We are committed to providing accessible customer service.
If you need accessible formats or communications supports, please contact us.

Nous tenons à améliorer l’accessibilité des services à la clientèle.
Si vous avez besoin de formats accessibles ou d’aide à la communication, veuillez nous contacter.

Report on the 2019 VTEM airborne geophysical survey for the Trillium Gold Project

Highland North Property (Highland North Option Package)

M.S. King, P. Geo.

JANUARY 25, 2020

TRILLIUM MINING CORP.

140 Yonge St., Suite 210, Toronto, Ontario

TABLE OF CONTENTS

LIST OF FIGURES

SUMMARY

In 2019, Trillium Mining Corp. ("Trillium") carried out regional exploration work on the Highland Property as part of project-wide reconnaissance program to improve geological control in support of a targeting for follow-up drilling. During this period, Trillium initiated consultation with local municipalities and the four local First Nation groups. Municipal, local resident and business consultations were also completed to facilitate the working agenda for planned work programs (e.g., exploration permit applications).

A high-resolution helicopter VTEM survey was completed by Geotech Ltd. in June and July. High-resolution satellite imagery was purchased from Aeroquest Ltd. to provide additional ground control and aid in interpretation and planning.

The report summarizes the geophysical and remote sensing data acquisition and preliminary interpretation of regional geological and geophysical data over select claims under option to Trillium under and Option Agreement with Argonaut Golf Inc ("AR").

Magnetic and electromagnetic (EM) map patterns and 3D resistivity data effectively reflect the structural and stratigraphic complexity of the Michipicoten Gold Belt in the project area. Both volcanic and intrusive rocks are characterized by linear magnetic anomalies in an arcuate but predominantly E-W regional structural fabric. Numerous linear magnetic anomalies and breaks in EM patterns indicate potential banded ironstone units and the abundant frequency of NW-trending faults (+/- diabase dykes). Time domain EM map patterns (e.g., Tau or B-field) generally reflect the main structural fabric albeit at a coarser resolution. In the claim areas reported herein the EM response is generally low to moderate amplitude.

The geophysical data and satellite imagery provide enhanced spatial resolution for the interpretation of structural and stratigraphic controls related to mineralization in the Michipicoten Gold Belt. Geophysical modelling, inversion and interpretation is recommended to further sub-divide causative bodies and identify exploration targets. A limited field program of prospecting, mapping and sampling along with reconnaissance soil geochemistry is proposed to refine drill targets for a limited 2,000 m drill program in 2020.

An exploration permit in support of a proposed drill program for the Highland Property has been submitted and approved.

INTRODUCTION

Trillium continues to explore its significant land package in the Michipicoten Gold Belt (MGB) comprised of 100%-owned mining patents, leases and claims and other mining patents, leases and claims under option from AR (the "Highland Option"). Collectively, these form the Trillium Gold Project; subdivided into the Cline-Edwards, Highland North and Highland South properties (Figs. 1 and 2).

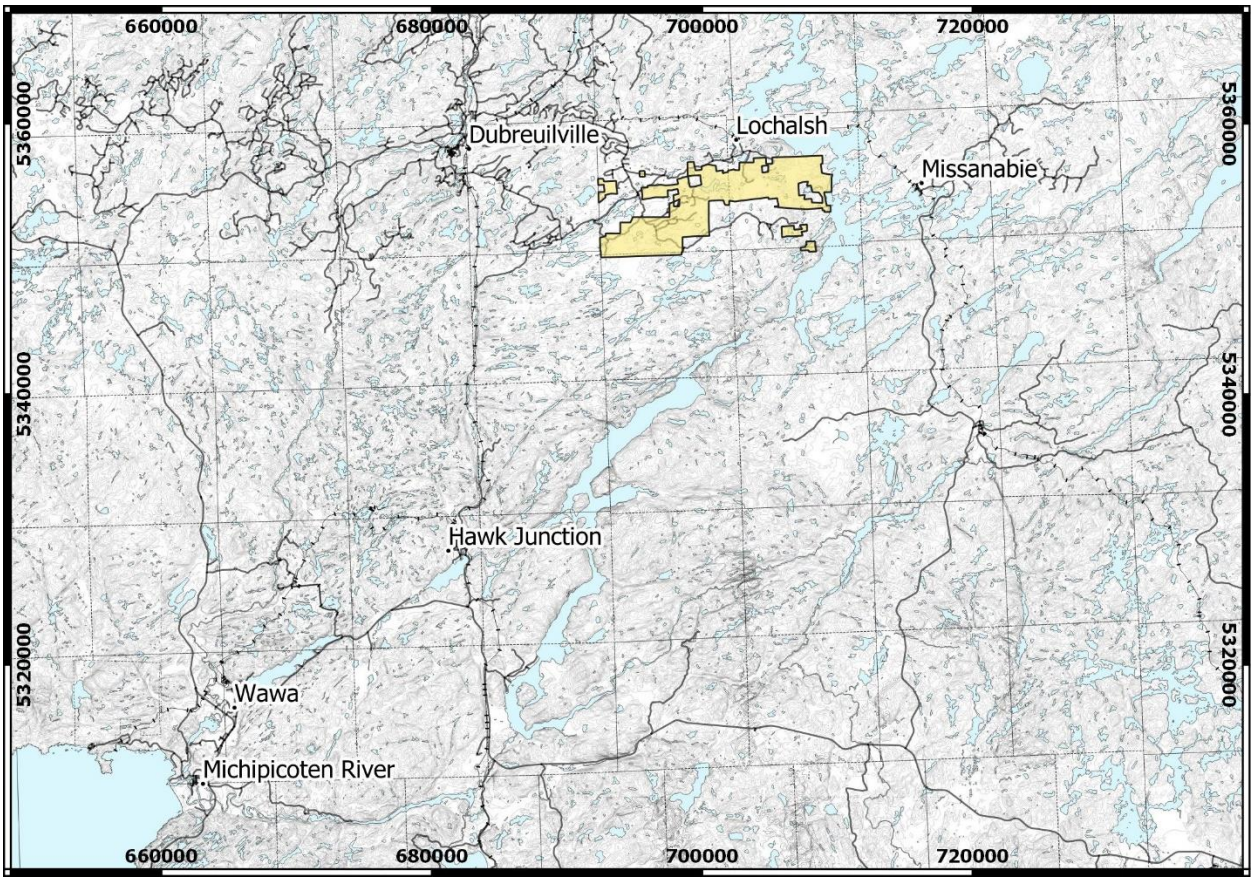

Figure 1. Trillium Gold Project Location (UTM NAD83 Z16N)

There has been a long history of gold exploration and production in the project area; however, previous work was almost entirely conducted on small land parcels by separate owners and separate exploration / development campaigns. Trillium has consolidated this large land package to investigate the potential of economic high-grade, structurally controlled gold mineralization (e.g., Island Gold Mine and Edwards Gold Mine). Initial work is focussed on enhancing regional structural and stratigraphic control to provide context for concurrent data compilations and planned reconnaissance drill testing.

PROPERTY DESCRIPTION, LOCATION AND ACCESSIBILITY

The Trillium Gold Project is accessed by taking Trans-Canada Highway 17 for 42 km north of Wawa, and highway 519 east to Dubreuilville (Fig. 1). Near the town entrance the Goudreau road (locally Cemetery road) turns toward the southeast for 15 km to intersect the Goudreau-Lochalsh road. This road leads east past the Island Gold Mine (Alamos Gold) for approximately 9 km to the eastern edge of the main Trillium Gold Project area (i.e. Cline-Edwards Property).

The Highland North Property (Fig. 2) is in Jacobson and Riggs Townships and contains all those patents, leases and claims located east of the Cline-Edwards Property held by Trillium (100%) and includes those under option to Trillium (100%). The Highland North Option Package claim group comprises five project areas (56 claims, 747 ha; Appendix I) optioned from AR (registered to Prodigy Gold Inc., a wholly owned subsidiary of Argonaut Gold).

The five Highland North Option Package project areas (from west to east) are i) Markes, ii) Lone Ranger, iii) Vega, iv) Longbow and v) Emily (Fig. 2).

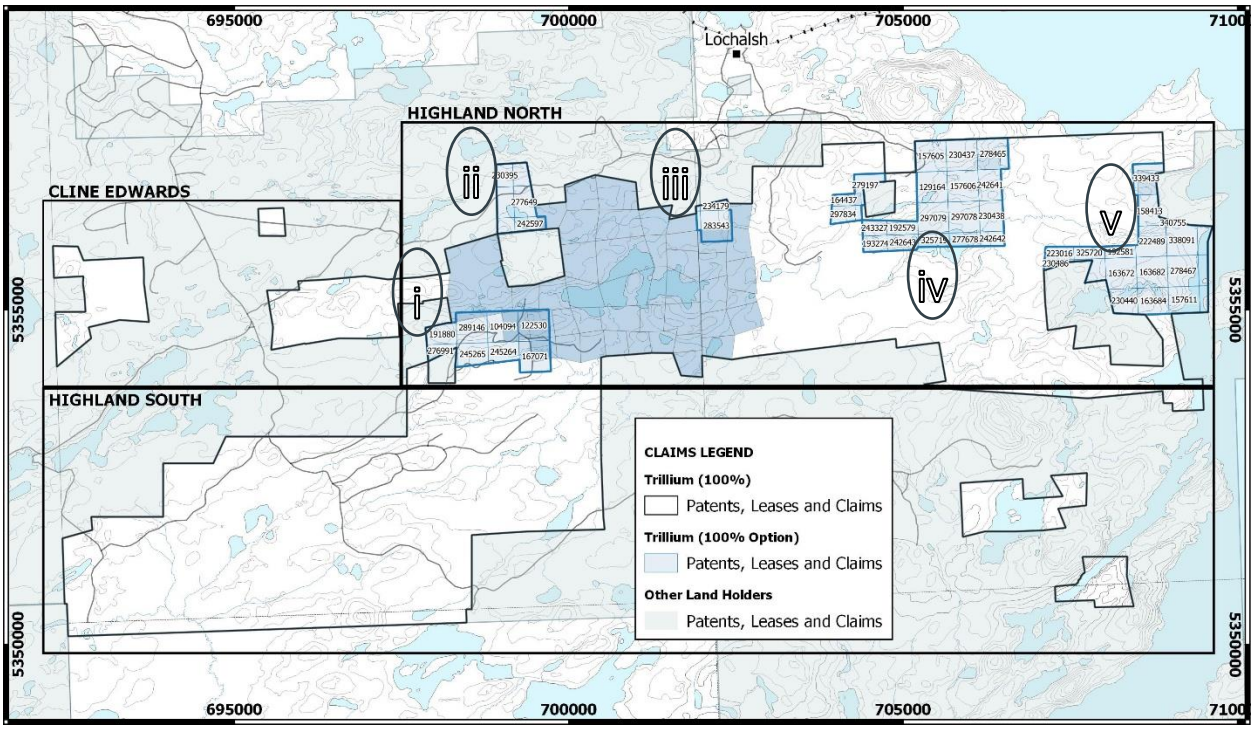

Figure 2. Trillium Gold Project properties map; Highland North Option (Blue) and option claim cells (cf. Appendix I for detailed claims list).

More than a dozen gold occurrences have been documented on the Highland North Property and open pit bulk samples have been produced from the Markes and Vega (aka "A" zone) prospects.

HISTORY

The Goudreau-Lochalsh area has a long history of exploration. In 1896, the first gold occurrence was discovered at Emily Bay, along Dog Lake within Riggs Township. Gold production began at the Murphy and Cline Mines during the 1920's followed by the Magino and Edwards Mines in the 1930's. Gold production in the area resumed in the 1980's and 1990's at the Kremzar, Magino and Edwards Mines.

Gold was first discovered at Cline (Cline-Edwards Property) by James Cline in 1917. Between 1938 and 1942 approximately 300,000 tonnes of ore were mined producing over 65,000 ounces of gold and approximately 11,000 ounces of silver.

Various companies have explored and developed the Magino property, located approximately 10 km southeast of the Highland Property. Past production (1934-1939 and 1988-1992) yielded over 100,000 ounces of gold (plus silver credits) and the current owners (Argonaut Gold) have filed an open pit feasibility study on the project, which was approved in 2013.

Peter Edwards discovered gold on the Edwards Mine Property in 1924 (Cline-Edwards Property) and mining commenced ca. 1926. In the 1930's, four levels of underground shaft-supported development were completed. More recently, River Gold Mines extracted over 450,000 tons of ore to a depth of nearly 300 m producing approximately 144,000 ounces of gold.

In 1985, drilling south of the historic Kremzar Mine intersected several mineralized zones within the Goudreau Lake Deformation Zone (GLDZ) approximately 8 km southwest of the Highland North Property. The Island Gold project was developed via underground access in 1989-90 by Patricia Mining and was ultimately put into commercial production by Richmont Mines in 2007. Alamos Gold acquired the property in late-2017 by way of its takeover of Richmont Mines. Alamos Gold expects to produce between 130,000 and 145,000 ounces of gold from the Island Gold Mine "deep areas" in 2020.

On the Highland North Property, early discoveries included that by Michael Webb in 1920 at the Three Mile Post occurrence (aka Vega or "A" zone). Gold was discovered by W. E. Markes in 1934 at the Markes "B" zone. Numerous detailed exploration campaigns have been completed by several owners in the area of the Markes and Vega zones in the past 30 years.

The most recent significant work (ca. 1999-2000) on the Markes zone included a 10,406 tonne open pit bulk sample by Pele Mountain Resources, with an average reported grade of 5.1 g/t Au.

GEOLOGICAL SETTING

REGIONAL GEOLOGY

The Trillium Gold Project is situated within the Michipicoten (Wawa) Greenstone Belt (MGB), which is dominated by three episodes of mafic-felsic volcanism and sedimentation identified as the Hawk (Cycle 1), Wawa (Cycle 2) and Catfish (Cycle 3) assemblages. The Hawk assemblage is the oldest of the volcanic assemblages in the MGB with a zircon U-Pb age of 2,889 ±9.2 Ma. The Wawa assemblage unconformably overlies the Hawk Lake assemblage and U-Pb zircon age from the upper portion of the assemblage gives dates ranging from 2,749 ±2 Ma to 2,728 ±2.7 Ma. The Catfish assemblage is the youngest volcanic package in the Michipicoten greenstone belt. It overlies the Wawa assemblage, but contacts between the two have been extensively sheared. Samples from the upper portions gave zircon U-Pb ages of 2,710 ±7.7 Ma and 2,701 (e.g., Jellicoe, 2019).

The intermediate to felsic volcanic rocks of these cycles are calc-alkalic rhyolites and dacites. Each of the first two episodes of volcanism is capped by chemical meta-sedimentary rocks consisting of siderite-, pyrite- or chert-magnetite iron formations and or clastic meta-sedimentary rocks consisting of argillite, siltstone, sandstone and conglomerate.

All volcanic assemblages are intruded by dykes and sills of gabbroic to quartz diorite composition. Granitoid rocks of several ages and varied composition have intruded the supracrustal rocks.

The Doré metasedimentary units are the youngest supracrustal rocks in the MGB and occur as three belts overlying the main volcanic package.

Gold occurrences within the Trillium Gold Project occur at or near the contact between the Wawa and Catfish assemblages, which feature intermediate to mafic volcanic rocks of tholeiitic to high-iron tholeiitic composition. Jellicoe (2019) presented an age range for the gold mineralizing event at the nearby Island Gold Mine of 2,680 to 2,672 Ma, consistent with, but at the older end of the estimated range for other gold deposits in the Abitibi subprovince.

A more detailed description of the regional geology is found in reports by Sage and Heather (1991) and Williams et al (1991).

GOUDREAU-LOCHALSH AREA GEOLOGY

The Highland North Property contains supracrustal rocks near the contact of the Wawa and Catfish assemblages. The top of the Wawa assemblage (in the southern Goudreau-Lochalsh area) features felsic

to intermediate, pyroclastic metavolcanics capped by iron formation intercalated with clastic and chemical sedimentary rocks. The iron formation includes magnetite, chert facies and carbonate sulphide and graphite facies deposits. The Py-rich iron formations were the original targets of exploration in the area being mined through World War I and were referred to as the "Goudreau Iron Range".

The northern part of the project is underlain by the massive, pillowed and schistose Mg- and Fe-rich tholeiitic flows of the Catfish assemblage. The upper portion of the assemblage features intermediate to felsic metavolcanic rocks intercalated with metasedimentary units, indicative of contemporaneous volcanism and sedimentation. Both the metavolcanic and metasedimentary rocks throughout the assemblage have been intruded by numerous mafic to felsic intrusives. Sills, dykes and oblong-shaped gabbro and diorite units intrude the volcanic and sediment packages. Multiple intermediate to felsic intrusions of various textures form sills, dykes and stocks all along the GLDZ and include granite, granodiorite, syenite, quartz and feldspar porphyries, tonalite and trondhjemite. All the Archean supracrustal rocks and intrusive suites are cut by much younger diabase dykes associated with the Matachewan dike swarm.

The volcanic and sedimentary rocks in the area have undergone greenschist facies metamorphism, with rocks adjacent to the northern granitoids exhibiting amphibolite grade metamorphism (e.g., Northern Domain). The alteration assemblage(s) commonly associated with the deformation zones include quartz, sericite, chlorite, epidote, tourmaline, carbonate (commonly ankerite), actinolitic amphibole and biotite. The combination of intense deformation and alteration commonly obscures the protolith in the shear zone area.

The GDDZ represents the main structural architecture in the Goudreau-Lochalsh area and has been identified over 30 km of strike. Its width varies based on the distribution of localized structural domains (e.g., Heather and Arias, 1992; Fig. 3) that generally parallel stratigraphy and dominant fold axes (e.g., F2-F3). The GLDZ is locally coincident with the contact between the Cycle 2 (Wawa) and Cycle 3 (Catfish) assemblages.

Structural controls are the most important factor in origination of gold-bearing vein arrays in the area, and the GLDZ is comprised of numerous, systematically oriented shear zones. In Abotossaway Township, the Western Domain of the GLDZ is approximately 9 km long and 2.3 km wide and composed of brittle and brittle-ductile high-strain zones displaying dextral oblique slip displacement. The Western Domain is truncated to the east by the north-south trending McVeigh Creek fault. In Jacobson and Riggs Townships, the Eastern Domain of the GLDZ is approximately 9 km long and 2 km wide and contains narrow brittle and brittle-ductile high-strain zones displaying dextral, oblique slip displacement. The Eastern Domain is offset from the Western Domain by the Maskinonge Lake fault.

The Dog Lake Deformation Zone (DLDZ) occurs in the central part of Riggs Township and extends eastward into West Township. It is a 1.5 to 2.5 km wide, southeast-trending zone of moderately to strongly deformed rocks. The DLDZ is characterized by ductile and brittle-ductile shear zones occurring in two dominant orientations (90-100° and 110-120°).

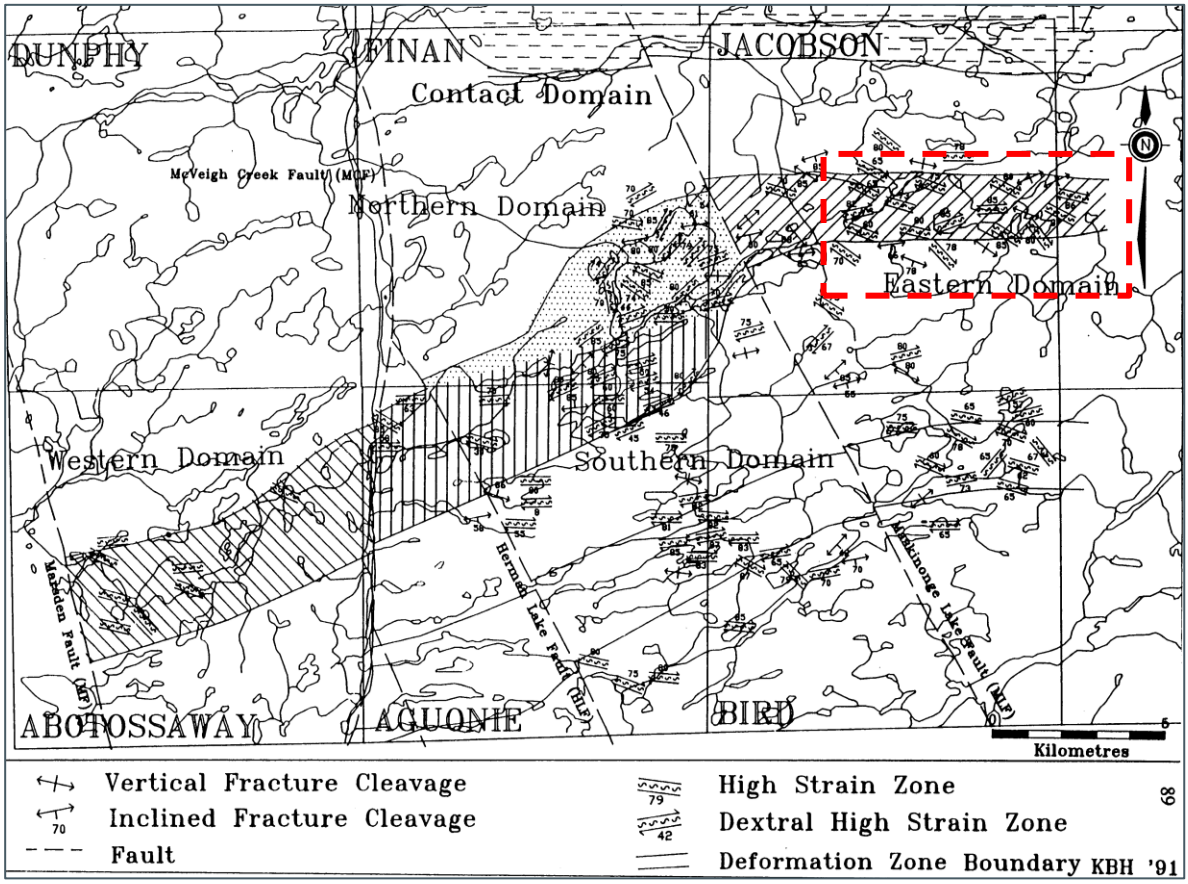

Figure 3. Goudreau Lake Deformation Zone sub-domains and approximately location of project area (red dashed box), after Heather and Arias, 1992.

PROPERTY GEOLOGY

The project area is underlain predominantly by intermediate to mafic volcanic rocks metamorphosed to greenschist facies. They are generally chloritized to varying degrees, locally contain epidote and may exhibit pillows and amygdules, and are massive to well-foliated. Grain size varies from very fine to coarser, almost gabbroic texture, and color is most often various shades of dark green to green-grey. Alteration includes silicification and carbonate (+/- ankerite) alteration.

Felsic intrusives are younger and cut all the varieties of mafic volcanic rocks and vary from a light to medium grey or beige/tan grey to a green-grey to a flesh/pink colour. They can be massive to foliated in varying

degrees and generally exhibit an aphanitic to very fine-grained matrix with coarser quartz eyes or feldspar phenocrysts in the case of the porphyritic rock. The felsite is generally very fine to fine grained and non-porphyritic. The alteration assemblage includes sericite, carbonate (+/- ankerite). Contacts with the mafic volcanic units are usually sharp, chilled and aphanitic. The felsic intrusives tend to exhibit brittle fracturing.

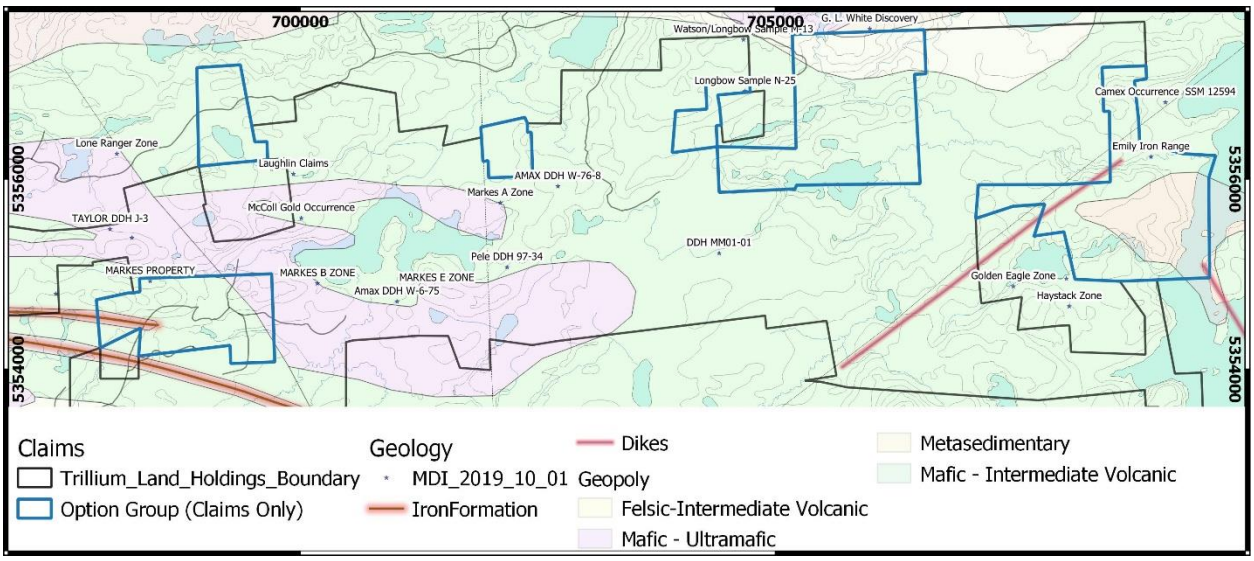

Figure 4. 1:250,000 geological map (Ontario Geological Survey, 2011) and mineral occurrences (Ontario Geological Survey, 2019) for the Highland North Project area.

Mafic intrusives include younger diabase and lamprophyre dykes and sills. The diabase units display generally massive, fine to medium grained textures and are dark grey to black and strongly magnetic. Contacts with the other units are chilled and aphanitic. Units cut by the diabase are generally intensely silicified and indurated.

Chemical sedimentary units (i.e. BIF) also occur on the Highland Property. Although the distribution is poorly documented or mapped frequent references in historical drill logs are noted.

Structural controls, at all scales, are key factors in identifying and defining gold zones in the Michipicoten Gold Belt (i.e. Eastern Domain, GLDZ).

The Highland North Property covers a significant portion of the Eastern Structural Domain of Heather (1992). Within this regional domain several discrete "shears" have be documented by various authors (e.g., Bevan, 1997). *"Most the of gold-bearing zones on the property are associated with a series of east-west trending shear zones (each up to 10 to 15 metres in width) which are associated with two deformation zones (GLDF) which cross the length of the property. … Within the shear zones, high gold concentrations are associated with cross-cutting fault structures which splay off the shears on both sides at 20 to 30-degree angles."*

The "Northern Shear" has been traced for more than 5 km from the Cline Property east across the Highland North Property to Vega ("A" zone), northeast of Godin Lake. On various surface exposures the zone varies from 3 to 4 m in width (locally up to 30 m) and is characterized by strongly foliated to sheared, altered (sericite + pyrite) host rock, which exhibits crenulated and boudinaged ankerite banding, quartz + ankerite banding, and lesser ca-carbonate. Drilling has intersected the shear over 30 m (drill width). This shear zone trends approximately east-west and dips moderately to steeply north (n.b. dip can vary with depth). The regional foliation by contrast, trends approximately 070°. The Edwards property "Rusty Weathered Zone" and the Cline Property "88-60 Zone", located immediately west of the Highland North Property are examples of auriferous veins arrays associated with the Northern Shear.

The "Southern Shear" (e.g., Cline-Edwards shear) has also been traced from the Edwards mine property east, through the Cline Property and on to the Highland North Property and extends further east to the "E" zone, southeast of Godin Lake, for a strike length of more than 6 km. On various surface exposures the shear zone averages 12 to 15 m in width, but diamond drilling in the Cline Mine area has intersected variably deformed units over 60 m drill width.

In most instances, the Southern Shear demonstrates more intense deformation than the Northern Shear. Areas of intense strain also feature abundant Fe-carbonate alteration, with numerous narrow ankerite and quartz + ankerite bands that are crenulated and boudinaged. Deformation and alteration make protolith identification difficult in most instances.

MINERAL OCCURRENCES

Numerous significant "gold-enriched" structures have been identified on the Highland North Property (Figs. 4-6). The property has been subject to extensive exploration and pre-development programs over the past 20 to 30 years by various owners and several prospects have resource estimates[1] by previous operators. Bevan (1997) noted "resource inventory"[2] numbers for several projects on the Highland North Property (using a 4.0 g/t Au cut-off):

- Vega (aka "A" Zone): 101,001 t at an average grade of 7.33 g/t Au
- Markes Zone: 40,952 t at an average grade of 7.95 g/t Au
- Markes North Zone: 13,796 t at an average grade of 4.46 g/t Au
- "E" Zone: 81,695 t at an average grade of 5.75 g/t Au

[1] *Resources are considered historic in nature* (cf. NI 43-101) *and should not be relied upon.*

[2] *Resource inventory is not a recognised term* (cf. NI 43-101).

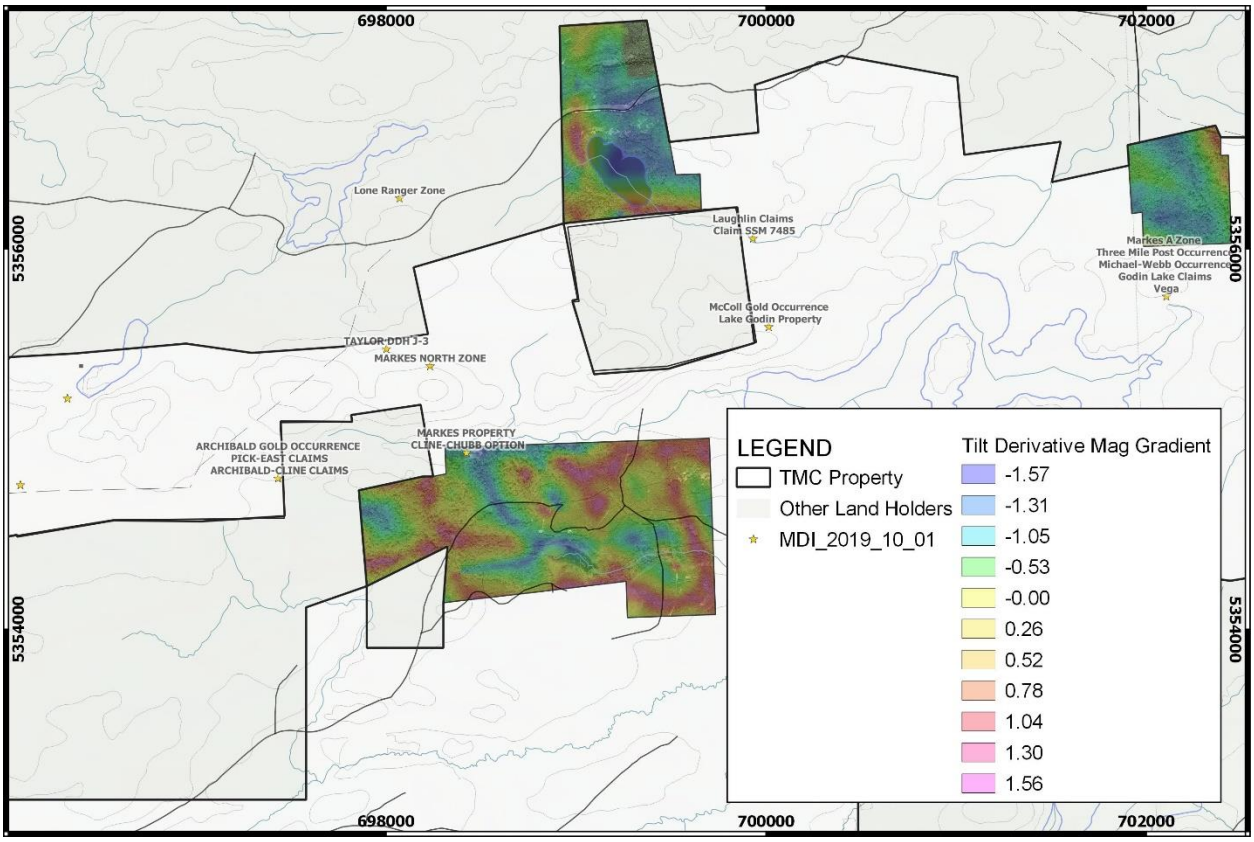

Figure 5. Highland North Option Package (West) with tilt-derivative airborne mag (radians) and high-resolution satellite imagery. Mineral occurrence data from OGS MDI (2019).

MARKES PROJECT AREA – MARKES PROSPECT

The Markes Project area (Highland North Option Package) contains the advanced Markes project that has been subject to extensive exploration including geochemistry, geophysics, stripping, drilling and test pitting.

In November 2009, Pele Mountain Resources extracted 10,406 tonnes of ore with a reported grade of 5.1 g/t Au from a shallow open pit bulk sample. The ore was processed by Battle Mountain Canada Ltd. at the Golden Giant Mill at Hemlo. The ore zones were mined from surface to a depth of 12 m, with a true width of >10 m for most of the approximately 50 m strike length extracted. The Company noted that the grade and recovery of gold increased with depth. *"The final 1,146 tonnes, mined from the deepest part of the pit, ran 6.42 grams gold per tonne. Recovery of gold also appears to increase with depth and reached 95.8% for the final 1,146 tonnes of ore milled. The mining characteristics of the ore were excellent and processing was amenable to standard milling techniques."* (Pele Mountain Press Release, 01-Feb-2000)

Drilling at the Markes Zone beneath the pit shows the continuation of mineralization in "two ore shoots". A shallow easterly plunging ore shoot is displaced by a fault approximately 50 m east of the pit. The main ore shoot is steeply plunging to the west and continues to a depth of at least 50 m.

The Markes Zone is located within the same structural domain as several past-producing gold mines (i.e. Cline-Edwards Property). The deformation zone (i.e. South Shear, Eastern Domain, GLDZ), which hosts the Edwards Gold Mine and the Markes Zone has been traced using geochemistry, geology and geophysics for more than 3.5 km across the Highland North Property.

LONE RANGER PROJECT AREA – LONE RANGER PROSPECT

The Lone Ranger prospect occurs less than 1,000 m west along strike from the Lone Ranger Project Area (Highland North Option Package).

At the Lone Ranger occurrence, nine channel samples over a 100 m strike length, returned results ranging from below detection to 14.76 g/t gold over 3.6 m across a portion of mineralized outcrop. The approximately 40 m wide Lone Ranger mineralized zone has been traced in outcrop over a 160 m strike length and remains open along strike. Samples with high grade values carrying visible gold are associated with widespread stockwork quartz veining and variable amounts of pyrite in a felsic host. Other channel sampling at Lone Ranger returned gold values ranging from below detection to 34.0 g/t gold over 2.0 m.

VEGA PROJECT AREA – "A" ZONE PROSPECT

The A Zone Prospect lies approximately 300 m immediately south of the Vega Project option claim group.

The A zone, which averages 3.97 m in width at surface was noted to widen at depth. Mineralized zones in the area appear to be stratigraphically controlled systems associated with steep-easterly plunging structures splaying at 70-80^{o} or 100^{o} from the main east-west trend. The mineralized zones occur within an altered quartz-feldspar porphyry which has intruded along the contact between mafic and intermediate volcanic flows. This structural zone has been described as a "braided system", which lies along the foot wall contact but can lie along both contacts and along sheared zones extending away from the contacts; as recently noted at the Island Gold Mine (e.g., Jellicoe, 2019).

In 1999, approximately 3,000 t of material (10,000 t permitted) were mined by Pele Mountain Resources from a small open pit at Vega, returning an average gold grade of 5 g/t. The bulk sample confirmed the presence of high grade, narrow vein, gold mineralization; however, anecdotal information imply that high mining dilution did impact the recovered grade. Only two of five mineralized benches planned for the bulk sample were mined.

A diamond drilling had defined "A Zone" mineralization to a vertical depth of approximately 200 m and indicated that the gold-bearing trend appears to remain open along strike to the east and at depth. Bevan (1997) noted that the A zone (i.e. Vega) historic non-compliant resource (cf. NI 43-101) was defined to a depth of 190 m.

Notable highlights from a 2010 drill program (e.g., OGS MDI ref. MDI42C08SW00013) that intersected shallow high-grade mineralization just below the bulk sample area included: 10.61 g/t Au over 4.40 m (PM-AZ-10-10), 17.15 g/t Au over 2.40 m (PM-AZ-10-18), and 5.94 g/t Au over 6.31 m (PM-AZ-10-20), 34.20 g/t over 2.78 m including 122.64 g/t Au over 0.70 m (PM-AZ-10-27), 11.37 g/t Au over 2.8 m (PM-AZ-10-23) and 9.18 g/t Au over 2.20 m (PM-AZ-10-24).

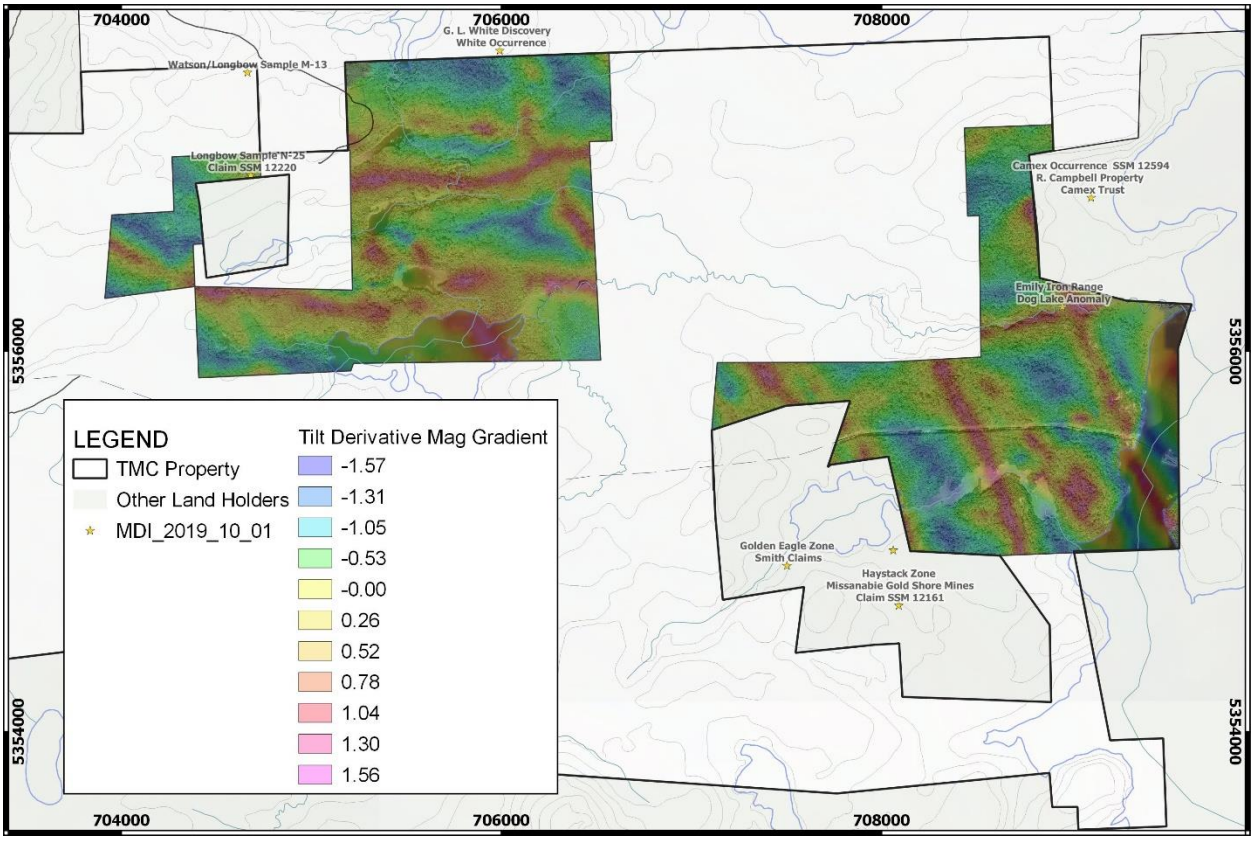

Figure 6. Highland North Option Package (East) with tilt-derivative mag (radians) and high-resolution satellite imagery. Mineral occurrence data from OGS MDI (2019).

LONGBOW PROJECT AREA – LONGBOW PROSPECT

The Longbow Project Area covers the interpreted eastern extension of the Northern Shear (Eastern Domain, GLDZ). Reported grab sample assays collected from trenches on a adjacent, non-Trillium patented claim, before 1940, returned assays up to 5.8 g/t Au from a "rusty shear zone". A series of grab samples collected from the "shear zone" in 1998 returned values ranging from 1,080 to 5,280 ppm Cu but only nominal gold.

Rock samples that were collected to the west of the claim group by Archibald (1999, 2008) assayed up to 0.34 g/t Au and 0.46 g/t Ag. The project area covers the approximate contact location between the iron formation sedimentary units and the lapilli tuff pyroclastic volcanic rocks. Previous authors (cf. Archibald 1999, 2008) noted that some of the gold and base metal mineralization could be related to the offsetting or fracturing that followed the metavolcanic contacts.

EMILY PROJECT AREA – MACALLAN PROSPECT

Slightly west of the Emily Project area lies the Macallan Prospect within the Dog Lake Deformation zone (DLDZ). The DLDZ is in the central part of Riggs and West townships, where it is defined by a 1.5 to 2.0 km wide southeast-trending zone of moderately to strongly deformed rocks. The DLDZ is characterized by both ductile and brittle-ductile shear zones which occur in two dominant orientations 90-100° and 110-120°.

The best assays from grab samples collected at the Macallan Prospect in 1983 returned assays of 2.99 g/t Au and 5.63 oz/t Au from BIF and metavolcanic host rocks. Grab samples collected by Pele Mountain Resources in 2004 returned assays ranging from <1 g/t Au to >57 g/t Au (plus 26 ppm Cu to 2.1% Cu).

2019 EXPLORATION PROGRAM

The regional-scale government geophysical data sets (EM and Mag) for the project area were reviewed. A preliminary review indicates key magnetostratigraphic markers correspond with mafic (intrusive / volcanic) belts, ironstone formations and younger discordant diabase dykes.

First observations noted that map patterns clearly reflect the complex structural and stratigraphic settings related to gold deposits in the Michipicoten Gold Belt. Secondly, the spatial resolution and ground registration are insufficient for modern exploration vectoring and rarely align with detailed mapping (where available).

Trillium conducted a regional exploration problem during the first half of 2019, which consisted of data compilation, regional high-resolution airborne magnetic and electromagnetic surveys, high-resolution satellite image acquisition and preliminary follow-up data and image enhancement and interpretation. The goal of this program was to provide a high-resolution geophysical and base map data for ongoing compilation work and 2020 field program planning.

VTEM SURVEY

From May 28th to June 20th, 2019 Geotech Ltd. carried out a helicopter-borne geophysical survey over the Trillium Gold Project.

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 965 line-kilometres of geophysical data were acquired during the survey.

The geophysical survey successfully identified known structural features and lithological characteristics of the Eastern Domain within the context of the GLDZ.

MARKES PROJECT AREA

The geophysical map data for the Markes Project area are characterized by moderate to strong linear magnetic features in a general E-W trend, offset by NW-trending structural breaks (Figs. 5, 7 and 8). The resulting magnetic map patterns (Figs. 5 and 7) are somewhat convoluted in the north central portion of the claim block; likely a function of geometry and data sampling resolution (e.g., narrow BIF). Several NW-trending patterns are defined by linear magnetic features interpreted to represent younger diabase dykes.

Notably, new magnetic patterns are not consistent with 250,000 scale geological maps, particularly the large NW-trending fault cutting the NE corner of the claim group.

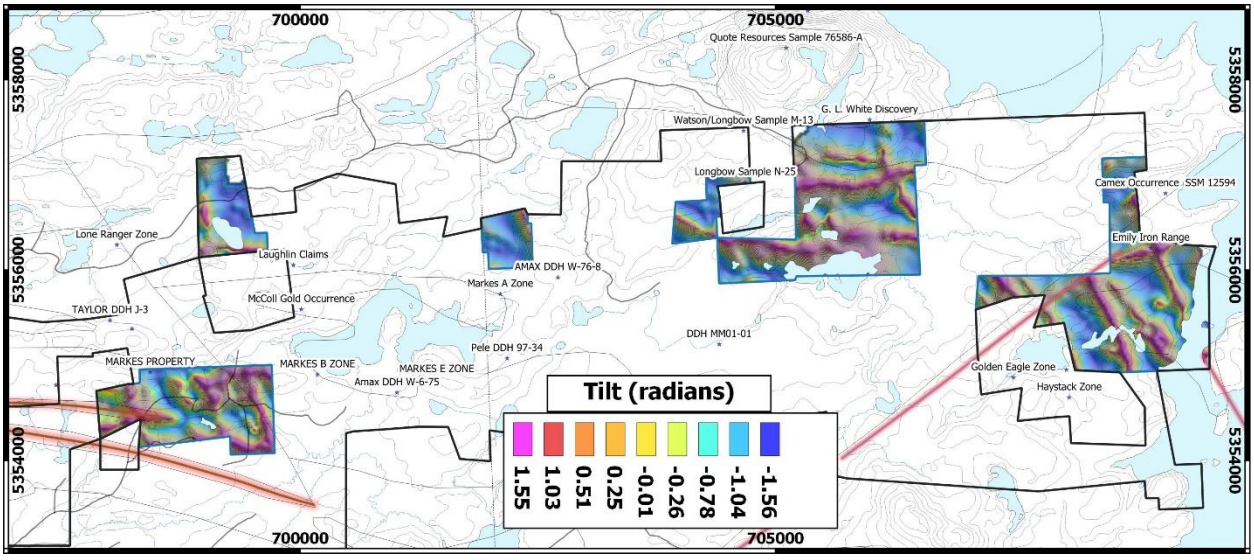

Figure 7. Highland North Option Package with tilt-derivative magnetics (Mag; 0.1 radian contours) and mineral occurrence data from OGS MDI (2019).

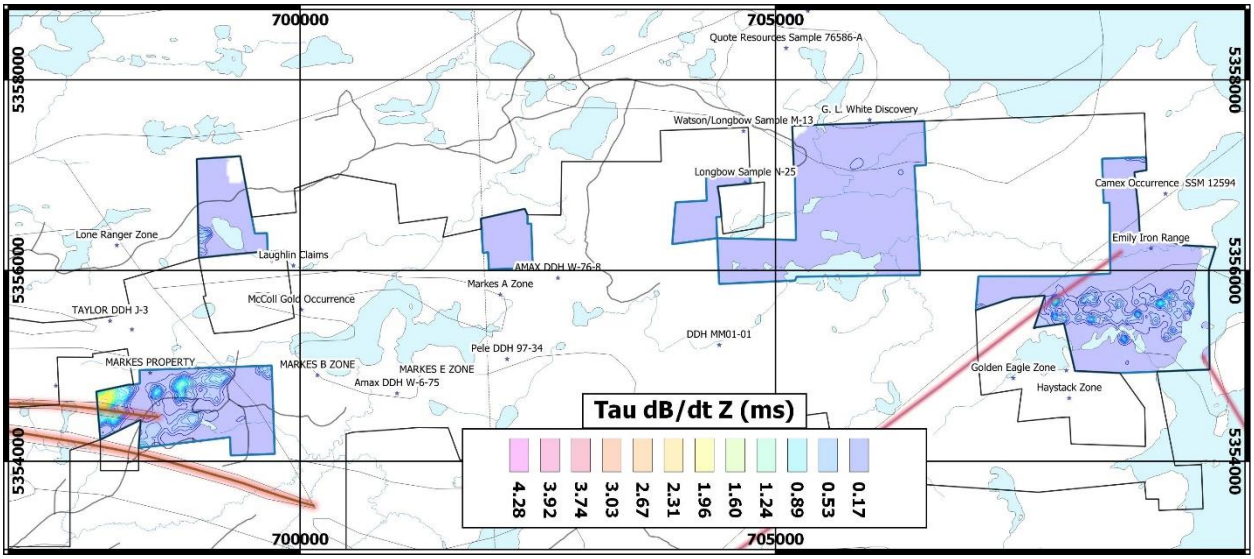

Figure 8. Highland North Option Package with 2019 VTEM survey results (Tau; 0.1 msec contours) and mineral occurrence data from OGS MDI (2019).

A moderate to strong electromagnetic response (Fig. 8) extends onto the claim group from the west and likely reflects the presence of altered banded iron formation units. Breaks in EM map patterns are generally coincident with breaks in magnetostratigraphy, albeit coarser. Again, a function of coil geometry and lithological / structural scales and local variation in relative orientations.

The focus of historic work (e.g., 1999 bulk sample) had been along a central NW-trending break in the magnetic and electromagnetic map patterns. The satellite data provide additional spatial control with regards to the bulk sample location and other surface exploration.

The geophysical data clearly indicate an E-W trending structural fabric "magnetostratigraphy" cut by NW-trending structures (+/- diabase intrusions). The resulting geometry and the presence of BIF are considered primary exploration targets in the Michipicoten Gold Belt.

This geophysical interpretation is supported by past exploration results and new data has identified potential targets along strike (Southern Shear, Eastern Domain, GLDZ) that appear to be outside of previous drilling areas.

LONE RANGER PROJECT AREA

The geophysical map patterns for the Lone Ranger project area are characterized by subtle magnetic and electromagnetic response (Figs. 5, 7 and 8). There are two dominant magnetic features; one representing the main E-W fabric and one representing a significant property-scale, locally north-trending, diabase dyke.

A strong electromagnetic response associated with the Lone Ranger prospect extends onto the claim group from the west where it is abruptly truncated by the north-trending structural feature interpreted to be a diabase dyke (Figs. 7 and 8). From there, east within the claim group, there is only muted electromagnetic response. A second prominent linear NW-trending magnetic feature (east of the claim group) marks the end of this amplitude reduction for the EM anomaly that is associated with the Lone Ranger trend, 850 m west of the claim group. This would imply significant displacement (vertical?) and or alteration of the causative unit in the area of the claim group.

The Lone Ranger project area covers the northern boundary of the Eastern Domain (GLDZ). Two significant north to northwest-trending prominent structural features cut the area and significantly alter the EM response of the Lone Ranger stratigraphic / structural trend.

VEGA PROJECT AREA

The geophysical map patterns for the Vega Project area are characterized by generally weak magnetic and electromagnetic response (Figs. 5, 7 and 8). A single moderate amplitude NNE-trending magnetic anomaly crosses the northeast corner of the claim group whereas the magnetic response for the remainder of the project area is muted with only a subtle northwest trending feature crossing the centre of the claim group from the southeast corner to the northwest corner (Figs. 5 and 7).

The electromagnetic response is generally muted (Fig. 8) with only very subtle low-amplitude response in certain B-field channels.

Drilling by previous operators (e.g., Pele Mountain Resources; 97-34 and 97-35; AR 42C08SW0104) intersected several shear zones and mineralization coincident with the southern edge of the subtle northwest trending magnetic anomaly. Analytical values were not given for the "mineralized intervals" noted in AR 42C08SW0104.

LONGBOW PROJECT AREA

The geophysical map patterns for the Longbow area are dominated by distinct linear magnetic patterns trending E-W, NE-SW and other various intersection patterns forming two dominant arcuate anomaly trends with subsidiary isolated anomalies (Figs. 6 and 7). The electromagnetic response (Fig. 8) for the project area is generally background with little or no coherent patterns. There are very subtle EM anomalies coincident with a magnetic feature in the northeast portion of the claim group.

A single historical drill hole on the SE edge of the claim group (Ref. 42C08SW0679) near a linear magnetic feature noted "greenstone", minor shearing and sparse mineralization.

EMILY PROJECT AREA

The geophysical map patterns for the Emily area are characterized by a well-developed NW-SE trending magnetic fabric comprised of 6 to 8 distinct linear features interpreted to be diabase dykes. These magnetostratigraphic trends are distinctly discordant to the generally E-W regional trend (e.g., Fig. 4) and the main EM response (Figs. 4, 6, 7 and 8).

The electromagnetic response (Fig. 8) correlates well with the 1:250,000 scale geology. The dominant EM anomaly is 300-600 m wide, oriented E-W crossing the southern third of the project area. However, there are cultural features in this area likely impacting the EM response and map patterns (e.g., Fig. 9) The electromagnetic response notably contains subtle NW-SE features that appear to correlate with similarly oriented magnetic anomalies occurring near structural intersections (i.e. E-W geological fabric with the diabase dykes).

The Emily Iron Range occurrence occurs at the intersection of an NNW-trending linear magnetic anomaly (diabase dyke) and a moderate amplitude ENE-trending anomaly. The ENE-trending magnetic anomaly occurs at the northern edge of a very subtle, low-amplitude EM anomaly only slightly above background.

SATELLITE IMAGERY

The high-resolution satellite imagery was used to provide some measure of "ground truthing" to the 2019 data compilation program (Fig. 9).

Additionally, the high-resolution imagery provided control on geophysical interpretations as related to past exploration program groundwork (e.g., Vega and Markes bulk samples, stripping and site access).

RESULTS AND INTERPRETATION

The geophysical survey successfully imaged structural features and lithological characteristics of the Eastern Domain (GLDZ). The satellite imagery provided important ground control for identifying historical work areas and cultural features that could impact geophysical response and subsequent interpretations. Importantly, the regional scale survey identified known and analogous structural and stratigraphic settings at significantly better resolution than previous geophysical surveys and in areas of poor outcrop and limited field data support.

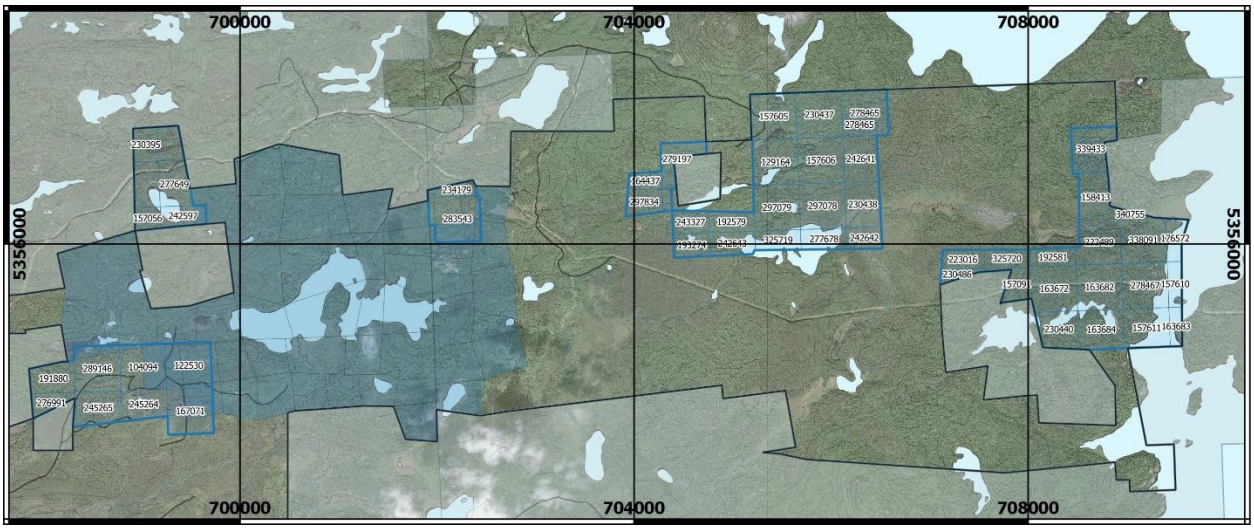

Figure 9. Trillium Gold Property outline showing the Highland North Property (Argonaut Option, blue) with satellite imagery. Legend as per Figure 2.

Magnetic and electromagnetic map patterns and 3D resistivity data effectively reflect the structural and stratigraphic complexity of the Michipicoten Gold Belt in the project area. Both volcanic and intrusive rocks are characterized by linear magnetic anomalies reflecting an arcuate but predominantly E-W regional structural / lithological fabric.

The numerous linear magnetic anomalies identify and refine exploration targets related to i) banded ironstone units, ii) structural breaks and intersections and iii) the significantly higher frequency of NNW-trending faults (diabase dykes) in the project area.

Although, offsets in linear magnetic features (+/- electromagnetic anomalies) frequently coincide with diabase dykes (i.e. those inferred from magnetic map patterns), other do not. These new data provide greater resolution and enable one to recognize many more offsets (i.e. NW-trending faults) that could i) provide fluid conduits in early activation and ii) off-set existing ore deposits in later activation (e.g., dyke emplacement).

Time domain EM map patterns (e.g., Tau or B-field) generally reflect the main "litho-structural" fabric albeit at a coarser resolution. Weak to moderate EM responses are interpreted to reflect BIF units or local increases in sulphide content by way of alteration related to mineralizing fluids (e.g. pyrite). In the claim areas reported herein, generally only moderate to subtle EM features are evident.

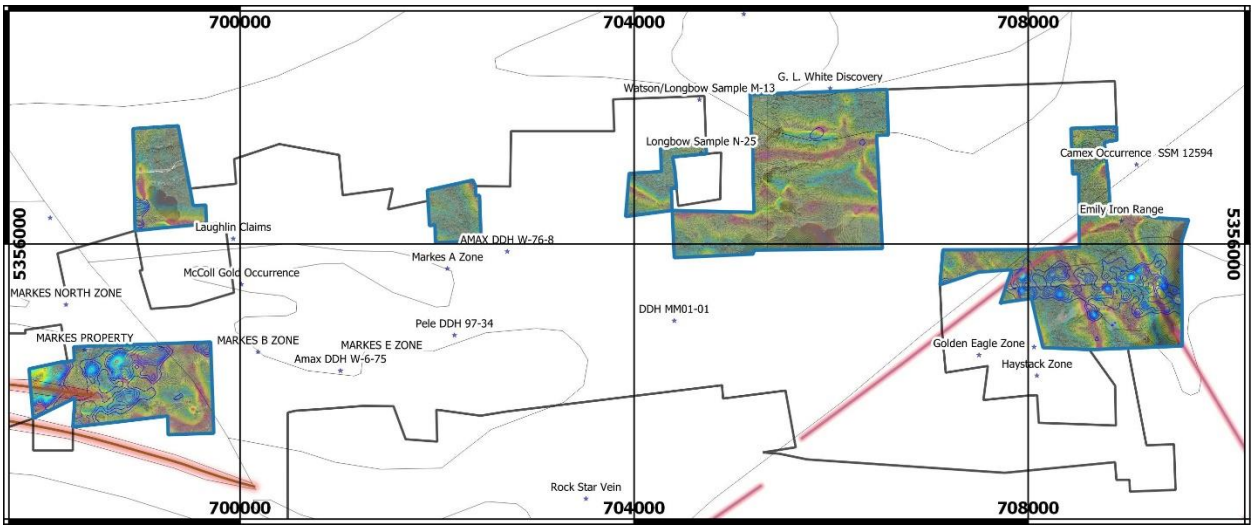

Figure 10. Highland North Property (Trillium Property, black; Argonaut Option Package claims, blue) with EM and magnetic contours over satellite imagery (see Figs. 2, 7 and 8 for legends).

CONCLUSIONS AND RECOMMENDATIONS

The geophysical and satellite data provide enhanced spatial resolution of the interpreted geology for the project area and are sufficient for direct additional ground-truthing. A limited field program of prospecting, mapping and sampling along with reconnaissance soil geochemistry lines is proposed prior to defining potential drill targets.

It is also recommended that limited Maxwell plate modelling and magnetic inversion is completed on priority areas to allow for better spatial correlation of data in three dimensions and isolated or characterize different types of causative bodies or zones.

Table 1. provides details of a recommended work program to refine drill targets and complete a planned 2,000 m drill campaign on the Highland North Property.

Table 1. Proposed Work Program for the Highland North Property (Option Package claim groups).

	WORK DESCRIPTION	PROPERTY	UNIT	TOTAL
PHASE I	Geophysical Modelling (Mag Inversion)	**HLN (AR)**	$2,500	**$7,500**
PHASE I	Geophysical Modelling (Maxwell Plate)	**HLN (AR)**	$2,500	**$7,500**
PHASE I	Prospecting and Ground Truth	**HLN (AR)**	$500	**$5,000**
PHASE I	Mapping and Sampling (Field Support)	**HLN (AR)**	$1,000	**$10,000**
PHASE I	Geochemistry (Soil)	**HLN (AR)**	$100	**$3,000**
PHASE I	Interpretation, Reporting and Target ID	**HLN (AR)**	$1,000	**$10,000**
PHASE II	Drill Program Logistics and Management (/m)	**HLN (AR)**	$50	**$100,000**
PHASE II	Drill Program Meters and Analytical (/m)	**HLN (AR)**	$250	**$500,000**
PHASE II	Interpretation and Reporting (incl. overhead)	**HLN (AR)**	$1,000	**$17,000**
	TOTAL			**$660,000**

REFERENCES

Archibald, F. T., 1981. Diamond Drill Logs and Sections, Vega Gold Explorations, 1980-81.

Archibald, F.T., 1997. (AR 42C08SW0104) Diamond Drill Logs Pele Mountain Resources – Wawa Project.

Archibald, J.C., 1999. Report on The Geological Mapping and Sampling for Watson Lake Resources Wawa Property-Riggs Township NTS 42C/8 – Algoma District, Ontario.

Archibald, J.C. 2008. Summary Report Covering the Riggs TWP. Claims Riggs TWP. District of Algoma.

Arias, Z. G. and Heather, K. B., 1987. Regional Structural Geology Related to Gold mineralization in the Goudreau-Lochalsh area, District of Algoma.

Bevan, P. A. A, 1997. Report on the Geology and Mineral Resources of Pele Mountain Resources Inc., Wawa properties - Jacobson and Riggs Townships.

Bruce, E. L., 1940. Geology of the Goudreau-Lochalsh Area, ODM annual Report.

Campbell, R., 1947. (AR 42C08SW0679) Diamond Drill Report No. 11.

Cooper, M. S., 2010. 2010 Drill Program Report for Pele Gold Corporation, Highland Gold Project.

Delisle, PC., 1999. Geological evaluation of the Markes Zone, Jacobson township, Goudreau-Lochalsh Area.

Delisle, P-C., 1999. Diamond Drill Logs, Pele Mountain Resources Inc., 1998-99.

Edgar, B., 2013. Edwards Mine Property Technical Report, Jacobson Township, Ontario, prepared for Strike Minerals Incorporated.

Grant, J. C., 1997. Geophysical Report for Pele Mountain Resources Inc. on the Wawa Property, Jacobson Township by Exsics Exploration Ltd.

Heather, K. B. and Arias, Z., 1992. Geological and Structural Setting of Gold Mineralization in the Goudreau-Lochalsh Area, Wawa Gold Camp.

Jellicoe, K., 2019. Structural Controls and Deformation History of the Orogenic Island Gold Deposit, Michipicoten Greenstone Belt, Ontario; University of Waterloo, unpublished M.Sc. Thesis, 73p.

McBride, D., 2009. National Instrument 43-101 Report on the Jacobson Township Property of Cline Mining Corporation.

Ontario Geological Survey 2011. 1:250,000 scale bedrock geology of Ontario; Ontario Geological Survey, Miscellaneous Release---Data 126-Revision 1.

Ontario Geological Survey 2019. Mineral Deposit Inventory; Ontario Geological Survey, Mineral Deposit Inventory (October 2019 update), online database.

Sage, R. P., 1993. Geology of Aguonie, Bird, Finan and Jacobson Townships, District of Algoma, OGS Open File Report 5588.

Srivastava, P. and Bennett, G., 1978. Geology of Riggs and West Townships, District of Algoma, OGS Report 174.

Walker, E. C., 2007. Highland Project Technical Report, Wawa, Ontario.

Williams H. R. et al., 1991. Wawa Subprovince, Geology of Ontario, OGS special volume 4.

CERTIFICATE OF AUTHOR

Steve King, P. Geo.

I, Steve King, P. Geo., of Little Rapids, Newfoundland and Labrador, a Qualified Person (QP) for this Technical Report titled Report on the 2019 VTEM airborne geophysical survey for the Trillium Gold Project, Highland North Property (Highland North Option Package), dated January 20, 2020, do hereby certify the following statements:

I am a consulting geologist currently providing services to Trillium Mining Corp. as Vice President, Exploration, on a contractual basis.

I graduated with a B.Sc. degree in Geophysics from Memorial University in 1991 and an M.Sc. in Geology from Acadia University in 2002.

I am a member of the Professional Engineers and Geoscientists of Newfoundland and Labrador, since 1996 (Registration Number 03047).

I have worked as a Geoscientist for more than 25 years.

I have wide-ranging experience in structurally complex, high-grade gold exploration and geophysical data processing enhancement and interpretation and I have published more than 250 related technical maps and scientific reports and articles.

I have visited the Property in December 2019.

I have read the definition of QP set out in National Instrument 43-101 and certify that by reason of education, affiliation with a professional association, and past relevant work experience, I fulfill the requirements to be a QP.

Dated this 25th day of January 2020,

Mark S. (Steve) King, P. Geo.

APPENDIX I

LIST OF CLAIMS (TRILLIUM MINING CORP. - ARGONAUT OPTION; PRODIGY GOLD INC.)

AGMT.	PROPERTY REFERENCE	REGISTERED OWNER	CELL	ISSUE DATE	ANNIVERSARY	WORK REQ.	WORK APPLIED	PIP	LAST
AR	Highland North	(100) Prodigy Gold Inc.	104094	10-Apr-18	24-Apr-20	$ 200	$461	$ 200	31-Jan-19
FMEL	Highland North	(100) Prodigy Gold Inc.	122530	10-Apr-18	25-Jan-21	$ 400	$791	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	129164	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	157056	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	157091	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	157605	10-Apr-18	7-Feb-20	$ 400	$791	$ 400	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	157606	10-Apr-18	7-Feb-20	$ 400	$791	$ 400	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	157610	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	157611	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	158413	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	163672	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	163682	10-Apr-18	7-Feb-20	$ 200	$461	$ 400	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	163683	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	163684	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	164437	10-Apr-18	17-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	167071	10-Apr-18	25-Jan-21	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	176572	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	191880	10-Apr-18	30-Dec-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	192538	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	192579	10-Apr-18	17-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	192581	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	193274	10-Apr-18	17-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	217535	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	217536	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	222489	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	223016	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	230395	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	230437	10-Apr-18	7-Feb-20	$ 400	$791	$ 400	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	230438	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19

AGMT.	PROPERTY REFERENCE	REGISTERED OWNER	CELL	ISSUE DATE	ANNIVERSARY	WORK REQ.	WORK APPLIED	PIP	LAST
AR	Highland North	(100) Prodigy Gold Inc.	230440	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	230486	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	234179	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	242597	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	242641	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	242642	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	242643	10-Apr-18	17-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	243327	10-Apr-18	17-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	245264	10-Apr-18	24-Apr-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	245265	10-Apr-18	24-Apr-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	276991	10-Apr-18	30-Dec-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	277649	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	277678	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	278465	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	278467	10-Apr-18	7-Feb-20	$ 200	$461	$ 400	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	279197	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	283543	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	289146	10-Apr-18	24-Apr-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	297078	10-Apr-18	7-Feb-20	$ 400	$791	$ 400	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	297079	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	297834	10-Apr-18	17-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	325719	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	325720	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	338048	10-Apr-18	7-Feb-20	$ 200	$461	$ -	n/a
AR	Highland North	(100) Prodigy Gold Inc.	338091	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	339433	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
AR	Highland North	(100) Prodigy Gold Inc.	340755	10-Apr-18	7-Feb-20	$ 200	$461	$ 200	31-Jan-19
						$12,200	$27,461		

APPENDIX II

LIST OF EXPENDITURES

PROPERTY REFERENCE	COMPANY	DESCRIPTION	UNITS	COST	TOTAL
HIGHLAND NORTH OPTION (CLAIMS)	Waterton Global Mgmt.	Survey Plan & Mgmt.	7	$750	$5,250
HIGHLAND NORTH OPTION (CLAIMS)	Geotech	VTEM Survey	746.537	$18.82	$14,050
HIGHLAND NORTH OPTION (CLAIMS)	Aeroquest	Satellite Imagery	746.537	$0.85	$635
HIGHLAND NORTH OPTION (CLAIMS)	Trillium Mining Corp.	Processing & Interp.	3	$1,000	$3,000
HIGHLAND NORTH OPTION (CLAIMS)	Trillium Mining Corp.	Reporting	7	$650	$4,550
HIGHLAND NORTH OPTION (CLAIMS)		**TOTAL**	**746.54**	**(ha)**	**$27,484**

APPENDIX III

GEOTECH VTEM DATA ACQUISITION REPORT (PDF FILED SEPARATELY)

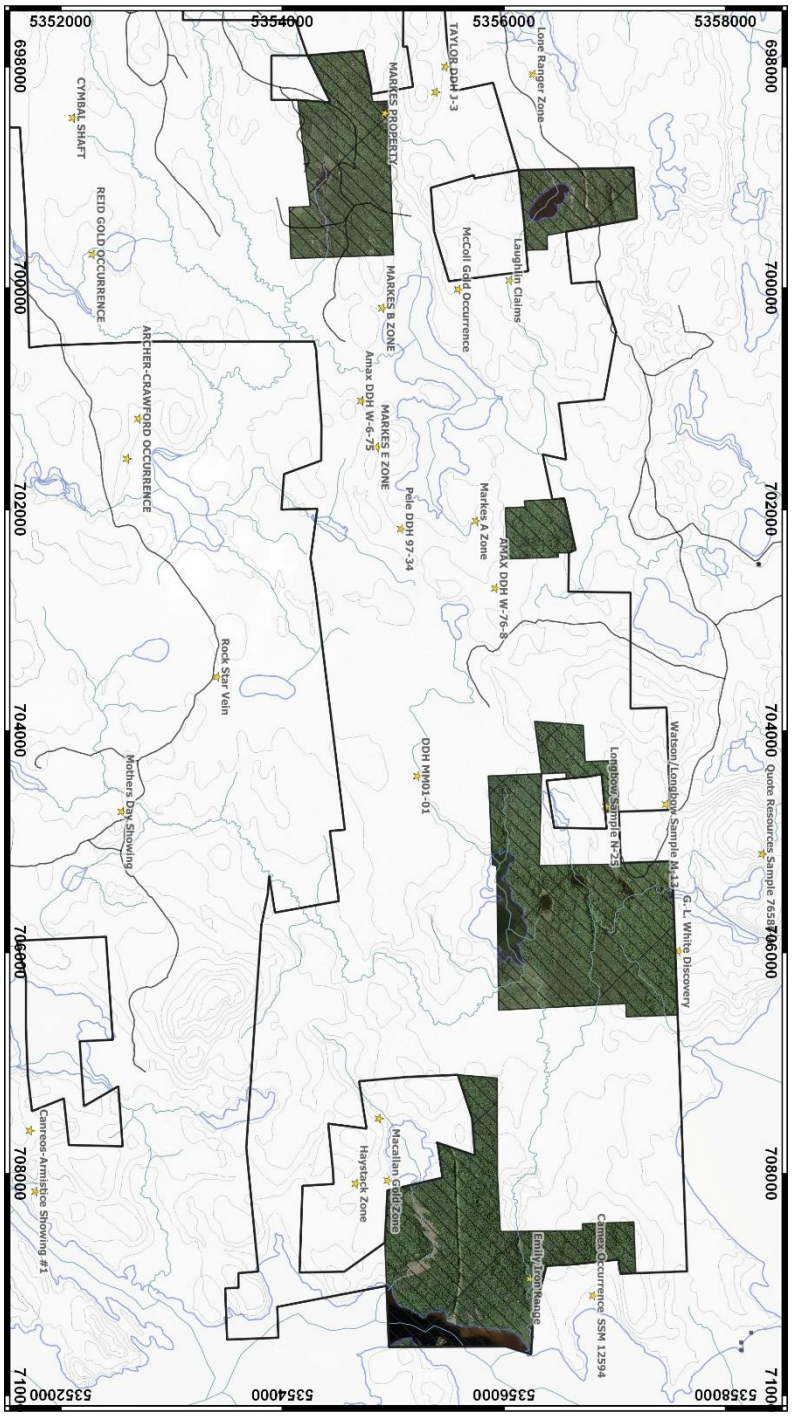

Figure 11. Highland North Option Package claim group map with survey flight lines, satellite imagery and OGS MDI (2019).