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JOHN TERNOWESKY

2023 AIRBORNE GEOPHYSICAL SURVEY REPORT, PART 1
GOLDCREEK PROPERTY
LAURIE, DUCKWORTH, CONACHER AND HORNE TOWNSHIPS
EAST SHEBANDOWAN AREA

THUNDER BAY MINING DIVISION
NORTHWESTERN ONTARIO, CANADA
NTS 52A/12D, 52B/09A, 09H

Work completed by
Geotech Ltd.
from
January 22 to February 1, 2023
For
Property Owner John Ternowesky
132 Robinson Drive
Thunder Bay, Ontario P7A 6G5

Gerald D. White, BSc., P.Geo. **February 4, 2023**

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LIST OF ABBREVIATIONS

AEM	Airborne Electromagnetic Anomalies
Ag	Silver
Au	Gold
BIF	Banded Iron Formation
CEDC	Community Economic Development Corporation
ch	Channel (geophysical term)
cm	Centimeter
°C	Centigrade
Cu	Copper
DDH	Diamond Drill Hole
EM	Electromagnetic (geophysical survey)
Ga	One billion years
GIS	Geographic Information System
GPS	Global Positioning System
GSC	Geological Survey of Canada
g/t	Grams per tonne (Metric ton, 1,000 kg)
ha	Hectare
IP	Induced Polarization
Kg	Kilogram
Km	Kilometer
KV	Kilovolt (electricity grid)
m	Meter
Ma	One million years
MAG	Magnetometer (geophysical survey)
MDI	Mineral Deposit Inventory
MENDM	Ministry of Energy, Northern Development and Mines
mm	Millimeter
MNDM	Ministry of Northern Development and Mines
Moz	Million ounces
NAD-83	North American Datum 1983
NI	National Instrument
Ni	Nickel
nT	Units of Measure (geophysical surveys)
NTS	National Topographic System
OGS	Ontario Geological Survey
Ounce	Troy ounce (used for precious metals) = 31.103 grams
oz	Ounces
Pb	Lead
PGE	Platinum Group Elements
ppb	Parts Per Billion
ppm	Parts Per Million
QAQC	Quality Assurance Quality Control
TAU	Calculated Time Constant (geophysical survey term)
UTM	Universal Transverse Mercator (map projection)
VLF	Very Low Frequency (Geophysical Survey)
VMS	Volcanogenic Massive Sulphide
VTEM	Versatile Time Domain Electromagnetic (airborne geophysical survey)
WAT	Wawa-Abitibi Terrane
Zn	Zinc

1.0 INTRODUCTION

Geotech Ltd. completed a Helicopter-Borne Versatile Time Domain Electromagnetic (VTEM Plus) and Horizontal Magnetic Gradiometer Geophysical Survey for owner, John Ternowesky on the southern and northern portion of the Goldcreek Property from January 22 to February 1, 2023. The property is located in the Shebandowan area, 70 km west of the City of Thunder Bay within the Thunder Bay Mining Division in Northwestern Ontario, Canada (Figure 1 and 2).

Figure 1. Goldcreek Property, Provincial Location Map

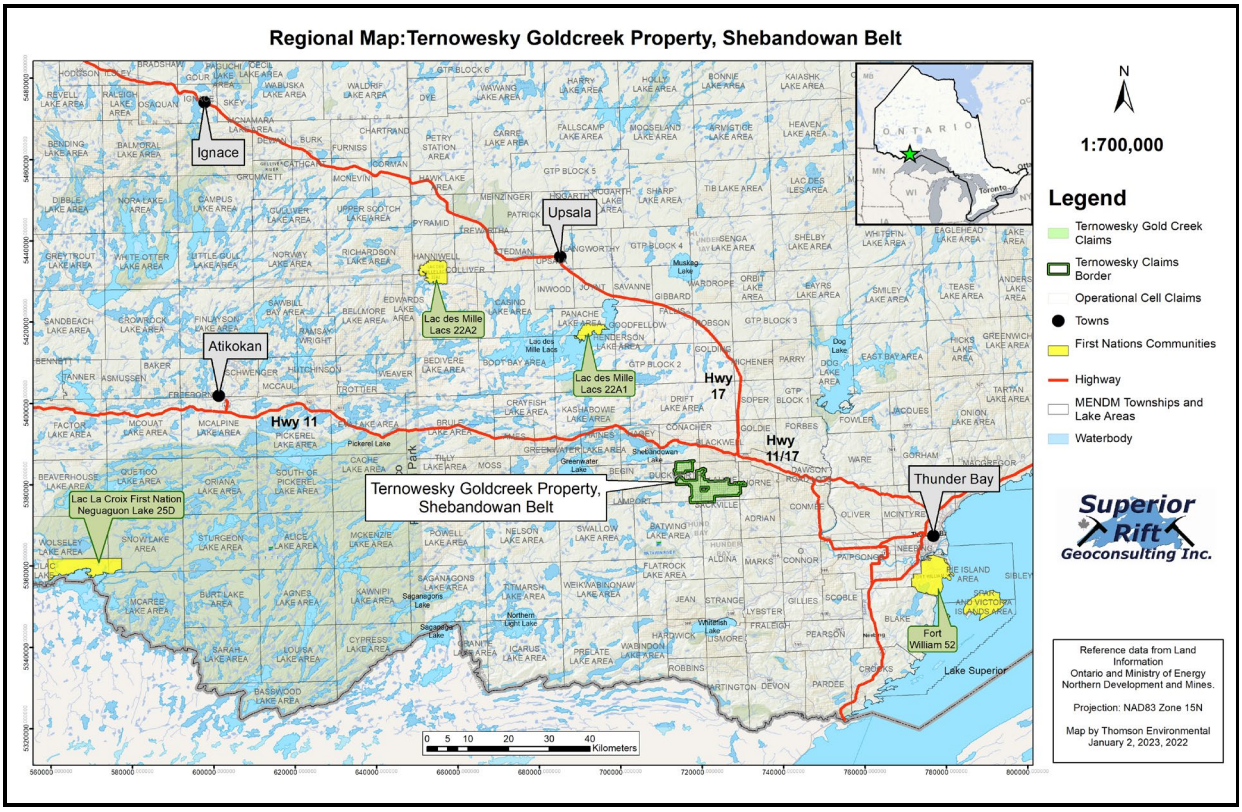

Figure 2. Goldcreek Property, Location Map and Infrastructure

The reporting of the airborne survey work has been separated into two parts for the purposes of submitting assessment work on claims with due dates of 2023-02-07, 2023-02-11 and 2023-04-07. This is being done to prevent the loss of these claims in a very critical high mineral potential area within the Shebandowan Greenstone Belt. Attempts were made to secure a geophysical company to conduct an airborne VTEM-Mag survey over the Goldcreek Property since the beginning of November 2022. Due to the high degree of activity in the industry, lack of experienced workers, the holiday season and weather issues in November and December (down time), we were unable to schedule the survey until January 22, 2023. The Part 2 final report covering the remaining flight lines will be submitted once the entire survey block has been flown.

The Part 1 assessment report includes airborne survey data covering 423.9 line-kms flown over the central and southeast portion of the main southern Goldcreek claim block and 2 lines in the northwest Goldcreek claim block. The southern and northwest blocks are not contiguous. The 2 northwest area flight lines were completed to protect claims with a due date of 2023-02-11 (Figure 3 and 7).

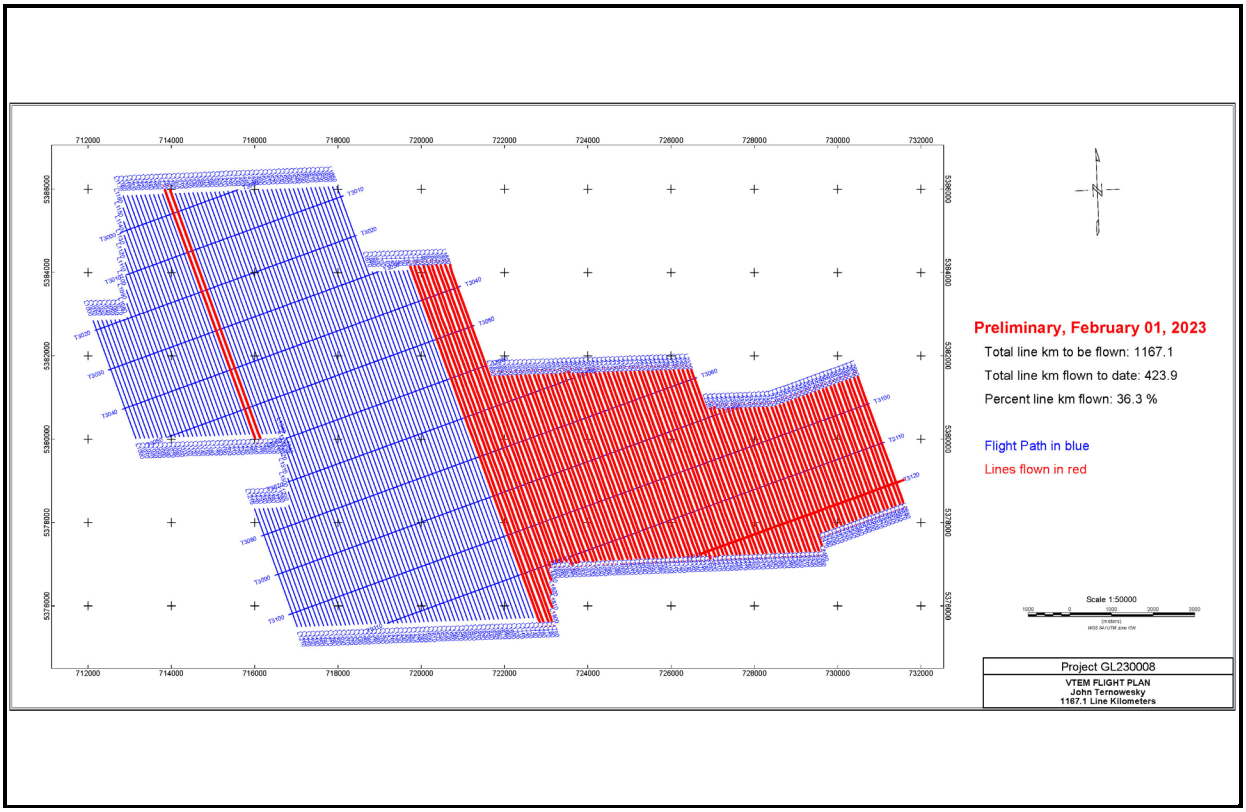

Figure 3. Goldcreek Property, Geotech Flight Line Map, Part 1

2.0 LOCATION AND ACCESS

The Goldcreek Property consists of 348 Cell and Boundary claims in 2 contiguous blocks located approximately 70 km west of the City of Thunder Bay, Ontario (centered on UTM Zone 16, 278765E, 5379704N) (Figure 2). The Trans-Canada Highway 11-17 junction west of the city, lies approximately 7 km north of the property. The western portion of the claim group can be accessed via the all-weather Mine Road-Gold Creek Road south from Highway 11, immediately east of Lower Shebandowan Lake. Access to the eastern portion of the property is by a network of logging roads south from the Highway 11-17 junction.

3.0 CLIMATE AND PYSIOGRAPHY

The climate is typical of northern Ontario, with cold winters and warm summers. Proximity to Lake Superior modifies the climate slightly, with more snowfall and slightly milder winter temperatures than inland regions. The average recorded temperature in the Atikokan-Sbebandowan area over the last 30 years varies from a

low of -21°C in January to a high of 25°C in July. The average precipitation over the 30 years on record ranges from a low of 13 mm in March to a high of 91 mm in June. (*https://weatherspark.com/y/14897/Average-Weather-at-Wawa-Airport-Canada-Year-Round*).

The terrain is typical of glaciated Precambrian shield, with smooth to locally rugged hills separated by ice-gouged depressions along fault zones and areas of softer lithology. Lower-lying areas are occupied by lakes, swamps, or peat- bogs. The mean elevation in the Goldcreek Property area ranges from 400 m to 480 m above sea level. Much of Laurie and Duckworth townships are characterized by a flat to undulating relief. The higher ground tends to have abundant outcrops separated by areas of thin glacial till. The lower ground tends to be covered in thicker till often with a surface layer of organic overburden.

Primary forest is a typical boreal forest dominated by white spruce, black spruce, jack pine, balsam fir, aspen (poplar), birch, eastern white cedar, and tamarack. Tag alders and willows tend to grow thickly along creeks and in swamps. White and red pine, although common in the region, are not observed on the property. Reforested areas are dominated by jack pine. With the fastest growth-rate of the local conifers, jack pine is favored for replanting where future timber harvest is anticipated.

4.0 LOCAL INFRASTRUCTURE

There is a skilled mining-related workforce in the City of Thunder Bay and surrounding area (population 115,064, Statistics Canada Census Data 2021), supplying labor to the area mines and numerous city-based exploration companies, including two fly-in operations north of Thunder Bay (Musselwhite Gold Mine and the Lac des Iles Palladium Mine). These two mines directly employ approximately 850 people, including contractors and temporary employees. Local suppliers, contractors and engineering and geological consulting companies, provide services across Northwestern Ontario and beyond, including mine projects in Red Lake, Rainy River and Marathon. Additional support services include heavy equipment rentals and three full-service assay laboratory facilities. Currently, close to 400 Thunder Bay mine service and supply companies support mining (Thunder Bay CEDC website, Jan. 2023).

Electrical infrastructure includes the existing east-west 230 KV transmission line along Highway 11-17 and the recently completed (2022), 230-kilovolt Nextbridge East-West Tie Transmission line from Wawa to Thunder Bay. (This line will provide additional energy to support new economic growth in the region).

This illustrates that local and regional resources are adequate to supply additional large combined open pit and underground mine developments.

5.0 PROPERTY DESCRIPTION

The Goldcreek Property consists of 348 unpatented cell and boundary mining claims in two distinct contiguous blocks recorded in good standing in the Thunder Bay Mining Division. The claims are located within Laurie, Duckworth, Conacher and Horne Townships west of Thunder Bay in the east Shebandowan Lake area (claim list provided below) (Figure 4).

Claim Numbers:

541221,541222,541223,541224,541225,541226,541227,541228,541229,338975,340415,341659,
541230,541329,541332,541333,556456,556457,556458,556459,556460,556462,556461,105685,
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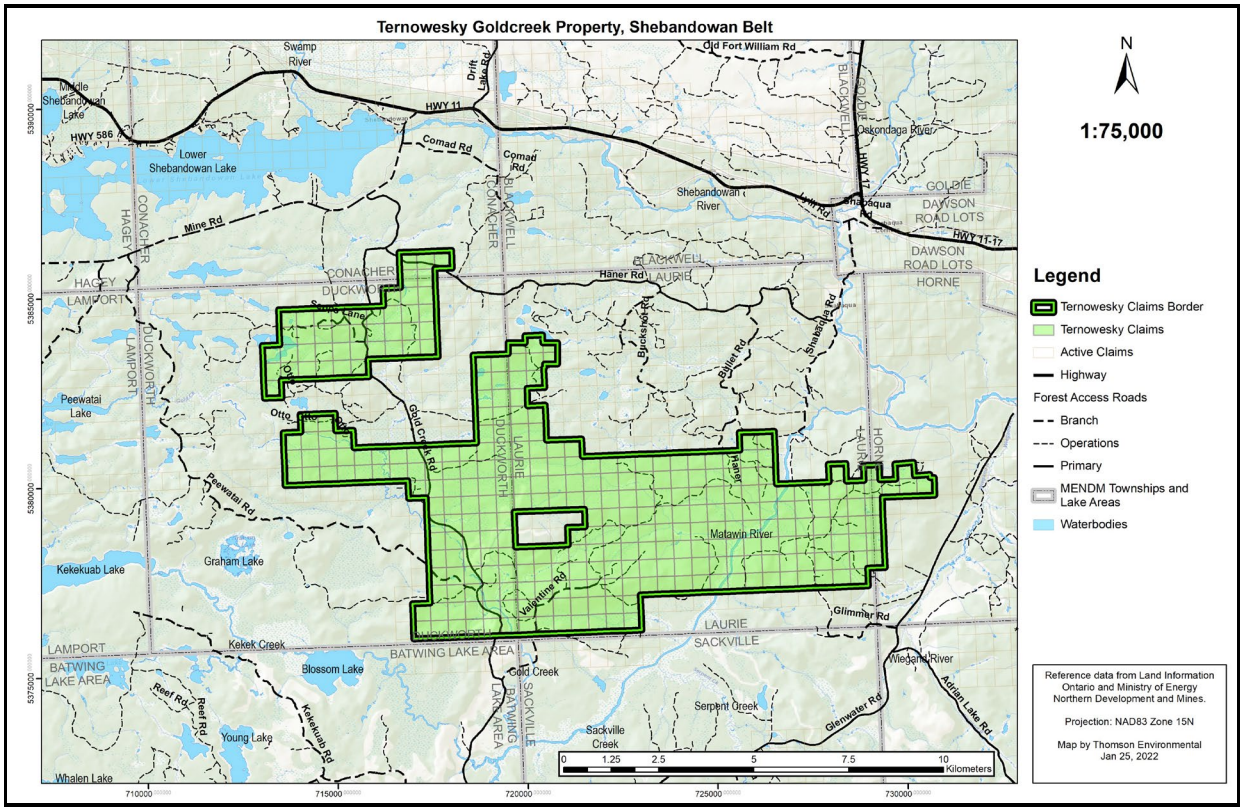

Figure 4. Goldcreek Property, Detailed Claim Map

6.0 GEOLOGICAL SETTING AND MINERALIZATION

The Goldcreek Property is located within the eastern portion of the Shebandowan Greenstone Belt, which is part of the Wawa-Abitibi Terrane (WAT) of the Superior Province in Ontario (Figure 5). The WAT extends west-southwest for approximately 850 km from the Kapuskasing Structural Zone in northeastern Ontario to the Minnesota River Valley area in North Dakota (Osmani 2017). Rocks within these terranes share similar lithological, geochemical and age characteristics, and structural and metamorphic histories (Stott et al. 2010).

The WAT is a typical Archean greenstone-granite terrane consisting of primitive ultramafic to felsic volcanic rocks and associated metasedimentary rocks, intruded, and enclosed by granitoid rocks of similar age. It is bounded to the north and west by the Quetico metasedimentary basin or subprovince (Magnus 2019, Stott 2011). The WAT contains a series of greenstone belts of similar age (ca. 2.95 to 2.68 Ga) hosting gold, nickel, and zinc deposits. In Northwestern Ontario, these deposits include the Hemlo Gold Mine at Marathon and past producers; the Geco VMS (Cu-

Zn) Mine at Manitouwadge, the Shebandowan Ni-Cu Mine and the Winston-Pick Lake VMS Zn-Cu Mine north of Schreiber.

The Shebandowan Greenstone Belt extends 150 km west from Thunder Bay to Quetico Provincial Park and the Ontario–Minnesota international border. It has an arcuate shape and is bordered by the Quetico Subprovince to the north. The Shebandowan Greenstone Belt contains a succession of supracrustal rocks and associated intrusive equivalents, and has undergone several deformation and intrusive events. Geochronological data and previous geological studies have defined 3 main supracrustal assemblages: the Greenwater assemblage (circa 2720 Ma), the Kashabowie assemblage (circa 2695 Ma) and the Shebandowan assemblage (circa 2690 to 2680 Ma) (Ratcliffe 2018, Corfu and Stott 1998).

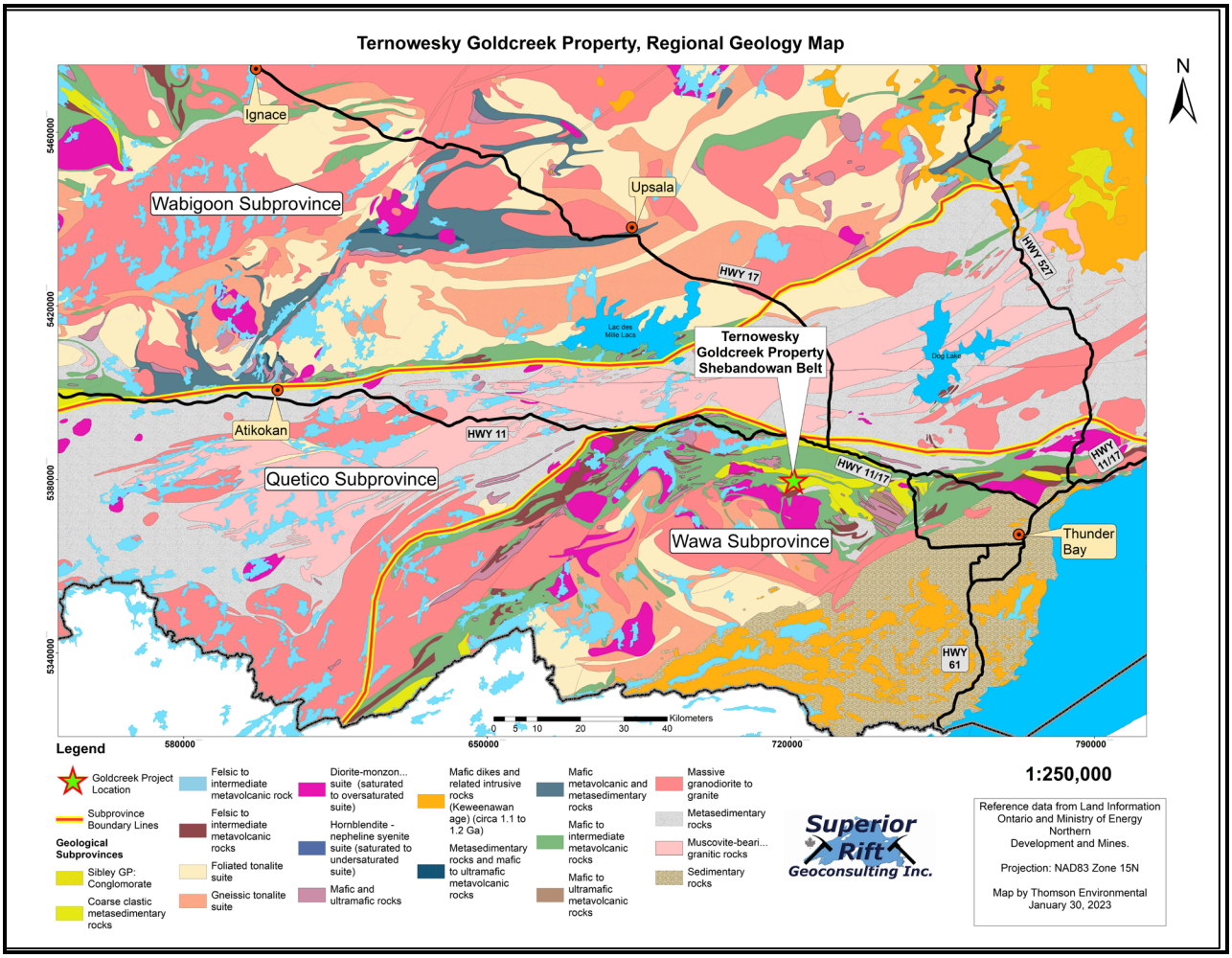

Figure 5. Goldcreek Property, Regional Geology

Much of the following description has been taken from Leonard and Ilieva (2008).

The Goldcreek Property lies within the Shebandowan Greenstone Belt which forms an east-west trending volcano-sedimentary stratigraphy with some mafic to felsic intrusives (Figure 6). Mafic volcanic-tuffs, gabbroic intrusions and metasediments occupy the north portion of the property and a wide area of felsic to intermediate metavolcanics, tuffs and pyroclastics covering most of the southern portion. The region has undergone a lower to middle greenschist facies degree of regional metamorphism developing chlorite schists, especially with the mafic to intermediate tuffs and quartz sericite schists within the felsic volcanics rocks. The intrusive bodies have created metamorphic halos that have upgraded the metamorphism to an upper greenschist to lower amphibolite facies.

Structurally, the local area occurs within a syncline where the stratigraphy trends east-northeast with steep but variable dips. A major fault structure, called the Crayfish Creek Fault, crosses the area in an east-southeast direction through the northern portion of the Goldcreek Property. The western section of this structure hosts known gold mineralization on the property.

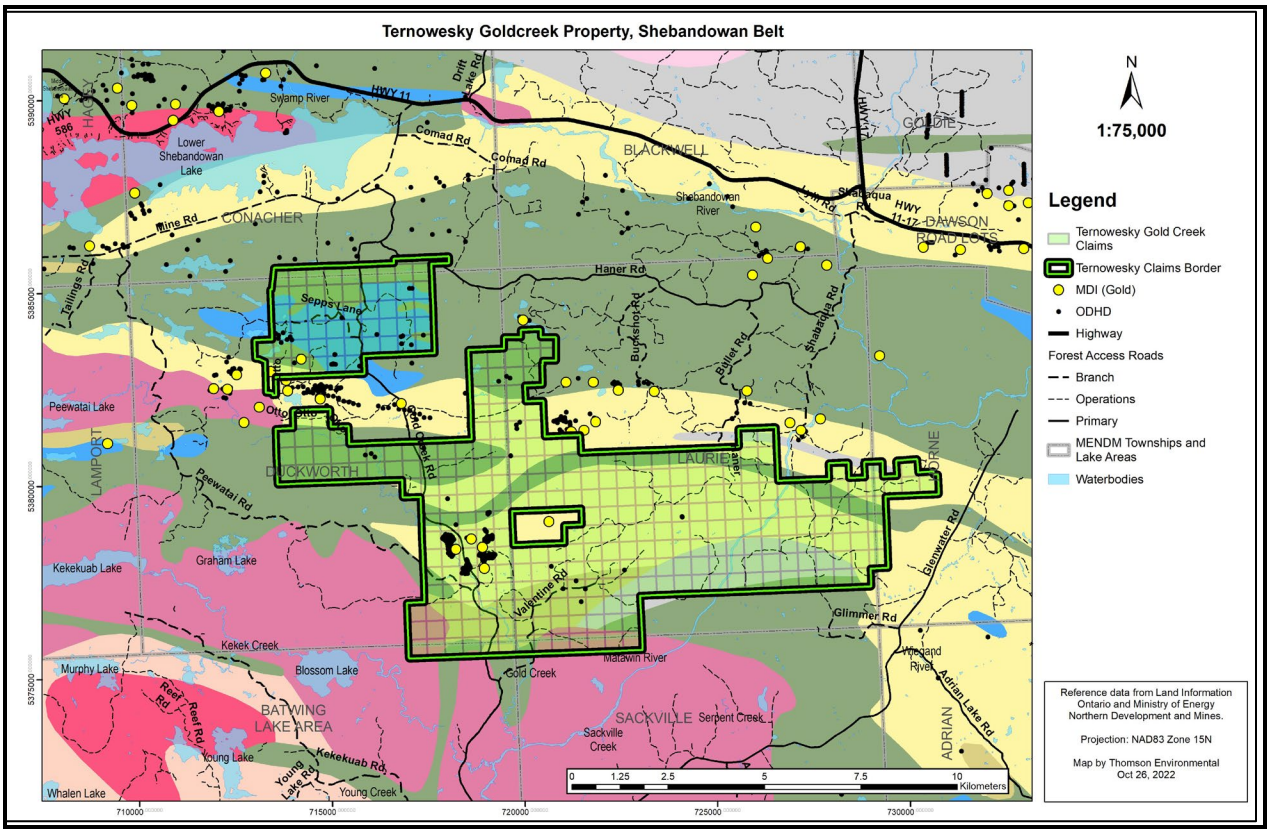

Figure 6. Goldcreek Property, Bedrock Geology and Mineral Compilation

Key Mineral Occurrences

Historical exploration over the Goldcreek Property has defined 3 main zones; the I-Zone along the southern boundary of the northwest claim block, and the southern and central zones located within the main southern claim block. The South Zone area also includes the North Zone and the Ternowesky or T-Zone.

- **I-Zone:** The I-Zone area lies partially within the southern portion of the Goldcreek northwest claim block and in the 'gap' between the two claim blocks. Gold mineralization is associated with syenitic, quartz-syenite to granodioritic dikes intruding argillaceous-banded iron formations. The dikes are 1.0 m to 5.0 m wide and exposed along strike for 10 m to 60 m hosting ladder like quartz veins. Mineralization includes 2% to 15% pyrite, 2% to 3% galena and gold. Gold grades as high as 116.0 g/t Au were obtained in sampling (Leonard and Ilieva 2008, Litchtblau 1997).
- A total of 26 syenite, granodiorite and monzodiorite dikes were discovered in the area from historical exploration work. Dike 10 and 10a have been intermittently stripped and trenched by previous exploration activities over a distance of 900 m. Nine dikes in the area have provided excellent results. Grab samples from dike 10 assayed 116.0 g/t Au. Dike 5 assayed 51.2 g/t Au. Dike 3 assayed 33.9 g/t Au. Dike 26 assayed 20.9 g/t Au. Dike 10a assayed 18.2 g/t Au. Dike 20 assayed 5.98 g/t Au. Dike 9 assayed 4.46 g/t Au. Dike 6 assayed 1.75 g/t Au and dike 17 assayed 1.73 g/t Au (Litchtblau 1997). Approximately 5.0 km east of the I-Zone and Dike 10 is dike 12, which assayed 19.9 g/t Au (Leonard and Ilieva 2008).
- Diamond drilling by Landore Resources Inc. at the I-Zone in 1995, intersected 3.92 g/t Au over 41 m (Hole 95-04) and illustrated the distribution of the mineralization within the syenite dyke.
- In 1987 and 1988 Inco Gold completed stripping and channel sampling of the syenite dikes and performed 1144 m of diamond drilling. The surface sampling and drilling of the I-Zone (Dike 10) by Inco indicated mineralization along a strike length of 250 m and to depths of 150 m. Some of the best results include 3.28 g/t Au over 14.60 m and 4.91 g/t Au over 5.64 m. Additional surface work conducted by HELM Resources Inc. in 2006 at the I-Zone, confirmed the mineralization in the dikes. Sample GC-1 assayed 6.46 g/t Au over 0.30 cm (Beauregard et al. 2006). The mineralization appears to strike over a distance of 1.0 km from the surface sampling and drilling (Litchtblau 1997).

- **South Zone:** The South Zone is located in the west-central portion of the main southern Goldcreek claim block. In addition to the South zone, this area includes the Ternowesky Zone (T-Zone), the North Zone and the Creek Zone.
- In 1988, Inco completed limited drilling to test certain targets at the South Zone and intersected 0.7 g/t Au over 39.0 m and 1.63 g/t Au over 7.5 m. The company performed surface sampling over an area of 14.0 m by 22.0 m and collected 63 grab samples, resulting in an average assay of 0.64 g/t Au. The historical work by Inco (1988) and by HELM Resources in 2006, indicates the South Zone occurs in a series of well-foliated felsic volcanic tuffs and local units of felsic pyroclastic rocks (Leonard and Ilieva 2008). Surface samples collected by HELM in 2006 from the quartz-sericite schists at the South Zone, assayed 1.29 g/t Au, 0.46 g/t Au and 0.35 g/t Au (Beauregard et al. 2006).
- In 1988, 400 m north of the South Zone, Inco discovered the North Zone and conducted stripping, trenching and sampling of the outcrops in the area. The mineralization appears to be of similar in style to the South Zone. It consists of pyritic quartz-sericite schists, sericitized felsic tuffs, with some chlorite – amphibolitic sections and cherty tuffs up to 7.0 m in thickness and locally felsic pyroclastics. Channel sampling by Inco returned an average grade of 3.02 g/t Au over 2.43 m along a strike length of 54.9 m and assays up to 4.25 g/t Au over 2.90 m. Grab samples collected by HELM Resources in 2006 over the same area returned 3.83 g/t Au and 0.71 g/t Au (Leonard and Ilieva 2008).
- Historical exploration conducted by prospector J. Ternowesky in the 1980's, located the Ternowesky Zone (T-Zone) approximately 400 m northwest of the South Zone. The style of mineralization at this occurrence is very similar to the South and North Zones, consisting of felsic, silicified, sericitized, pyritic schists, felsic volcanic tuffs and some coarser felsic pyroclastics containing 0.5% to 2% disseminated pyrite. Strongly oxidized local zones were also uncovered by the Ternowesky group containing up to 8% sulphides consisting of 5% to 7% pyrite, 1% to 2% galena and trace amounts of chalcopyrite and sphalerite (Leonard and Ilieva 2008). Sampling by HELM Resources in 2006 over this area returned assay values of 293.52 g/t Au (8.5 oz/t), 1090 g/t Ag, 0.81% Pb, 0.07% Cu and 0.04% Zn; 2.67 g/t Au, 0.03% Pb and 0.08% Zn and 0.71 g/t Au, 0.05% Pb and 0.10% Zn (Beauregard et al. 2006).

- **Central Zone:** The Central Zone is located in the east central portion of the main southern Goldcreek claim block. In 2007, Mengold Resources Inc. optioned the Goldcreek Property from prospector and owner John Ternowesky. The company completed an extensive basil till geochemical

survey over the Center Zone in south-central Laurie Township. A total of 64.835 line-km was surveyed and 3,287 samples collected and analyzed for gold and base metals. The survey revealed two broad gold geochemical anomalies 200 m to 300 m wide by 1.2 km long and a very broad 500 m to 1.2 km wide by 3.1 km long copper anomaly. Assay results from the basal till samples ranged as high as 362 ppb Au (Scodnick 2008).

7.0 EXPLORATION HISTORY

The mineral potential of the Shebandowan area is considered high, based on the increased global demand for mineral resources together with extensive exploration activity currently underway across the belt. One of the major players, Goldshore Resources Inc., is in the second half of a 100,000 m diamond drilling program on the Moss Lake Project and recently (Nov.15, 2022) announced an Inferred Mineral Resource Estimate for the property of 121.7 Mt @ 1.1 g/t Au (4.17 Moz) (Goldshore website, Feb. 2, 2023). Other active exploration companies include Kesselrun Resources Ltd. with a recently completed 23,000 m diamond drilling program on the Huronian Gold Project, White Metal Resources Corp. work (diamond drilling, IP geophysical survey, prospecting and sampling) on the Tower Mountain Gold Property and recent work by the Tashota Resources group on their Echo Ridge (diamond drilling), Larose and Strike Copper properties. Delta Resources Limited on their Delta-1 Property located immediately north of the Goldcreek Property, initiated a second 5,000 m diamond drilling program (Jan. 2023) following up successful results from a fall 2022 program (5.92 g/t Au over 31.0 m from Hole D1-22-18, company news release, October 19, 2022). In 2021, Portofino Resources Inc. completed a 798 m diamond drilling program on their 'Gold Creek' Property which is contiguous to the Ternowesky Goldcreek claims along the northwest boundary. A gold-mineralized zone common to both properties in this area, returned 1.71 g/t Au over 6.95 m (Hole GC-2021-04). Surface grab samples collected by Portofino along the same zone yielded up to 5.12 g/t Au (Campbell et al. 2022).

1895: Gold was first reported and documented by the Ontario Bureau of Mines near the junction of the Matawin River and Gold Creek in the west central portion of the main Goldcreek Property claim block. The occurrence is known as the 'Old Quartzite Gold Mine (location AL61)' and is described as an auriferous, siliceous, pyritic schist. (Chorlton 1987, Coleman 1896). Evidence of the workings at this site can still be observed. During this period, the Matawin Iron Range was being

examined for its iron potential.
1897: McInnes (1899) of the Geological Survey of Canada, conducted mapping over the larger Shebandowan area, including Laurie and Duckwork townships.

1924-1931: Tanton (1926, 1938) of the Geological Survey of Canada, mapped the eastern and western portions of the Matawin Iron Range in the Shebandowan Belt, which included Laurie and Duckworth Townships.

1943-1944: Gunflint Iron Mines Ltd. completed a surface work program of prospecting, channel sampling and 852 m of diamond drilling (12 holes) to test the Matawin iron formation along the northern portion of the Goldcreek Property. Some of the gold mineralization uncovered during this work is located in the general area of the I-zone.

1956-1957: Monpre Mining Company Ltd. explored a block of claims along the Matawin iron formation in northern Duckworth and Laurie townships. Ground geophysics, geological mapping and 3,228 m of diamond drilling delineated 100 million tons of 30% Fe and an open pit mining pre-feasibility plan was prepared (Lichtblau and Larouche 1995).

1958: G. Chilian completed 172 m of diamond drilling in 10 holes on a gold showing (Chilian Occurrence) along the northwest shores of Sand Lake in west central Laurie Twp. Erratic gold values were encountered in the drill core. In 1972 in the same area near Gold Creek, D. Scali and V. Borschneck conducted an airborne magnetometer and electromagnetic geophysical survey and completed 3 diamond drill holes totalling 489 m. No significant gold values were reported.

1961: As part of a much larger regional aeromagnetic survey flown jointly by the Ontario Department of Mines (ODM) and the Geological Survey of Canada (GSC), the entire Shebandowan area was covered and published as 1:63,360 scale maps (ODM-GSC 1962).

1972-1973: T.C. Byrne, the Caltor Syndicate and Noranda Exploration Co. Ltd. carried out ground exploration on the southern part of the property and 1,027 m of diamond drilling was done in search of base metals (MNDM Assessment File No. 52BSE0051).

1973: Fenwick and Weinstock (1973) of the Ontario Division of Mines (Ontario Geological Survey), mapped Blackwell and Laurie Townships.

Early 1980's: Minor exploration was conducted within the volcanic belt in the southern part of Laurie Township for massive sulphide and gold mineralization. In the northern portion Duckworth and Laurie townships the I-zone area lies within the sedimentary belt which has been the focus for iron and gold exploration and is associated with iron formations in this area.

1983-1984: John Ternowesky, D. Walsten and W. Hayne staked a block of claims in east-central Duckworth Township and optioned them to Jalna Resources Ltd. The company conducted ground and airborne geophysical surveys, geological mapping, trenching, sampling and overburden drilling (243 holes). In addition to a soil sampling survey (2,352 samples),18 pits were excavated and 637 m of trenching were completed. The program outlined several gold-mineralized zones with disseminated pyrite in sericitized felsic volcanic schist coinciding with Au-As geochemical anomalies (North, South, Ternowesky and Creek zones). The program outlined a large alteration system with anomalous to sub-economic gold values (Hanych 1984).

At the North Zone, Jalna conducted a trenching program and uncovered an auriferous pyritic-sericite chert unit measuring 1.2 m to 6.1 m wide over a strike of 36.6 m. The channel samples returned values ranging from 1.43 g/t Au to 3.85 g/t Au with a unit average of 1.43 g/t Au over a width of 2.44 m. Grab samples collected along this zone assayed up to 20.9 g/t Au. A second gold bearing horizon, exposed over 54.9 m and consisting of pyritic, sericitic schists and amphibole-chlorite cherty tuffs, averaged 2.73 g/t over 2.44 m (Hanych 1984).

In the South Zone, trenching exposed pyritic sericitic tuffs measuring 3.05 m wide with assays ranging from 0.33 g/t Au to 0.71 g/t Au. The zone is open along strike (Hanych 1984).

At the Ternowesky Zone (T Zone), selected grab samples along a strike length of 12.2 m, returned assay results up to 32.34 g/t Au and 267.45 g/t Ag. Samples also indicated the presence of sphalerite and galena assaying up to 0.31% Zn and 0.02% Pb. Grab samples collected of vein material within pyritic, sericite schists in the same horizon, assayed up to 92.30 g/t Au and 1268.83 g/t Ag (Hanych 1984).

At the Creek Zone, Jalna outlined two parallel anomalous gold zones from overburden drilling. The zones identified are 274 m long by 91 m wide and the second is 488 m long by 91 m wide. Basal till samples within the zones ranged from 230 ppb Au to 2,200 ppb Au in the -250-mesh fraction (Hanych 1984).

Jalna Resources Ltd. also completed ground magnetometer and IP geophysical surveys over the Goldcreek Property. Results of the survey indicate high magnetism associated with mafic and ultramafic metavolcanics and associated intrusive rocks. The best IP anomalies were correlated with the pyritized felsic volcanics and felsic tuffs, and shear zones between metasediments and felsic metavolcanics trending east-southeast. An airborne magnetic and electromagnetic survey (HEM and VLF-EM) was conducted over the property in 1985. The survey indicated a highly conductive (strong HEM anomalies) sulphide-rich belt striking northeast between Goldcreek and the Matawin River immediately south of the iron formations. Two other strong HEM conductors occur north of the iron formation and within the metasedimentary–metavolcanic sequence (MNDM Assessment File No. 52A12SE8101).

1984-1985: Anaconda Canada Exploration Ltd. ("Anaconda") followed up work completed by Jalna Resources with 1117 m of diamond drilling in 13 holes, confirming anomalous gold values over large areas in the I-Zone, South-Zone, North-Zone, Ternowesky Zone and Creek-Zone. The highest gold value obtained from the drilling program between the North Zone and South Zone, was 4.1 g/t Au. Surface sampling over the Ternowesky Zone, consisting of a mineralized 1.0 m wide by 12 m long exposure, returned assay results up to 35.65 g/t Au and 295 g/t Au. Drill hole GC-5 collared at this location, returned 0.77 g/t Au over 1.0 m. At the South Zone, drill hole GC-4 intersected quartz-sericite schists and crystal tuffs grading 277 ppb Au over 43.7 m including two 1.0 m assays of 1.4 g/t Au and 1.2 g/t Au. Also at the South Zone, drill holes GC-10 and GC-13 tested sheared to mylonitized quartz-crystal tuffs, but no significant gold values were obtained. In the Four holes completed along the North Zone (GC-1, GC-2, GC-3, GC-7) intersected sericitized, pyritized felsic tuffs assaying 0.37 g/t Au over 7.0 m, 0.21 g/t Au over 8.9 m, 0.30 g/t over 7.8 m and 0.32 g/t Au over 7.1 m respectively. One sample at this location assayed 4100 ppb Au over 1.1 m (8.1 m depth). Surface sampling along the North Zone returned assays of 0.49 g/t Au to 4.25 g/t Au over widths up to 4.6 m. The Creek Zone was drilled and intersected felsic volcanic breccias with cherts

(containing 5% to 10% pyrite) and sericitized intermediate to felsic volcanic tuffs assaying 0.84 g/t Au over 2.2 m (MNDM Assessment File No. 52A12SE8102).

1985,1987-1989: Noranda Exploration Co. Ltd. completed airborne and ground EM and Mag surveys, selective radiometric and gravity surveys, geochemical sampling, geological mapping and overburden stripping covering much of Duckworth Township (MNDM Assessment File No. 52BSE0038).

1986: Carter (1987) of the Ontario Geological Survey completed detailed mapping of Laurie Township covering the main central portion of the Goldcreek claim group (Geology Map P.3083).

1987-1988: Inco Gold completed prospecting, stripping, trenching and diamond drilling totalling 1449 m, focused on the I-Zone and syenite dikes in the area. The best intersections in holes DDH-74876 and DDH-7487 (Dike #10, I-Zone), consists of a syenite dike cut by quartz veins with visible gold and traces of pyrite and chalcopyrite assaying 4.91 g/t Au over 5.64 m and 3.28 g/t Au over 14.6 m respectively. Late in 1988 Inco conducted stripping and trenching over 15 zones hosting gold mineralization and completed 1754 m of diamond drilling in the same area testing the syenite dyke mineralization (Lichtblau 1995).

1989-1990: Inco Gold constructed a 1 km gravel road to the I-Zone and performed further stripping and trenching, detailed mapping and channel sampling (238 samples) over 46 m of the I–Zone and portions of the surrounding syenite body. The company also completed 1273 m of diamond drilling in 11 holes) on the I-zone and several other zones in the north-central portion of Duckworth Township. The best intersection returned 1.62 g/t Au over 1.85 m in quartz veins hosted by a quartz crystal tuff containing 2% to 3% pyrite. During the year a bulk cyanide test from the channel samples collected on the I-Zone were leached with cyanide over a 110-hour period demonstrating a recovery of 96.2% with an average grade of 1.05 g/t Au. The program by Inco confirmed the significant gold potential of the syenite dykes and surrounding felsic volcanics. (MNDM Assessment File No's. 52B09SE0005; 52BSE0007; 52B09SE0008, 52B09SE0010; 52B09SE0012; 52B09SE0015; 52B09SE0016; 52BSE0006; 52BSE0079; 52BSE0080; 52BSE0083; 52BSE0084; 52BSE0098).

1991: Inco drilled 5 diamond drill holes totalling 369 m on the east side of the

Goldcreek block. The gold mineralization is associated with mineralized (pyrite), altered felsic volcanic tuffs (sericite-fuchsite) cut by quartz-carbonate veining. Hole BH78494 intersected 4.21 g/t Au over 1.04 m. The drilling by Inco failed to extend the mineralization observed at surface with grab samples assaying up to 36.9 g/t Au, chip sampling over 1.3 m assaying 12.0 g/t Au and several other samples collected along the shear zone assaying from 1.0 g/t Au to 13.7 g/t Au (MNDM Assessment File No. 52BSE0078).

1991: The Ontario Geological Survey flew a large regional airborne Mag-EM survey across the central portion of the Shebandowan Greenstone Belt, which included the Goldcreek Property area (Geophysical Data Set 1021).

1995: Rogers (1995) of the Ontario Geological Survey (OGS) completed detailed mapping of Duckworth Township covering much of the western portion of the Goldcreek Property (Geology Map M2621).

1995-1997: Anaconda spent $250,000 in line-cutting, ground geophysics (VLF-EM16 and Magnetic), trenching, stripping, data compilation of Noranda and Jalna Resources work, and two diamond drilling campaigns totalling 914 m.

1995-1997: Ovalbay Geological Services Inc. performed geological mapping, ground geophysical surveys and evaluated the gold and base metal potential of the Goldcreek property. In addition, Ovalbay drilled 9 holes on the Goldcreek property in Duckworth township for Ternowesky-Walsten. No analytical results were reported. In 1996, Ovalbay completed stripping on the Goldcreek property. An area of approximately 100 m by 150 m was exposed revealing a syenite dyke in contact with intermediate metavolcanics. Along the contact, numerous hairline to millimetre thick quartz carbonate veinlets containing trace to 1% disseminated pyrite were uncovered. No analytical results were reported. In 1997 an additional 7 holes were drilled totalling 610 m and analysis of the 1995 diamond drill core was completed. Anomalous gold assays include; 4.32 g/t over 41.0 m; 4.36 g/t over 20.4 m; 4.53 g/t over 14.4 m; and 3.33 g/t over 6.5 m from the I-Zone (Lenard and Ilieva 2008).

1995-1997: Landore Resources Inc. completed a $250,000 exploration program consisting of ground and airborne geophysics, mapping, stripping, channel sampling and diamond drilling on the Goldcreek Property.

On the I-Zone, seven (7) diamond drill holes totalling 304.8 m were completed (July

1995) in order to sample the zone and gain confidence in the grade, style and setting of gold mineralization. DDH No. 95-4, which returned an average grade of 3.57 g/t Au over 41.0 m, was oriented subparallel with the dyke and perpendicular with the ladder veins. Some of the grades are spectacular which demonstrates that bonanzas are possible within this auriferous dyke system. It also demonstrates that gold is found in sub-economic and economic proportions downdip of the I-Zone. This intersection is not indicative of the overall grade of the I-Zone but it is an important feature.

During the winter of 1996 a total of 80 line-km of ground geophysics were completed in the central portion of the property. The ground geophysical surveys (magnetometer and VLF-EM 16) were oriented at locating more precisely some of the major structures known to be present in the surveyed area, namely the north and south contacts of the Timiskaming sediments and the extension of the Crayfish Creek Fault. In May 1996, stripping was completed in the central part of the study area to expose a syenite dyke present within felsic tuff, outside of the Timiskaming sediments.

In May 1996, some 609.6 m of diamond drilling (9 holes) were completed in the southern felsic volcanic belt on 5 different targets, which returned anomalous gold values from surface sampling. Hand stripping and mapping exposed ENE trending syenite dykes intruding well-foliated felsic lapilli breccias. The syenite dyke is exposed across a width of about 70 m. Previous work by Inco (1987) returned grab sample assays of 1.76 ppm Au from the general area. The dykes are undeformed but veined with quartz and fractured, especially near the northern contact. The holes were drilled at the "North Zone" to establish the stratigraphy in the area. Work by previous operators in this area, returned 3.02 g/t Au over an average width of 2.43 m along a 54.9 m strike length in surface sampling. Another three holes totalling 225 m were drilled on the South Zone where a previous drill hole by Inco (DDH # 78411-0) returned assay values of 1.63 g/t Au over 7.5 m. Surface sampling from this zone returned an average of 0.64 g/t Au from 63 samples covering an area of 14 m by 22 m. The last three holes were drilled on new structures (cherty horizon, sericite schist zone, syenite dyke) within the felsic volcanic belt to obtain a cross section of the geology in these areas. These nine holes intersected the appropriate geology, structure and alterations observed from surface. (MNDM Assessment File No. 52BSE0069).

1997: Landore Resources completed a cyanide leach of pulp as a test to study the percentage of extraction by cyanide of the gold content. Conventional assaying (Fire Assay) returned an average of 0.182 opt Au (6.25 g/t Au) from the twenty-two (22)

samples submitted. The Cyanide leach (pulp) assays returned an average of 0.194 opt Au (6.75 g/t Au), showing an increase of 6.6% in the grade. This test also showed that the percentage of extraction by cyanide was over 92%, which confirmed the leach test conducted by Inco in 1989-90 on samples from surface (Larouche, 1997).

2006: HELM Resources Inc. completed a 498 line-km airborne VTEM and total field magnetic survey over the property (MNDM Transaction No. W0640.01332).

2007: Mengold Resources Inc. optioned the Goldcreek Property from prospector John Ternowesky. The company completed an extensive basil till geochemical survey over the Center Zone in south-central Laurie Township. A total of 64.835 line-km was surveyed and 3,287 samples collected and analyzed for gold and base metals. The survey revealed two broad gold geochemical anomalies 200 m to 300 m wide by 1.2 km long and a very broad 500 m to 1.2 km wide by 3.1 km long copper anomaly (Scodnick 2008).

2008: Mengold Resources Inc. and JV partner Solomon Resources Inc., completed a 2212 m diamond drilling program in 13 holes over the I-Zone (8 holes) in north-central Duckworth Township and on the Centre Zone (5 holes) in south central Laurie Township. At the I-Zone, the best results were obtained in holes GC08-11 and 12 which targeted the syenite dykes and returned 6.8 g/t over 4.3 m and 1.47 g/t over 12.5 m respectively. In the Centre Zone, although no significant gold or base metal values were encountered, almost every hole intersected sulphide mineralization consisting of pyrrhotite and/or pyrite with traces of sphalerite, chalcopyrite and galena varying from disseminated to massive (Dufresne 2009).

2019: First Minerals Exploration Ltd. completed a ground VLF-EM geophysical survey over a property in the northwestern portion of Duckworth Township immediately west of the northern Goldcreek claim block. The survey indicated 6 well-defined east-northeast and east-southeast trending conductors along strike from gold occurrences on the Goldcreek Property and the I-Zone. Two of the conductors on First Minerals property are associated with known historical gold showings (MNDM Assessment File No. 20000017220).

2020-2021: Portofino Resources Inc. optioned the First Minerals Exploration Property and several additional multi-cell claim blocks extending from the Ternowesky's Goldcreek property boundary west to Dakota and Tinto Lakes in northwest Duckworth and northeast Lamport Townships. In the fall of 2020, the company completed a prospecting and sampling program involving the collection of

2011 grab samples from their 'Gold Creek' Property. Historical zones were located and sampled, including the historical AH-AF-U Zones, the S1 Zone and the I-Zone. Sampling confirmed anomalous to high-grade gold at each of these zones, including up to 45.6 g/t Au at the I-Zone, from north-south ladder veins in an east-west syenite dike. A new zone (the New Road Zone) in the vicinity of the Crayfish Creek Fault adjacent to the Ternowesky Property, was also uncovered which returned up to 4.07 g/t Au from altered monzonite-syenite with pyrite and quartz stringers (MacLachlan 2021).

Portofino Resources also conducted a 4-holes, 798 m diamond drilling program in early 2021. Drilling tested the New Road Zone discovered in 2020 and the historical S-1 Zone. Grab samples collected from the S-1 Zone during the 2020 prospecting program returned up to 5.12 g/t Au. The diamond drilling results were somewhat disappointing with the best result at 1.71 g/t Au over 6.95 m, including 2.4 g/t Au over 3.36 m, with individual values up to 6.37 g/t Au over 0.43 m. The host rock consists of quartz stringers in mineralized (pyrite, chalcopyrite and galena), strongly potassium-altered and silicified monzonite to monzodiorite dike rock, including a few specks of visible gold (MacLachlan 2021).

8.0 CURRENT WORK

Helicopter-borne VTEM and Magnetic Gradiometer Survey Details

The Goldcreek block was flown in a southeast to northwest (340° azimuth or N 160° E) direction with traverse line spacings of 100 m. Tie lines were flown perpendicular to traverse lines at 1000 m line spacing. A total of 423.9 line-km of geophysical data were acquired during the Part 1 portion of the survey, as explained in the 'Introduction' portion of this report. Two fight lines were also flown in the northwest claim block, which is not contiguous with southern block, to cover 3 claims for assessment purposes with a due date of 2023-02-11.

The crew was based out of Kakabeka Falls, Ontario for the acquisition phase of the survey. Survey flying occurred from January 22 to February 1, 2023. Data quality control and quality assurance, and preliminary data processing were carried out daily during the acquisition phase of the project. Final data processing followed immediately after the end of survey. Final reporting, data presentation, and archiving was completed on February 1, 2023 for the Part 1 portion of the survey.

The geophysical survey consisted of helicopter-borne EM using the versatile time-

domain electromagnetic (VTEM™) plus system with Full-Waveform processing. Measurements consisted of Vertical (Z), In-line, and Cross-line Horizontal (X&Y) components of the EM fields using an induction coil and a horizontal magnetic gradiometer with two caesium magnetometers. During the survey, the helicopter was maintained at a mean altitude of 98 m above the ground with an average survey speed of 80 km/hour. This allowed for an actual average Transmitter-Receiver loop terrain clearance of 50 m and a magnetic sensor clearance of 60 m. Topographically, the survey area exhibits relief with elevations ranging from 377 to 531 m over an area of 44 km^2 and is covered by forest, lakes and occasional wetlands with a few challenging hills and depressions. The Shabaqua Community Road provides access from Highway #11-17 to the eastern portion of the property and the Mine Road-Gold Creek Road provides good access to the western portion of the Goldcreek Property. The Goldcreek claim group lies approximately 70 km west of the City of Thunder Bay and 30 km northwest of the town of Kakabeka Falls.

Coordinates outlining the survey block are given with respect to NAD-83 datum in UTM projection zone 16N. The GPS center point of the claim group is UTM Zone 16, 278765E, 5379704N. The location of the Goldcreek Property claims and survey lines are shown in the attached Geotech report (Page 5, Figure 2).

Work conducted on the Goldcreek Project

The Goldcreek property consists of 348 unpatented cell and boundary claims in two contiguous blocks within Laurie, Duckworth, Conacher and Horne Townships, recorded in good standing in Thunder Bay Mining Division. The Part 1 Helicopter-borne VTEM and Horizontal Magnetic Gradiometer Geophysical Survey covered 164 claims in the central and southeast portion of the southern main block of the Goldcreek Property and 2 flight lines in the northwest block (non-contiguous) (see list below and Figure 7):

108635,111000,111001,112408,112409,114548,122852,122853,122854,133590,133591,136009,
143042,143043,143306,146427,148152,150258,156922,157162,157163,157164,163466,178814,
178815,178816,182185,186218,186219,194545,198373,198374,198375,198376,205725,205726,
209132,217840,223355,223967,223983,229623,229624,235868,244161,244162,253044,254682,
256453,257155,257850,258800,274525,276005,282739,283823,288911,288912,301602,305023,
307120,309043,312620,313412,313886,317397,319031,325334,325335,328456,334741,334742,
338975,340415,343455,343814,343815,343816,541203,541204,541205,541206,541207,541208,
541209,541210,541211,541212,541213,541214,541215,541216,541217,541218,541219,541220,
541221,541222,541223,541224,541225,541226,541227,541228,541229,541230,541231,541243,
541244,541252,541259,541294,541295,541296,541306,541307,541308,541309,541310,541311,

541312,541313,541314,541315,541316,541317,541318,541319,541320,541321,541322,541323,
541324,541325,541326,541327,541329,541332,541333,553231,553232,553233,553234,556451,
556452,556453,556454,556455,556456,556457,556458,556459,556460,556461,556462,557359,
562560,562561,562562,562563,562564,733571,733574,733576

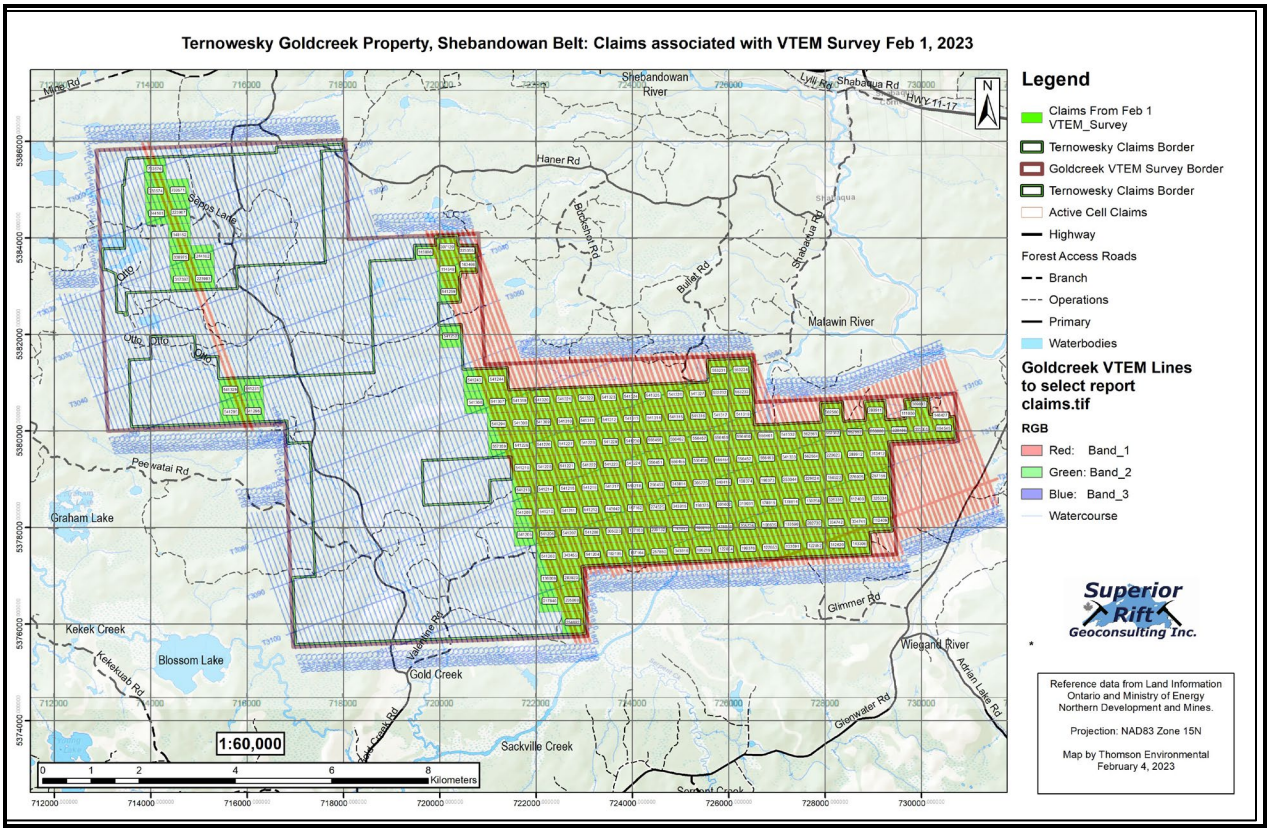

Figure 7. Goldcreek Property, Claims covered by Geotech VTEM Survey, Part 1

9.0 RESULTS AND CONCLUSION

On the Goldcreek claim block, the total area covered is 44 km^2 and the total survey line coverage is 423.9 line-km. The principal sensors included a Time Domain EM system, and a horizontal magnetic gradiometer system with two caesium magnetometers. Results have been presented as stacked profiles, and contour color images at a scale of 1:10,000. A detailed formal interpretation will be included in the Part 2 report, following the completion of the VTEM survey over the entire remaining claim blocks comprising the Goldcreek Property.

The Geotech Helicopter-Borne Versatile Time Domain Electromagnetic (VTEM Plus) and Horizontal Magnetic Gradiometer geophysical survey Part 1, completed by property owner John Ternowesky on February 1, 2023, outlined high-priority targets that may represent base metal (gold-rich) mineralization within the altered

metavolcanic sequences underlying the Goldcreek Property.

Based on the survey results, several geophysical anomalies of interest have been defined on the property. If EM conductors are of interest for the exploration program, it is recommend that EM anomaly picking, and Maxwell plate modelling of EM anomalies of greatest interest be performed prior to ground follow up and drill testing. If targets are nonconductive, more advanced 1D layered earth modelling of the EM data will prove useful in highlighting weakly anomalous resistive and conductive features of interest, both in plan and in cross-section. Magnetic CET structural and lineament analysis as well as 3D MVI magnetic inversions will be useful for mapping structure, alteration, and lithology in 2D-3D space across the property. Finally, it is recommended that more advanced, integrated interpretation be performed on these geophysical data and results further evaluated for future targeting.

The Goldcreek Property is known to be prospective for BIF (Banded Iron Formation) and orogenic shear-hosted gold, and base metal VMS mineralization (Cu, Zn, Pb) related to mafic-felsic volcanic sequence. As a result, both the EM and magnetic results will be useful to the exploration targeting, especially when evaluated against the known geology from the property.

10.0 RECOMMENDATIONS

The discussion on the geological implication of the survey data is minimal in this report. A more general study including information regarding the local geology and all other geoscience data available in the area would be necessary to extract the full potential of the geophysical data and help to confirm and prioritize exploration targets. EM anomalies detected by this survey should be first investigated with basic ground prospecting methods. If significant results are obtained from this work, or if overburden proves too thick for prospecting, it is recommended to use ground resistivity/IP or EM techniques to accurately define targets for stripping, channel sampling and/or drilling.

The implementation of a geochemical soil or basal till sampling program could also help further prioritize outlined anomalies. In addition, considering the possibility that sulphide mineralization may be disseminated and/or non-conductive, the magnetic data could then be used on its own to guide exploration efforts.

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12.0 Statement of Qualifications

AUTHOR'S CERTIFICATE

I, Gerald Dewar White, do hereby certify as follows:

1. I am an independent consulting geologist, and I reside and carry-on business at 28 Hill Street South, Thunder Bay, Ontario, P7B 3T5 under Superior Rift Geoconsulting Inc.;

2. That I have the degree of Bachelor of Science in Geology, 1979, from the University of Manitoba;

3. That I am a member in good standing of the Professional Geoscientists of Ontario (Member No. 0184, effective June 22, 2002)

4. That I have been practicing my profession in Canada continuously since 1979;

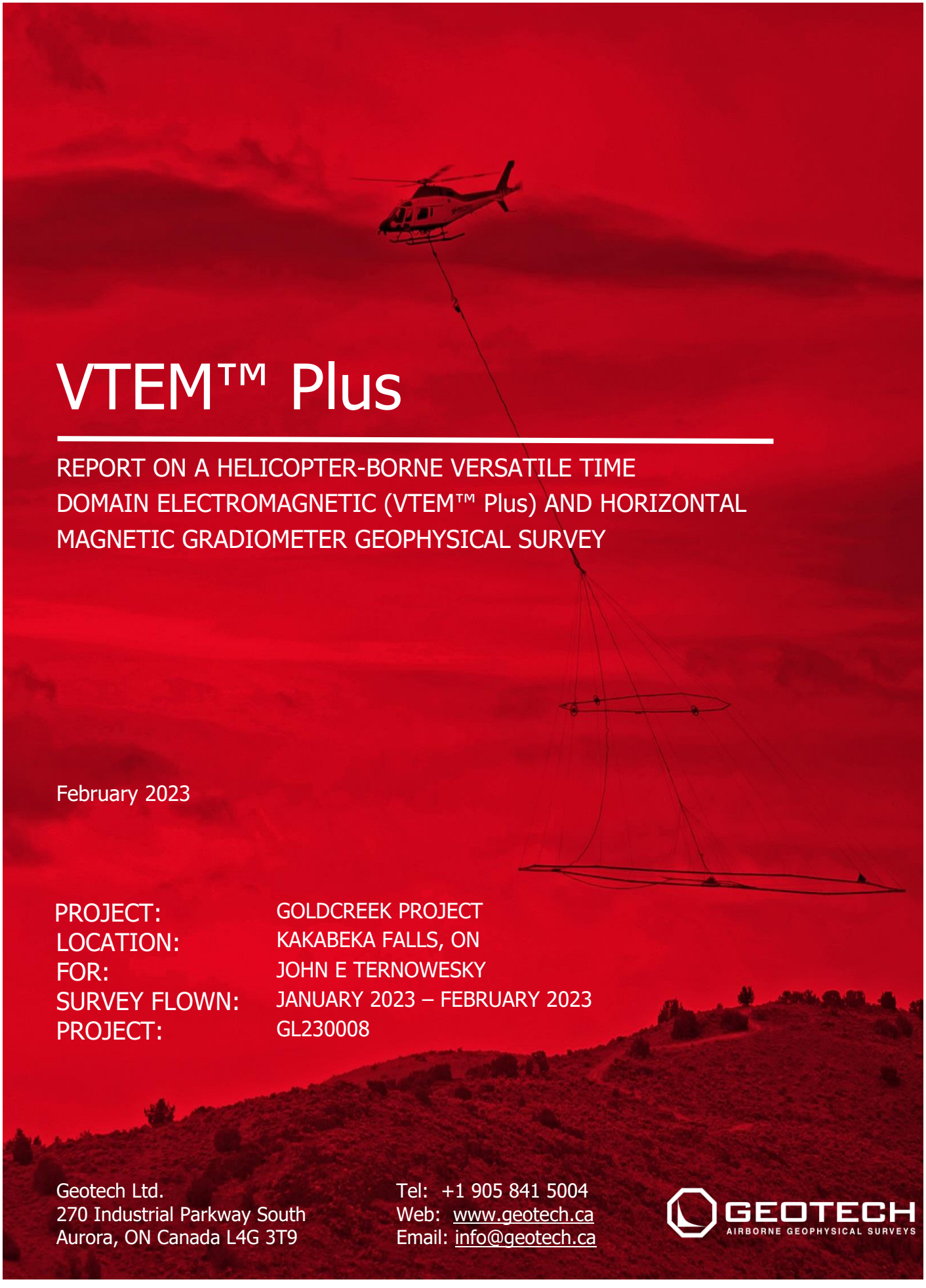
5. That I am the author of a report entitled "2023 Airborne Geophysical Survey Report, Goldcreek Property, Laurie, Duckworth, Conacher and Horne Townships, East Shebandowan Area, Thunder Bay Mining Division, Northwestern Ontario, Canada" prepared for John Ternowesky, with an effective date of February 4, 2023, and that I am responsible for all sections of the Report;

6. That, as at the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Dated at Thunder Bay, Ontario
This 4th day of February 2023

Gerald White, BSc., P.Geo.

13.0 Appendix I: Geotech Ltd. Survey Report, Part 1



VTEM™ Plus

REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM™ Plus) AND HORIZONTAL MAGNETIC GRADIOMETER GEOPHYSICAL SURVEY

February 2023

PROJECT:	GOLDCREEK PROJECT
LOCATION:	KAKABEKA FALLS, ON
FOR:	JOHN E TERNOWESKY
SURVEY FLOWN:	JANUARY 2023 – FEBRUARY 2023
PROJECT:	GL230008

Geotech Ltd.
270 Industrial Parkway South
Aurora, ON Canada L4G 3T9

Tel: +1 905 841 5004
Web: www.geotech.ca
Email: info@geotech.ca

GEOTECH
AIRBORNE GEOPHYSICAL SURVEYS

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EXECUTIVE SUMMARY

GOLDCREEK PROJECT
KAKABEKA FALLS, ON

Between January 26th and February 1st, 2023, Geotech Ltd. carried out a helicopter-borne geophysical survey over the Goldcreek Project, near Kakabeka Falls, ON.

Principal geophysical sensors included a versatile time domain electromagnetic (VTEM™ Plus) system and a horizontal magnetic gradiometer with two caesium sensors. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 424 line-kilometres of geophysical data were acquired during the survey.

In-field data quality assurance and preliminary processing were carried out on a daily basis during the acquisition phase. Preliminary and final data processing, including generation of final digital data and map products were undertaken from the office of Geotech Ltd. in Aurora, Ontario.

The Preliminary processed survey results are presented as the following maps:

- Electromagnetic stacked profiles of the B-field Z Component
- dB/dt Z Component Channel grid
- Total Magnetic Intensity (TMI)

Digital data include all electromagnetic and magnetic products, plus ancillary data including the waveform.

The survey report describes the procedures for data acquisition, equipment used, processing, preliminary image presentation and the specifications for the digital data set.

1. INTRODUCTION

1.1 GENERAL CONSIDERATIONS

Geotech Ltd. performed a helicopter-borne geophysical survey over the Goldcreek Project near Kakabeka Falls, ON (Figure 1 & Figure 2).

John E Ternowesky was the client contact during the data acquisition and data processing phases of this project.

The geophysical surveys consisted of helicopter borne EM using the versatile time-domain electromagnetic (VTEM™) plus system with Full-Waveform processing. Measurements consisted of Vertical (Z), In-line, and Cross-line Horizontal (X&Y) components of the EM fields using an induction coil and a horizontal magnetic gradiometer using two caesium magnetometers. A total of 424 line-km of geophysical data were acquired during the survey.

The crew was based out of Kakabeka Falls, ON for the acquisition phase of the survey. Survey flying occurred on January 26th to February 1st, 2023.

Data quality control and quality assurance, and preliminary data processing were carried out on a daily basis during the acquisition phase of the project. Preliminary data processing followed immediately after the end of survey. Preliminary reporting, data presentation, and archiving was completed in February 2023.

Figure 1: Survey location

1.2 SURVEY AND SYSTEM SPECIFICATIONS

The survey area is located approximately 45km northwest of Thunder Bay and 23km northwest of Kakabeka Falls, ON (Figure 2).

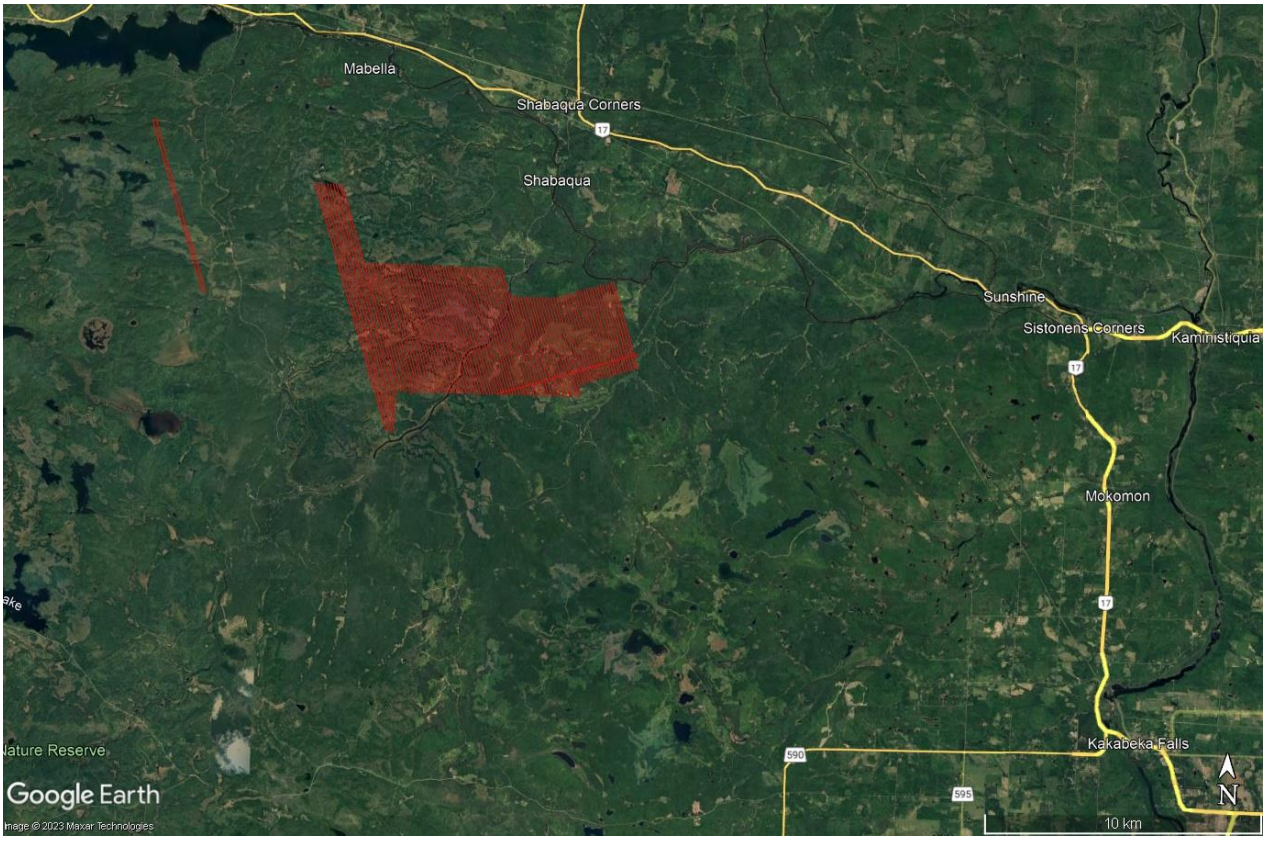


Figure 2: Survey area location map on Google Earth.

The Goldcreek Project was flown in a northwest to southeast (N 160° E azimuth) direction with traverse line spacings of 100 meters as depicted in Figure 3. Tie lines were flown perpendicular to traverse lines at 1000m line spacing. For more detailed information on the flight spacings and directions, see Table 1.

1.3 TOPOGRAPHIC RELIEF AND CULTURAL FEATURES

Topographically, the survey area exhibits relief with elevations ranging from 377 to 531 metres over an area of 44 square kilometres (Figure 3).

There are visible signs of culture such as roads and powerlines. within the Goldcreek project area. There are rivers and lakes within and around the survey area as well.

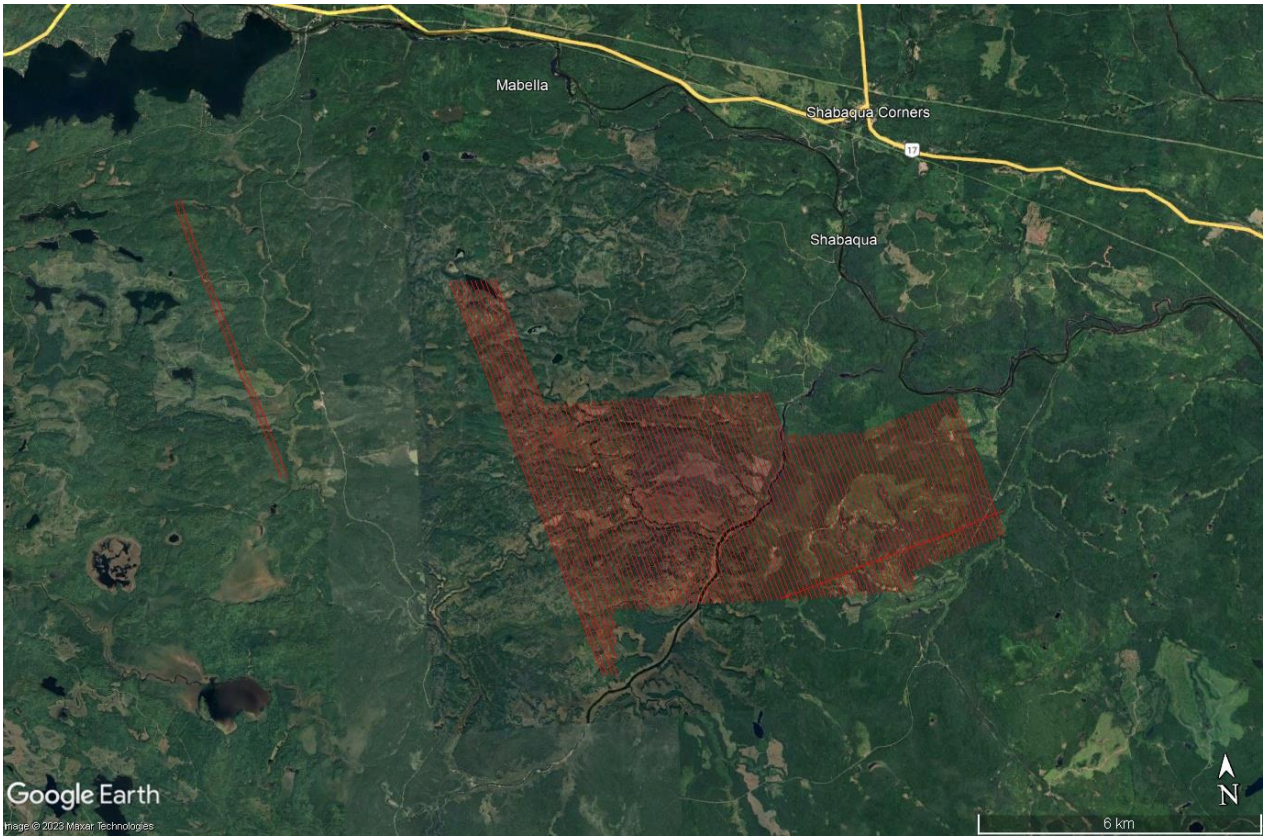


Figure 3: The Goldcreek Project flight path over a Google Earth Image.

2. DATA ACQUISITION

2.1 SURVEY AREA

The survey area (see Figure 3 and Appendix A) and general flight specifications are as follows:

Table 1: Survey Specifications

Survey block	Line spacing (m)	Area (Km^2)	Planned Line-km	Actual[1] Line-km	Flight direction	Line numbers
Goldcreek	Traverse: 100	44	1167	424	N160°E / N340°E	L1270&L1280 L1760-L2680
	Tie: 1000				N70°E / N250°E	T3120
TOTAL		44	1167	424		

Survey area boundaries co-ordinates are provided in Appendix B.

2.2 SURVEY OPERATIONS

Survey operations were based out of Kakabeka Falls, ON. The following table shows the timing of the flying.

Date	Comments
22-Jan	Mobilization. Weather Day
23-Jan	Mobilization
24-Jan	Mobilization
25-Jan	Weather Day
26-Jan	Test Flight
27-Jan	Weather Day
28-Jan	One Production flight – 6.02 km flown
29-Jan	Two Production flights - 27 km flown
30-Jan	Two Production flights – 6.0 km flown
31-Jan	Two Production flights – 187.84 km flown
01-Feb	Two Production flights – 198.12 km flown
02-Feb	Data Acquisition in Progress

2.3 FLIGHT SPECIFICATIONS

During the survey, the helicopter was maintained at a mean altitude of 107 metres above the ground with an average survey speed of 79 km/hour. This allowed for an actual average Transmitter-receiver loop terrain clearance of 59 metres and a magnetic sensor clearance of 69 metres.

[1] Note: Actual Line kilometres represent the total line kilometres in the preliminary database by February 1, 2023.

The on-board operator was responsible for monitoring the system integrity. He also maintained a detailed flight log during the survey, tracking the times of the flight as well as any unusual geophysical or topographic features.

On return of the aircrew to the base camp the survey data was transferred from a compact flash card (PCMCIA) to the data processing computer. The data were then uploaded via ftp to the Geotech office in Aurora for daily quality assurance and quality control by qualified personnel.

2.4 AIRCRAFT AND EQUIPMENT

2.4.1 SURVEY AIRCRAFT

The survey was flown using a Eurocopter Aerospatiale (A-Star) 350 B3 helicopter, registration C-GEOQ. The helicopter is owned and operated by Geotech Aviation Ltd. Installation of the geophysical and ancillary equipment was carried out by a Geotech Ltd. crew.

2.4.2 ELECTROMAGNETIC SYSTEM

The electromagnetic system was a Geotech Time Domain EM (VTEM™ Plus) full receiver-waveform streamed data recorded system. The "full waveform VTEM system" uses the streamed half-cycle recording of transmitter and receiver waveforms to obtain a complete system response calibration throughout the entire survey flight. VTEM with the serial number 10 had been used for the survey. The VTEM™ transmitter current waveform is shown diagrammatically in Figure 4.

The VTEM™ Receiver and transmitter coils were in concentric-coplanar and Z-direction oriented configuration. The receiver system for the project also included coincident-coaxial X&Y-direction coils to measure the in-line and cross-line dB/dt and calculate B-Field responses. The Transmitter-receiver loop was towed at a mean distance of 48 metres below the aircraft as shown in Figure 5.

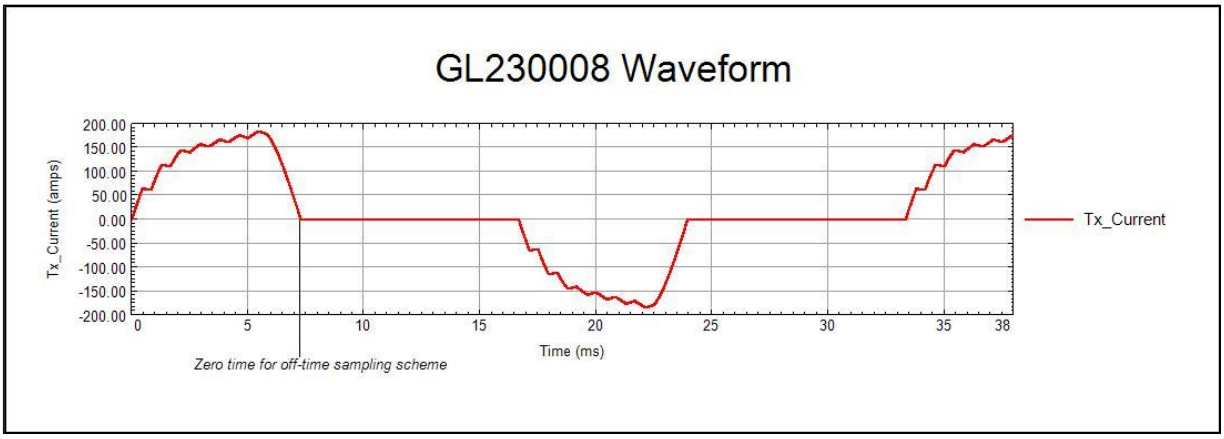


Figure 4: VTEM™ Transmitter Current Waveform

The VTEM™ decay sampling scheme is shown in Table 2 below. Forty-three-time measurement gates were used for the final data processing in the range from 0.021 to 8.083 msec. Zero time for the off-time sampling scheme is equal to the current pulse width and is defined as the time near the end of the turn-off ramp where the dI/dt waveform falls to 1/2 of its peak value.

Table 2: Off-Time Decay Sampling Scheme

VTEM™ Decay Sampling Scheme				
Index	Start	End	Middle	Width
Milliseconds				
4	0.018	0.023	0.021	0.005
5	0.023	0.029	0.026	0.005
6	0.029	0.034	0.031	0.005
7	0.034	0.039	0.036	0.005
8	0.039	0.045	0.042	0.006
9	0.045	0.051	0.048	0.007
10	0.051	0.059	0.055	0.008
11	0.059	0.068	0.063	0.009
12	0.068	0.078	0.073	0.010
13	0.078	0.090	0.083	0.012
14	0.090	0.103	0.096	0.013
15	0.103	0.118	0.110	0.015
16	0.118	0.136	0.126	0.018
17	0.136	0.156	0.145	0.020
18	0.156	0.179	0.167	0.023
19	0.179	0.206	0.192	0.027
20	0.206	0.236	0.220	0.030
21	0.236	0.271	0.253	0.035
22	0.271	0.312	0.290	0.040
23	0.312	0.358	0.333	0.046
24	0.358	0.411	0.383	0.053
25	0.411	0.472	0.440	0.061
26	0.472	0.543	0.505	0.070
27	0.543	0.623	0.580	0.081
28	0.623	0.716	0.667	0.093
29	0.716	0.823	0.766	0.107
30	0.823	0.945	0.880	0.122
31	0.945	1.086	1.010	0.141
32	1.086	1.247	1.161	0.161
33	1.247	1.432	1.333	0.185
34	1.432	1.646	1.531	0.214
35	1.646	1.891	1.760	0.245
36	1.891	2.172	2.021	0.281
37	2.172	2.495	2.323	0.323
38	2.495	2.865	2.667	0.370
39	2.865	3.292	3.063	0.427
40	3.292	3.781	3.521	0.490
41	3.781	4.341	4.042	0.560
42	4.341	4.987	4.641	0.646

VTEM™ Decay Sampling Scheme				
Index	Start	End	Middle	Width
Milliseconds				
43	4.987	5.729	5.333	0.742
44	5.729	6.581	6.125	0.852
45	6.581	7.560	7.036	0.979
46	7.560	8.685	8.083	1.125

Z Component: 4-46 time gates
X Component: 20-46 time gates
Y Component: 20-46 time gates

Table 3: VTEM™ System Specifications

Transmitter	Receiver
• Transmitter loop diameter: 26 m • Number of turns: 4 • Effective Transmitter loop area: 2123.7 m^2 • Transmitter base frequency: 30 Hz • Peak current: 184.34 A • Pulse width: 7.28 ms • Waveform shape: Bi-polar trapezoid • Peak dipole moment: 391485.59 nIA • Average transmitter-receiver loop terrain clearance: 59 metres	• X -Coil diameter: 0.32 m • Number of turns: 245 • Effective coil area: 19.69 m^2 • Y -Coil diameter: 0.32 m • Number of turns: 245 • Effective coil area: 19.69 m^2 • Z-Coil diameter: 1.2 m • Number of turns: 100 • Effective coil area: 113.04 m^2

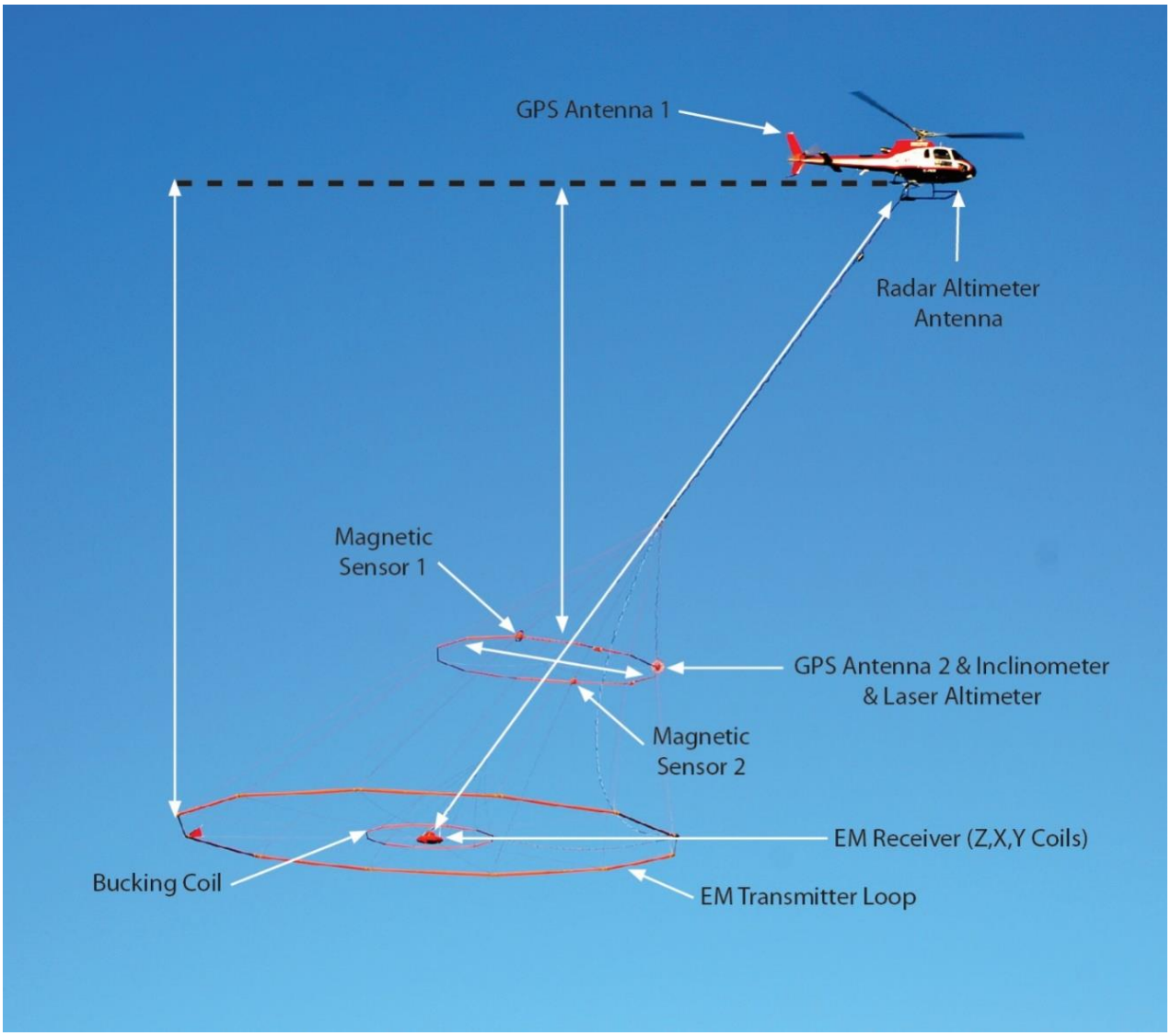


Figure 5: VTEM™ Plus System Configuration.

2.4.3 Full Waveform VTEM™ Sensor Calibration

The calibration is performed on the complete VTEM™ system installed in and connected to the helicopter, using special calibration equipment. This calibration takes place on the ground at the start of the project prior to surveying.

The procedure takes half-cycle files acquired and calculates a calibration file consisting of a single stacked half-cycle waveform. The purpose of the stacking is to attenuate natural and man-made magnetic signals, leaving only the response to the calibration signal.

This calibration allows the transfer function between the EM receiver and data acquisition system and the transfer function between the current monitor and data acquisition system to be determined. These calibration results are then used in VTEM full waveform processing.

2.4.4 HORIZONTAL MAGNETIC GRADIOMETER

The horizontal magnetic gradiometer consists of two Geometrics split-beam field magnetic sensors with a sampling interval of 0.1 seconds. These sensors are mounted 12.5 metres apart on a separate loop, 10 metres above the Transmitter-receiver loop. A GPS antenna and Gyro Inclinometer is installed on the separate loop to accurately record the tilt and position of the magnetic gradiometer sensors.

2.4.5 RADAR ALTIMETER

A Terra TRA 3000/TRI 40 radar altimeter was used to record terrain clearance. The antenna was mounted beneath the bubble of the helicopter cockpit (Figure 5).

2.4.6 GPS NAVIGATION SYSTEM

The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel WAAS(Wide Area Augmentation System) enabled GPS receiver, Geotech navigate software, a full screen display with controls in front of the pilot to direct the flight and a NovAtel GPS antenna mounted on the helicopter tail (Figure 5). As many as 11 GPS and two WAAS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8 m, with WAAS active, it is 1.0 m. The coordinates of the survey area were set-up prior to the survey and the information was fed into the airborne navigation system. The second GPS antenna is installed on the additional magnetic loop together with Gyro Inclinometer.

2.4.7 DIGITAL ACQUISITION SYSTEM

A Geotech data acquisition system recorded the digital survey data on an internal compact flash card. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The data type and sampling interval as provided in Table 4

Table 4: Acquisition Sampling Rates

Data Type	Sampling
TDEM	0.1 sec
Magnetometer	0.1 sec
GPS Position	0.2 sec
Radar Altimeter	0.2 sec
Inclinometer	0.1 sec

2.5 BASE STATION

A combined magnetometer/GPS base station was utilized on this project. A Geometrics Caesium vapour magnetometer was used as a magnetic sensor with a sensitivity of 0.001 nT. The base station was recording the magnetic field together with the GPS time at 1 Hz on a base station computer.

The base station magnetometer sensor was installed in a secured location away from electric transmission lines and moving ferrous objects such as motor vehicles. The base station data were backed-up to the data processing computer at the end of each survey day.

3. PERSONNEL

The following Geotech Ltd. personnel were involved in the project.

FIELD:

Project Manager:	Tristan Rice (Office)
Data QC:	Nick Venter
Crew chief:	David Brooke
Operator:	Yassir Jassim

The survey pilot and the mechanical engineer were employed directly by the helicopter operator – Geotech Aviation Ltd.

Pilot:	Shanne Kochan
Mechanical Engineer:	n/a

OFFICE:

Preliminary Data Processing:	Nick Venter
Data QA/QC:	TaiChyi Shei Jean Legault
Final Report:	Moyosore Lanisa
Final Review:	Jean Legault

Processing and Interpretation phases were carried out under the supervision of TaiChyi Shei & Jean M. Legault, Chief Geophysicist. The customer relations were looked after by Paolo Berardelli.

4. DATA PROCESSING AND PRESENTATION

Data compilation and processing were carried out by the application of Geosoft OASIS Montaj and programs proprietary to Geotech Ltd.

4.1 FLIGHT PATH

The flight path, recorded by the acquisition program as WGS 84 latitude/longitude, was converted into the WGS84 Datum, UTM Zone 15N coordinate system in Oasis Montaj.

The flight path was drawn using linear interpolation between x, y positions from the navigation system. Positions are updated every second and expressed as UTM easting's (x) and UTM northing's (y).

4.2 ELECTROMAGNETIC DATA

The Full Waveform EM specific data processing operations included:

- Half cycle stacking (performed at time of acquisition).
- System response correction.
- Parasitic and drift removal.

A three-stage digital filtering process was used to reject major sferic events and to reduce noise levels. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events.

The signal to noise ratio was further improved by the application of a low pass linear digital filter. This filter has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 1 second or 15 metres. This filter is a symmetrical 1 sec linear filter.

The results are presented as stacked profiles of EM voltages for the time gates, in linear - logarithmic scale for the B-field Z component and dB/dt responses in the Z, X and Y components. dBdt-Z component time channels recorded at 0.880 milliseconds after the termination of the impulse is also presented as a colour image.

VTEM™ has three receiver coil orientations. Z-axis coil is oriented parallel to the transmitter coil axis, and both are horizontal to the ground. The X-axis coil is oriented parallel to the ground and along the line-of-flight. The Y-axis coil is oriented parallel to the ground and across the line-of-flight The combination of the X, Y, and Z coils configuration provides information on the position, depth, dip, and thickness of a conductor. Generalized modeling results of VTEM data are shown in Appendix D.

In general X-component data produce cross-over type anomalies: from "+ to – "in flight direction of flight for "thin" sub vertical targets and from "- to +" in direction of flight for "thick" targets. Z component data produce double peak type anomalies for "thin" sub vertical targets and single peak for "thick" targets. The limits and change-over of "thin-thick" depends on dimensions of a TEM system (Appendix D, Figure D-16).

Because of X component polarity is under line-of-flight, convolution Fraser Filter (Figure 6) is applied to X component data to represent axes of conductors in the form of grid map. In this case positive FF anomalies always correspond to "plus-to-minus" X data crossovers independent of the flight direction.

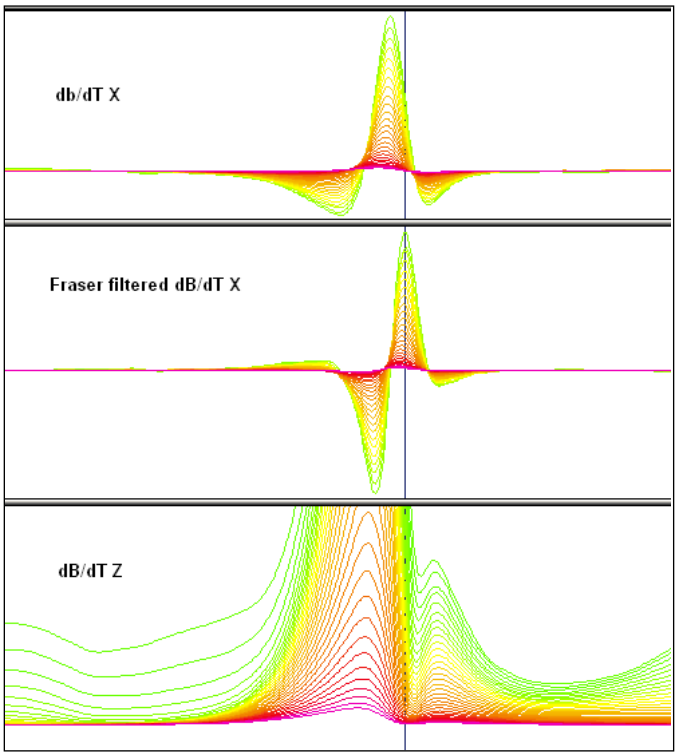


Figure 6: Z, X and Fraser filtered X (FFx) components for "thin" target.

5. DELIVERABLES

5.1 SURVEY REPORT

The survey report describes the data acquisition, processing, and final presentation of the survey results. The survey report is provided in two paper copies and digitally in PDF format.

5.2 MAPS

Preliminary maps were produced at scale of 1:10,000 for best representation of the survey size and line spacing. The coordinate/projection system used was WGS84 Datum, UTM Zone 15N. All maps show the flight path trace; latitude and longitude are also noted on maps.

The results of the survey are presented as EM profiles, a late-time gate gridded EM channel, and a colour magnetic TMI contour map.

- Maps at 1:10,000 in Geosoft MAP format, as follows:

GL230008_10k_BField:	B-field profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale.
GL230008_10k_SFz30:	VTEM dB/dt Z Component Channel 30, Time Gate 0.880 ms colour image
GL230008_10k_TMI:	Total Magnetic Intensity (TMI) colour image and contours.

- Maps are also presented in PDF format.

6. CONCLUSION AND RECOMMENDATIONS

A helicopter-borne versatile time domain electromagnetic (VTEM™ Plus) geophysical survey has been completed over the Goldcreek Project, near Kakabeka Falls Region, northwestern Ontario.

The total area coverage is 44 km2 and the total survey line coverage is 424 line-kilometres over a single block. The principal sensors included a Time Domain EM system, and a horizontal magnetic gradiometer system with two caesium magnetometers. Results have been presented as stacked profiles, and contour colour images at a scale of 1:10,000. There is no formal interpretation included in this study.

Based on the survey results, a number of geophysical anomalies of interest have been defined on the property. If EM conductors are of interest for the exploration program, we recommend that EM anomaly picking, and Maxwell plate modelling of EM anomalies of greatest interest be performed prior to ground follow up and drill testing. If targets are nonconductive, more advanced 1D layered earth modelling of the EM data will prove useful in highlighting weakly anomalous resistive and conductive features of interest, both in plan and in cross-section. Magnetic CET structural and lineament analysis as well as 3D MVI magnetic inversions will be useful for mapping structure, alteration, and lithology in 2D-3D space across the property. Finally, we recommend that more advanced, integrated interpretation be performed on these geophysical data and these results further evaluated against the known geology for future targeting.

.

Respectfully submitted[2],

Nick Venter
Geotech Ltd.

Moyosore Lanisa
Geotech Ltd.

Jean M. Legault, M.Sc.A, P.Eng (ON), P.Geo (ON)
Geotech Ltd.

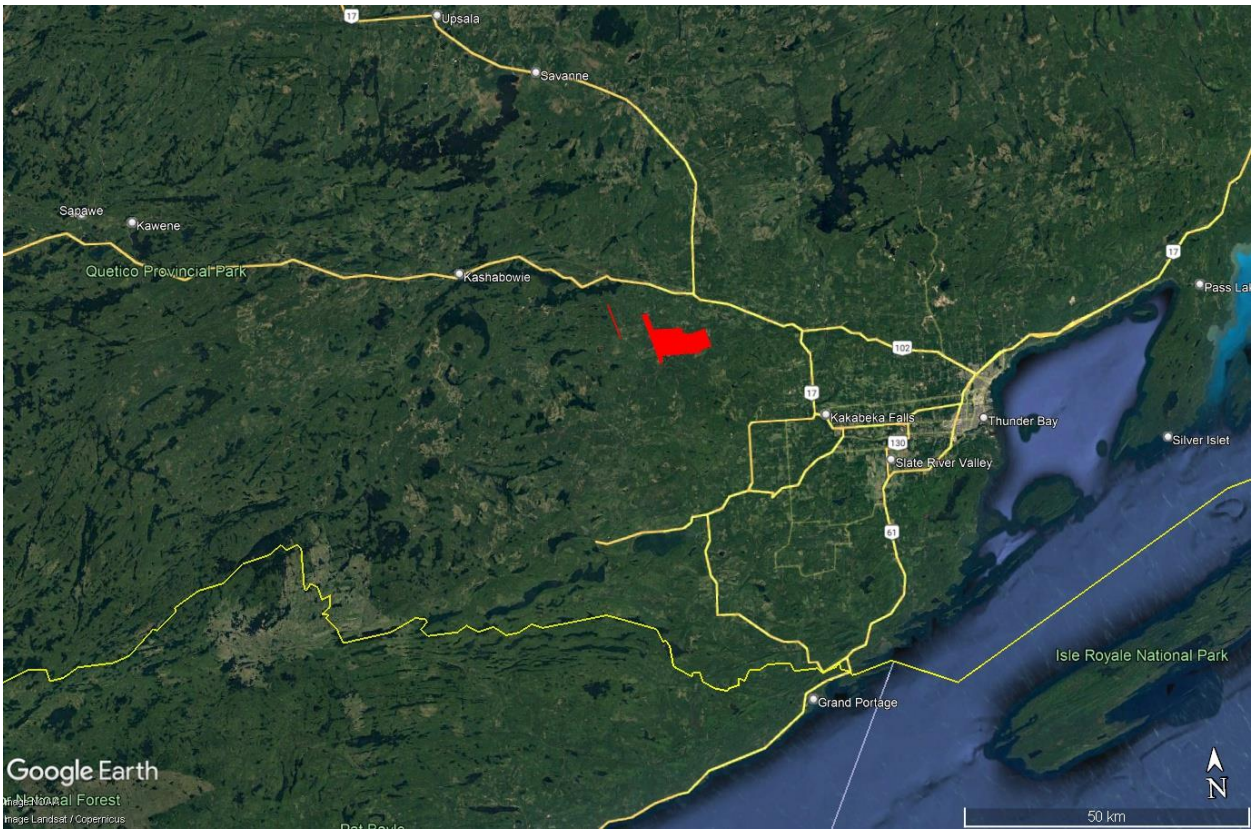
Tai-Chyi Shei
Geotech Ltd.

February 2023

[2]Field data processing of the EM and magnetic data was carried out by Nick Venter, from the offices of Geotech Ltd. in Aurora, Ontario, under the supervision of TaiChyi Shei & Jean M. Legault, Chief Geophysicist.

APPENDIX A

SURVEY AREA LOCATION MAP



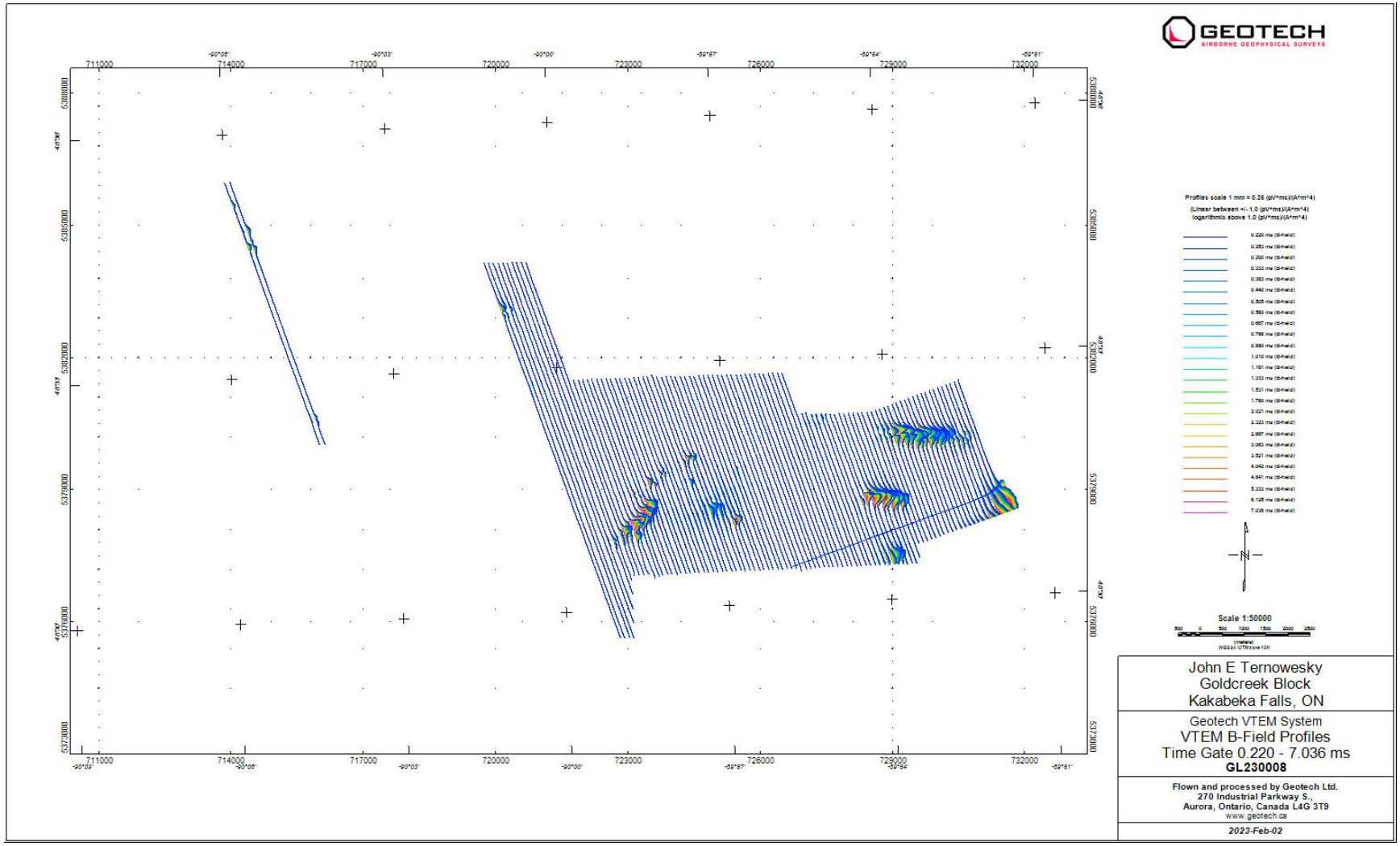
Overview of the Survey Area

APPENDIX B

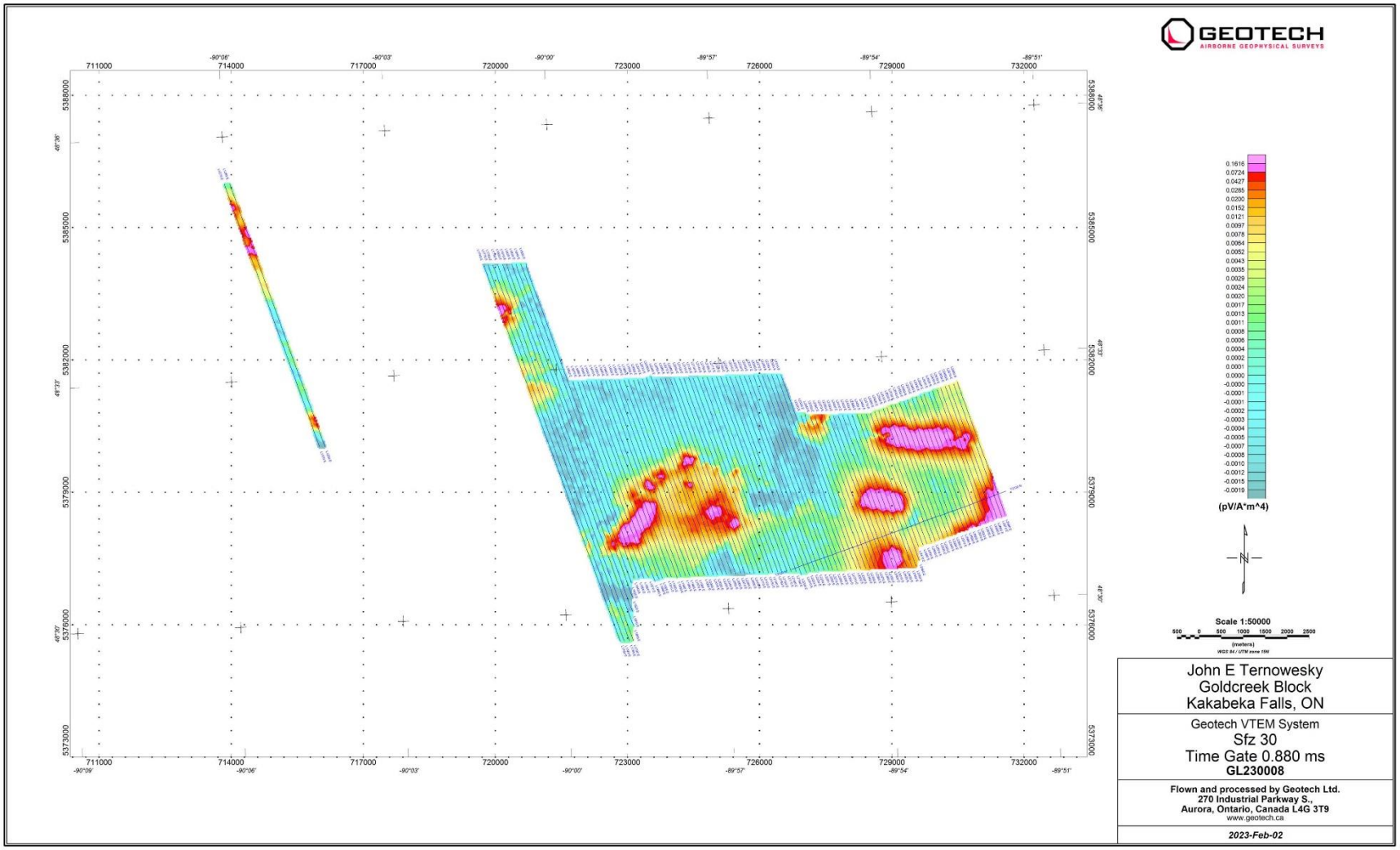
SURVEY AREA COORDINATES

Goldcreek	
WGS84 UTM Zone 15N	
X	Y
716755	5380149
713061	5380016
712083	5382845
712947	5382870
712828	5385839
718049	5386064
718728	5384014
720809	5384085
721705	5381404
726586	5381568
726887	5380604
727712	5380638
728509	5380669
730547	5381409
730798	5380767
731614	5378606
729563	5377869
729581	5377424
723056	5377147
723108	5375730
716923	5375496
715930	5378319
716819	5378371

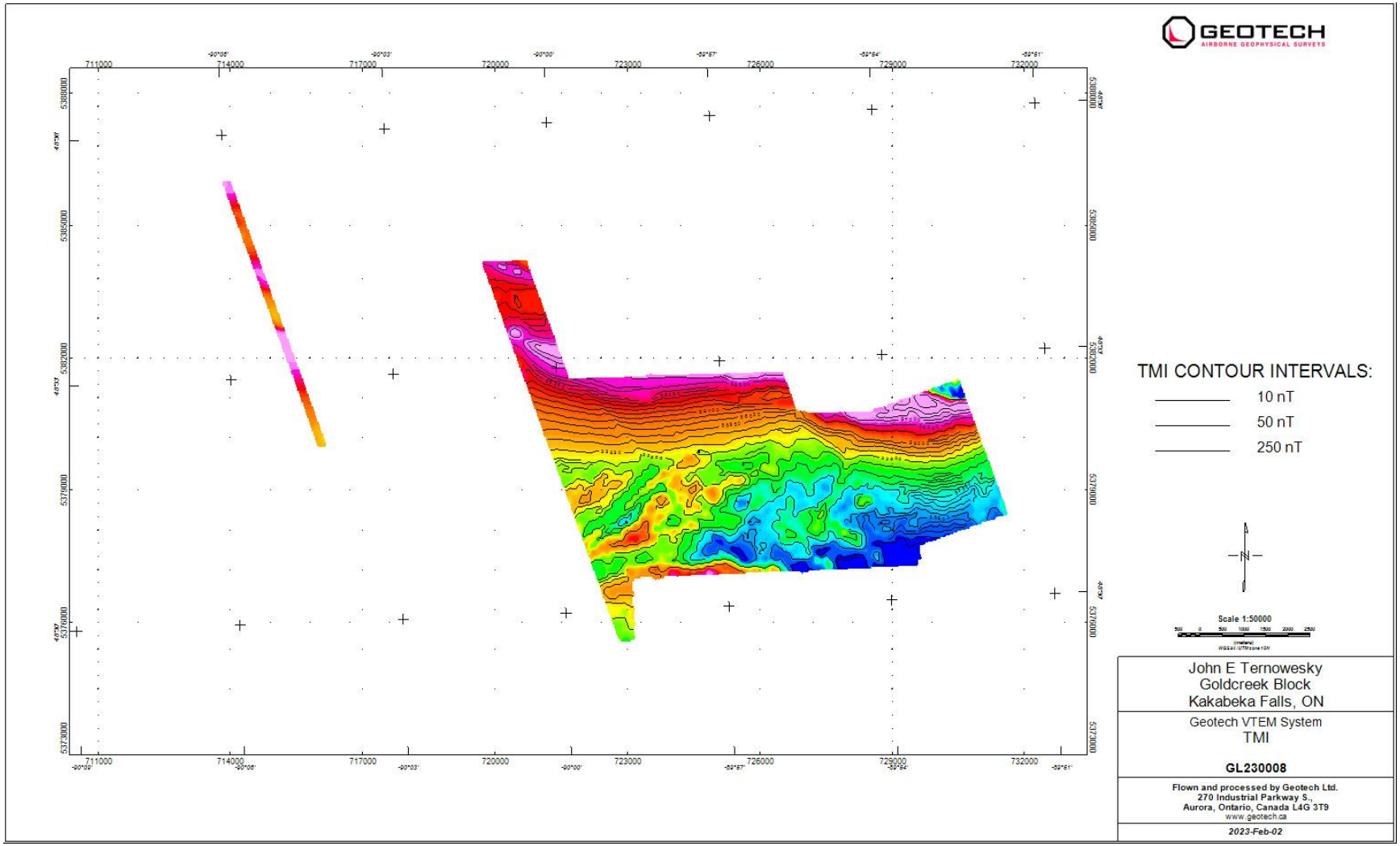
APPENDIX C - GEOPHYSICAL MAPS



Z Component B-field profiles, Time Gates 0.220 – 7.036 ms image



VTEM dB/dt Z Component Channel 30, Time Gate 0.880 ms colour image



Total Magnetic Intensity (TMI) colour image and contours

14.0 Appendix 11: Geotech Ltd. Survey Invoice

JOHN TERNOWESKY

2023 AIRBORNE GEOPHYSICAL SURVEY REPORT, PART 2
GOLDCREEK PROPERTY
LAURIE, DUCKWORTH, CONACHER AND HORNE TOWNSHIPS
EAST SHEBANDOWAN AREA

THUNDER BAY MINING DIVISION
NORTHWESTERN ONTARIO, CANADA
NTS 52A/12D, 52B/09A, 09H

Work completed by
Geotech Ltd.
from
February 2 to 27, 2023
For
Property Owner John Ternowesky
132 Robinson Drive
Thunder Bay, Ontario P7A 6G5

Gerald D. White, BSc., P.Geo. **March 8, 2023**

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LIST OF FIGURES

LIST OF ABBREVIATIONS

AEM	Airborne Electromagnetic Anomalies
Ag	Silver
Au	Gold
BIF	Banded Iron Formation
CEDC	Community Economic Development Corporation
ch	Channel (geophysical term)
cm	Centimeter
°C	Centigrade
Cu	Copper
DDH	Diamond Drill Hole
EM	Electromagnetic (geophysical survey)
Ga	One billion years
GIS	Geographic Information System
GPS	Global Positioning System
GSC	Geological Survey of Canada
g/t	Grams per tonne (Metric ton, 1,000 kg)
ha	Hectare
IP	Induced Polarization
Kg	Kilogram
Km	Kilometer
KV	Kilovolt (electricity grid)
m	Meter
Ma	One million years
MAG	Magnetometer (geophysical survey)
MDI	Mineral Deposit Inventory
MENDM	Ministry of Energy, Northern Development and Mines
mm	Millimeter
MNDM	Ministry of Northern Development and Mines
Moz	Million ounces
NAD-83	North American Datum 1983
NI	National Instrument
Ni	Nickel
nT	Units of Measure (geophysical surveys)
NTS	National Topographic System
OGS	Ontario Geological Survey
Ounce	Troy ounce (used for precious metals) = 31.103 grams
oz	Ounces
Pb	Lead
PGE	Platinum Group Elements
ppb	Parts Per Billion
ppm	Parts Per Million
QAQC	Quality Assurance Quality Control
TAU	Calculated Time Constant (geophysical survey term)
UTM	Universal Transverse Mercator (map projection)
VLF	Very Low Frequency (Geophysical Survey)
VMS	Volcanogenic Massive Sulphide
VTEM	Versatile Time Domain Electromagnetic (airborne geophysical survey)
WAT	Wawa-Abitibi Terrane
Zn	Zinc

1.0 INTRODUCTION

Geotech Ltd. completed a Helicopter-Borne Versatile Time Domain Electromagnetic (VTEM Plus) and Horizontal Magnetic Gradiometer Geophysical Survey for owner, John Ternowesky on the western and northwestern portion of the Goldcreek Property from February 2 to 27, 2023. This Part 2 report is a continuation of the VTEM survey covered in the previously submitted Part 1 assessment report and includes flight lines over the remaining portion of the Goldcreek claims.

The property is located in the Shebandowan area, 70 km west of the City of Thunder Bay within the Thunder Bay Mining Division in Northwestern Ontario, Canada (Figure 1 and 2).

Figure 1. Goldcreek Property, Provincial Location Map

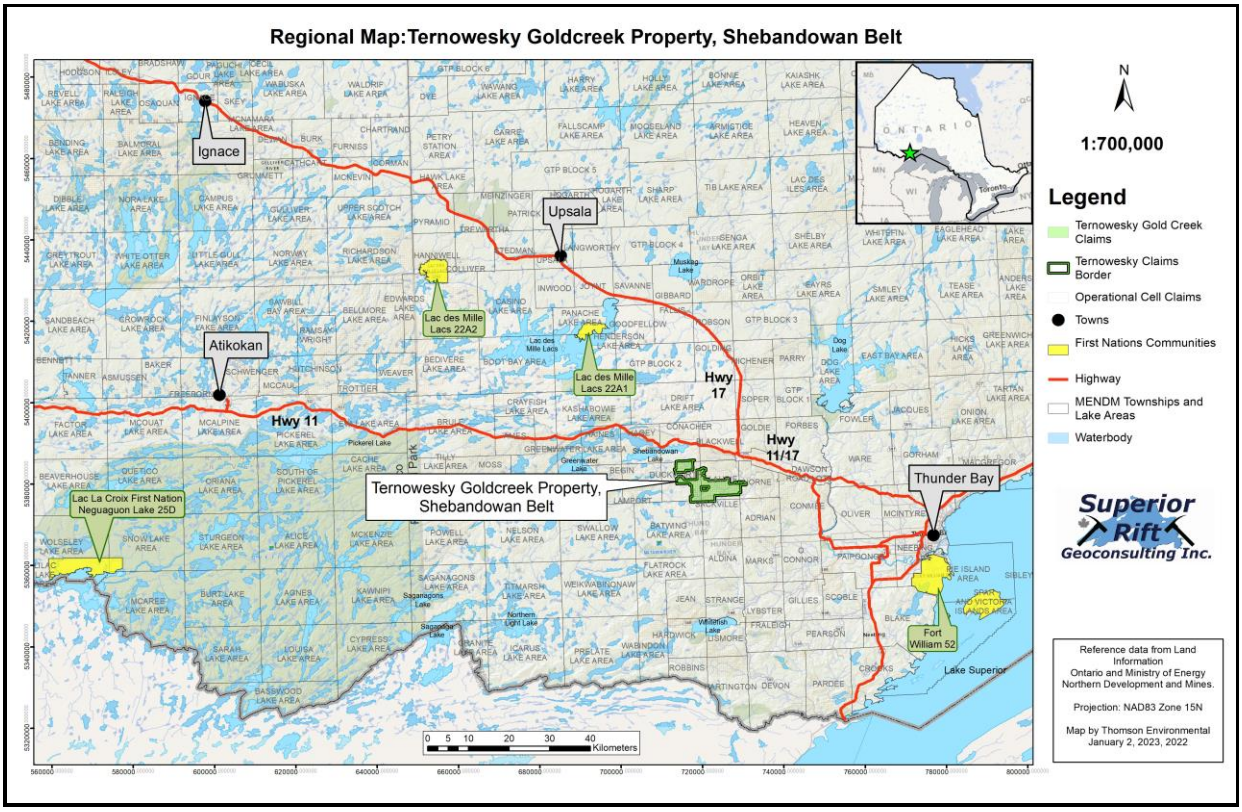

Figure 2. Goldcreek Property, Location Map and Infrastructure

The reporting of the airborne survey work has been separated into two parts for the purposes of submitting assessment work (Part 1) on claims with due dates of 2023-02-07, 2023-02-11 and 2023-04-07. This was done to prevent the loss of these claims in a very critical high mineral potential area within the Shebandowan Greenstone Belt. Attempts were made to secure a geophysical company to conduct an airborne VTEM-Mag survey over the Goldcreek Property since the beginning of November 2022. Due to the high degree of activity in the industry, lack of experienced workers, the holiday season and weather issues in November and December (down time), we were unable to schedule the survey until January 22, 2023. The Part 2 final report covering the remaining flight lines is being submitted now that the entire survey block has been flown.

The Part 1 assessment report included airborne survey data covering 423.9 line-kms flown over the central and southeast portion of the main southern Goldcreek claim block and 2 lines in the northwest Goldcreek claim block. The southern and northwest blocks are not contiguous. The Part 2 report includes survey data covering 743.2 km over the remaining western and northwestern portions of the Goldcreek Property (Figure 3 and 7). The total cost of the Part 2 survey (before HST) is $147,439.67 (see 10.0 Expenditures section and Appendix II Invoices.

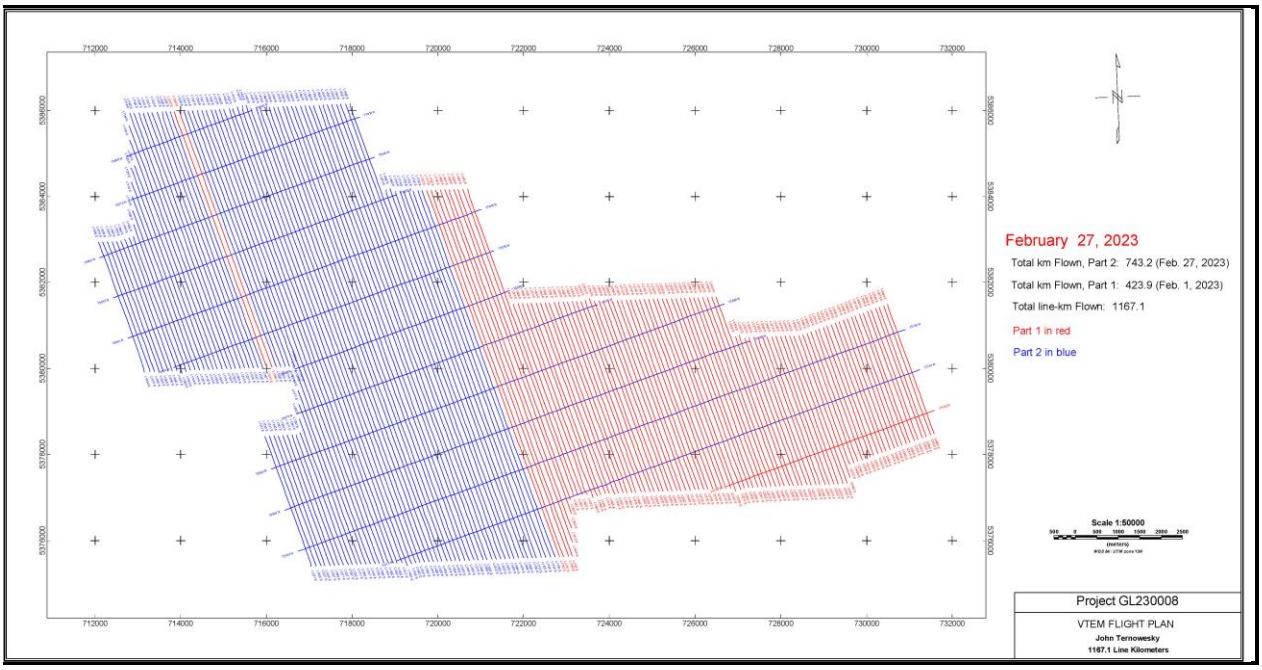

Figure 3. Goldcreek Property, Geotech Flight Line Map, Part 2

2.0 LOCATION AND ACCESS

The Goldcreek Property consists of 348 Cell and Boundary claims in 2 contiguous blocks located approximately 70 km west of the City of Thunder Bay, Ontario **(**centered on UTM Zone 16, 278765E, 5379704N) (Figure 2). The Trans-Canada Highway 11-17 junction west of the city, lies approximately 7 km north of the property. The western portion of the claim group can be accessed via the all-weather Mine Road-Gold Creek Road south from Highway 11, immediately east of Lower Shebandowan Lake. Access to the eastern portion of the property is by a network of logging roads south from the Highway 11-17 junction.

3.0 CLIMATE AND PYSIOGRAPHY

The climate is typical of northern Ontario, with cold winters and warm summers. Proximity to Lake Superior modifies the climate slightly, with more snowfall and slightly milder winter temperatures than inland regions. The average recorded temperature in the Atikokan-Shebandowan area over the last 30 years varies from a low of -21°C in January to a high of 25°C in July. The average precipitation over the 30 years on record ranges from a low of 13 mm in March to a high of 91 mm in June. (*https://weatherspark.com/y/14897/Average-Weather-at-Wawa-Airport-Canada-Year-Round*).

The terrain is typical of glaciated Precambrian shield, with smooth to locally rugged hills separated by ice-gouged depressions along fault zones and areas of softer lithology. Lower-lying areas are occupied by lakes, swamps, or peat- bogs. The mean elevation in the Goldcreek Property area ranges from 400 m to 480 m above sea level. Much of Laurie and Duckworth townships are characterized by a flat to undulating relief. The higher ground tends to have abundant outcrops separated by areas of thin glacial till. The lower ground tends to be covered in thicker till often with a surface layer of organic overburden.

Primary forest is a typical boreal forest dominated by white spruce, black spruce, jack pine, balsam fir, aspen (poplar), birch, eastern white cedar, and tamarack. Tag alders and willows tend to grow thickly along creeks and in swamps. White and red pine, although common in the region, are not observed on the property. Reforested areas are dominated by jack pine. With the fastest growth-rate of the local conifers, jack pine is favored for replanting where future timber harvest is anticipated.

4.0 LOCAL INFRASTRUCTURE

There is a skilled mining-related workforce in the City of Thunder Bay and surrounding area (population 115,064, Statistics Canada Census Data 2021), supplying labor to the area mines and numerous city-based exploration companies, including two fly-in operations north of Thunder Bay (Musselwhite Gold Mine and the Lac des Iles Palladium Mine). These two mines directly employ approximately 850 people, including contractors and temporary employees. Local suppliers, contractors and engineering and geological consulting companies, provide services across Northwestern Ontario and beyond, including mine projects in Red Lake, Rainy River and Marathon. Additional support services include heavy equipment rentals and three full-service assay laboratory facilities. Currently, close to 400 Thunder Bay mine service and supply companies support mining (Thunder Bay CEDC website, Jan. 2023).

Electrical infrastructure includes the existing east-west 230 KV transmission line along Highway 11-17 and the recently completed (2022), 230-kilovolt Nextbridge East-West Tie Transmission line from Wawa to Thunder Bay. (This line will provide additional energy to support new economic growth in the region).

This illustrates that local and regional resources are adequate to supply additional

large combined open pit and underground mine developments.

5.0 PROPERTY DESCRIPTION

The Goldcreek Property consists of 348 unpatented cell and boundary mining claims in two distinct contiguous blocks recorded in good standing in the Thunder Bay Mining Division. The claims are located within Laurie, Duckworth, Conacher and Horne Townships west of Thunder Bay in the east Shebandowan Lake area (claim list provided below) (Figure 4).

Claim Numbers:

541221,541222,541223,541224,541225,541226,541227,541228,541229,338975,340415,341659,
541230,541329,541332,541333,556456,556457,556458,556459,556460,556462,556461,105685,
556451,556452,556453,556454,556455,108635,109040,106503,111001,109452,114548,112408,
112409,553231,553232,553233,553234,122852,122853,122854,121384,123431,133590,133591,
557347,135428,136009,139368,139385,140251,143306,143042,143043,144587,144588,557348,
557349,557350,557351,557352,557353,557354,557355,557356,148352,541200,541201,541202,
541203,541204,541205,148152,146363,150258,156922,157162,157163,157164,557357,541671,
541670,541672,541673,541674,160463,541206,541207,541208,541209,541210,541212,541211,
541213,165903,171108,541214,178112,178814,178815,178816,182185,187410,186218,186219,
190072,191376,547756,194306,193028,547744,547745,547746,547747,547748,547752,547749,
547750,547751,547755,547753,547754,194545,198373,198374,198375,198376,199625,562564,
557358,557359,557360,557361,557362,205725,205726,209132,212296,216097,217840,217841,
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229624,233211,235867,235868,236073,240914,240915,240787,242211,243553,244161,244162,
245354,245355,249203,248925,248087,541311,541312,541313,541318,541314,541315,541316,
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541240,541241,541239,541242,541243,541244,541245,541246,541232,541231,541233,541235,
541236,541238,336356,336357,339691,343455,343814,343815,343816,334741,334742,541302,
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541216,541217,541218,541219,541321,541220,541320,541322,541323,541324,541325,541326,
541287,541288,541289,541290,541291,541292,541293,541295,541294,541296,541297,541298,
541299,541300,541282,541280,541281,541283,541284,541285,541286,541327,541301,541330,
541248,541249,541250,541251,541252,541253,541254,541255,541256,541257,541258,541259,
541260,541279,541331,733567,733568,733569,733570,733571,733572,733573,733574,733575,
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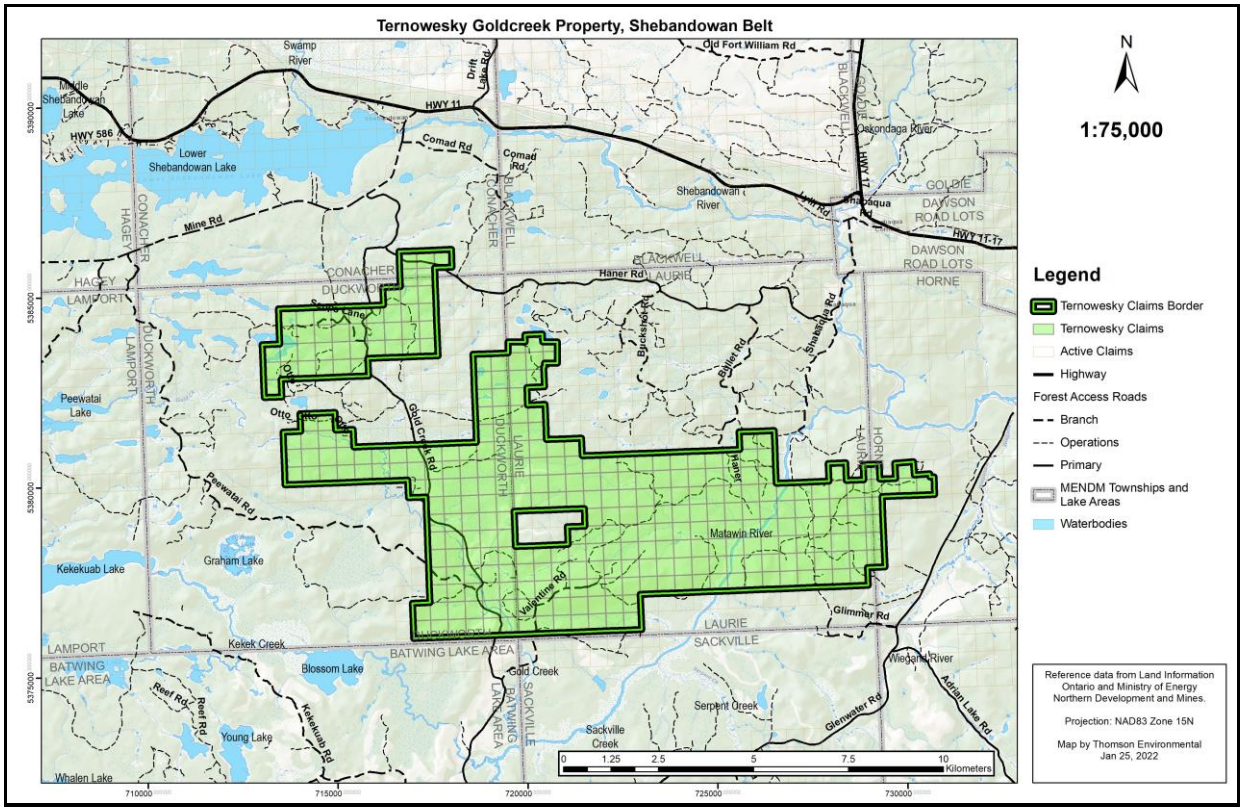

Figure 4. Goldcreek Property, Detailed Claim Map

6.0 GEOLOGICAL SETTING AND MINERALIZATION

The Goldcreek Property is located within the eastern portion of the Shebandowan Greenstone Belt, which is part of the Wawa-Abitibi Terrane (WAT) of the Superior Province in Ontario (Figure 5). The WAT extends west-southwest for approximately 850 km from the Kapuskasing Structural Zone in northeastern Ontario to the Minnesota River Valley area in North Dakota (Osmani 2017). Rocks within these terranes share similar lithological, geochemical and age characteristics, and structural and metamorphic histories (Stott et al. 2010).

The WAT is a typical Archean greenstone-granite terrane consisting of primitive ultramafic to felsic volcanic rocks and associated metasedimentary rocks, intruded, and enclosed by granitoid rocks of similar age. It is bounded to the north and west by the Quetico metasedimentary basin or subprovince (Magnus 2019, Stott 2011). The WAT contains a series of greenstone belts of similar age (ca. 2.95 to 2.68 Ga) hosting gold, nickel, and zinc deposits. In Northwestern Ontario, these deposits include the Hemlo Gold Mine at Marathon and past producers; the Geco VMS (Cu-

Zn) Mine at Manitouwadge, the Shebandowan Ni-Cu Mine and the Winston-Pick Lake VMS Zn-Cu Mine north of Schreiber.

The Shebandowan Greenstone Belt extends 150 km west from Thunder Bay to Quetico Provincial Park and the Ontario–Minnesota international border. It has an arcuate shape and is bordered by the Quetico Subprovince to the north. The Shebandowan Greenstone Belt contains a succession of supracrustal rocks and associated intrusive equivalents, and has undergone several deformation and intrusive events. Geochronological data and previous geological studies have defined 3 main supracrustal assemblages: the Greenwater assemblage (circa 2720 Ma), the Kashabowie assemblage (circa 2695 Ma) and the Shebandowan assemblage (circa 2690 to 2680 Ma) (Ratcliffe 2018, Corfu and Stott 1998).

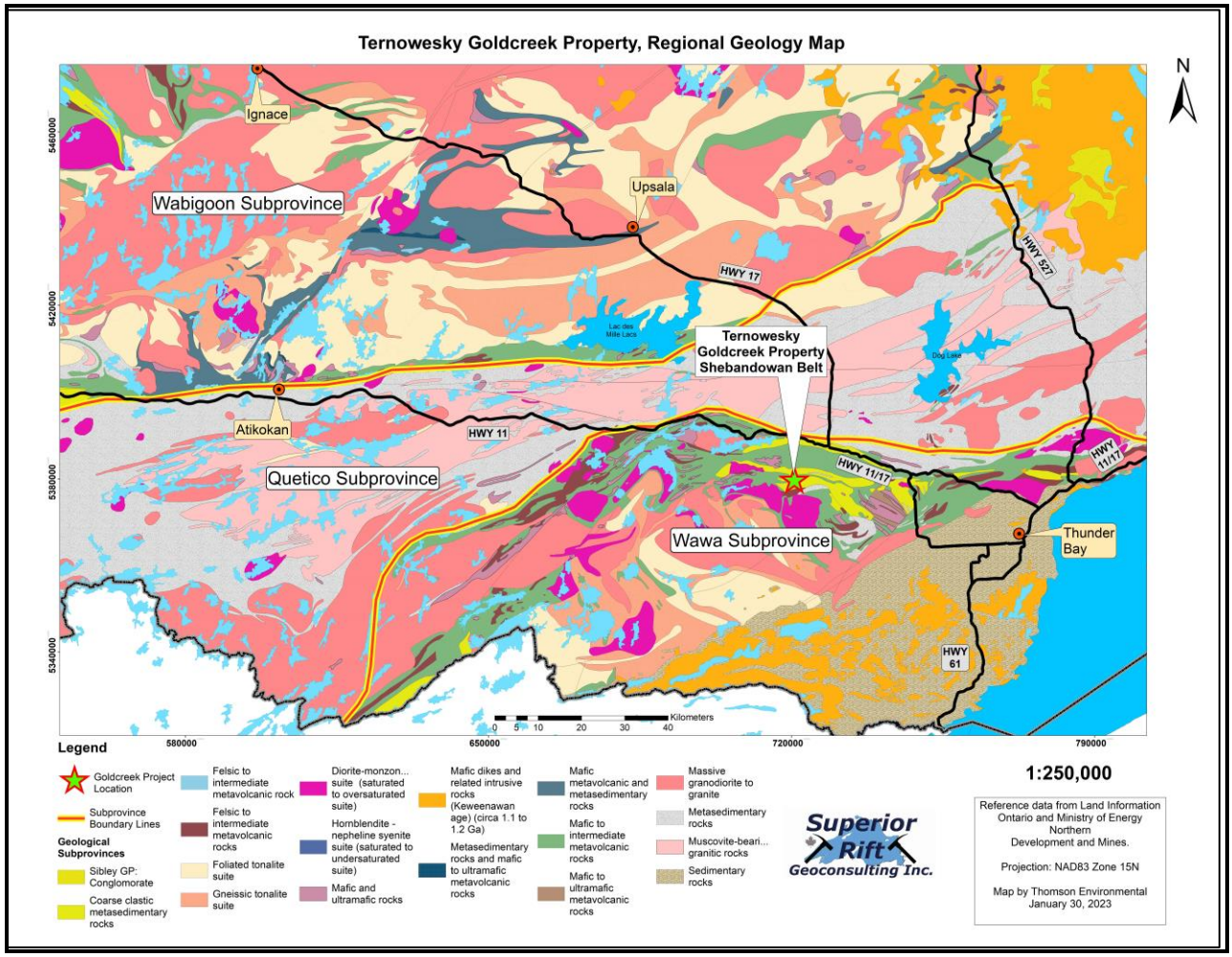

Figure 5. Goldcreek Property, Regional Geology

Much of the following description has been taken from Leonard and Ilieva (2008).

The Goldcreek Property lies within the Shebandowan Greenstone Belt which forms an east-west trending volcano-sedimentary stratigraphy with some mafic to felsic intrusives (Figure 6). Mafic volcanic-tuffs, gabbroic intrusions and metasediments occupy the north portion of the property and a wide area of felsic to intermediate metavolcanics, tuffs and pyroclastics covering most of the southern portion. The region has undergone a lower to middle greenschist facies degree of regional metamorphism developing chlorite schists, especially with the mafic to intermediate tuffs and quartz sericite schists within the felsic volcanics rocks. The intrusive bodies have created metamorphic halos that have upgraded the metamorphism to an upper greenschist to lower amphibolite facies.

Structurally, the local area occurs within a syncline where the stratigraphy trends east-northeast with steep but variable dips. A major fault structure, called the Crayfish Creek Fault, crosses the area in an east-southeast direction through the northern portion of the Goldcreek Property. The western section of this structure hosts known gold mineralization on the property.

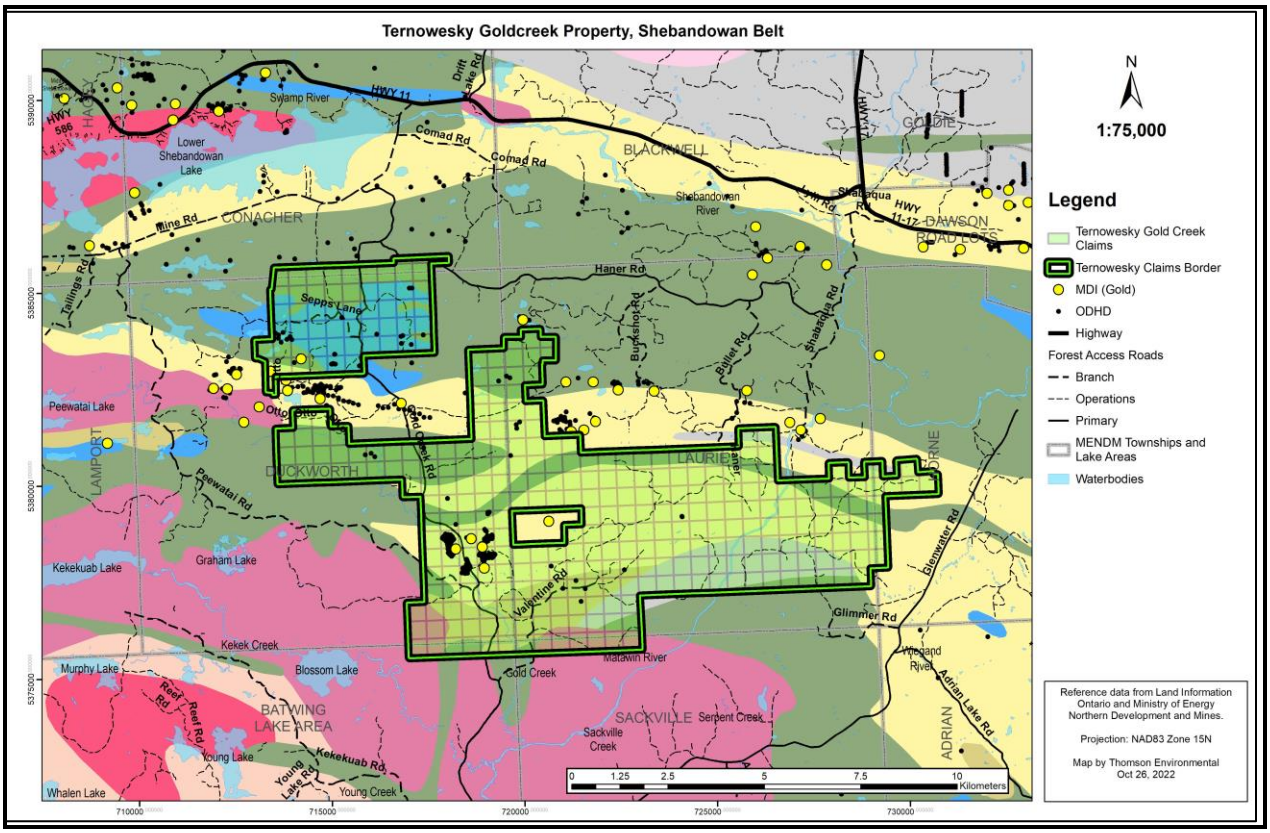

Figure 6. Goldcreek Property, Bedrock Geology and Mineral Compilation

Key Mineral Occurrences

Historical exploration over the Goldcreek Property has defined 3 main zones; the I-Zone along the southern boundary of the northwest claim block, and the southern and central zones located within the main southern claim block. The South Zone area also includes the North Zone and the Ternowesky or T-Zone.

- **I-Zone:** The I-Zone area lies partially within the southern portion of the Goldcreek northwest claim block and in the 'gap' between the two claim blocks. Gold mineralization is associated with syenitic, quartz-syenite to granodioritic dikes intruding argillaceous-banded iron formations. The dikes are 1.0 m to 5.0 m wide and exposed along strike for 10 m to 60 m hosting ladder like quartz veins. Mineralization includes 2% to 15% pyrite, 2% to 3% galena and gold. Gold grades as high as 116.0 g/t Au were obtained in sampling (Leonard and Ilieva 2008, Litchtblau 1997).
- A total of 26 syenite, granodiorite and monzodiorite dikes were discovered in the area from historical exploration work. Dike 10 and 10a have been intermittently stripped and trenched by previous exploration activities over a distance of 900 m. Nine dikes in the area have provided excellent results. Grab samples from dike 10 assayed 116.0 g/t Au. Dike 5 assayed 51.2 g/t Au. Dike 3 assayed 33.9 g/t Au. Dike 26 assayed 20.9 g/t Au. Dike 10a assayed 18.2 g/t Au. Dike 20 assayed 5.98 g/t Au. Dike 9 assayed 4.46 g/t Au. Dike 6 assayed 1.75 g/t Au and dike 17 assayed 1.73 g/t Au (Litchtblau 1997). Approximately 5.0 km east of the I-Zone and Dike 10 is dike 12, which assayed 19.9 g/t Au (Leonard and Ilieva 2008).
- Diamond drilling by Landore Resources Inc. at the I-Zone in 1995, intersected 3.92 g/t Au over 41 m (Hole 95-04) and illustrated the distribution of the mineralization within the syenite dyke.
- In 1987 and 1988 Inco Gold completed stripping and channel sampling of the syenite dikes and performed 1144 m of diamond drilling. The surface sampling and drilling of the I-Zone (Dike 10) by Inco indicated mineralization along a strike length of 250 m and to depths of 150 m. Some of the best results include 3.28 g/t Au over 14.60 m and 4.91 g/t Au over 5.64 m. Additional surface work conducted by HELM Resources Inc. in 2006 at the I-Zone, confirmed the mineralization in the dikes. Sample GC-1 assayed 6.46 g/t Au over 0.30 cm (Beauregard et al. 2006). The mineralization appears to strike over a distance of 1.0 km from the surface sampling and drilling (Litchtblau 1997).

- **South Zone:** The South Zone is located in the west-central portion of the main southern Goldcreek claim block. In addition to the South zone, this area includes the Ternowesky Zone (T-Zone), the North Zone and the Creek Zone.
- In 1988, Inco completed limited drilling to test certain targets at the South Zone and intersected 0.7 g/t Au over 39.0 m and 1.63 g/t Au over 7.5 m. The company performed surface sampling over an area of 14.0 m by 22.0 m and collected 63 grab samples, resulting in an average assay of 0.64 g/t Au. The historical work by Inco (1988) and by HELM Resources in 2006, indicates the South Zone occurs in a series of well-foliated felsic volcanic tuffs and local units of felsic pyroclastic rocks (Leonard and Ilieva 2008). Surface samples collected by HELM in 2006 from the quartz-sericite schists at the South Zone, assayed 1.29 g/t Au, 0.46 g/t Au and 0.35 g/t Au (Beauregard et al. 2006).
- In 1988, 400 m north of the South Zone, Inco discovered the North Zone and conducted stripping, trenching and sampling of the outcrops in the area. The mineralization appears to be of similar in style to the South Zone. It consists of pyritic quartz-sericite schists, sericitized felsic tuffs, with some chlorite – amphibolitic sections and cherty tuffs up to 7.0 m in thickness and locally felsic pyroclastics. Channel sampling by Inco returned an average grade of 3.02 g/t Au over 2.43 m along a strike length of 54.9 m and assays up to 4.25 g/t Au over 2.90 m. Grab samples collected by HELM Resources in 2006 over the same area returned 3.83 g/t Au and 0.71 g/t Au (Leonard and Ilieva 2008).
- Historical exploration conducted by prospector J. Ternowesky in the 1980's, located the Ternowesky Zone (T-Zone) approximately 400 m northwest of the South Zone. The style of mineralization at this occurrence is very similar to the South and North Zones, consisting of felsic, silicified, sericitized, pyritic schists, felsic volcanic tuffs and some coarser felsic pyroclastics containing 0.5% to 2% disseminated pyrite. Strongly oxidized local zones were also uncovered by the Ternowesky group containing up to 8% sulphides consisting of 5% to 7% pyrite, 1% to 2% galena and trace amounts of chalcopyrite and sphalerite (Leonard and Ilieva 2008). Sampling by HELM Resources in 2006 over this area returned assay values of 293.52 g/t Au (8.5 oz/t), 1090 g/t Ag, 0.81% Pb, 0.07% Cu and 0.04% Zn; 2.67 g/t Au, 0.03% Pb and 0.08% Zn and 0.71 g/t Au, 0.05% Pb and 0.10% Zn (Beauregard et al. 2006).

- **Central Zone:** The Central Zone is located in the east central portion of the main southern Goldcreek claim block. In 2007, Mengold Resources Inc. optioned the Goldcreek Property from prospector and owner John Ternowesky. The company completed an extensive basil till geochemical

survey over the Center Zone in south-central Laurie Township. A total of 64.835 line-km was surveyed and 3,287 samples collected and analyzed for gold and base metals. The survey revealed two broad gold geochemical anomalies 200 m to 300 m wide by 1.2 km long and a very broad 500 m to 1.2 km wide by 3.1 km long copper anomaly. Assay results from the basal till samples ranged as high as 362 ppb Au (Scodnick 2008).

7.0 EXPLORATION HISTORY

The mineral potential of the Shebandowan area is considered high, based on the increased global demand for mineral resources together with extensive exploration activity currently underway across the belt. One of the major players, Goldshore Resources Inc., is in the second half of a 100,000 m diamond drilling program on the Moss Lake Project and recently (Nov.15, 2022) announced an Inferred Mineral Resource Estimate for the property of 121.7 Mt @ 1.1 g/t Au (4.17 Moz) (Goldshore website, Feb. 2, 2023). Other active exploration companies include Kesselrun Resources Ltd. with a recently completed 23,000 m diamond drilling program on the Huronian Gold Project, White Metal Resources Corp. work (diamond drilling, IP geophysical survey, prospecting and sampling) on the Tower Mountain Gold Property and recent work by the Tashota Resources group on their Echo Ridge (diamond drilling), Larose and Strike Copper properties. Delta Resources Limited on their Delta-1 Property located immediately north of the Goldcreek Property, initiated a second 5,000 m diamond drilling program (Jan. 2023) following up successful results from a fall 2022 program (5.92 g/t Au over 31.0 m from Hole D1-22-18, company news release, October 19, 2022). In 2021, Portofino Resources Inc. completed a 798 m diamond drilling program on their ‘Gold Creek’ Property which is contiguous to the Ternowesky Goldcreek claims along the northwest boundary. A gold-mineralized zone common to both properties in this area, returned 1.71 g/t Au over 6.95 m (Hole GC-2021-04). Surface grab samples collected by Portofino along the same zone yielded up to 5.12 g/t Au (Campbell et al. 2022).

1895: Gold was first reported and documented by the Ontario Bureau of Mines near the junction of the Matawin River and Gold Creek in the west central portion of the main Goldcreek Property claim block. The occurrence is known as the ‘Old Quartzite Gold Mine (location AL61)’ and is described as an auriferous, siliceous, pyritic schist. (Chorlton 1987, Coleman 1896). Evidence of the workings at this site can still be observed. During this period, the Matawin Iron Range was being

examined for its iron potential.
1897: McInnes (1899) of the Geological Survey of Canada, conducted mapping over the larger Shebandowan area, including Laurie and Duckwork townships.

1924-1931: Tanton (1926, 1938) of the Geological Survey of Canada, mapped the eastern and western portions of the Matawin Iron Range in the Shebandowan Belt, which included Laurie and Duckworth Townships.

1943-1944: Gunflint Iron Mines Ltd. completed a surface work program of prospecting, channel sampling and 852 m of diamond drilling (12 holes) to test the Matawin iron formation along the northern portion of the Goldcreek Property. Some of the gold mineralization uncovered during this work is located in the general area of the I-zone.

1956-1957: Monpre Mining Company Ltd. explored a block of claims along the Matawin iron formation in northern Duckworth and Laurie townships. Ground geophysics, geological mapping and 3,228 m of diamond drilling delineated 100 million tons of 30% Fe and an open pit mining pre-feasibility plan was prepared (Lichtblau and Larouche 1995).

1958: G. Chilian completed 172 m of diamond drilling in 10 holes on a gold showing (Chilian Occurrence) along the northwest shores of Sand Lake in west central Laurie Twp. Erratic gold values were encountered in the drill core. In 1972 in the same area near Gold Creek, D. Scali and V. Borschneck conducted an airborne magnetometer and electromagnetic geophysical survey and completed 3 diamond drill holes totalling 489 m. No significant gold values were reported.

1961: As part of a much larger regional aeromagnetic survey flown jointly by the Ontario Department of Mines (ODM) and the Geological Survey of Canada (GSC), the entire Shebandowan area was covered and published as 1:63,360 scale maps (ODM-GSC 1962).

1972-1973: T.C. Byrne, the Caltor Syndicate and Noranda Exploration Co. Ltd. carried out ground exploration on the southern part of the property and 1,027 m of diamond drilling was done in search of base metals (MNDM Assessment File No. 52BSE0051).

1973: Fenwick and Weinstock (1973) of the Ontario Division of Mines (Ontario Geological Survey), mapped Blackwell and Laurie Townships.

Early 1980's: Minor exploration was conducted within the volcanic belt in the southern part of Laurie Township for massive sulphide and gold mineralization. In the northern portion Duckworth and Laurie townships the I-zone area lies within the sedimentary belt which has been the focus for iron and gold exploration and is associated with iron formations in this area.

1983-1984: John Ternowesky, D. Walsten and W. Hayne staked a block of claims in east-central Duckworth Township and optioned them to Jalna Resources Ltd. The company conducted ground and airborne geophysical surveys, geological mapping, trenching, sampling and overburden drilling (243 holes). In addition to a soil sampling survey (2,352 samples),18 pits were excavated and 637 m of trenching were completed. The program outlined several gold-mineralized zones with disseminated pyrite in sericitized felsic volcanic schist coinciding with Au-As geochemical anomalies (North, South, Ternowesky and Creek zones). The program outlined a large alteration system with anomalous to sub-economic gold values (Hanych 1984).

At the North Zone, Jalna conducted a trenching program and uncovered an auriferous pyritic-sericite chert unit measuring 1.2 m to 6.1 m wide over a strike of 36.6 m. The channel samples returned values ranging from 1.43 g/t Au to 3.85 g/t Au with a unit average of 1.43 g/t Au over a width of 2.44 m. Grab samples collected along this zone assayed up to 20.9 g/t Au. A second gold bearing horizon, exposed over 54.9 m and consisting of pyritic, sericitic schists and amphibole-chlorite cherty tuffs, averaged 2.73 g/t over 2.44 m (Hanych 1984).

In the South Zone, trenching exposed pyritic sericitic tuffs measuring 3.05 m wide with assays ranging from 0.33 g/t Au to 0.71 g/t Au. The zone is open along strike (Hanych 1984).

At the Ternowesky Zone (T Zone), selected grab samples along a strike length of 12.2 m, returned assay results up to 32.34 g/t Au and 267.45 g/t Ag. Samples also indicated the presence of sphalerite and galena assaying up to 0.31% Zn and 0.02% Pb. Grab samples collected of vein material within pyritic, sericite schists in the same horizon, assayed up to 92.30 g/t Au and 1268.83 g/t Ag (Hanych 1984).

At the Creek Zone, Jalna outlined two parallel anomalous gold zones from overburden drilling. The zones identified are 274 m long by 91 m wide and the second is 488 m long by 91 m wide. Basal till samples within the zones ranged from 230 ppb Au to 2,200 ppb Au in the -250-mesh fraction (Hanych 1984).

Jalna Resources Ltd. also completed ground magnetometer and IP geophysical surveys over the Goldcreek Property. Results of the survey indicate high magnetism associated with mafic and ultramafic metavolcanics and associated intrusive rocks. The best IP anomalies were correlated with the pyritized felsic volcanics and felsic tuffs, and shear zones between metasediments and felsic metavolcanics trending east-southeast. An airborne magnetic and electromagnetic survey (HEM and VLF-EM) was conducted over the property in 1985. The survey indicated a highly conductive (strong HEM anomalies) sulphide-rich belt striking northeast between Goldcreek and the Matawin River immediately south of the iron formations. Two other strong HEM conductors occur north of the iron formation and within the metasedimentary–metavolcanic sequence (MNDM Assessment File No. 52A12SE8101).

1984-1985: Anaconda Canada Exploration Ltd. ("Anaconda") followed up work completed by Jalna Resources with 1117 m of diamond drilling in 13 holes, confirming anomalous gold values over large areas in the I-Zone, South-Zone, North-Zone, Ternowesky Zone and Creek-Zone. The highest gold value obtained from the drilling program between the North Zone and South Zone, was 4.1 g/t Au. Surface sampling over the Ternowesky Zone, consisting of a mineralized 1.0 m wide by 12 m long exposure, returned assay results up to 35.65 g/t Au and 295 g/t Au. Drill hole GC-5 collared at this location, returned 0.77 g/t Au over 1.0 m. At the South Zone, drill hole GC-4 intersected quartz-sericite schists and crystal tuffs grading 277 ppb Au over 43.7 m including two 1.0 m assays of 1.4 g/t Au and 1.2 g/t Au. Also at the South Zone, drill holes GC-10 and GC-13 tested sheared to mylonitized quartz-crystal tuffs, but no significant gold values were obtained. In the Four holes completed along the North Zone (GC-1, GC-2, GC-3, GC-7) intersected sericitized, pyritized felsic tuffs assaying 0.37 g/t Au over 7.0 m, 0.21 g/t Au over 8.9 m, 0.30 g/t over 7.8 m and 0.32 g/t Au over 7.1 m respectively. One sample at this location assayed 4100 ppb Au over 1.1 m (8.1 m depth). Surface sampling along the North Zone returned assays of 0.49 g/t Au to 4.25 g/t Au over widths up to 4.6 m. The Creek Zone was drilled and intersected felsic volcanic breccias with cherts

(containing 5% to 10% pyrite) and sericitized intermediate to felsic volcanic tuffs assaying 0.84 g/t Au over 2.2 m (MNDM Assessment File No. 52A12SE8102).

1985,1987-1989: Noranda Exploration Co. Ltd. completed airborne and ground EM and Mag surveys, selective radiometric and gravity surveys, geochemical sampling, geological mapping and overburden stripping covering much of Duckworth Township (MNDM Assessment File No. 52BSE0038).

1986: Carter (1987) of the Ontario Geological Survey completed detailed mapping of Laurie Township covering the main central portion of the Goldcreek claim group (Geology Map P.3083).

1987-1988: Inco Gold completed prospecting, stripping, trenching and diamond drilling totalling 1449 m, focused on the I-Zone and syenite dikes in the area. The best intersections in holes DDH-74876 and DDH-7487 (Dike #10, I-Zone), consists of a syenite dike cut by quartz veins with visible gold and traces of pyrite and chalcopyrite assaying 4.91 g/t Au over 5.64 m and 3.28 g/t Au over 14.6 m respectively. Late in 1988 Inco conducted stripping and trenching over 15 zones hosting gold mineralization and completed 1754 m of diamond drilling in the same area testing the syenite dyke mineralization (Lichtblau 1995).

1989-1990: Inco Gold constructed a 1 km gravel road to the I-Zone and performed further stripping and trenching, detailed mapping and channel sampling (238 samples) over 46 m of the I–Zone and portions of the surrounding syenite body. The company also completed 1273 m of diamond drilling in 11 holes) on the I-zone and several other zones in the north-central portion of Duckworth Township. The best intersection returned 1.62 g/t Au over 1.85 m in quartz veins hosted by a quartz crystal tuff containing 2% to 3% pyrite. During the year a bulk cyanide test from the channel samples collected on the I-Zone were leached with cyanide over a 110-hour period demonstrating a recovery of 96.2% with an average grade of 1.05 g/t Au. The program by Inco confirmed the significant gold potential of the syenite dykes and surrounding felsic volcanics. (MNDM Assessment File No's. 52B09SE0005; 52BSE0007; 52B09SE0008, 52B09SE0010; 52B09SE0012; 52B09SE0015; 52B09SE0016; 52BSE0006; 52BSE0079; 52BSE0080; 52BSE0083; 52BSE0084; 52BSE0098).

1991: Inco drilled 5 diamond drill holes totalling 369 m on the east side of the

Goldcreek block. The gold mineralization is associated with mineralized (pyrite), altered felsic volcanic tuffs (sericite-fuchsite) cut by quartz-carbonate veining. Hole BH78494 intersected 4.21 g/t Au over 1.04 m. The drilling by Inco failed to extend the mineralization observed at surface with grab samples assaying up to 36.9 g/t Au, chip sampling over 1.3 m assaying 12.0 g/t Au and several other samples collected along the shear zone assaying from 1.0 g/t Au to 13.7 g/t Au (MNDM Assessment File No. 52BSE0078).

1991: The Ontario Geological Survey flew a large regional airborne Mag-EM survey across the central portion of the Shebandowan Greenstone Belt, which included the Goldcreek Property area (Geophysical Data Set 1021).

1995: Rogers (1995) of the Ontario Geological Survey (OGS) completed detailed mapping of Duckworth Township covering much of the western portion of the Goldcreek Property (Geology Map M2621).

1995-1997: Anaconda spent $250,000 in line-cutting, ground geophysics (VLF-EM16 and Magnetic), trenching, stripping, data compilation of Noranda and Jalna Resources work, and two diamond drilling campaigns totalling 914 m.

1995-1997: Ovalbay Geological Services Inc. performed geological mapping, ground geophysical surveys and evaluated the gold and base metal potential of the Goldcreek property. In addition, Ovalbay drilled 9 holes on the Goldcreek property in Duckworth township for Ternowesky-Walsten. No analytical results were reported. In 1996, Ovalbay completed stripping on the Goldcreek property. An area of approximately 100 m by 150 m was exposed revealing a syenite dyke in contact with intermediate metavolcanics. Along the contact, numerous hairline to millimetre thick quartz carbonate veinlets containing trace to 1% disseminated pyrite were uncovered. No analytical results were reported. In 1997 an additional 7 holes were drilled totalling 610 m and analysis of the 1995 diamond drill core was completed. Anomalous gold assays include; 4.32 g/t over 41.0 m; 4.36 g/t over 20.4 m; 4.53 g/t over 14.4 m; and 3.33 g/t over 6.5 m from the I-Zone (Lenard and Ilieva 2008).

1995-1997: Landore Resources Inc. completed a $250,000 exploration program consisting of ground and airborne geophysics, mapping, stripping, channel sampling and diamond drilling on the Goldcreek Property.

On the I-Zone, seven (7) diamond drill holes totalling 304.8 m were completed (July

1995) in order to sample the zone and gain confidence in the grade, style and setting of gold mineralization. DDH No. 95-4, which returned an average grade of 3.57 g/t Au over 41.0 m, was oriented subparallel with the dyke and perpendicular with the ladder veins. Some of the grades are spectacular which demonstrates that bonanzas are possible within this auriferous dyke system. It also demonstrates that gold is found in sub-economic and economic proportions downdip of the I-Zone. This intersection is not indicative of the overall grade of the I-Zone, but it is an important feature.

During the winter of 1996 a total of 80 line-km of ground geophysics were completed in the central portion of the property. The ground geophysical surveys (magnetometer and VLF-EM 16) were oriented at locating more precisely some of the major structures known to be present in the surveyed area, namely the north and south contacts of the Timiskaming sediments and the extension of the Crayfish Creek Fault. In May 1996, stripping was completed in the central part of the study area to expose a syenite dyke present within felsic tuff, outside of the Timiskaming sediments.

In May 1996, some 609.6 m of diamond drilling (9 holes) were completed in the southern felsic volcanic belt on 5 different targets, which returned anomalous gold values from surface sampling. Hand stripping and mapping exposed ENE trending syenite dykes intruding well-foliated felsic lapilli breccias. The syenite dyke is exposed across a width of about 70 m. Previous work by Inco (1987) returned grab sample assays of 1.76 ppm Au from the general area. The dykes are undeformed but veined with quartz and fractured, especially near the northern contact. The holes were drilled at the "North Zone" to establish the stratigraphy in the area. Work by previous operators in this area, returned 3.02 g/t Au over an average width of 2.43 m along a 54.9 m strike length in surface sampling. Another three holes totalling 225 m were drilled on the South Zone where a previous drill hole by Inco (DDH # 78411-0) returned assay values of 1.63 g/t Au over 7.5 m. Surface sampling from this zone returned an average of 0.64 g/t Au from 63 samples covering an area of 14 m by 22 m. The last three holes were drilled on new structures (cherty horizon, sericite schist zone, syenite dyke) within the felsic volcanic belt to obtain a cross section of the geology in these areas. These nine holes intersected the appropriate geology, structure and alterations observed from surface. (MNDM Assessment File No. 52BSE0069).

1997: Landore Resources completed a cyanide leach of pulp as a test to study the percentage of extraction by cyanide of the gold content. Conventional assaying (Fire Assay) returned an average of 0.182 opt Au (6.25 g/t Au) from the twenty-two (22)

samples submitted. The Cyanide leach (pulp) assays returned an average of 0.194 opt Au (6.75 g/t Au), showing an increase of 6.6% in the grade. This test also showed that the percentage of extraction by cyanide was over 92%, which confirmed the leach test conducted by Inco in 1989-90 on samples from surface (Larouche, 1997).

2006: HELM Resources Inc. completed a 498 line-km airborne VTEM and total field magnetic survey over the property (MNDM Transaction No. W0640.01332).

2007: Mengold Resources Inc. optioned the Goldcreek Property from prospector John Ternowesky. The company completed an extensive basil till geochemical survey over the Center Zone in south-central Laurie Township. A total of 64.835 line-km was surveyed and 3,287 samples collected and analyzed for gold and base metals. The survey revealed two broad gold geochemical anomalies 200 m to 300 m wide by 1.2 km long and a very broad 500 m to 1.2 km wide by 3.1 km long copper anomaly (Scodnick 2008).

2008: Mengold Resources Inc. and JV partner Solomon Resources Inc., completed a 2212 m diamond drilling program in 13 holes over the I-Zone (8 holes) in north-central Duckworth Township and on the Centre Zone (5 holes) in south central Laurie Township. At the I-Zone, the best results were obtained in holes GC08-11 and 12 which targeted the syenite dykes and returned 6.8 g/t over 4.3 m and 1.47 g/t over 12.5 m respectively. In the Centre Zone, although no significant gold or base metal values were encountered, almost every hole intersected sulphide mineralization consisting of pyrrhotite and/or pyrite with traces of sphalerite, chalcopyrite and galena varying from disseminated to massive (Dufresne 2009).

2019: First Minerals Exploration Ltd. completed a ground VLF-EM geophysical survey over a property in the northwestern portion of Duckworth Township immediately west of the northern Goldcreek claim block. The survey indicated 6 well-defined east-northeast and east-southeast trending conductors along strike from gold occurrences on the Goldcreek Property and the I-Zone. Two of the conductors on First Minerals property are associated with known historical gold showings (MNDM Assessment File No. 20000017220).

2020-2021: Portofino Resources Inc. optioned the First Minerals Exploration Property and several additional multi-cell claim blocks extending from the Ternowesky's Goldcreek property boundary west to Dakota and Tinto Lakes in northwest Duckworth and northeast Lamport Townships. In the fall of 2020, the company completed a prospecting and sampling program involving the collection of 2011 grab samples from their 'Gold Creek' Property. Historical zones were located

and sampled, including the historical AH-AF-U Zones, the S1 Zone and the I-Zone. Sampling confirmed anomalous to high-grade gold at each of these zones, including up to 45.6 g/t Au at the I-Zone, from north-south ladder veins in an east-west syenite dike. A new zone (the New Road Zone) in the vicinity of the Crayfish Creek Fault adjacent to the Ternowesky Property, was also uncovered which returned up to 4.07 g/t Au from altered monzonite-syenite with pyrite and quartz stringers (MacLachlan 2021).

Portofino Resources also conducted a 4-holes, 798 m diamond drilling program in early 2021. Drilling tested the New Road Zone discovered in 2020 and the historical S-1 Zone. Grab samples collected from the S-1 Zone during the 2020 prospecting program returned up to 5.12 g/t Au. The diamond drilling results were somewhat disappointing with the best result at 1.71 g/t Au over 6.95 m, including 2.4 g/t Au over 3.36 m, with individual values up to 6.37 g/t Au over 0.43 m. The host rock consists of quartz stringers in mineralized (pyrite, chalcopyrite and galena), strongly potassium-altered and silicified monzonite to monzodiorite dike rock, including a few specks of visible gold (MacLachlan 2021).

8.0 CURRENT WORK

Helicopter-borne VTEM and Magnetic Gradiometer Survey Details

The Goldcreek block was flown in a southeast to northwest (340° azimuth or N 160° E) direction with traverse line spacings of 100 m. Tie lines were flown perpendicular to traverse lines at 1000 m line spacing. A total of 743.2 line-km of geophysical data were acquired during the Part 2 portion of the survey, as explained in the ‘Introduction’ portion of this report.

The crew was based out of Kakabeka Falls, Ontario for the acquisition phase of the survey. Survey flying occurred from February 2 to 27, 2023. Data quality control and quality assurance, and preliminary data processing were carried out daily during the acquisition phase of the project. Final data processing followed immediately after the end of survey. Final reporting, data presentation, and archiving was completed on February 27, 2023 for the Part 2 portion of the survey.

The geophysical survey consisted of helicopter-borne EM using the versatile time-domain electromagnetic (VTEM™) plus system with Full-Waveform processing. Measurements consisted of Vertical (Z), In-line, and Cross-line Horizontal (X&Y) components of the EM fields using an induction coil and a horizontal magnetic

gradiometer with two caesium magnetometers. During the survey, the helicopter was maintained at a mean altitude of 98 m above the ground with an average survey speed of 80 km/hour. This allowed for an actual average Transmitter-Receiver loop terrain clearance of 50 m and a magnetic sensor clearance of 60 m. Topographically, the survey area exhibits relief with elevations ranging from 396 to 539 m over an area of 66 km^2 and is covered by forest, lakes and occasional wetlands with a few challenging hills and depressions. The Shabaqua Community Road provides access from Highway #11-17 to the eastern portion of the property and the Mine Road-Gold Creek Road provides good access to the western portion of the Goldcreek Property. The Goldcreek claim group lies approximately 70 km west of the City of Thunder Bay and 30 km northwest of the town of Kakabeka Falls.

Coordinates outlining the survey block are given with respect to NAD-83 datum in UTM projection zone 16N. The GPS center point of the claim group is UTM Zone 16, 278765E, 5379704N. The location of the Goldcreek Property claims and survey lines are shown in the attached Geotech report (Page 5, Figure 2).

Work conducted on the Goldcreek Project

The Goldcreek property consists of 348 unpatented cell and boundary claims in two contiguous blocks within Laurie, Duckworth, Conacher and Horne Townships, recorded in good standing in Thunder Bay Mining Division. The Part 2 Helicopter-borne VTEM and Horizontal Magnetic Gradiometer Geophysical Survey covered 184 claims in the western and northwestern portion of the Goldcreek Property (see list below and Figure 7):

105685,106503,109040,109452,120298,121384,123431,127925,135428,139368,139385,140251,
144587,144588,146363,148352,148853,160463,165903,171108,178112,178113,187410,188021,
190072,191376,191400,193028,194306,199625,212296,216097,217841,217842,223966,225188,
228639,230165,233211,235867,236073,240787,240914,240915,242211,243553,245354,245355,
248087,248925,249203,251504,251505,252215,252216,252217,254198,254199,254683,277850,
280011,280012,281218,283824,289303,289304,291890,298694,298695,300751,300752,301452,
301453,303412,306615,307945,307963,308266,316295,320104,320105,325112,327879,335578,
336356,336357,339691,341659,541200,541201,541202,541232,541233,541235,541236,541238,
541239,541240,541241,541242,541245,541246,541247,541248,541249,541250,541251,541253,
541254,541255,541256,541257,541258,541260,541279,541280,541281,541282,541283,541284,
541285,541286,541287,541288,541289,541290,541291,541292,541293,541297,541298,541299,
541300,541301,541302,541303,541304,541305,541330,541331,541334,541670,541671,541672,
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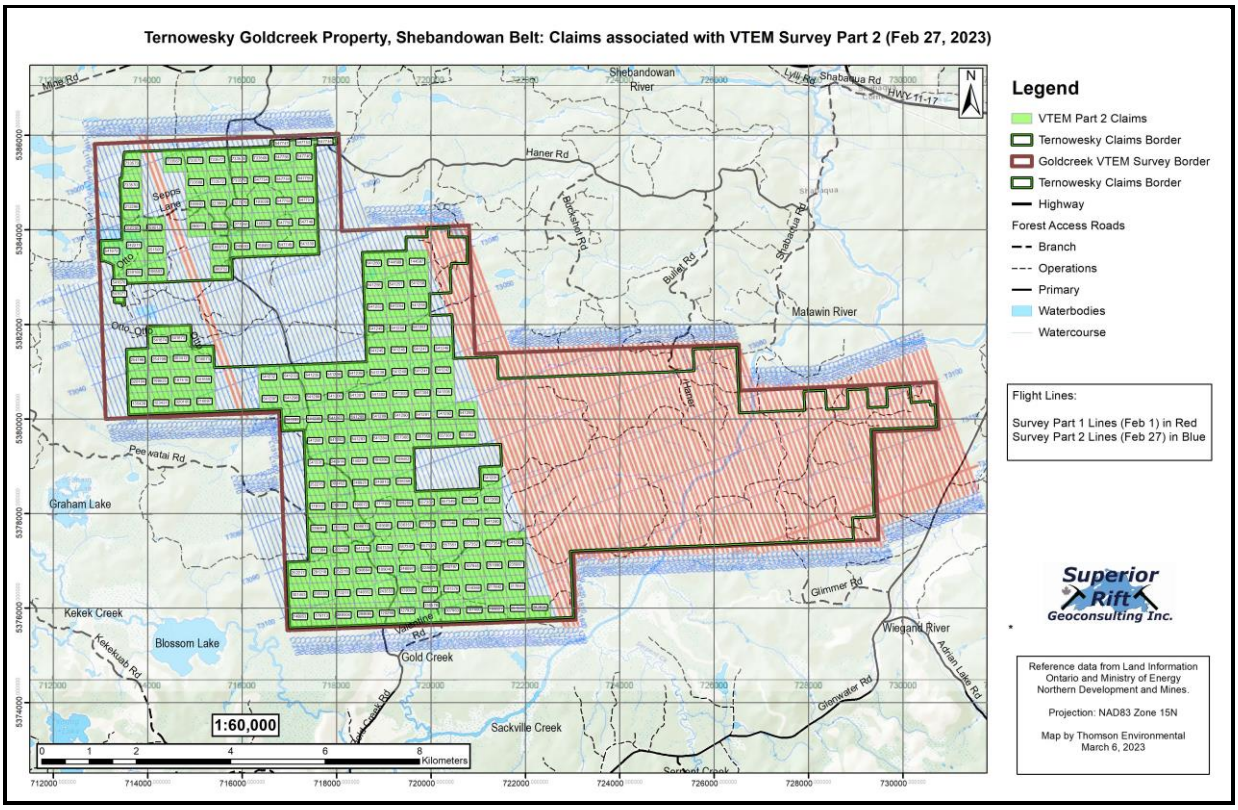

Figure 7. Goldcreek Property, Claims covered by Geotech VTEM Survey, Part 2

9.0 RESULTS AND CONCLUSION

On the Goldcreek claim block, the Part 2 area covered by the survey is 66 km^2 representing 743.2 line-km. The principal sensors included a Time Domain EM system, and a horizontal magnetic gradiometer system with two caesium magnetometers. Results have been presented as stacked profiles, and contour color images at a scale of 1:10,000. A detailed formal interpretation of the collected data is included in the attached Part 2 report, following the completion of the VTEM survey over the entire remaining claim blocks comprising the Goldcreek Property.

The Geotech Helicopter-Borne Versatile Time Domain Electromagnetic (VTEM Plus) and Horizontal Magnetic Gradiometer geophysical survey Part 2, completed by property owner John Ternowesky on February 27, 2023, outlined high-priority targets that may represent base metal (gold-rich) mineralization within the altered metavolcanic sequences underlying the Goldcreek Property. Figures 8, 9 and 10 below show 3 key anomaly maps from the Geotech VTEM airborne survey covering the 2 non-contiguous claim blocks of the Goldcreek Property.

Based on the survey results, several geophysical anomalies of interest have been defined on the property. Since EM conductors are of interest for the exploration program, it is recommended that EM anomaly picking, and Maxwell plate modelling of EM anomalies of greatest interest be performed prior to ground follow up and drill testing. If targets are nonconductive, more advanced 1D layered earth modelling of the EM data will prove useful in highlighting weakly anomalous resistive and conductive features of interest, both in plan and in cross-section. Magnetic CET structural and lineament analysis as well as 3D MVI magnetic inversions will be useful for mapping structure, alteration, and lithology in 2D-3D space across the property. Finally, it is recommended that more advanced, integrated interpretation be performed on these geophysical data and results further evaluated for future targeting.

The Goldcreek Property is known to be prospective for BIF (Banded Iron Formation) and orogenic shear-hosted gold, and base metal VMS mineralization (Cu, Zn, Pb) related to mafic-felsic volcanic sequence. As a result, both the EM and magnetic results will be useful to the exploration targeting, especially when evaluated against the known geology from the property.

10.0 EXPENDITURES

Total line-km flown Geotech VTEM Survey, Goldcreek Property: **1167.1**

Total cost of survey, Part 1 and 2 (before HST): **$285,847.17**

Total cost of survey, Part 2 (before HST): $147,439.67

Note: See attached Statement and Invoices in Appendix II for details.

11.0 RECOMMENDATIONS

The discussion on the geological implication of the survey data is minimal in this report. A more general study including information regarding the local geology and all other geoscience data available in the area would be necessary to extract the full potential of the geophysical data and help to confirm and prioritize exploration targets. EM anomalies detected by this survey should be first investigated with basic ground prospecting methods. If significant results are obtained from this work, or if overburden proves too thick for prospecting, it is recommended to use ground

resistivity/IP or EM techniques to accurately define targets for stripping, channel sampling and/or drilling.

The implementation of a geochemical soil or basal till sampling program could also help further prioritize outlined anomalies. In addition, considering the possibility that sulphide mineralization may be disseminated and/or non-conductive, the magnetic data could then be used on its own to guide exploration efforts.

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13.0 Statement of Qualifications

AUTHOR'S CERTIFICATE

I, Gerald Dewar White, do hereby certify as follows:

1. I am an independent consulting geologist, and I reside and carry-on business at 28 Hill Street South, Thunder Bay, Ontario, P7B 3T5 under Superior Rift Geoconsulting Inc.;

2. That I have the degree of Bachelor of Science in Geology, 1979, from the University of Manitoba;

3. That I am a member in good standing of the Professional Geoscientists of Ontario (Member No. 0184, effective June 22, 2002)

4. That I have been practicing my profession in Canada continuously since 1979;

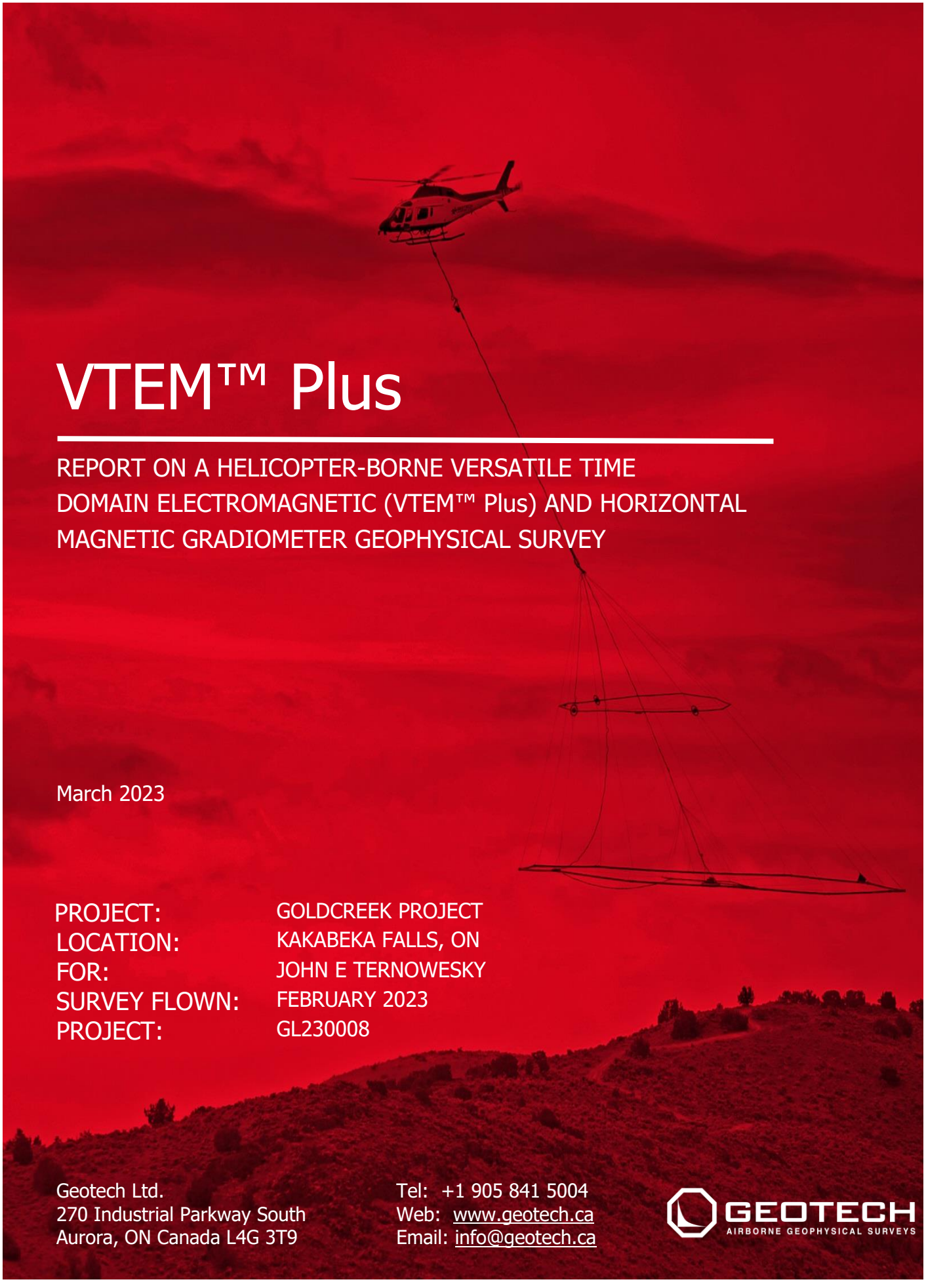
5. That I am the author of a report entitled "2023 Airborne Geophysical Survey Report, Part 2, Goldcreek Property, Laurie, Duckworth, Conacher and Horne Townships, East Shebandowan Area, Thunder Bay Mining Division, Northwestern Ontario, Canada" prepared for John Ternowesky, with an effective date of March 4, 2023, and that I am responsible for all sections of the Report;

6. That, as at the effective date of the Report, to the best of my knowledge, information and belief, the Report contains all scientific and technical information that is required to be disclosed to make the Report not misleading.

Dated at Thunder Bay, Ontario
This 4th day of March 2023

Gerald White, BSc., P.Geo.

14.0 Appendix I: Geotech Ltd. Survey Report, Part 2



VTEM™ Plus

REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM™ Plus) AND HORIZONTAL MAGNETIC GRADIOMETER GEOPHYSICAL SURVEY

March 2023

PROJECT:	GOLDCREEK PROJECT
LOCATION:	KAKABEKA FALLS, ON
FOR:	JOHN E TERNOWESKY
SURVEY FLOWN:	FEBRUARY 2023
PROJECT:	GL230008

Geotech Ltd.
270 Industrial Parkway South
Aurora, ON Canada L4G 3T9

Tel: +1 905 841 5004
Web: www.geotech.ca
Email: info@geotech.ca

GEOTECH
AIRBORNE GEOPHYSICAL SURVEYS

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EXECUTIVE SUMMARY

GOLDCREEK PROJECT
KAKABEKA FALLS, ON

Between February 2nd and February 27th, 2023, Geotech Ltd. carried out a helicopter-borne geophysical survey over the Goldcreek Project, near Kakabeka Falls, ON.

Principal geophysical sensors included a versatile time domain electromagnetic (VTEM™ Plus) system and a horizontal magnetic gradiometer with two caesium sensors. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 743 line-kilometres of geophysical data were acquired during the survey.

In-field data quality assurance and preliminary processing were carried out on a daily basis during the acquisition phase. Preliminary and final data processing, including generation of final digital data and map products were undertaken from the office of Geotech Ltd. in Aurora, Ontario.

The Preliminary processed survey results are presented as the following maps:

- Electromagnetic stacked profiles of the B-field Z Component
- dB/dt Z Component Channel grid
- Total Magnetic Intensity (TMI)

Digital data include all electromagnetic and magnetic products, plus ancillary data including the waveform.

The survey report describes the procedures for data acquisition, equipment used, processing, preliminary image presentation and the specifications for the digital data set.

1. INTRODUCTION

1.1 GENERAL CONSIDERATIONS

Geotech Ltd. performed a helicopter-borne geophysical survey over the Goldcreek Project near Kakabeka Falls, ON (Figure 1 & Figure 2).

John E Ternowesky was the client contact during the data acquisition and data processing phases of this project.

The geophysical surveys consisted of helicopter borne EM using the versatile time-domain electromagnetic (VTEM™) plus system with Full-Waveform processing. Measurements consisted of Vertical (Z), In-line, and Cross-line Horizontal (X&Y) components of the EM fields using an induction coil and a horizontal magnetic gradiometer using two caesium magnetometers. A total of 743 line-km of geophysical data were acquired during the survey.

The crew was based out of Kakabeka Falls, ON for the acquisition phase of the survey. Survey flying occurred on February 2nd to February 27th , 2023.

Data quality control and quality assurance, and preliminary data processing were carried out on a daily basis during the acquisition phase of the project. Preliminary data processing followed immediately after the end of survey. Preliminary reporting, data presentation, and archiving was completed in March 2023.

Figure 1: Survey location

1.2 SURVEY AND SYSTEM SPECIFICATIONS

The survey area is located approximately 45km northwest of Thunder Bay and 23km northwest of Kakabeka Falls, ON (Figure 2).

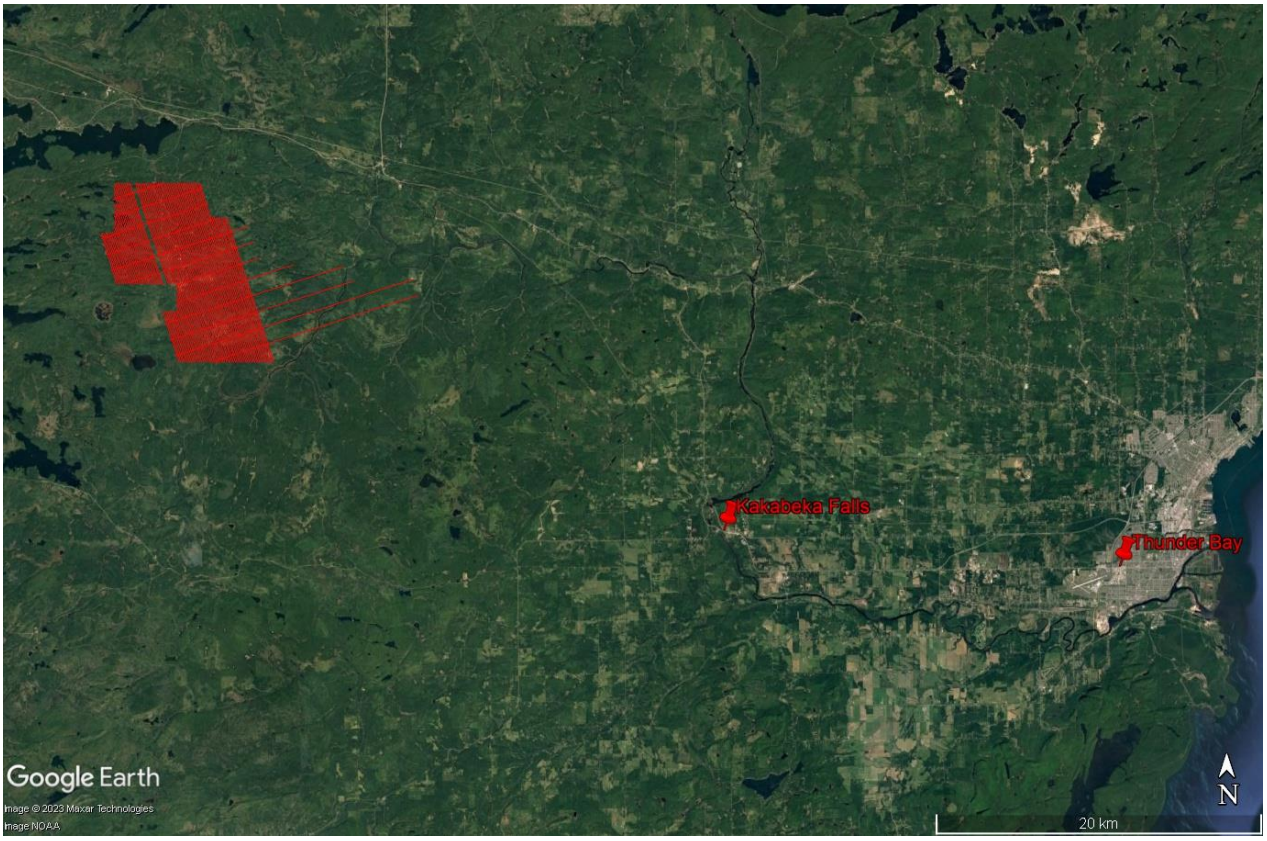


Figure 2: Survey area location map on Google Earth.

The Goldcreek Project was flown in a northwest to southeast (N 160° E azimuth) direction with traverse line spacings of 100 meters as depicted in Figure 3. Tie lines were flown perpendicular to traverse lines at 1000m line spacing. For more detailed information on the flight spacings and directions, see Table 1.

1.3 TOPOGRAPHIC RELIEF AND CULTURAL FEATURES

Topographically, the survey area exhibits relief with elevations ranging from 396 to 539 metres over an area of 66 square kilometres (Figure 3).

There are visible signs of culture such as roads and powerlines. within the Goldcreek project area. There are rivers and lakes within and around the survey area as well.

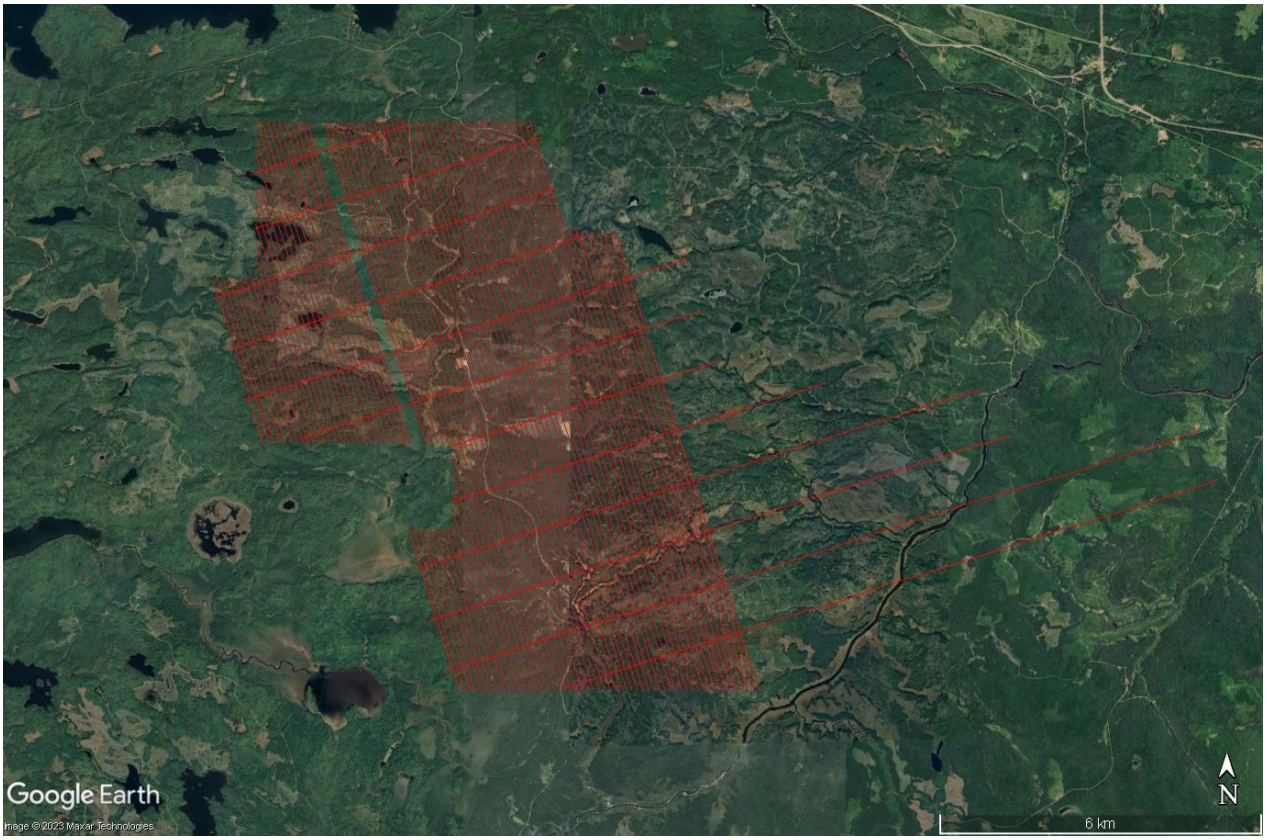


Figure 3: The Goldcreek Project flight path over a Google Earth Image.

2. DATA ACQUISITION

2.1 SURVEY AREA

The survey area (see Figure 3 and Appendix A) and general flight specifications are as follows:

Table 1: Survey Specifications

Survey block	Line spacing (m)	Area (Km^2)	Planned Line-km	Actual[1] Line-km	Flight direction	Line numbers
Goldcreek	Traverse: 100	66	1167	743	N160°E / N340°E	L1000-L1260 L1290-L1750
	Tie: 1000				N70°E / N250°E	T3000-T3110
TOTAL		66	1167	743		

Survey area boundaries co-ordinates are provided in Appendix B.

2.2 SURVEY OPERATIONS

Survey operations were based out of Kakabeka Falls, ON. The following table shows the timing of the flying.

Date	Comments
02-Feb	No flights possible due to strong winds all day. Pilot crew change.
03-Feb	212 km flown. Two production flights completed.
04-Feb	49 km flown. One production flight cut short due to strong winds, low ceilings.
05-Feb	No flights possible due to snow, low ceilings all day. Aircraft engineer arrive onsite for routine maintenance.
06-Feb	No flights possible due to freezing drizzle, low ceilings all day.
07-Feb	No flights possible due to freezing drizzle, strong winds all day.
08-Feb	77 km flown; but not accepted due to moisture enhanced EM response. Troubleshooting EM noise in morning.
09-Feb	No flight testing possible due to rain, low ceilings all day.
10-Feb	44 km flown. Flight testing completed; system operational.
11-Feb	No production flights possible due to strong winds all day. Routine aircraft maintenance.
12-Feb	Production attempted and aborted due to low ceilings. Routine aircraft maintenance.
13-Feb	No production flights possible due to strong winds all day.
14-Feb	73 km flown. Limited production due to rain, low ceilings in afternoon.
15-Feb	No production flights possible due to snow, low ceilings, strong winds all day.
16-Feb	Production attempted and aborted due to low ceilings.
17-Feb	No production flights possible due to magnetometer troubleshooting.
18-Feb	Magnetometer troubleshooting completed in morning. No production flights possible due to strong winds in afternoon.
19-Feb	No production flights possible due to low ceilings, strong winds all day.
20-Feb	Production flight attempted and aborted due to low ceilings. Magnetometer malfunction also reoccurred during flight attempt. Magnetometer troubleshooting resumed.

[1] Note: Actual Line kilometres represent the total line kilometres in the preliminary database by February 1, 2023.

Date	Comments
21-Feb	Magnetometer issue resolved. No production flights possible due to strong winds.
22-Feb	82 km flown. Limited production due to strong winds in afternoon.
23-Feb	No production flights possible due to strong winds all day.
24-Feb	44 km flown. Limited production due to magnetometer troubleshooting, and strong winds in afternoon.
25-Feb	No production flights possible due to low ceilings all day.
26-Feb	237 km flown. Flight path completed.
27-Feb	Demob

2.3 FLIGHT SPECIFICATIONS

During the survey, the helicopter was maintained at a mean altitude of 108 metres above the ground with an average survey speed of 77 km/hour. This allowed for an actual average Transmitter-receiver loop terrain clearance of 60 metres and a magnetic sensor clearance of 70 metres.

The on-board operator was responsible for monitoring the system integrity. He also maintained a detailed flight log during the survey, tracking the times of the flight as well as any unusual geophysical or topographic features.

On return of the aircrew to the base camp the survey data was transferred from a compact flash card (PCMCIA) to the data processing computer. The data were then uploaded via ftp to the Geotech office in Aurora for daily quality assurance and quality control by qualified personnel.

2.4 AIRCRAFT AND EQUIPMENT

2.4.1 SURVEY AIRCRAFT

The survey was flown using a Eurocopter Aerospatiale (A-Star) 350 B3 helicopter, registration C-GEOQ. The helicopter is owned and operated by Geotech Aviation Ltd. Installation of the geophysical and ancillary equipment was carried out by a Geotech Ltd. crew.

2.4.2 ELECTROMAGNETIC SYSTEM

The electromagnetic system was a Geotech Time Domain EM (VTEM™ Plus) full receiver-waveform streamed data recorded system. The "full waveform VTEM system" uses the streamed half-cycle recording of transmitter and receiver waveforms to obtain a complete system response calibration throughout the entire survey flight. VTEM with the serial number 10 had been used for the survey. The VTEM™ transmitter current waveform is shown diagrammatically in Figure 4.

The VTEM™ Receiver and transmitter coils were in concentric-coplanar and Z-direction oriented configuration. The receiver system for the project also included coincident-coaxial X&Y-direction coils to measure the in-line and cross-line dB/dt and calculate B-Field responses. The Transmitter-receiver loop was towed at a mean distance of 48 metres below the aircraft as shown in Figure 5.

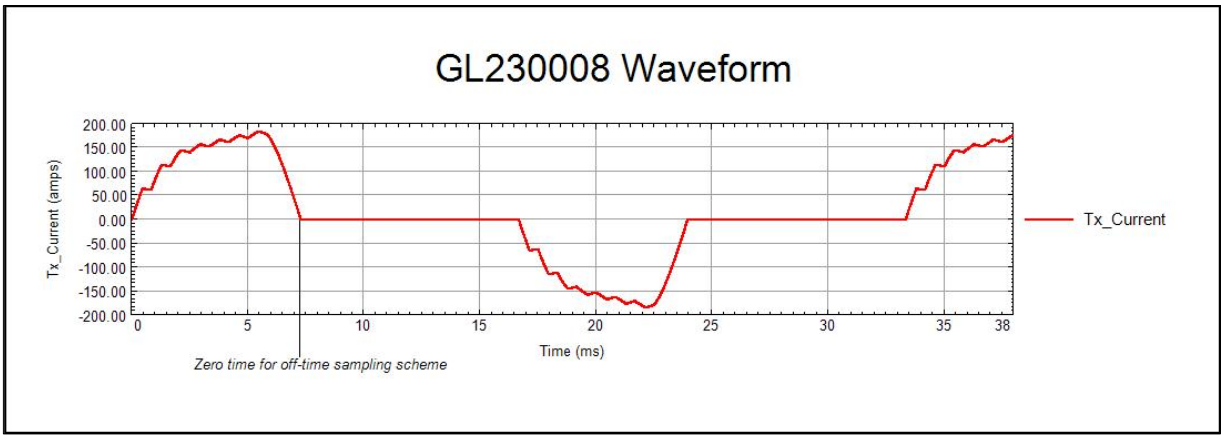


Figure 4: VTEM™ Transmitter Current Waveform

The VTEM™ decay sampling scheme is shown in Table 2 below. Forty-three-time measurement gates were used for the final data processing in the range from 0.021 to 8.083 msec. Zero time for the off-time sampling scheme is equal to the current pulse width and is defined as the time near the end of the turn-off ramp where the dI/dt waveform falls to 1/2 of its peak value.

Table 2: Off-Time Decay Sampling Scheme

VTEM™ Decay Sampling Scheme				
Index	Start	End	Middle	Width
Milliseconds				
4	0.018	0.023	0.021	0.005
5	0.023	0.029	0.026	0.005
6	0.029	0.034	0.031	0.005
7	0.034	0.039	0.036	0.005
8	0.039	0.045	0.042	0.006
9	0.045	0.051	0.048	0.007
10	0.051	0.059	0.055	0.008
11	0.059	0.068	0.063	0.009
12	0.068	0.078	0.073	0.010
13	0.078	0.090	0.083	0.012
14	0.090	0.103	0.096	0.013
15	0.103	0.118	0.110	0.015
16	0.118	0.136	0.126	0.018
17	0.136	0.156	0.145	0.020
18	0.156	0.179	0.167	0.023
19	0.179	0.206	0.192	0.027
20	0.206	0.236	0.220	0.030
21	0.236	0.271	0.253	0.035
22	0.271	0.312	0.290	0.040
23	0.312	0.358	0.333	0.046
24	0.358	0.411	0.383	0.053
25	0.411	0.472	0.440	0.061

VTEM™ Decay Sampling Scheme				
Index	Start	End	Middle	Width
Milliseconds				
26	0.472	0.543	0.505	0.070
27	0.543	0.623	0.580	0.081
28	0.623	0.716	0.667	0.093
29	0.716	0.823	0.766	0.107
30	0.823	0.945	0.880	0.122
31	0.945	1.086	1.010	0.141
32	1.086	1.247	1.161	0.161
33	1.247	1.432	1.333	0.185
34	1.432	1.646	1.531	0.214
35	1.646	1.891	1.760	0.245
36	1.891	2.172	2.021	0.281
37	2.172	2.495	2.323	0.323
38	2.495	2.865	2.667	0.370
39	2.865	3.292	3.063	0.427
40	3.292	3.781	3.521	0.490
41	3.781	4.341	4.042	0.560
42	4.341	4.987	4.641	0.646
43	4.987	5.729	5.333	0.742
44	5.729	6.581	6.125	0.852
45	6.581	7.560	7.036	0.979
46	7.560	8.685	8.083	1.125

Z Component: 4-46 time gates
X Component: 20-46 time gates
Y Component: 20-46 time gates

Table 3: VTEM™ System Specifications

Transmitter	Receiver
• Transmitter loop diameter: 26 m • Number of turns: 4 • Effective Transmitter loop area: 2123.7 m^2 • Transmitter base frequency: 30 Hz • Peak current: 184.34 A • Pulse width: 7.28 ms • Waveform shape: Bi-polar trapezoid • Peak dipole moment: 391485.59 nIA • Average transmitter-receiver loop terrain clearance: 59 metres	• X -Coil diameter: 0.32 m • Number of turns: 245 • Effective coil area: 19.69 m^2 • Y -Coil diameter: 0.32 m • Number of turns: 245 • Effective coil area: 19.69 m^2 • Z-Coil diameter: 1.2 m • Number of turns: 100 • Effective coil area: 113.04 m^2

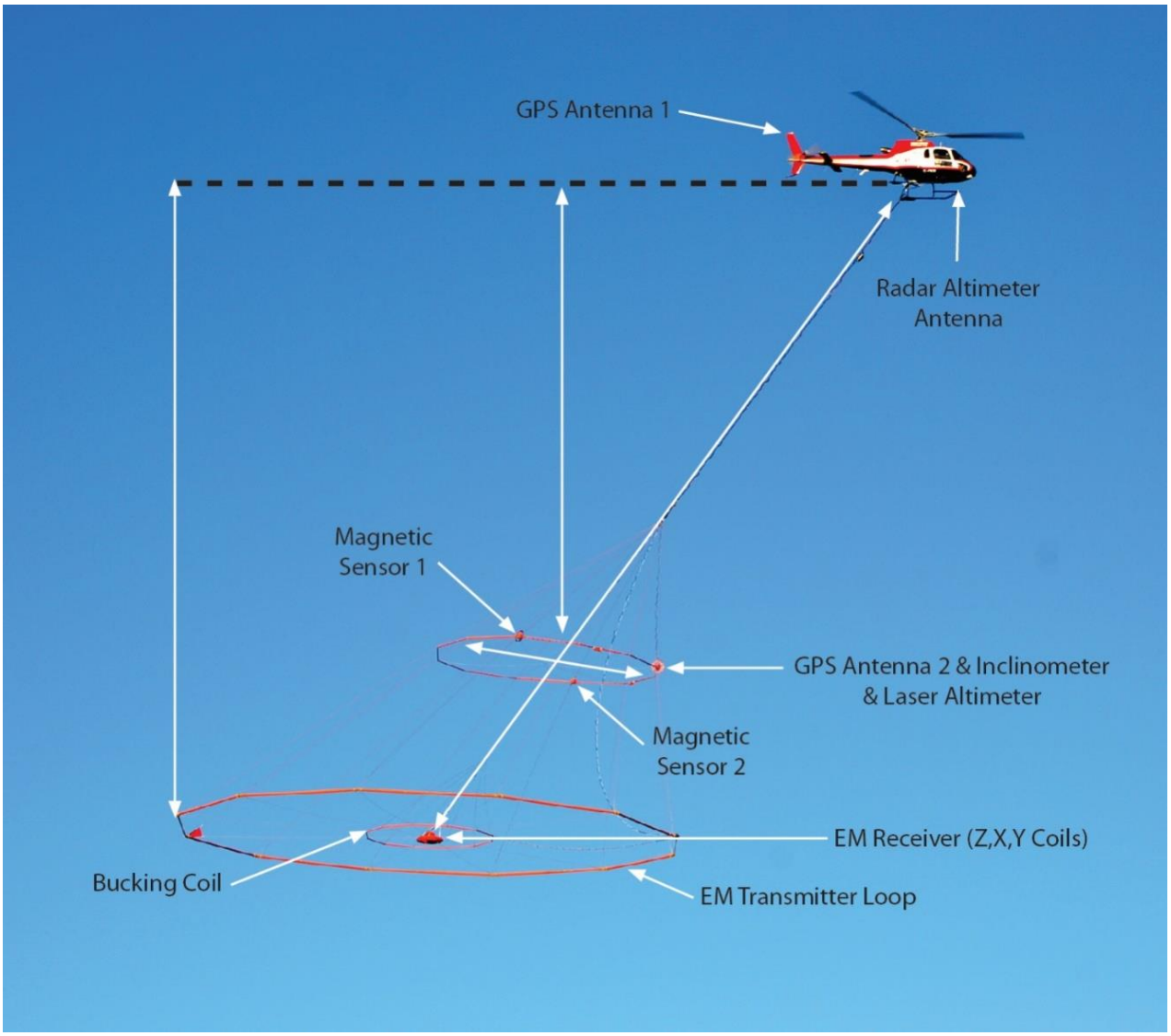


Figure 5: VTEM™ Plus System Configuration.

2.4.3 Full Waveform VTEM™ Sensor Calibration

The calibration is performed on the complete VTEM™ system installed in and connected to the helicopter, using special calibration equipment. This calibration takes place on the ground at the start of the project prior to surveying.

The procedure takes half-cycle files acquired and calculates a calibration file consisting of a single stacked half-cycle waveform. The purpose of the stacking is to attenuate natural and man-made magnetic signals, leaving only the response to the calibration signal.

This calibration allows the transfer function between the EM receiver and data acquisition system and the transfer function between the current monitor and data acquisition system to be determined. These calibration results are then used in VTEM full waveform processing.

2.4.4 HORIZONTAL MAGNETIC GRADIOMETER

The horizontal magnetic gradiometer consists of two Geometrics split-beam field magnetic sensors with a sampling interval of 0.1 seconds. These sensors are mounted 12.5 metres apart on a separate loop, 10 metres above the Transmitter-receiver loop. A GPS antenna and Gyro Inclinometer is installed on the separate loop to accurately record the tilt and position of the magnetic gradiometer sensors.

2.4.5 RADAR ALTIMETER

A Terra TRA 3000/TRI 40 radar altimeter was used to record terrain clearance. The antenna was mounted beneath the bubble of the helicopter cockpit (Figure 5).

2.4.6 GPS NAVIGATION SYSTEM

The navigation system used was a Geotech PC104 based navigation system utilizing a NovAtel WAAS(Wide Area Augmentation System) enabled GPS receiver, Geotech navigate software, a full screen display with controls in front of the pilot to direct the flight and a NovAtel GPS antenna mounted on the helicopter tail (Figure 5). As many as 11 GPS and two WAAS satellites may be monitored at any one time. The positional accuracy or circular error probability (CEP) is 1.8 m, with WAAS active, it is 1.0 m. The coordinates of the survey area were set-up prior to the survey and the information was fed into the airborne navigation system. The second GPS antenna is installed on the additional magnetic loop together with Gyro Inclinometer.

2.4.7 DIGITAL ACQUISITION SYSTEM

A Geotech data acquisition system recorded the digital survey data on an internal compact flash card. Data is displayed on an LCD screen as traces to allow the operator to monitor the integrity of the system. The data type and sampling interval as provided in Table 4

Table 4: Acquisition Sampling Rates

Data Type	Sampling
TDEM	0.1 sec
Magnetometer	0.1 sec
GPS Position	0.2 sec
Radar Altimeter	0.2 sec
Inclinometer	0.1 sec

2.5 BASE STATION

A combined magnetometer/GPS base station was utilized on this project. A Geometrics Caesium vapour magnetometer was used as a magnetic sensor with a sensitivity of 0.001 nT. The base station was recording the magnetic field together with the GPS time at 1 Hz on a base station computer.

The base station magnetometer sensor was installed in a secured location away from electric transmission lines and moving ferrous objects such as motor vehicles. The base station data were backed-up to the data processing computer at the end of each survey day.

3. PERSONNEL

The following Geotech Ltd. personnel were involved in the project.

FIELD:

Project Manager:	Tristan Rice (Office)
Data QC:	Nick Venter
Crew chief:	David Brooke
Operator:	Yassir Jassim

The survey pilot and the mechanical engineer were employed directly by the helicopter operator – Geotech Aviation Ltd.

Pilot:	Shanne Kochan
Mechanical Engineer:	n/a

OFFICE:

Preliminary Data Processing:	Nick Venter
Data QA/QC:	TaiChyi Shei Jean Legault
Final Report:	Moyosore Lanisa
Final Review:	Jean Legault

Processing and Interpretation phases were carried out under the supervision of TaiChyi Shei & Jean M. Legault, Chief Geophysicist. The customer relations were looked after by Paolo Berardelli.

4. DATA PROCESSING AND PRESENTATION

Data compilation and processing were carried out by the application of Geosoft OASIS Montaj and programs proprietary to Geotech Ltd.

4.1 FLIGHT PATH

The flight path, recorded by the acquisition program as WGS 84 latitude/longitude, was converted into the WGS84 Datum, UTM Zone 15N coordinate system in Oasis Montaj.

The flight path was drawn using linear interpolation between x, y positions from the navigation system. Positions are updated every second and expressed as UTM easting's (x) and UTM northing's (y).

4.2 ELECTROMAGNETIC DATA

The Full Waveform EM specific data processing operations included:

- Half cycle stacking (performed at time of acquisition).
- System response correction.
- Parasitic and drift removal.

A three-stage digital filtering process was used to reject major sferic events and to reduce noise levels. Local sferic activity can produce sharp, large amplitude events that cannot be removed by conventional filtering procedures. Smoothing or stacking will reduce their amplitude but leave a broader residual response that can be confused with geological phenomena. To avoid this possibility, a computer algorithm searches out and rejects the major sferic events.

The signal to noise ratio was further improved by the application of a low pass linear digital filter. This filter has zero phase shift which prevents any lag or peak displacement from occurring, and it suppresses only variations with a wavelength less than about 1 second or 15 metres. This filter is a symmetrical 1 sec linear filter.

The results are presented as stacked profiles of EM voltages for the time gates, in linear - logarithmic scale for the B-field Z component and dB/dt responses in the Z, X and Y components. dBdt-Z component time channels recorded at 0.880 milliseconds after the termination of the impulse is also presented as a colour image.

VTEM™ has three receiver coil orientations. Z-axis coil is oriented parallel to the transmitter coil axis, and both are horizontal to the ground. The X-axis coil is oriented parallel to the ground and along the line-of-flight. The Y-axis coil is oriented parallel to the ground and across the line-of-flight The combination of the X, Y, and Z coils configuration provides information on the position, depth, dip, and thickness of a conductor. Generalized modeling results of VTEM data are shown in Appendix D.

In general X-component data produce cross-over type anomalies: from "+ to – "in flight direction of flight for "thin" sub vertical targets and from "- to +" in direction of flight for "thick" targets. Z component data produce double peak type anomalies for "thin" sub vertical targets and single peak for "thick" targets. The limits and change-over of "thin-thick" depends on dimensions of a TEM system (Appendix D, Figure D-16).

Because of X component polarity is under line-of-flight, convolution Fraser Filter (Figure 6) is applied to X component data to represent axes of conductors in the form of grid map. In this case positive FF anomalies always correspond to "plus-to-minus" X data crossovers independent of the flight direction.

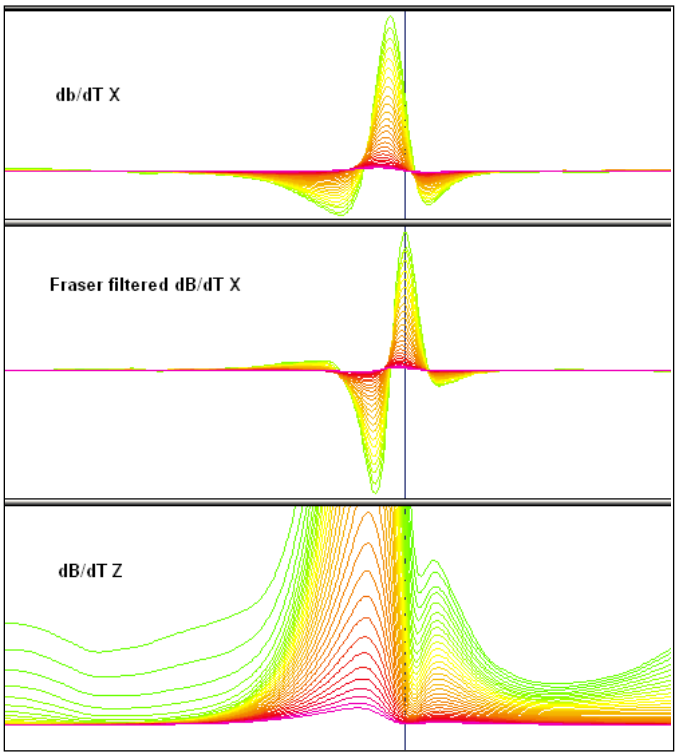


Figure 6: Z, X and Fraser filtered X (FFx) components for "thin" target.

5. DELIVERABLES

5.1 SURVEY REPORT

The survey report describes the data acquisition, processing, and final presentation of the survey results. The survey report is provided in two paper copies and digitally in PDF format.

5.2 MAPS

Preliminary maps were produced at scale of 1:10,000 for best representation of the survey size and line spacing. The coordinate/projection system used was WGS84 Datum, UTM Zone 15N. All maps show the flight path trace; latitude and longitude are also noted on maps.

The results of the survey are presented as EM profiles, a late-time gate gridded EM channel, and a colour magnetic TMI contour map.

- Maps at 1:10,000 in Geosoft MAP format, as follows:

GL230008_10k_BField:	B-field profiles Z Component, Time Gates 0.220 – 7.036 ms in linear – logarithmic scale.
GL230008_10k_SFz30:	VTEM dB/dt Z Component Channel 30, Time Gate 0.880 ms colour image
GL230008_10k_TMI:	Total Magnetic Intensity (TMI) colour image and contours.

- Maps are also presented in PDF format.

6. CONCLUSION AND RECOMMENDATIONS

A helicopter-borne versatile time domain electromagnetic (VTEM™ Plus) geophysical survey has been completed over the Goldcreek Project, near Kakabeka Falls Region, northwestern Ontario.

The total area coverage is 66 km^2 and the total survey line coverage is 743 line-kilometres over a single block. The principal sensors included a Time Domain EM system, and a horizontal magnetic gradiometer system with two caesium magnetometers. Results have been presented as stacked profiles, and contour colour images at a scale of 1:10,000. There is no formal interpretation included in this study.

Based on the survey results, a number of geophysical anomalies of interest have been defined on the property. If EM conductors are of interest for the exploration program, we recommend that EM anomaly picking, and Maxwell plate modelling of EM anomalies of greatest interest be performed prior to ground follow up and drill testing. If targets are nonconductive, more advanced 1D layered earth modelling of the EM data will prove useful in highlighting weakly anomalous resistive and conductive features of interest, both in plan and in cross-section. Magnetic CET structural and lineament analysis as well as 3D MVI magnetic inversions will be useful for mapping structure, alteration, and lithology in 2D-3D space across the property. Finally, we recommend that more advanced, integrated interpretation be performed on these geophysical data and these results further evaluated against the known geology for future targeting.

.

Respectfully submitted[2],

Nick Venter
Geotech Ltd.

Moyosore Lanisa
Geotech Ltd.

PROFESSIONAL GEOSCIENTIST
JEAN M. LEGAULT
PRACTISING MEMBER
0948
ONTARIO

Jean M. Legault, M.Sc.A, P.Eng (ON), P.Geo (ON)
Geotech Ltd.

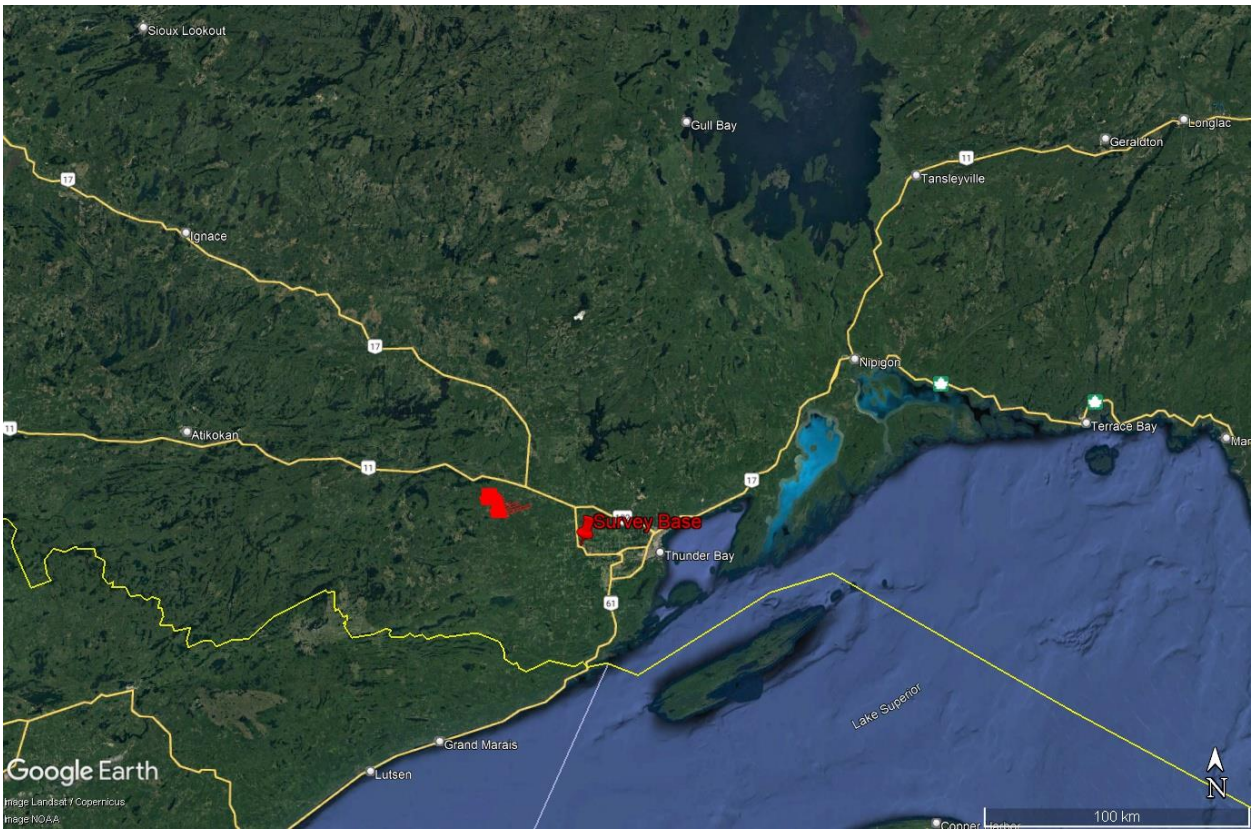
Tai-Chyi Shei
Geotech Ltd.

February 2023

[2]Field data processing of the EM and magnetic data was carried out by Nick Venter, from the offices of Geotech Ltd. in Aurora, Ontario, under the supervision of TaiChyi Shei & Jean M. Legault, Chief Geophysicist.

APPENDIX A

SURVEY AREA LOCATION MAP



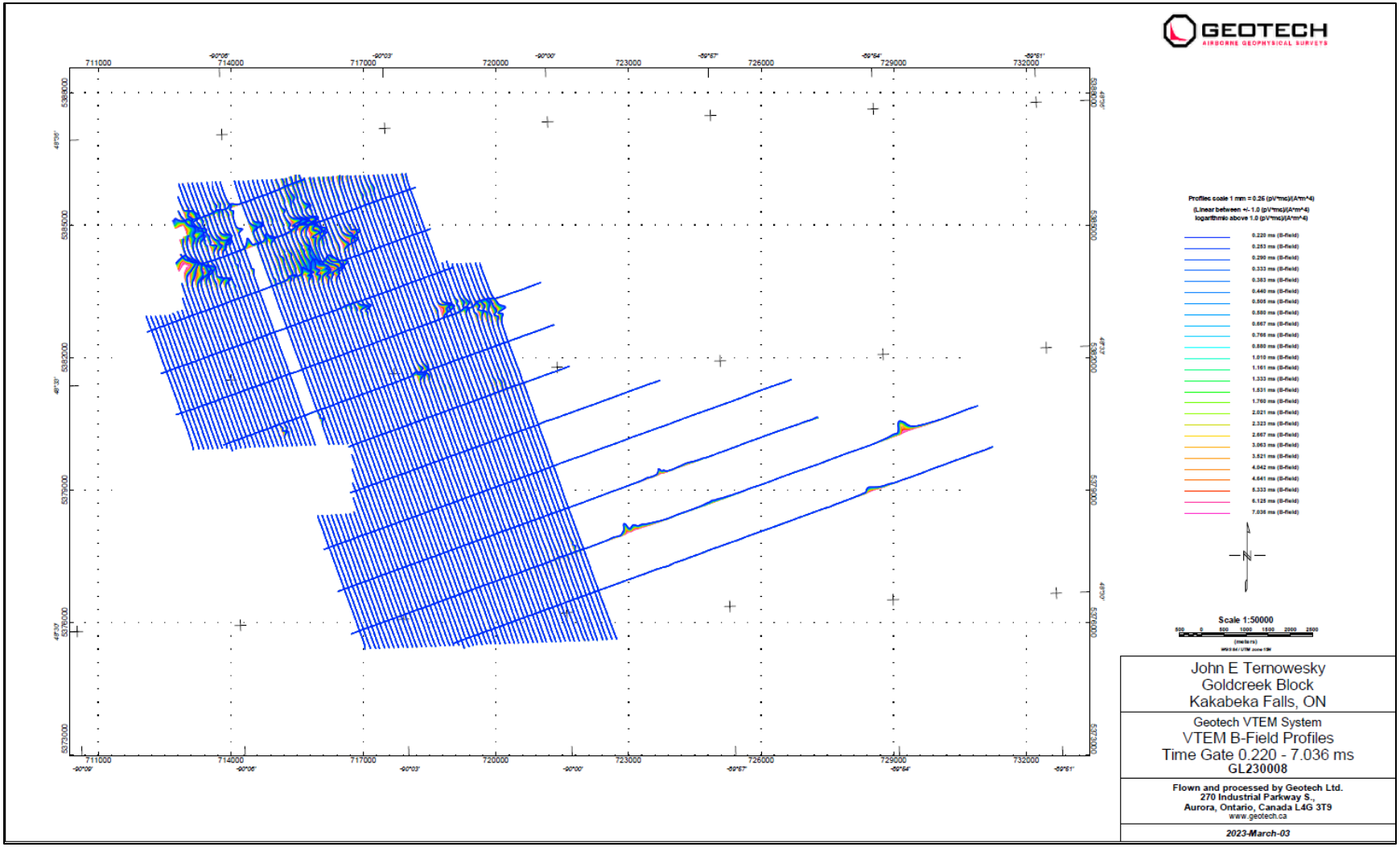
Overview of the Survey Area

APPENDIX B

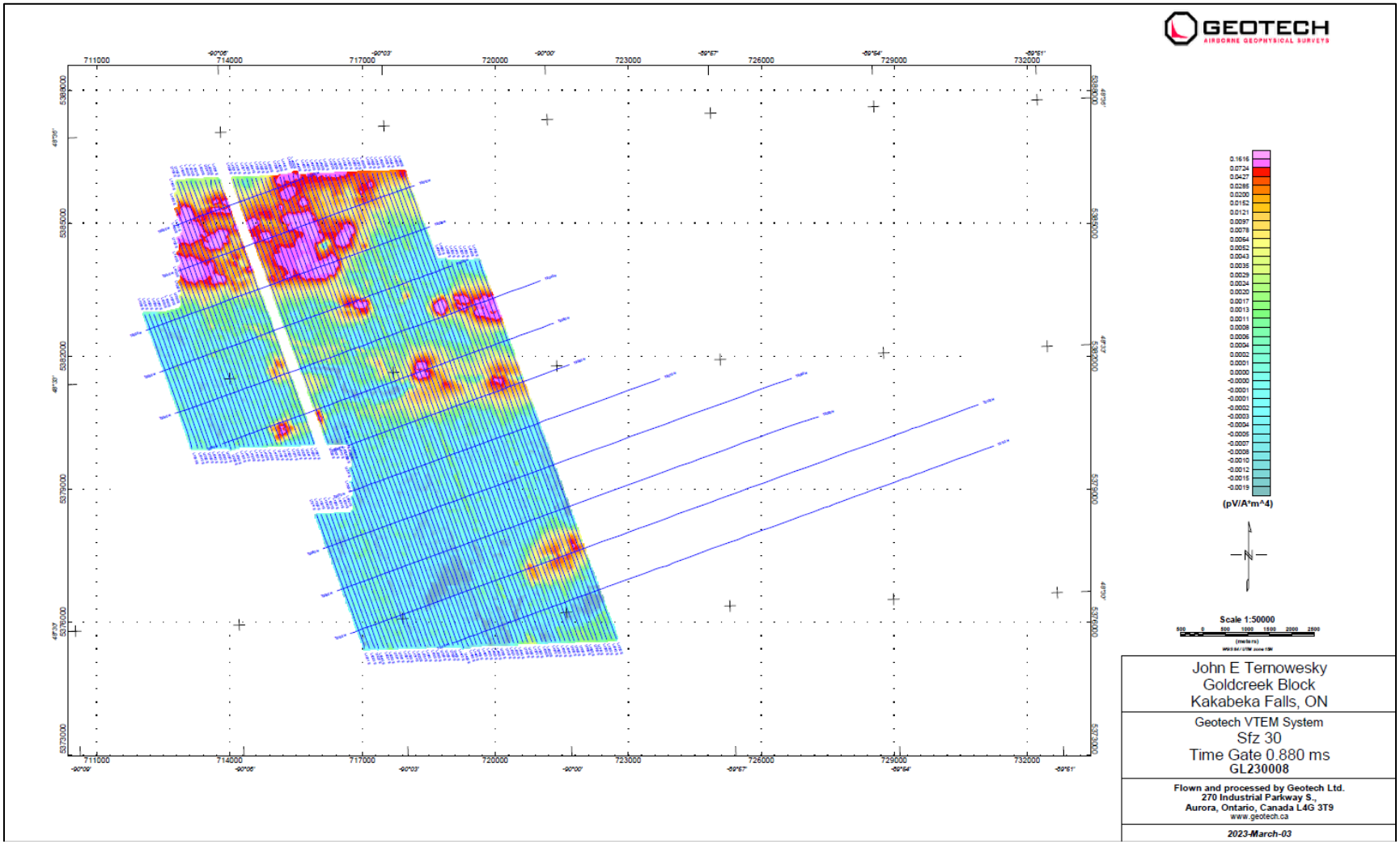
SURVEY AREA COORDINATES

Goldcreek	
WGS84 UTM Zone 15N	
X	Y
716755	5380149
713061	5380016
712083	5382845
712947	5382870
712828	5385839
718049	5386064
718728	5384014
720809	5384085
721705	5381404
726586	5381568
726887	5380604
727712	5380638
728509	5380669
730547	5381409
730798	5380767
731614	5378606
729563	5377869
729581	5377424
723056	5377147
723108	5375730
716923	5375496
715930	5378319
716819	5378371

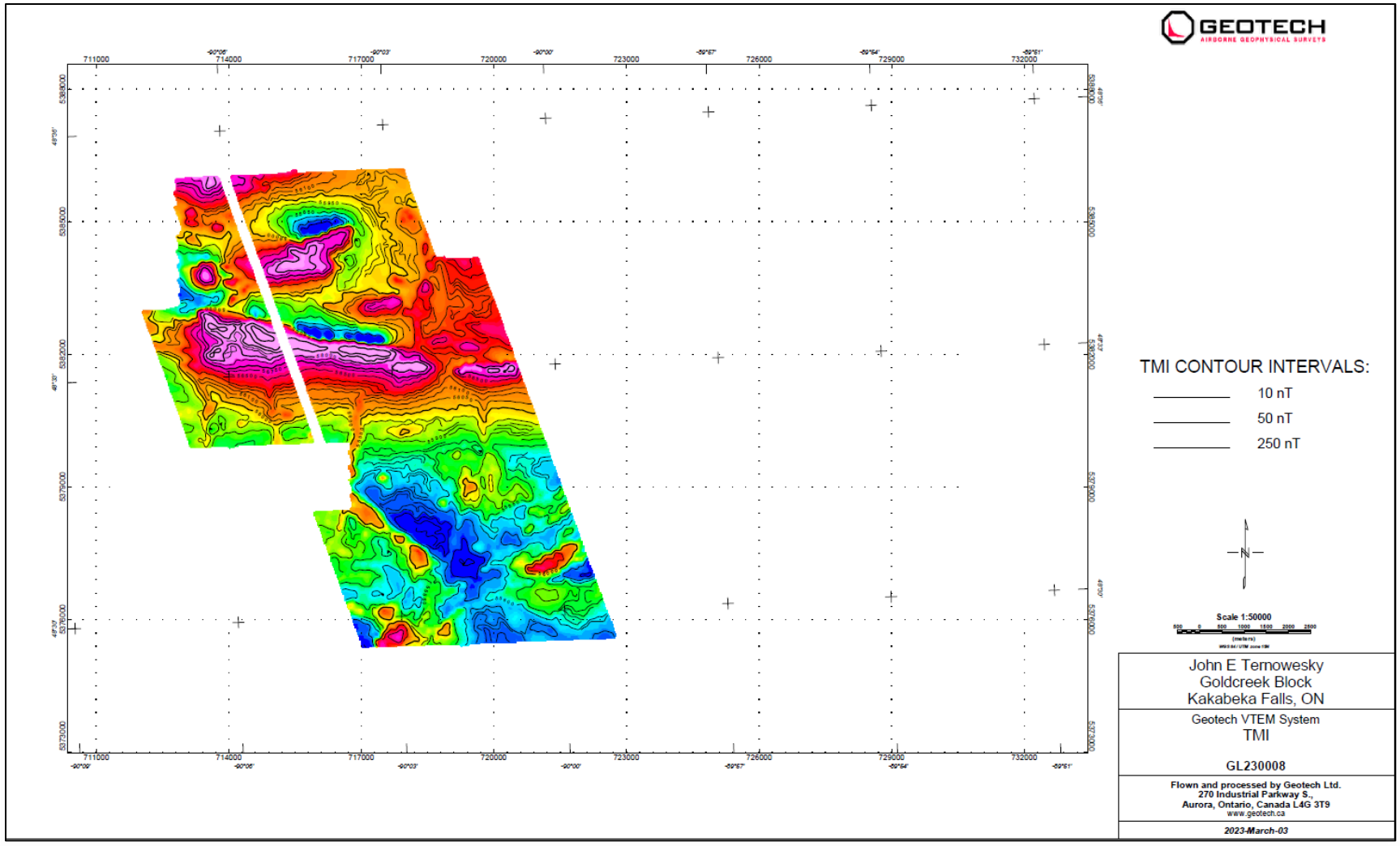
APPENDIX C - GEOPHYSICAL MAPS



Z Component B-field profiles, Time Gates 0.220 – 7.036 ms image



VTEM dB/dt Z Component Channel 30, Time Gate 0.880 ms colour image



Total Magnetic Intensity (TMI) colour image and contours

15.0 Appendix 11: Geotech Ltd. Survey Invoices and Statement