUISITION

5.1 HARDWARE

Data was collected through the main console (the TDS-2400, see Figure 12) which contained both the acquisition system and dc-dc power control module (booster circuit) for the transmitter coil. The TDS-2400 has a hardware controller that sets the timing for the four (4) 24-bit A/D converters that sample at 9.48 µs. The controller also generates and transmits the timing control signals to the transmitter driver located on the airframe.

The main controller also performs synchronization between the transmitter and receiver and all ancillary information (GPS, MAG, EM, RAD ALT). The ancillary information is digitized and stored at a rate of 10 Hz. The resulting data string is transmitted to a laptop computer and stored on an internal hard drive.

Figure 12 – Triumph TDS-2400 EM console and acquisition system.

5.2 SOFTWARE

A rugged laptop computer running the Windows 10 operating system controls the incoming data stream from the TDS-2400. The software on the laptop (AirDAS) is capable of real-time acquisition with no data loss from 25 Hz to 300 Hz for a duty cycle that can vary from 10% to 50% (nominally set at 33%).

During the survey the Operator can monitor the incoming differential GPS data, radar altimeter, magnetometer and all EM profiles.

After each flight data is copied from the laptop internal hard drive onto a memory stick. While there is no limit on the maximum file size during acquisition, the processing software can only process up to five (5) continuous hours of recorded data. For longer flights the data can be broken into two files.

5.3 CALENDAR

Data was acquired over a 1-day period (Table 5). Mobilization occurred on May 26th from Rockwood, Ontario to Cochrane, Ontario and then to the Cedar Meadows in Timmins on May 28th. Assembly of the system took place at Expedition Helicopters outdoors on May 28th. Production commenced the next day on May 29th (4 flights). A fuel cache of drum fuel was placed at the Cedar Meadows Resort located about 12 km west of the survey area. The system was flown back to Cochrane and disassembled, and electronics removed from the helicopter on May 30th and demobilization occurred on May 31st and June 1st.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				May 26	May 27	May 28
				MOB	MOB	Assemble
May 29	May 30	May 31	June 1			
FL-01 FL-02 FL-03 FL-04	Disassemble	DEMOB	DEMOB			

Table 6 – Time schedule of the survey.

6.0 DATA PROCESSING

Preliminary data processing is performed using BECI proprietary methods. This includes compensation, filtering and line leveling of the HTEM data. This also includes calculation of the vertical magnetic gradient, analytic signal, digital terrain model, bird height, and merging of the base station magnetic data (sampled at 1.0 sec) with the survey data (sampled at 0.1 sec).

6.1 NAVIGATION

The helicopter pilot uses "ideal" flight lines as guidance during surveying as displayed on the real-time AgNav system with the aid of a helicopter mounted GPS. A separate GPS mounted to the bird is used to record actual position. The sample rate of the GPS is 10 Hz, the same as the EM, MAG and ancillary data collected in flight.

The GPS unit outputs both latitude, longitude and easting, northing values, all in the WGS-84 Datum, using a UTM Projection. The positional data is not filtered but occasional bad data points are interpolated using a linear algorithm.

6.2 TERRAIN CLEARANCE

The radar altimeter is located under the base of the helicopter. The helicopter mounted radar altimeter is used to maintain terrain clearance by the pilot. A digital indicator is mounted on the dashboard of the helicopter. This installation is approved by a licensed helicopter engineer provided by the helicopter operator.

6.3 EM DATA PROCESSING

The EM data is processed using BECI proprietary software designed to compensate, filter and level both the off-time and on-time data.

The first step in processing is to determine the transmitter shut-off time and align the time gates to this position. The length of time that the transmitter is on is known as the on-time. The time gates are logarithmically spaced in the off-time and linearly spaced in the on-time.

The second processing step is the calculation of the system background transient. This is done at a suitable flight height, nominally 1,000 feet or higher. During this time EM data is collected for a period of 50 seconds and averaged into a single background transient. This is subtracted from the transients recorded online.

The third step is to assign the flight line numbers to each data point so that the flight can be separated into flight lines within Geosoft.

Line-leveling and drift-correction are achieved on a flight-by-flight basis using the background transients, recorded at the start and end of each flight.

Filtering the data involves a two-step process. Spikes are removed using an algorithm based on the Naudy non-linear filtering algorithm. This is followed by a 21-point Hanning filter that has the effect of smoothing the profiles over an equivalent distance of approximating twice the nominal flight height.

Micro-leveling of the late time channels is also performed before the data file is written to disk. Conductor picks and Tau time constants are determined at this point as well.

B-field processing of the time channels uses a fully integrated on-time in addition to the integrated off-time (i.e., full waveform). The early off-time channels are evaluated for possible primary field leakage (this involves a compensation filter based on linearly derived correlation between the late on-time and early off-time samples). The exact methodology is considered proprietary.

6.4 MAGNETIC DATA PROCESSING

The magnetic data (i.e., MAG from the airborne sensor and BMAG from the ground sensor) is collected without a lag time (i.e., synchronous with the HTEM data and UTC time), therefore a lag time correction is not applied. In areas where the MAG sensor has become unlocked (e.g., most often during turnarounds), the total magnetic field values are replaced with a dummy value (“*”) and the data is later interpolated in Geosoft.

The raw ASCII survey data files and BMAG ASCII data files are imported into BECI software and merged using UTC time, common to both files. A quality control check of the BMAG data is made on a day-to-day basis.

Diurnal magnetic corrections are applied to the MAG data using the BMAG data. The base station data (i.e., BMAG) is linearly interpolated from a 1.0 sec sample rate to 0.1 sec to correspond to the flight data after the BMAG has been filtered with a 60 second filter.

Once the diurnal field is subtracted from the MAG data, a heading correction is applied, and the resulting total magnetic intensity (TMI) is micro-leveled.

7.0 RESULTS

The total magnetic intensity (TMI) is shown in Figure 13 and the 1st vertical derivative is shown in Figure 14. The anomalous EM response is shown in Figure 15 (early off-time), Figure 16 (early mid off-time), Figure 17 (mid off-time), Figure 18 (mid late off-time), and Figure 19 (late off-time).

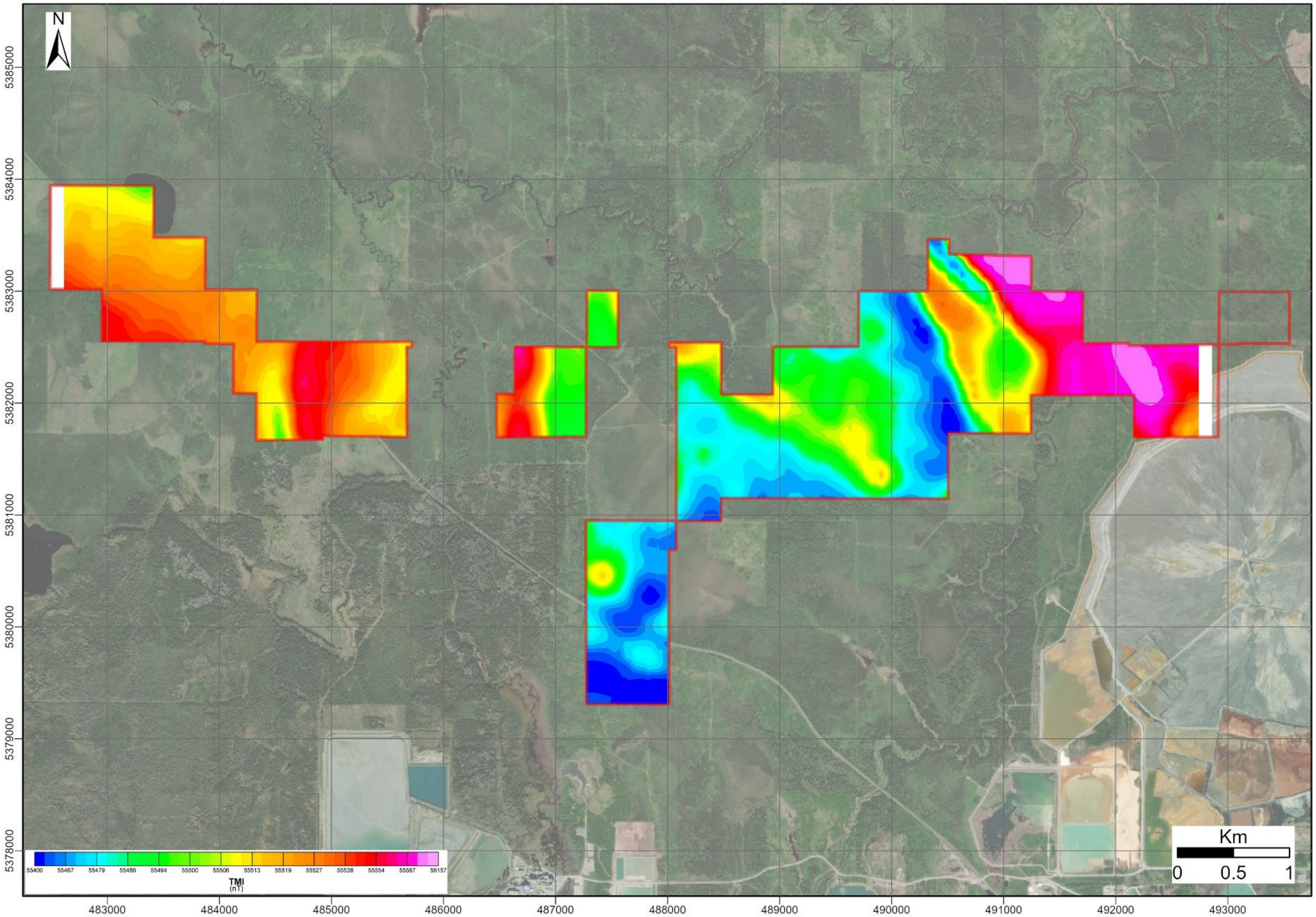

Figure 13 – Shaded image of the Total Magnetic Intensity (TMI) over the surveyed claims.

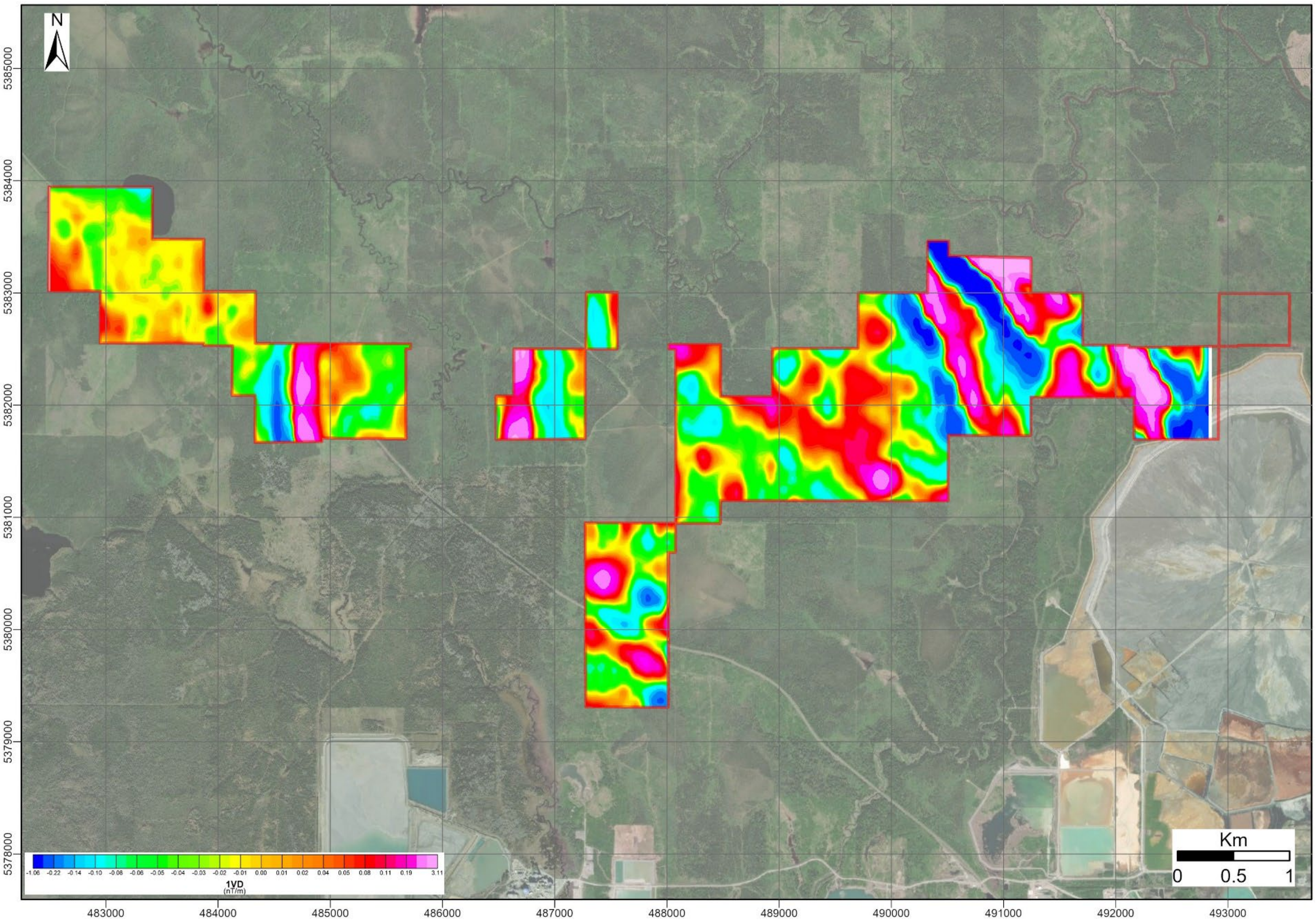

Figure 14 – Shaded image of the First Vertical Derivative (1VD) over the surveyed claims.

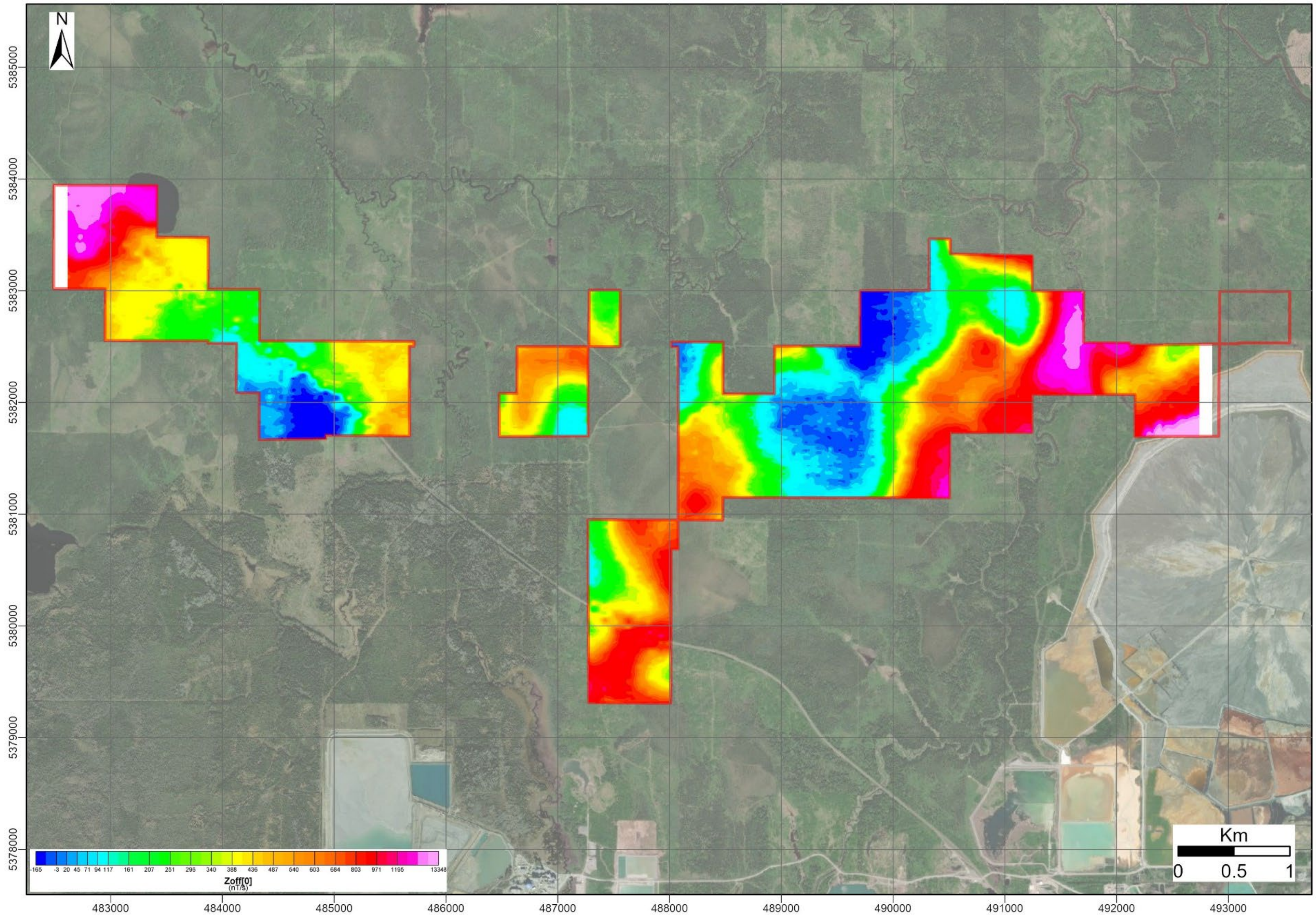

Figure 15 – Image of the Early Off-Time (Zoff [0]) over the surveyed claims.

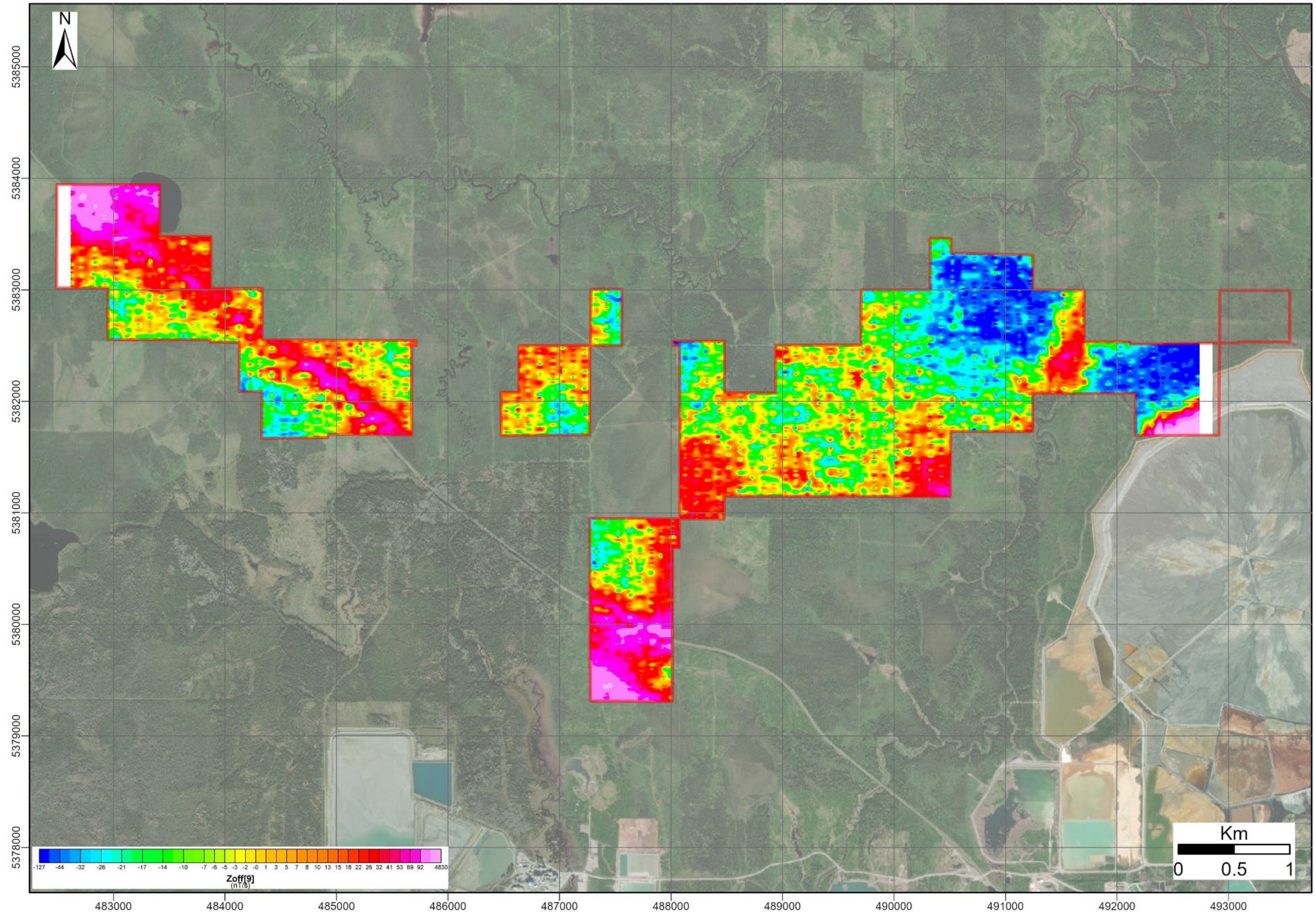

Figure 16 – Image of the Early Mid Off-Time (Zoff [9]) over the surveyed claims.

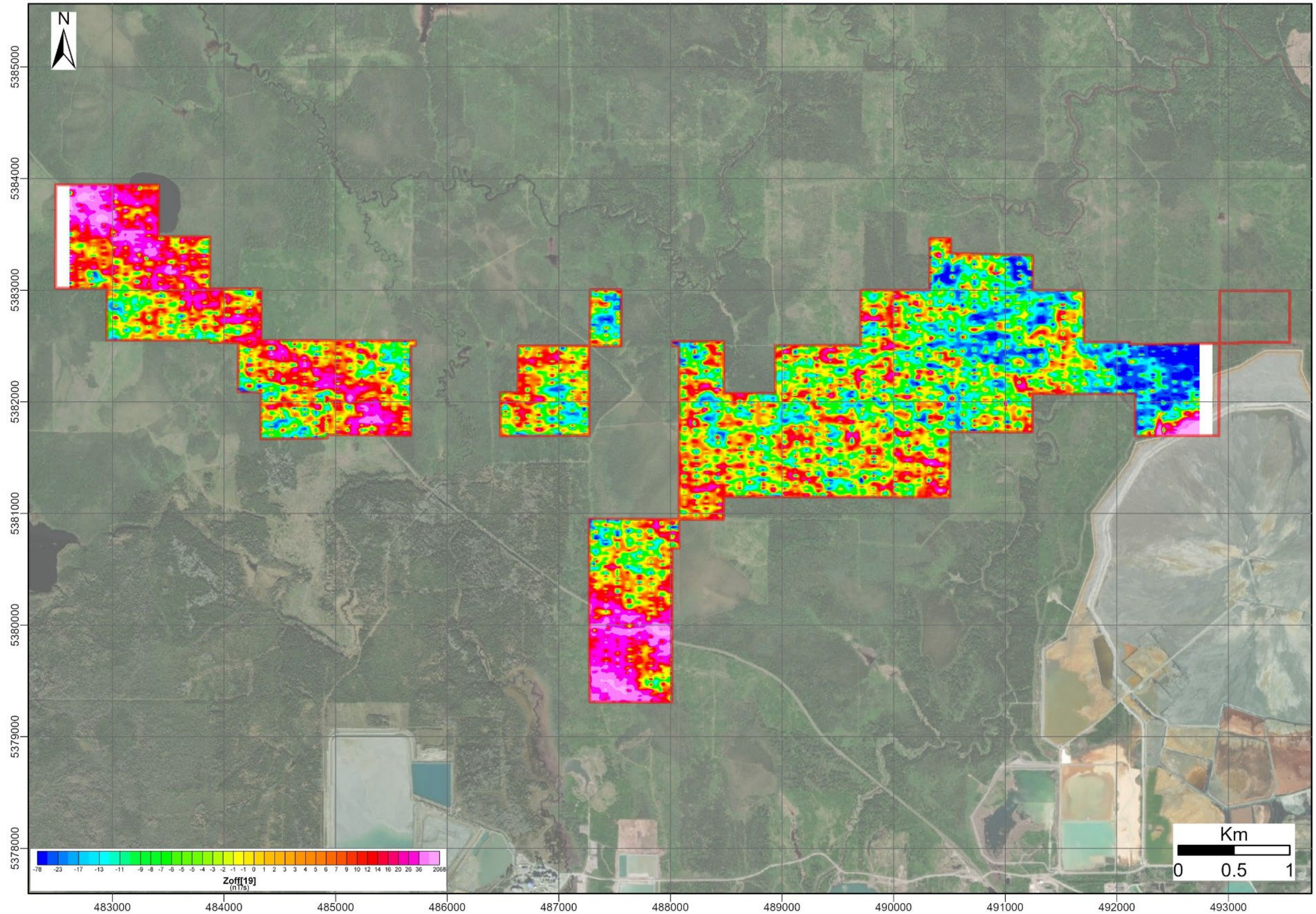

Figure 17 – Image of the Mid Off-Time (Zoff [19]) over the surveyed claims.

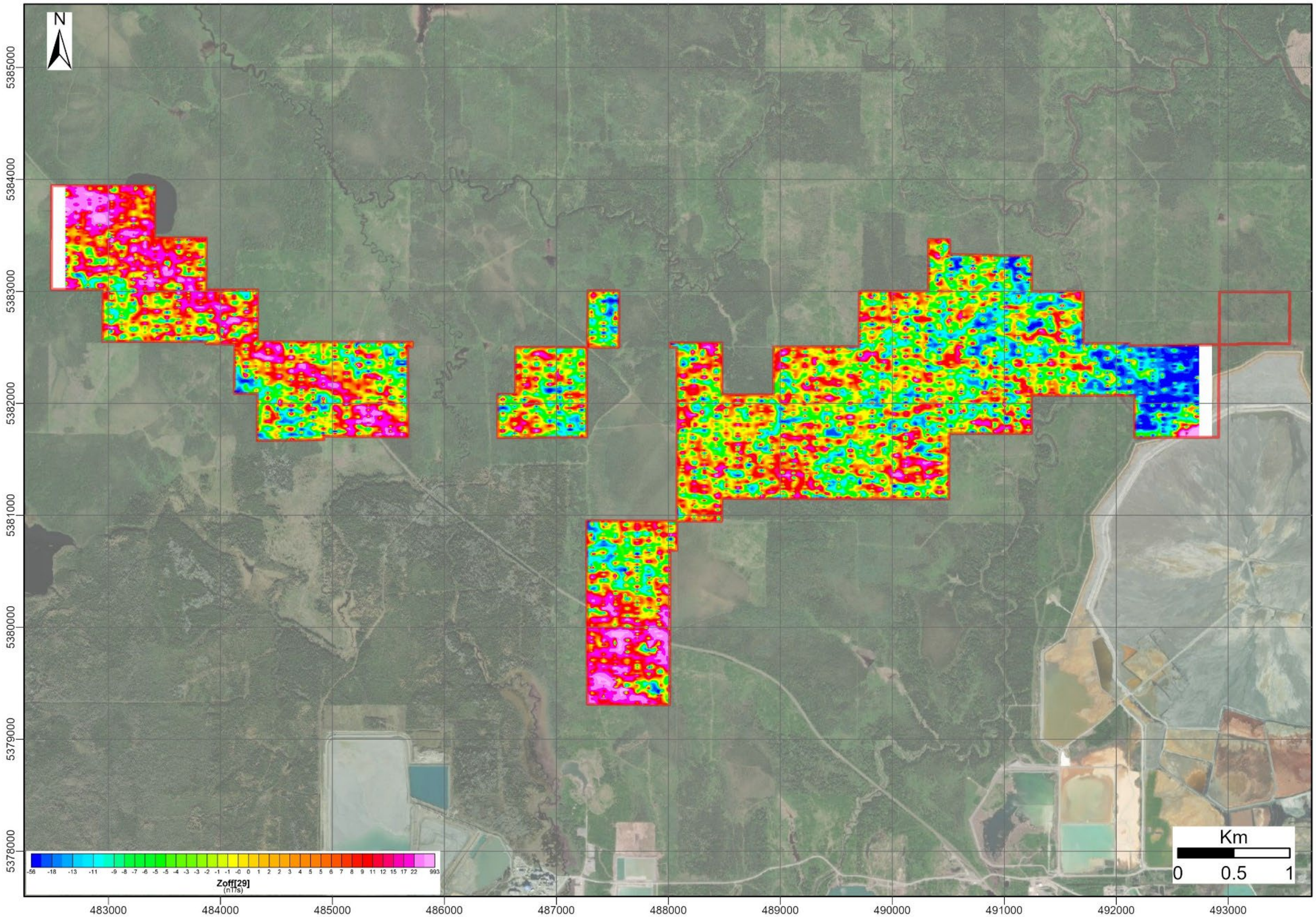

Figure 18 – Image of the Mid Late Off-Time (Zoff [29]) over the surveyed claims.

8.0 QUALIFICATIONS

I, Stephen Balch, do hereby claim the following to be true:

1. I am a professional geoscientist (P.Geo.) in good standing, registered with the Association of Geoscientists of Ontario (#2250),
2. I am a graduate of University of Western Ontario with a degree in Honors Geophysics (1985),
3. I am a practicing exploration geophysicist with more than 37 years experience,
4. I reside at 11500 Fifth Line, Rockwood, Ontario, N0B 2K0,
5. I have no direct interest in the Hoyle Property,
6. I own common shares and have options in Canada Nickel for investment purposes,
7. I prepared this report, and I am solely responsible for its contents.

Dated at Timmins, Ontario on the 27th day of July 2022.

Stephen Balch, P.Geo.
Geophysicist
Balch Exploration Consulting Inc.

I, Edwin Escarraga, MSc., P. Geo, hereby certify that:

1. I am a Senior Geologist employed by Canada Nickel Company, with a business address at 130 King St west. Suite 1900, Toronto ON, M5X 1E3.

2. I graduated with a M. Sc degree of Geology from Acadia University in 2010.

3. I am I am a Professional Geoscientist (P.Geo.) registered with the Professional Geoscientists of Ontario (PGO No. 2859) and I am a member of the Prospectors and Developers Association of Canada.

4. I completed portions of the work described in this report and I am a contributing author of this Technical Report.

5. I am not aware of any material fact or material change with respect to the subject matter of the Technical Report that is not reflected in the Technical Report, the omission to disclose which makes the Technical Report misleading.

Dated on the 27th day of July 2022

Edwin Escarraga

Edwin Escarraga. P.Geo.

Geologist

Canada Nickel Company

APPENDIX A – OUTLINE OF SURVEY POLYGON

Table 6 shows the polygon corners in meters easting and northing, WGS-84 and UTM ZONE 17N.

Table 7 – Corner coordinates for the survey block.

HOYLE WGS-84, ZONE 17
Easting (m), Northing (m)
482600, 5384000
483450, 5384000
483450, 5383500
483900, 5383500
483900, 5383000
484350, 5383000
484350, 5382600
487050, 5382600
487050, 5383075
487500, 5383075
487500, 5383550
488975, 5383550
488975, 5383000
490275, 5383000
490275, 5383500
491200, 5383500
491200, 5384000
492250, 5384000
492250, 5382000
491300, 5382000
491300, 5381600
490800, 5381600
490800, 5380650
488000, 5380650
488000, 5379250
487050, 5379250
487050, 5381200
483950, 5381200
483950, 5380650
482600, 5380650

Category	Date	Invoice #	Subtotal (before taxes)	Description
Consultant	2022-06-03	935-607	$ 20,000.00	Down payment Airborne HTEM Survey (393.9 l-km)
Consultant	2022-06-03	935-608	$ 10,000.00	Mobilization
Consultant	2022-06-03	935-609	$ 10,000.00	Completion of survey (May 9 2022)
Consultant	2022-07-01	935-617	$ 4,498.50	Final Payment

TOTAL	**$ 44,498.50**
60%	$ 26,699.10
$/claim	$ 417.17