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BC Geologlcal Survey
Assessment Report
38049

**Ministry of Energy and Mines**
BC Geological Survey

**Assessment Report**
**Title Page and Summary**

**TYPE OF REPORT [type of survey(s)]:** Assessment Report

**TOTAL COST:** $22,949.00

**AUTHOR(S):** Nicolai Goeppel **SIGNATURE(S):**

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

**STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):** 5722357, Dec/09/2018

**PROPERTY NAME:** Thibert Delta

**CLAIM NAME(S) (on which the work was done):** AURYEA 1, AURYEA 2, GOLDEN CHILD 1,

**COMMODITIES SOUGHT:** Gold

**MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:** 104J 007

**MINING DIVISION:** Liard **NTS/BCGS:** 114J

**LATITUDE:** 58 ° 48 ' 55 " **LONGITUDE:** 130 ° 6 ' 40 " **(at centre of work)**

**OWNER(S):**

1) Bill Glen Harris
2) Marvin Lorenzo Hawley

**MAILING ADDRESS:**

PO Box 31347, Whitehorse, Y1A 5P7
2466 Summerset rd , Nanoose Bay, B.C. v9p 9e4

**OPERATOR(S) [who paid for the work]:**

1) Bill Glen Harris
2)

**MAILING ADDRESS:**

PO Box 31347, Whitehorse, Y1A 5P7

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

Placer Gold, Fluvial, Glaciofluvial, Cach Creek Terrane, PGE,

**REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:** 26328, 18225, 17706, 25606, 24902, 25986, 24902, 13309, 26182, 35928

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| TYPE OF WORK IN THIS REPORT | EXTENT OF WORK (IN METRIC UNITS) | ON WHICH CLAIMS | PROJECT COSTS APPORTIONED (incl. support) |
|---|---|---|---|
| **GEOLOGICAL (scale, area)** | | | |
| **Ground, mapping** | | AURYEA 1, AURYEA 2, GOLDEN CHI | 2000 |
| **Photo interpretation** | | | |
| **GEOPHYSICAL (line-kilometres)** | | | |
| **Ground** | | | |
| **Magnetic** | 4.55km | AURYEA 1, AURYEA 2, GOLDEN CHI | 4000 |
| **Electromagnetic** | | | |
| **Induced Polarization** | | | |
| **Radiometric** | | | |
| **Seismic** | | | |
| **Other** | Gradiometric 4.55km | AURYEA 1, AURYEA 2, GOLDEN CHI | 2000 |
| **Airborne** | | | |
| **GEOCHEMICAL (number of samples analysed for...)** | | | |
| **Soil** | | | |
| **Silt** | 3 | GOLDEN CHILD 1 | 120 |
| **Rock** | | | |
| **Other** | overburden drilling management 2 samples | GOLDEN CHILD 1 | 600 |
| **DRILLING (total metres; number of holes, size)** | | | |
| **Core** | | | |
| **Non-core** | | | |
| **RELATED TECHNICAL** | | | |
| **Sampling/assaying** | 12 heavy mineral samples | AURYEA 1, AURYEA 2, GOLDEN CHI | 2050 |
| **Petrographic** | | | |
| **Mineralographic** | | | |
| **Metallurgic** | | | |
| **PROSPECTING (scale, area)** | 0.7 sqkm | AURYEA 1, AURYEA 2, GOLDEN CHI | 1400 |
| **PREPARATORY / PHYSICAL** | | | |
| **Line/grid (kilometres)** | | | |
| **Topographic/Photogrammetric (scale, area)** | | | |
| **Legal surveys (scale, area)** | | | |
| **Road, local access (kilometres)/trail** | | | |
| **Trench (metres)** | | | |
| **Underground dev. (metres)** | | | |
| **Other** | 12 hand dug test pits | AURYEA 1, AURYEA 2, GOLDEN CHI | 1000 |
| | | **TOTAL COST:** | $22,949.00 |

# THIBERT CREEK DELTA 2018 ASSESSMENT REPORT

**Tenure Numbers 360599,360600, 360601, 647623, 513882 and 519736**
**Dease Lake Area, BC**

By Nicolai Goeppel of
Higher Ground
Exploration Services

# Abstract

The Thibert Delta project consists of 4 placer claims (360599, 360600, 360600) and 2 placer leases (513882, 519736) on the mouth of Thibert Creek. Historically, Thibert Creek is one of the most prolific placer gold drainages in British Columbia. The property is accessible by road, located approximately 48 km north of Dease Lake, BC.

In 2018, a brief exploration program was carried out end of October to November 2018; consisting of a ground geophysical magnetometer and gradiometer survey, coupled with hand test pitting, data compilation and preliminary surficial mapping. In addition, several heavy concentrate samples from previous mining activity on the property were submitted for analytical testing by Bureau Veritas in Vancouver, BC and Overburden Drilling Management in Nepean, Ontario. The results indicate an economic placer potential for a large-scale and bulk tonnage placer operation. The total assessment valuation for the 2018 program is $22,949.00.

The location and ground conditions on the Thibert Delta property are ideal for cost-effective mining and exploration. Based on easy access, lack of over burden and potential for economic by products (alternate heavy minerals; platinum, magnetite, nickel, etc) minimal gold concentrations are required to make an economic operation. Future work consisting of an initial phase of prospecting, mapping, drone UAV imagery and magnetometer survey is warranted in preparation for later drilling and bulk sampling to produce an effective and efficient mining and development plan.

# Contents

# Introduction

Gold was first discovered on Thibert Creek in 1873 on a low bench approximately 4.8 km above the mouth. The discovery was made by a group of prospectors led by Henry Thibert, as leader of the expedition he was granted the discovery claim. Initial production on Thibert creek was carried out by hand through shafting and drifting into gold rich gravels and is recorded to have produce upwards of 4 ounces per day per miner. Between 1875 and 1935 Thibert Creek produced 1,570,083 grams of gold (50,404 oz) through hand and hydraulic operations. By 1949, over 110,000 ounces were mined from the lower reaches of the drainage. Specifically, the principal work was done on the lower 16 kilometres of the creek with little focus on the extensive fluvial fan that forms the mouth of Thibert Creek. The Thibert Creek Delta signifies the terminus point for any gold that has migrated and been transported along the drainage since before the last glaciation and therefore has had 10's of 1000's of years to accumulate.

The source of gold is attributed to orogenic gold-rich quartz veins within the Thibert Creek fault that strikes along Thibert Creek. The region is underlain by lithologies of the Cache Creek terrane. This unit is an exotic accreted terrane consisting of an ophiolite oceanic sequence of ultramafic, volcanic and sedimentary rocks. Historically the unit is known as the "gold series" rocks due to a strong association with gold in placer deposits from California through British Columbia and into the Yukon. In more recent history the Cache Creek terrane has become a prominent source of Nephrite Jade in BC and identified as a potential source of Nickle-alloy and PGE (platinum group elements) mineralization. Furthermore, fluvial platinum is documented to occur on Thibert creek. It is recorded from a historic hydraulic operation on Thibert Creek that approximately 68 grams of platinum was recovered per tonne of concentrate. Osmiridium another PGE has also been identified in the concentrates (Barkov et al, 2005). Unfortunately, majority of early operations disregarded the metal not knowing what it was and its value.

Gold eroded from bedrock sources has accumulated in various types of placer deposits on Thibert Creek and include buried Tertiary bench deposits, enriched high-energy glaciofluvial gravel and interglacial deposits on bedrock. The pre-glacial Tertiary creek channel deposits form the most significant source of the placer gold on Thibert Creek. Post glacial influences have re-concentrated and redistributed these ancient pay streaks.

The most notable and under explored portion of Thibert Creek is its mouth which signifies the terminus for any gold transported along Thibert Creek prior, during and after glaciation. This fluvial fan would have endured large melt water outwashes during deglaciation, shore line re-concentrating on nearby Dease Lake, glacial marginal effects with retreating glaciation, and more recent outwashes from hydraulic operations and flood events. In 2018, a brief exploration program was carried out to investigate the extensive fluvial fan at the mouth of Thibert Creek. The program consisted of ground geophysical magnetometer and gradiometer surveys, coupled with hand test pitting, and preliminary surficial mapping. Exploration is key in determining and delineating economic zones to ensure effective mining operations. The results of the 2018 exploration conjoined with historic data compilation indicate a significant economic placer potential for a large-scale and bulk tonnage placer operation. The total assessment valuation for the 2018 program is $22,949.00. The purpose of this report is to detail the findings and results of the 2018 exploration program.

## Location and Access

The Thibert Delta project consists of 4 placer claims and 2 placer leases on the mouth of Thibert Creek, located approximately 48 km north of Dease Lake, BC (Figure 1, Appendix I). The property covers an area of 358.73 hectares. The property is easily accessible by road with trails that dissect the property (Figure 2, Appendix I). The claim boundary is located approximately 350 m from the Stewart Cassiar Highway.

## Tenure Information

The full tenure information is tabulated below.

| Claim Name | Expiry Date | Tenure Number | Tenure Type | Issue Date | Hectares | Owner |
|---|---|---|---|---|---|---|
| GOLDEN CHILD I | 2018-11-14 | 360601 | Placer Claim | 1997-11-14 | 50 | HARRIS, BILL GLEN |
| AURYEA 1 | 2018-11-14 | 360599 | Placer Claim | 1997-11-14 | 50 | HARRIS, BILL GLEN |
| AURYEA 2 | 2018-11-14 | 360600 | Placer Claim | 1997-11-14 | 50 | HARRIS, BILL GLEN |
| GOLDEN CHILD 2 | 2019-04-06 | 647623 | Placer Claim | 2009-10-06 | 33.5266 | HAWLEY, MARVIN LORENZO |
| | 2019-06-03 | 513882 | Placer Lease | 2005-06-03 | 159.2 | HARRIS, BILL GLEN |
| | 2019-09-07 | 519736 | Placer Lease | 2005-09-07 | 16 | HARRIS, BILL GLEN |

## Previous Work History

Gold was first discovered on Thibert Creek in 1873 on a low bench approximately 4.8 km above the mouth. The discovery was made by a group of prospectors led by Henry Thibert, as leader of the expedition he was granted the discovery claim. Initial production on Thibert creek was carried out by hand through shafting and drifting into gold rich gravels and is recorded to have produce upwards of 4 ounces per day per miner. Between 1875 and 1935 Thibert Creek produced 1,570,083 grams of gold (50,404 oz) through hand and hydraulic operations. By 1949, over 110,000 ounces were mined from the lower reaches of the drainage (Bond, 2015).

Gorc and MacArthur (1984) and Wallis (1984) provide a history of early exploration and production. Other creeks draining into Thibert Creek were also found to contain placer gold including Boulder, Defot, Mosquito, Porcupine and Vowell Creeks. Total gold production from the creeks in 1984 was 70,000 ounces (approximately 2,000 kg). However, two thirds of the gold were produced from Thibert Creek itself, where economic placers are restricted to benches 5 to 200 feet (1.5 to 61 metres) above the stream channel. Also, reported that concentrate from the placer operations contained about 2 oz/ton platinum (Gorc and MacArthur, 1984).

The earliest hard rock record details a zone of quartz stringers within quartz porphyry was reportedly exposed by open cutting and stripping in the early 1930's on Thibert Creek below Berry Creek (BC Mines Annual Report, 1931). This showing is designated as the Keystone showing in the BC Minfile (Minfile No, 104J 012). Additionally, the BC Minfile notes a copper±molybdenum±gold porphyry showing along Thibert Creek named the Zero showing (BC Minfile 104J 038). Early reports indicate the presence of malachite

and chalcopyrite float (Croteau, 1969). An ashed sample from the dead wood was analysed and reportedly returned 2.98% Cu (Croteau, 1970). Prospecting was conducted in 1967 as well as 1968, followed by two drill holes in the Boulder Creek area; however, drilling failed to intersect bedrock (Croteau, 1969). Located approximately 9 kilometers north-northwest of the Zero showing is the Shield showing (BC Minfile 104J 027). This occurrence is reported as molybdenite and minor chalcopyrite occurring in quartz seams within fractured quartz monzonite adjacent to a major fault structure. The mineralized zone is restricted, and exhibits intense sericite, minor orthoclase and biotite alteration. In 2000, regional geochemical sampling returned 616 ppm Cu from a tributary of Canyon Creek approximately 12.5 kilometres north-northwest of the Zero showing. This anomalous sample may be a due to drainage from the Shield showing area.

During the 1980's Noranda Exploration Limited (Noranda) conducted a program of rock, silt and soil geochemistry on ground covering much of lower Thibert Creek up to Mosquito Creek and Porcupine Lake. During 1983 and 1984, 297 rock samples, 1,299 soil samples and 3 silt samples were collected. Results indicated one main anomalous gold and arsenic zone (Anomaly A) of up to 430 ppb Au and 1000 ppm As. This area coincides with ultramafic rocks and a mapped north-south fault (Gorc and MacArthur, 1984). In 1987, Equity Silver Mines (Equity) conducted further exploration in the Thibert Creek area, centred about Five Mile Creek (Figure 4). Exploration included data compilation, prospecting, rock sampling and limited mapping based on the Noranda's earlier work. Additionally, backhoe and hand trenching was performed in the area of Boulder and Berry Creeks This was followed by three diamond drill holes (307.8 metres), two located west of Porcupine Lake (off-Property) to test surface geochemical anomalies and one located near the Boulder Creek-Thibert Creek junction to test the serpentinite, quartz vein and veined black shale unit where a backhoe trench sample yielded 0.018 oz/ton Au (0.62 g/t Au). The former two holes intersected some slightly elevated gold-silver values. The latter drill hole intersected strongly sheared serpentinite in the upper half, while the lower half consisted of shales, chert, altered ultramafics and quartz veining. A 5.79 m section returned 360 ppb Au, including 1.52 metres of 1,000 ppb Au. Sporadic platinum values are reported from the serpentinite unit, including 297 ppb Pt over 0.5 feet (0.15 metres) and 145 ppb Pt over 3.7 feet (1.13 metres) (Robertson, 1988).

In 1996 Nu-Lite Industries (Nu-Lite) began exploration in the area around the Keystone showing. A survey grid was cut with a 270° baseline and crosslines at 090°. A very-low frequency (VLF) and total field magnetics survey was conducted on the parts of the grid, but not fully completed due to inclement weather. Only 6 kilometres of the grid was surveyed. The total field magnetics located a strong magnetic high striking approximately 090° parallel to the Thibert Creek fault. This is interpreted to be identifying the location of ultramafic bodies within the thrust slice. The VLF-EM survey identified several conductors which strike oblique to the regional trend as shown in the magnetics possibly representing subsidiary faults to the Thibert Creek fault. These structures were posited to be the host for gold mineralization (Kowalchuk, 1987).

In 1997, Nu-Lite conducted a diamond drilling program near the mouth of Boulder Creek. A total of four drill holes totaling 648 metres were completed from two sites. The drill holes sited near Thibert Creek (KS98-1, -2) intersected sheeted quartz veins in graphitic black shales below thrust faults that form the bottom of the ultramafic unit and likely represent the same zone previously drilled by Equity. The other two drill holes (KS98-3, -4) intersected a 20-meter package of intensely silicified and quartz-carbonate altered ultramafic rocks within black shales. The silicified zone is interpreted as the down-dip extension of the Keystone showing. No significant precious metal results were reported with the highest gold result being 0.52 g/t Au over 1.52 metres in drill hole KS98-3 (78.64 – 80.16 metres).

In 1999, exploration for Nu-Lite and Global Tree Technologies Ltd. (Global Tree) consisted of data compilation and field mapping. Ostler (1999) reports that quartz stringers were located on the southern

bank of the Thibert Creek that matched the description of the showing. The historical trench was no longer present due to river erosion. Ostler concluded that the serpentinite and listwaenite belt along the Thibert Fault is not the source of the placer gold in the area but rather there is no single source gold. Ostler further suggests that the primary gold concentration occurred during reorientation of the siliceous bedding structures into the first cleavage of the Kedahda Formation rocks during Jurassic-age deformation. Subsequent gold concentration may have occurred in a tropical weathering profile developed during Tertiary-age erosion.

In 2000, Netseers Internet Corp. conducted mapping and rock and soil geochemical survey to further attempt to identify a lode source of the gold placers. Ninety-six soil samples were collected from 11 survey lines bracketing the placer workings (Kowalchuk, 2000). Mapping was completed around Delure Creek, Five Mile Gulch, Boulder Creek, and Berry Creek. Soil geochemistry was successful in discriminating the ultramafic units from the surrounding sediments. The ultramafics demonstrated anomalous gold but not significant enough to account for the gold placers. Four rock chip samples were collected from the area of the Keystone showing. No significant gold results were returned, nor were any significant indicator elements such silver, copper, zinc or arsenic. In 2006, Jet Gold Corporation conducted additional prospecting in the area of the Keystone property. Twenty-two rock samples were collected (Javorsky, 2007). No significant precious metal results were reported from this work.

## Regional Geology

The Property is situated around the Thibert Fault that marks the contact between the Cache Creek Complex to the south and southwest and the Takla Group, part of the Quesnel terrane, to the north and northeast (Figure 3). The fault has a general orientation trending northwest-southeast. Rocks of Quesnellia have been interpreted as being deposited in an island arc setting were as the Cache Creek Complex represents a range of oceanic environments, from deep water successions to platformal limestone sequences built upon volcanic plateaus (Gabrielse, 1998).

In the area, Quesnellia rocks are mainly represented by the Shonektaw Formation and the Nazcha Formation both assigned to the Takla Group. The Shonektaw Formation is described as a succession of intermediate volcanic rocks (Ostler, 1999), consisting of augite andesite and basalt (Robertson, 1988). Compiled geological mapping by the BCGS (Geofile 2005-1) notes other rock types including feldspar porphyry, tuff, agglomerate, pyroxenite; minor shale, siltstone and greywacke. The Nazcha Formation consists of coarse clastic sedimentary rocks.

Cache Creek Complex rocks in the Property area are mainly associated with the Kedahda Formation, comprised of sedimentary rocks: mainly chert, siliceous argillite, and siliciclastic rocks. The formation is described as schistose quartzite and lesser black platy argillite (Robertson, 1988). Small ultramafic bodies that range from gabbro to peridotite occur within the Cache Creek rocks, generally along the bounding faults like Thibert Fault (Figure 3). Ultramafics are reported as alpine type. These bodies are presumed to have been thrust faulted into place during Cretaceous age (Ostler, 1999). Gabrielse (1998) describes the ultramafic rocks associated with the Thibert Fault as having been altered to assemblages of talc, carbonate, magnesite and quartz (listwanite alteration) and characterized by buff-brown weathering. Locally observed associated with the yellow-orange magnesite is bright green mariposite or fuchsite.

Two granitoids, a late Triassic-age hornblende granodiorite and diorite (commonly foliated), and an early Cretaceous medium-grained, equigranular, unfoliated bioite granite and granodiorite are mapped intruding the Takla Group rocks (Ostler, 1999).

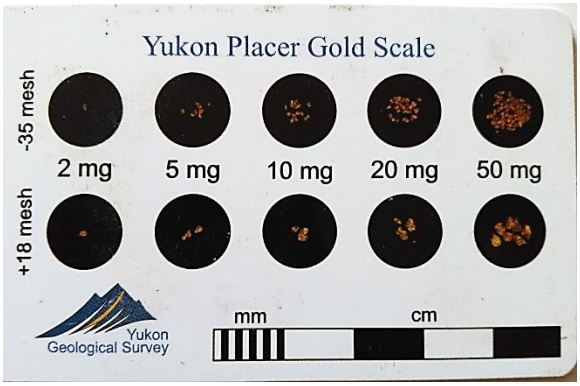
Quaternary bimodal volcanic rocks of the Tuya Formation (QT) occur in the region. These volcanics are described as basaltic flows and ash with minor rhyolitic tuff and flows (Ostler, 1999).

## 2018 Exploration

In 2018, a brief exploration program was carried out end of October to November 2018; consisting of a ground geophysical magnetometer and gradiometer survey, coupled with hand test pitting, data compilation and preliminary surficial mapping. In addition, several other heavy concentrate samples produced from previous mining activity on the right-limit bench at the mouth of Thibert Creek were submitted to Bureau Veritas in Vancouver, BC and Overburden Drilling Management in Nepean, Ontario for analytical testing. The results indicate a significant economic placer potential for a large-scale and bulk tonnage placer operation. The total assessment valuation for the 2018 program is $22,949.00.

### *Test Pit Results*

In 2018 a total of 12 hand dug test pits were excavated in various locations on the Thibert Creek Delta. Sites tested surface concentrations with one 5-gallon bucket of material processed from each location. Each sample was then sieved through a series of screens and then run through a small shaker recovery table. Samples were panned and gold content in milligrams was estimated using a gold scale card. Every sample contained gold with concentrations up to 35 mg equivalent to 1.4 gram per yard or $56 USD per yard. Samples were taken at surface with little to no overburden. The table below outlines results from testing and Figure 4, Appendix I outlines test locations. These samples were not submitted for any additional analytical tests due to the small amount of concentrate produced.




Calculations for yardage used $1,269.90 USD/oz the current gold price at the time the report was written. Based on the ground conditions that consist of gold bearing gravels at surface with no permafrost make for cost effective mining with minimal operating costs. Gold accumulations is from surface concentrating from very recent fluvial activity. Test sites 11 and 12 were taken from a remnant glacial-fluvial gravel knoll approximately 100-200m wide, 450m long and approximately 100m tall that is located in the center of the Thibert Fan.

| Sample ID | Easting | Northing | Estimated mg (mg) | Yardage (USD/yrd) | Grams / Yard (g/yrd) |
|---|---|---|---|---|---|
| Test 1 | 435934 | 6520334 | 35 | 57.16 | 1.4 |
| Test 2 | 435905 | 6520164 | 2 | 3.27 | 0.08 |
| Test 3 | 435689 | 6519872 | 6 | 9.8 | 0.24 |
| Test 4 | 435707 | 6520058 | 6 | 9.8 | 0.24 |
| Test 5 | 435610 | 6519528 | 4 | 6.53 | 0.16 |
| Test 6 | 435732 | 6519407 | 5 | 8.17 | 0.2 |

| | | | | | |
|---|---|---|---|---|---|
| Test 7 | 435583 | 6520269 | 35 | 57.16 | 1.4 |
| Test 8 | 435628 | 6520212 | 20 | 32.66 | 0.8 |
| Test 9 | 435427 | 6520308 | 3 | 4.9 | 0.12 |
| Test 10 | 436264 | 6520286 | 1 | 1.63 | 0.04 |
| Test 11 | 436674 | 6519981 | 0.5 | 0.82 | 0.02 |
| Test 12 | 436394 | 6520069 | 2 | 3.27 | 0.08 |

## *Heavy Mineral Concentrate Results*

As part of the 2018 exploration program several samples of heavy mineral concentrate were obtained from previous mining activity on the right-limit bench at the Thibert Creek Delta and analyzed by a portable X-ray florescence detector (XRF), submitted to Bureau Veritas Labs and Overburden Drilling Management for analytical testing. The samples are from an unknown sample volume but confirmed location. The material was further concentrated by screens and long tom prior to sending for assay. The locations can be seen in Figure 7 and 8. This was done to determine what type of elements occur in the black sands, at what concentrations and whether the potential Pt and Pd is within the magnetic or non-magnetic portion. It is documented from historic production at Thibert Creek that concentrate from the placer operations contained about 2 oz/ton platinum (Gorc and MacArthur, 1984). It is noted in communications with the owners that recent production would produce multiple kilos of black sand per yard. This is a significant amount of heavy mineral concentrate associated with gold and provides an economic minable by-product that further strengthens the feasibility of the property.

**Bureau Veritas**

Analytical tests were conducted by Bureau Veritas in Vancouver, BC, which is ISO accredited. Samples are crushed to 70% less than 2 millimetres, and a 250-gram sample is split with a riffle splitter. The split is pulverized to 85 per cent less than 75 microns, and 30-gram charges go through a multi-element assay with ICP-MS finish. Au, Pt and Pd were also determined by fire assay with ICP-MS finish. Samples with gold, silver, copper, lead, or zinc exceeding the upper detection level are reanalyzed with ore grade determinations that are deemed most appropriate by the lab. Rigorous procedures are in place regarding sample collection, chain of custody and data entry. Certified assay standards, duplicate samples and blanks are routinely inserted into the sample stream to ensure integrity of the assay process.

The analytical tests sampled the non-magnetic (Y546236), coarse- and fine-grained magnetic portions (Y546235 and Y546237 respectfully). Samples submitted are from previous concentrate from previous mining on the right-limit bench at the mouth of Thibert Creek (Figure 7). Pt and Pd showed the highest values in the non-magnetic fine-grained portion. The magnetic separated portion also returned 3.3 g/t Pt and detectable Pd; in addition, Ni and Cr were also most elevated in the magnetic portion which may suggest the presence of Pt-Ni-Fe alloys. Interestingly, Mo was also most elevated in the magnetic portion. The two non-magnetic samples also returned over detection W and the highest elevations in base metals including Ag, Pb, Cu, and As. In general, from the three samples, results returned strongly elevated values in Mo (51.59ppm), Cu (3772.26ppm), Pb (2369.31ppm), Ag (69.49ppm), Ni (216.1ppm), As (748.6ppm), Sb(127.58ppm), V (285ppm), Cr (238.8ppm), W (>100ppm), Pt (>10g/t) and Pd (149ppb). Elevations in Ni, Co, Cr, Pt and Pd are likely attributed to ultramafic bodies in the immediate upstream area; whereas, elevated Mo and Cu are potentially sourced from mineralization documented in the near by granitic intrusions. The high values for Ag, Pb, As and Sb indicate transitional or epithermal mineralization that

maybe linked to intrusive activity and is likely fault hosted. Bureau Veritas analytical tests are tabulated in Figure 5 Appendix I.

**XRF**

The XRF consisted of a portable Niton XL3T and was used on each sample 3 times for approximately one minute and on different locations on each sample, this is denoted by the suffix A, B, C on the sample number. Since the XRF has a narrow port that emits and detects x-rays, it is necessary to take multiple readings to ensure a more unbiased result. Majority of elements were below the level of detection (<LOD); however, it should be noted that the XRF returned high values of Zr up to 250 ppm, Sn up to 1374.19 ppm, and multiple elevated readings for Ni. In general, the XRF indicated different values compared to results from Bureau Veritas some drastic variation in concentration is also indicated on different parts of the sample making the reading in-consistent and therefore less confident. To ensure more consistent values, future samples should be pulverised and randomized to a greater extent prior to testing. The complete results from the XRF analytical tests are tabulated in Figures 5, Appendix I.

**Overburden Drilling Management**

As part of the 2018 exploration program several samples (Y-546238, Y-546239, W-45992) of heavy mineral concentrate were obtained from previous mining activity on the right-limit bench at the Thibert Creek Delta and analyzed by Overburden Drilling Management. Samples were sieved to -1.0 mm and the -1.0 mm fraction micro-panned for gold, PGM's and fine-grained metallic indicator minerals. A grain count and grade calculation were done for Au and Pt; images were taken of the various Pt grains. It was also noted that the platinum grains were weakly magnetic likely a Fe-Pt or Fe-Pt-Ni alloy. The complete results can be found in Appendix III of this report.

## *Geophysical Survey*

In 2018 a ground based magnetic and gradiometer survey was carried out on the Thibert Delta property. The magnetometer unit is a Geometrics G-856AX (serial number 278686) proton precession magnetometer that was configured for use also as a Gradiometer. The magnetometer survey measures magnetic susceptibility of the subsurface, the greater the accumulation of magnetic minerals the greater the magnetic response. In this case, higher magnetic susceptibility represents potential pay streaks as higher velocity fluvial flows would have concentrated gold and other heavy minerals by washing away lighter minerals. Based on previous exploration, it is known that there are extremely high concentrations of black sands (heavy minerals ie: magnetite, ilmenite, platinum, other PGEs, cobalt, Ni-alloy, sheelite, etc), it is recorded from previous mining activities produced up to 15 pounds of black sands per yard. This would suggest that a magnetometer survey to be effective in outlining paystreaks. It should be noted that the computer generation of the geophysical maps uses an interpolation between points; therefore, data is extrapolated between readings and has less confidence as distance between reading increases. The smaller the distance between readings the greater the resolution in the projection and the higher the accuracy of the data. To reduce these effects separate maps have been generated for the different areas surveyed.

The gradiometer survey is a magnetometer which measures the changes in the magnetic field or the gradient of the field. Compared to the magnetometer, a gradiometer increases the accuracy of the measurements and decreases the sensitivity for regional changes of the earth's magnetic field. The 2018 gradiometer survey was an axial survey consisting of two magnetometer sensors aligned in series (one

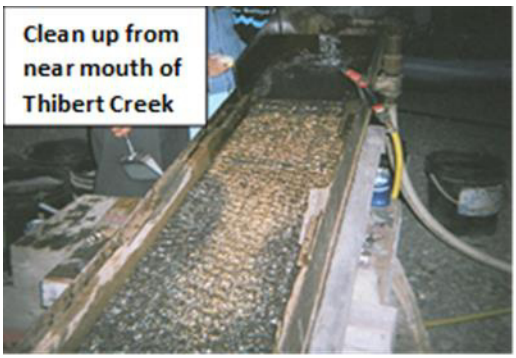
above another). A total of 4.55 line kilometers was completed with readings taken every 10 meters. Figures 1 to 5 Appendix II, outlines the preliminary results of the magnetometer and gradiometer surveys. It should be noted that the previous Thibert Creek channel produced anomalies and that the disturbed areas in the grid did not. This would explain the broad magnetic signature and would suggest potential shadowing effect that may obscure deeper anomalies.

### *Surficial Mapping*


Preliminary surficial mapping in 2018 investigated sites of previous production including high level glacial-fluvial gravels that form benches on north and south side of the mouth of Thibert creek where it begins to form the extensive fluvial fan. Figure 3, Appendix III is a mapped compilation displaying the distribution of potential placer deposits and potential by type based on imagery, topology, field observations and previous exploration work. The right limit bench gravel package ranges up to 100 ft thick with gold throughout it. However, gold grades vary within the package; in general, better grades with coarser material and lower grades in sandier lower velocity material. It is also noted that clay horizons form false bedrock enrichments as well as the bedrock itself. Gold is likely derived from reworking of pre-glacial Tertiary gravels upstream during glacial dewatering meltwater and/or sub-glacially.

In addition, a total of 3 adits were driven below the recent bench mining area; these adits likely date back to the late 1800s or early 1900s, it is recorded that two of the adits cut into Tertiary semi-consolidated gravels with no record on the third. This suggests that recent mining has yet to reach the best pay and that it remains largely intact.

Multiple bulk samples were taken on the fan level in 2002 with the locations shown in Figure 1, Appendix III. The test pits are generally 20ft and less with one up to 55ft. The test pits indicate economic grades near surface but typically higher grades with depth. Furthermore, many test pits intersected boulder horizons likely from the multiple glacial outwashes and are accompanied by higher gold values. The general trend of the outwashes flows diagonally through the fan towards the south which is expected as the ancient flow direction in the Dease River valley was to the south appose to its current northerly direction.




On the north side or left limit of the Thibert Creek mouth an extensive boulder horizon occurs on a similar bench level above the fan extending for kilometers towards the northeast. In addition, the feature shows signs of abundant “turn of the century” hand workings. These hand diggings where limited to the surface as the necessary equipment to move these large boulders was not available at that time. This horizon likely formed as a glacial marginal feature during the onset of glacial dewatering as water shed off the

glacier and would have concentrated material along its margins. This would explain the presence of glacial marginal features such as eskers and would also suggest this to be very extensive horizon that has the potential to exist for kilometers. This extensive boulder horizon may have formed through the same outwashes and glacial mechanisms as that on the south side right-limit bench. This is based on a similar elevation and the imbrication direction of gravels observed in excavations on the south side right-limit bench that indicate a flow direction across the mouth towards the north and mentioned boulder horizon.

The Thibert Delta at surface shows signs of recent fluvial flows and flood events that would have reworked the existing sediment. Furthermore, since the start of mining activities on Thibert Creek especially hydraulic operations would have caused outwashes of sediment and gold with it. A large gravel knoll located approximately 700 m southeast of the mouth of Thibert Creek is approximately the same height of the gravel benches at the mouth of Thibert Creek the total dimension is about 100-200m wide and 450m long. This feature is documented in a historic Ministry of Mines report as a remnant glacial drift; however, based on field observations in 2018 the material lacks the general characteristics of glacial till. Specifically, the material resembled a washed fluvial or glacial-fluvial gravel with a low clay content and absence of striated clasts that are definitive indicators of glacial till. The presence of gold from tests taken from the knoll also suggests a glacial-fluvial origin. This feature has a similar elevation as the benches around the mouth of Thibert Creek and may be a remnant glacial-fluvial horizon that might have formed during a similar event. Such features in other cases overlay a shallower bedrock reef. It also illustrates the amount of sediment that would have existed at one point before being eroded away through glacial dewatering and concentrated to its current level. The Thibert fan would have formed like any delta but incurred the affects of glaciation, de-glaciation, and base level changes that affected the flow direction of the Dease River and altered the shore line on Dease Lake. These factors would have concentrated and re-concentrated gold and other heavy minerals in various flow directions over a prolonged history. Station locations are shown on Figure 3, Appendix III and station descriptions tabulated in Figure 4.

## 2018 Expenditures

| **Work performed** | | |
|---|---|---|
| | | |
| Prospecting, planning | Prospector | $ 1,400.00 |
| Prospecting, surficial mapping, Documentation | Geologist | $ 2,000.00 |
| consult. in mine development &history of local placer activit | Placer consultant | $ 500.00 |
| Geophysics: Magnetometer and Gradiometer | Geophysisist | $ 2,000.00 |
| Assistant for geophysical survey | labourer | $ 1,000.00 |
| Hand dug test pits | 2 Labourers | $ 1,000.00 |
| Cleaning heavies with clean up sluice | geologist | $ 1,500.00 |
| Assistant Cleaning heavies with clean up sluice | prospector | $ 1,050.00 |
| Geophysical data - processing & map generation + GIS | Geophysisist | $ 3,000.00 |
| Report writing & GIS | Geologist | $ 1,500.00 |
| | ***Subtotal*** | ***$ 14,950.00*** |
| **Assays** | | |
| | | |
| Assay concentrate | | $ 120.00 |
| Overburden Drilling Management - 2 samples | | $ 600.00 |
| | ***Subtotal*** | ***$ 720.00*** |
| **Transportation** | | |
| | | |
| Whitehorse, YT to Dease Lake. Round Trip. F350 | | $ 652.00 |
| Whitehorse, YT to Dease, Lake. Round Trip. F250 | | $ 652.00 |
| | ***Subtotal*** | ***$ 1,304.00*** |
| **Rentals** | | |
| | | |
| UTV | UTV for 2 days. $75/day | $ 150.00 |
| 2 x ATV for 4 days | 2 ATV, $50/day | $ 400.00 |
| Chainsaw for 4 days | Chainsaw $10/day | $ 40.00 |
| 2" pump for 4 days | 2" pump $15/day | $ 60.00 |
| High banker for 4 days | high banker $25/day | $ 100.00 |
| clean up sluice and pump, 3 days | | $ 75.00 |
| Magnetometer and Gradiometer for 4 days | Magnetometer & Gradiometer $150/day | $ 600.00 |
| shaker table | shaker table for 1 day. $750/day | $ 750.00 |
| | ***Subtotal*** | ***$ 2,175.00*** |
| **Food & Lodging** | | |
| | | |
| food & lodging for 2 pers. 3 days | 2 labourers | $ 600.00 |
| food & lodging for 4 pers. 4 days | | $ 3,200.00 |
| | ***Subtotal*** | ***$ 3,800.00*** |
| | | |
| | | |
| | **Total** | **$ 22,949.00** |

# Conclusion and Recommendations

The Thibert Delta Property is located at the mouth of one of the most prolific placer drainages in British Columbia. Gold was first discovered on Thibert creek in 1873 and by 1949 over 110,000 ounces of gold had been recovered from the creek and was largely extracted by ground sluicing the active channel and hydraulic mining gold-bearing gravel from high level benches. Thibert Creek runs through a high velocity canyon before it opens at the mouth and produces an extensive fluvial fan. Essentially, the Thibert Fan is a “gold dump”, water traveling through the mouth loses velocity causing any suspended sediment and gold to drop and accumulate. This accumulation would have potentially begun during the formation of the initial Tertiary deposits that dictate the major gold sources on Thibert Creek and would have continued during glaciation with substantial re-concentrating during glacial dewatering. Even more recently, any gold and heavy minerals migrating with recent flood events, past hydraulic operations and ground sluicing would have accumulated in the Thibert Fan.

The Thibert Delta remains largely unexplored and presents a significant economic placer potential for a large-scale and bulk tonnage placer operation. There are multiple types of placer deposits on the property which would also allow for multiple operations to run simultaneously and could be tailored to the different types of material to increase efficiency and recovery. The location and ground conditions on the Thibert Delta property are ideal for cost-effective mining and exploration. Based on easy access, lack of overburden and potential for economic by products (alternate heavy mineral; platinum, magnetite, nickel, etc) minimal gold concentrations are required to make an economic operation. However, cognisant exploration and planning is required to achieve this; for instance, placing waste material over unknown pay can quickly magnify costs and devalue pay dirt.

Further exploration work is warranted to delineate economic zones and in order to produce an effective and efficient mining plan. Exploration should be carried out in multiple phases. The initial phase consisting of prospecting and surficial mapping coupled with a UAV drone imagery and magnetometer survey. Mapping, prospecting, and drone imagery would aid in identifying the distribution of boulder horizons, alternate benches and potential bedrock reefs. Identified features would receive initial testing by hand or small equipment depending on accessibility. A drone magnetometer survey would serve as a cost-effective way to determine significant heavy mineral concentrations and map out potential pay streaks. The completion of the first phase of exploration would lay out the ground work for the latter phase of exploration. The latter phase of exploration would comprise of placer drilling and bulk sampling. Due to a lack of permafrost, auger drilling would not be an effective method. Sonic Drilling would be more expensive; however, it is likely the most effective method with the shortest time frame. Drilling will constrain depth to bedrock and with detailed logging and sampling delineate economic horizons and determine an average grade through each section. In place of placer drilling a seismic or ground penetrating radar survey could be applied to constrain depths to bedrock. Bulk sampling would be carried out to test surface concentrations, test magnetometer survey results and areas with near surface bedrock. Bulk sampling will also help in determining amounts of concentrate and best methods for recovery. The larger the sample volume the more accurate the yield.

## Statement of Qualifications

I Nicolai Goeppel, of the city of Whitehorse, Yukon, certify that:

1. I worked and carried out work on the Thibert Delta Property in 2018
2. I have completed an Earth Sciences B.Sc. at Memorial University of St. John's, Newfoundland in 2014
3. I have worked in the mineral exploration industry in the Yukon, Newfoundland, and British Columbia since 2009
4. I have been involved in the placer industry my whole life and engaged in placer gold exploration in the Yukon since 2009
5. Owner and founder of Higher Ground Exploration Services since 2015

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## Appendix I

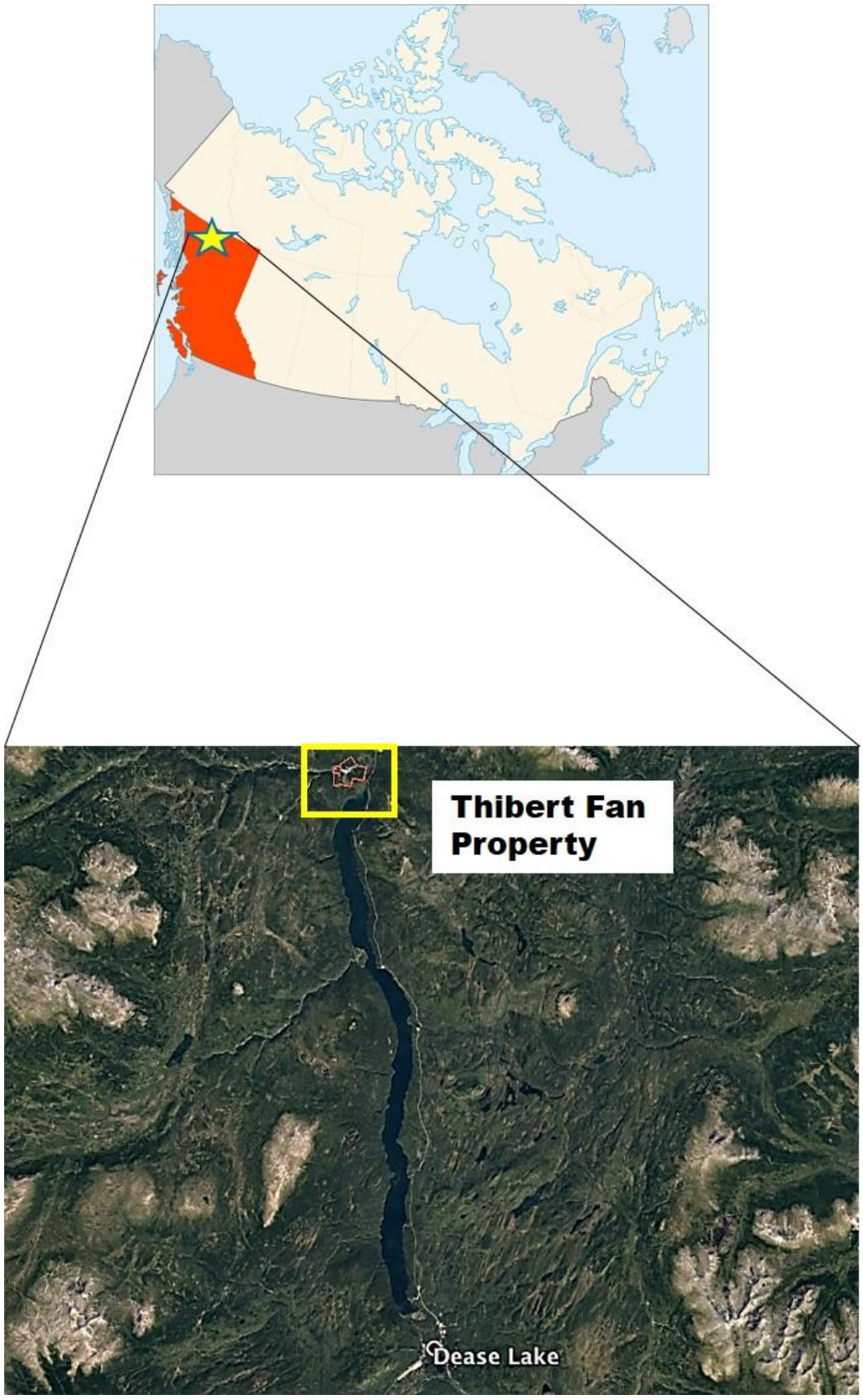


**Figure 1.** Location

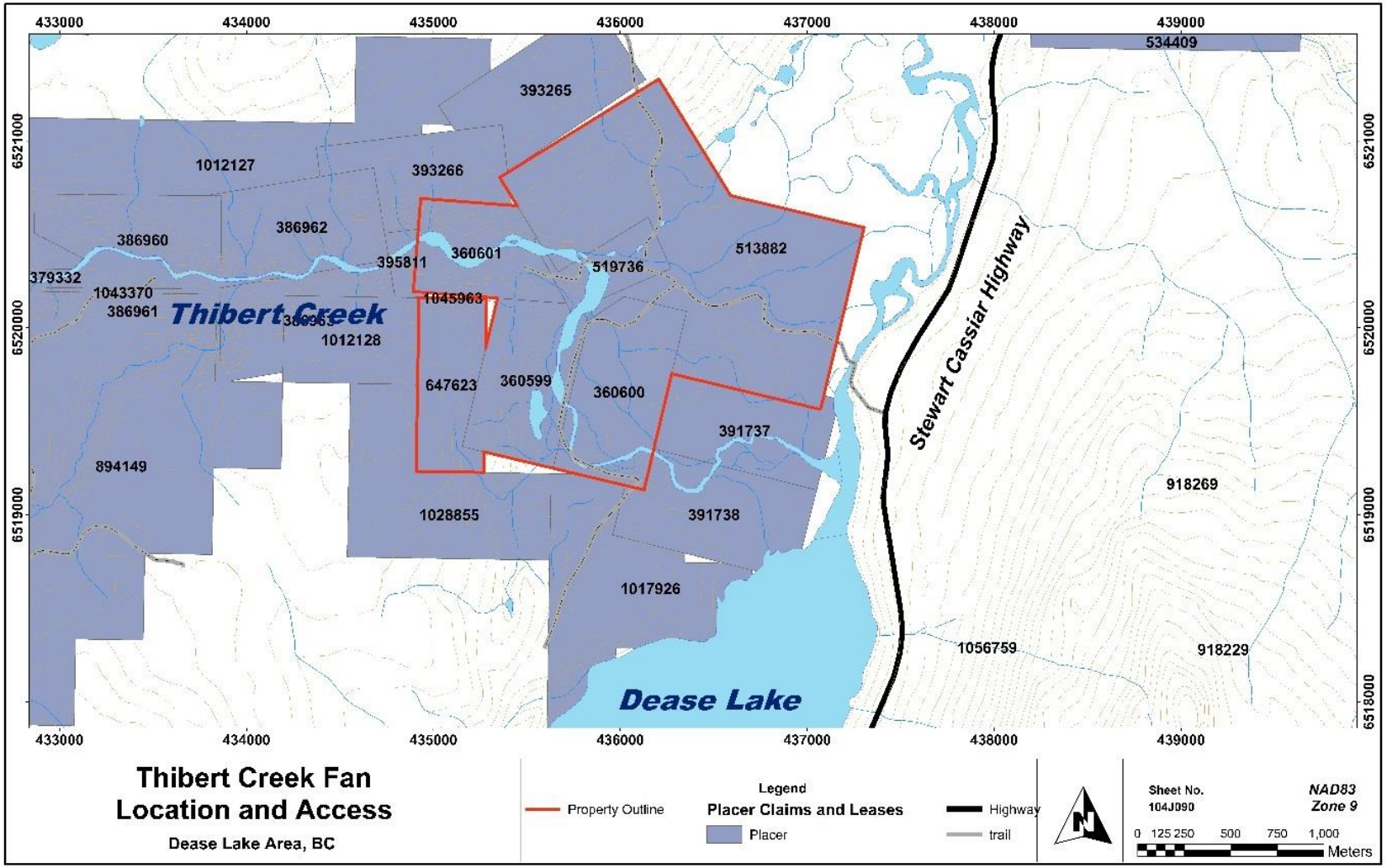



**Figure 2.** Detailed Location and Access

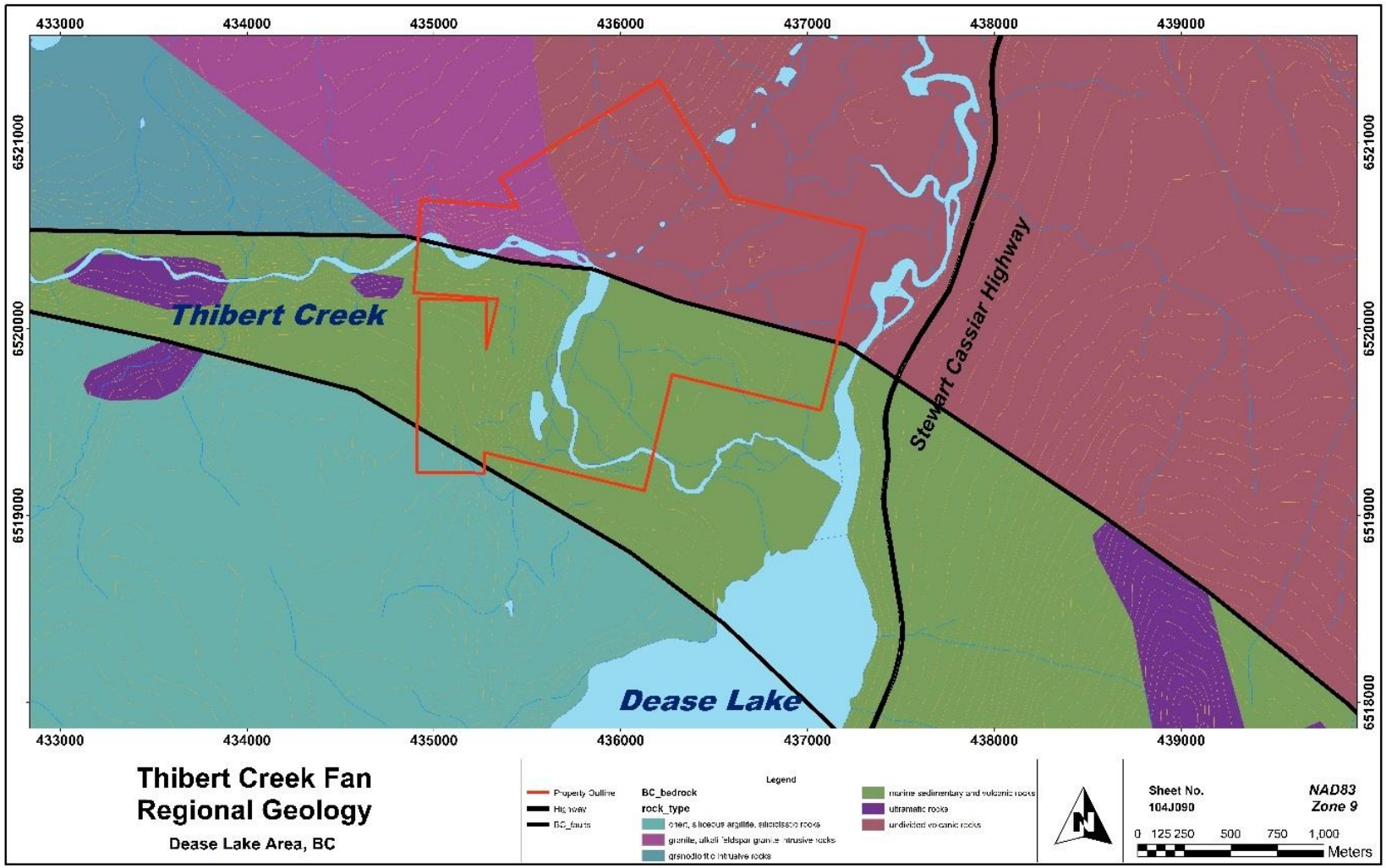



**Figure 3.** Regional Geology

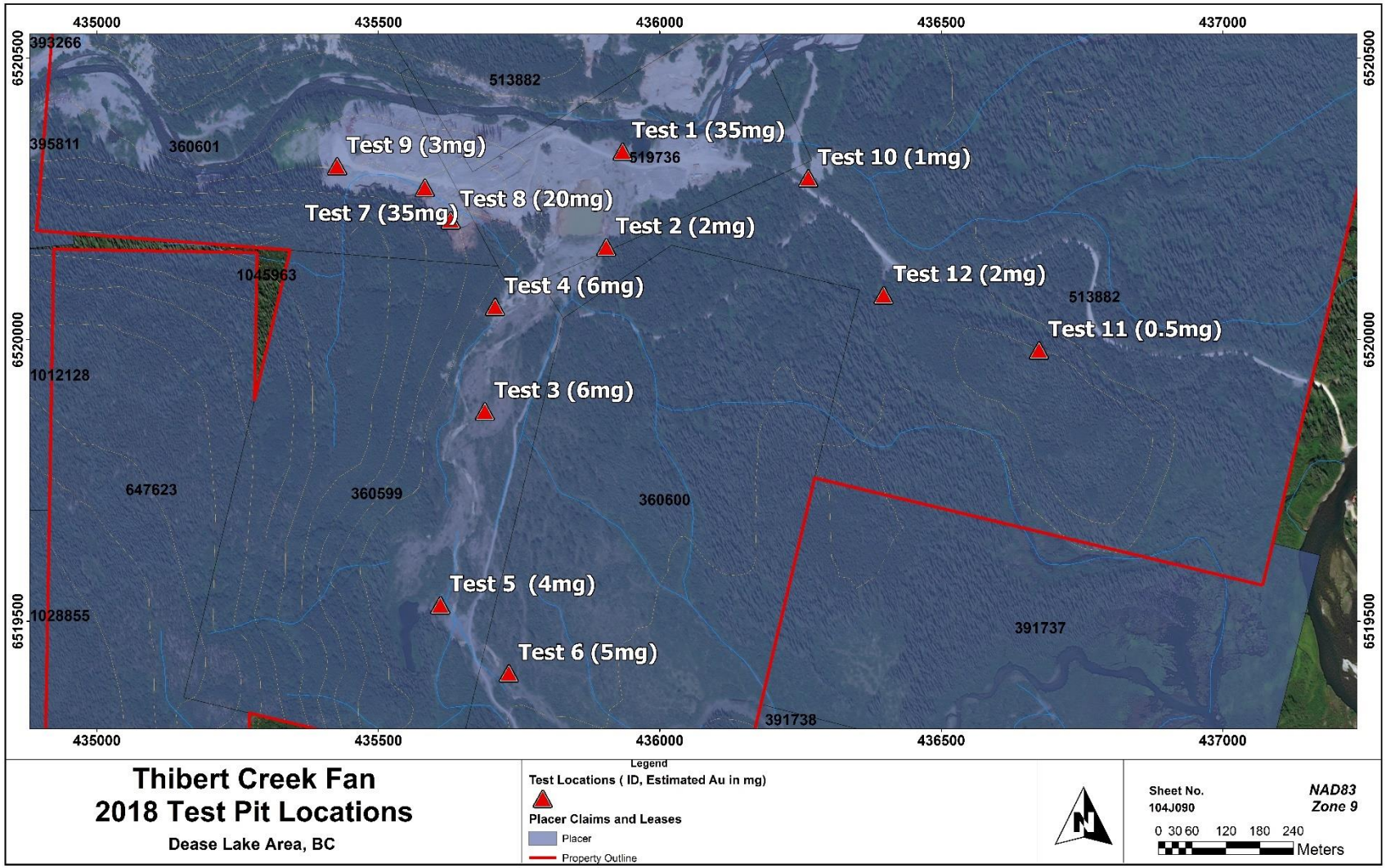



**Figure 4.** 2018 Test pit location

| Bureau Veritas Commodities Canada Ltd. | | | | | Final Report | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Job Number: WHI18001162 | | Method | WGHT | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 |
| Project: | Thibert Fan | Analyte | Wgt | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | U | Au | Th | Sr | Cd | Sb | Bi | V | |
| | | Unit | KG | PPM | PPM | PPM | PPM | PPB | PPM | PPM | PPM | % | PPM | PPM | PPB | PPM | PPM | PPM | PPM | PPM | PPM | |
| | | MDL | 0.01 | 0.01 | 0.01 | 0.01 | 0.1 | 2 | 0.1 | 0.1 | 1 | 0.01 | 0.1 | 0.1 | 0.2 | 0.1 | 0.5 | 0.01 | 0.02 | 0.02 | 1 | |
| Sample | Description | Type | | | | | | | | | | | | | | | | | | | | |
| Y546235 | Coarse grained magnetic portion | Silt | 1.9 | 51.59 | 155.35 | 5.87 | 28.6 | 1206 | 216.1 | 38.5 | 647 | 39.47 | 18.4 | 0.6 | 10188.5 | 0.2 | 5.5 | 0.14 | 1.42 | 1.28 | 285 | |
| Y546236 | Fine grained non-magnetic portion | Silt | 0.5 | 2.7 | 61.11 | 130.7 | 141.7 | 36803 | 58.8 | 24.2 | 680 | 6.44 | 748.6 | 2.2 | >100000.0 | 14.5 | 24.6 | 0.51 | 40.29 | 2.87 | 63 | |
| Y546237 | Fine to coarse non magnetic screen reject | Silt | 1.13 | 2.43 | 3772.26 | 2369.31 | 106.9 | 69491 | 77.3 | 23.1 | 569 | 12.46 | 417.2 | 1.3 | >100000.0 | 4.4 | 25.7 | 0.33 | 127.58 | 18.36 | 89 | |

| AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | FA350 | FA350 | FA350 | FA550 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ca | P | La | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Sc | Tl | S | Hg | Se | Te | Ga | Au | Pt | Pd | Au |
| % | % | PPM | PPM | % | PPM | % | PPM | % | % | % | PPM | PPM | PPM | % | PPB | PPM | PPM | PPM | PPB | PPB | PPB | GM/T |
| 0.01 | 0.001 | 0.5 | 0.5 | 0.01 | 0.5 | 0.001 | 1 | 0.01 | 0.001 | 0.01 | 0.1 | 0.1 | 0.02 | 0.02 | 5 | 0.1 | 0.02 | 0.1 | 2 | 3 | 2 | 0.9 |
| | | | | | | | | | | | | | | | | | | | | | | |
| 0.15 | 0.012 | 1.6 | 238.8 | 0.46 | 61.2 | 0.066 | 4 | 0.16 | 0.006 | 0.02 | 30.8 | 1.8 | 0.03 | 0.03 | 47 | 0.2 | 0.16 | 8.9 | 9282 | 3297 | 28 | |
| 0.31 | 0.05 | 96.9 | 40.7 | 0.3 | 91.5 | 0.046 | <1 | 0.89 | 0.023 | 0.19 | >100.0 | 1.9 | 0.25 | 1.49 | * | 0.8 | 1.53 | 3.3 | >10000 | >10000 | 149 | 200 |
| 0.48 | 0.049 | 9.8 | 49.6 | 0.61 | 42.8 | 0.057 | 4 | 0.94 | 0.028 | 0.15 | >100.0 | 2.3 | 0.36 | 2.42 | * | <0.1 | 5.56 | 3.5 | >10000 | 17 | 10 | 287.1 |

**Figure 5.** Analytical results from Bureau Veritas

| Duration | Units | SAMPLE | INSPECTOR | Mo | Zr | Sr | U | Rb | Th | Pb | Au | As | Hg | Zn | W | Cu | Ni | Fe | Mn | Cr | V | Ti | Sc | Ca | K | S | Ba | Te | Sn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 60.73 | ppm | Y546235A | NG | <LOD | <LOD | 23.13 | <LOD | <LOD | 42.03 | 100 | <LOD | 72.08 | <LOD | 420.57 | <LOD | 252 | <LOD | 1123293.63 | 3611.86 | <LOD | 89.04 | 197.3 | <LOD | 526.17 | 663.39 | <LOD | <LOD | <LOD | <LOD |
| 60.37 | ppm | Y546235B | NG | 38.58 | <LOD | 56.86 | <LOD | 15.79 | <LOD | 64.1 | <LOD | 57.01 | <LOD | 652.63 | <LOD | 163.3 | 477.23 | 1120930.5 | 5716.96 | 71.58 | 155.69 | 1777.95 | <LOD | 794.1 | 478.51 | <LOD | | | |
| 64.25 | ppm | Y546235C | NG | <LOD | <LOD | 24.88 | <LOD | <LOD | 48.16 | 79.45 | <LOD | <LOD | <LOD | 580.77 | <LOD | <LOD | <LOD | 1441456.5 | 2897.27 | 63.21 | 109.78 | 328.95 | <LOD | 705.54 | 382.35 | <LOD | <LOD | <LOD | <LOD |
| 63.87 | ppm | Y546236A | NG | <LOD | 175.67 | 64.21 | <LOD | 42.05 | 13.72 | 30.65 | <LOD | 125.39 | <LOD | 205.33 | <LOD | <LOD | <LOD | 36293.77 | 540.17 | 609.66 | <LOD | 1254.28 | <LOD | 615.87 | 5510.4 | <LOD | <LOD | <LOD | 961.91 |
| 61.15 | ppm | Y546236B | NG | <LOD | 179.28 | 74.8 | <LOD | 56.05 | 27.42 | 45.16 | <LOD | 98.4 | <LOD | 190.34 | <LOD | 45.98 | <LOD | 32271.5 | 490.26 | 61.13 | <LOD | 1510.11 | <LOD | 976.03 | 6226.56 | 20744.59 | <LOD | <LOD | 920 |
| 65.95 | ppm | Y546236C | NG | <LOD | 209.45 | 85.92 | <LOD | 51.7 | <LOD | 34.46 | <LOD | 66.43 | <LOD | 227.39 | 104.89 | 158.25 | <LOD | 37661.2 | 492.11 | 78.38 | 100.74 | 2507.75 | <LOD | 1739.9 | 7506 | <LOD | 427.72 | <LOD | 1374.19 |
| 62.67 | ppm | Y546237A | NG | <LOD | 112.67 | 121.33 | <LOD | 43.28 | <LOD | 17.64 | <LOD | 47.04 | <LOD | 137.27 | <LOD | <LOD | <LOD | 45736.86 | 560.78 | 63.11 | <LOD | 1184.13 | <LOD | 1791.95 | 5326.54 | 19280.7 | <LOD | <LOD | <LOD |
| 63.92 | ppm | Y546237B | NG | <LOD | 148.75 | 83.07 | <LOD | 25.57 | <LOD | 92.98 | <LOD | 216.74 | <LOD | 300.27 | <LOD | 78.3 | 144.96 | 85685.69 | 1142.24 | 50.55 | <LOD | 789.14 | 46.21 | 4090.64 | 5669.9 | 22310.02 | 474.07 | <LOD | 5402.7 |
| 65.69 | ppm | Y546237C | NG | <LOD | 250.7 | 60.37 | 15.1 | 43.22 | <LOD | 49.46 | <LOD | 74.2 | <LOD | 153.51 | <LOD | <LOD | <LOD | 21630.26 | 695.31 | 76.25 | <LOD | 1337.6 | <LOD | 1189.43 | 5053.9 | 21241.54 | 593.21 | 433.54 | <LOD |
| 63.25 | ppm | Y546238A | NG | <LOD | 149.91 | 62.4 | <LOD | 45.2 | 13.92 | 25.35 | <LOD | 74.37 | <LOD | 196.65 | <LOD | 58.46 | 82 | 27397.19 | 646.4 | 55.58 | <LOD | 1117.67 | <LOD | 951.35 | 5235.56 | <LOD | <LOD | <LOD | 779.94 |
| 63.08 | ppm | Y546238B | NG | <LOD | 155.19 | 65.7 | <LOD | 58.75 | <LOD | 33.29 | <LOD | 77.35 | <LOD | 205.33 | 990.59 | <LOD | <LOD | 33428.68 | 525.84 | 62.87 | <LOD | 1887.36 | <LOD | 815.74 | 6687.8 | <LOD | <LOD | <LOD | 411.29 |
| 63.8 | ppm | Y546238C | NG | 8.37 | 156.86 | 53.42 | <LOD | 44.5 | 10.35 | 24.07 | <LOD | 79.95 | <LOD | 329.46 | 1166.39 | 59.83 | <LOD | 19782.38 | 467.96 | 167.08 | 79.33 | 618.75 | <LOD | <LOD | 1745.72 | <LOD | <LOD | <LOD | 504.71 |
| 62.2 | ppm | Y546239A | NG | 22.64 | 59.91 | 24.88 | <LOD | <LOD | 55.88 | 80.93 | <LOD | 213.53 | <LOD | 576.12 | <LOD | <LOD | <LOD | 1095627.63 | 5377.69 | 270.51 | 277.25 | 4612.92 | <LOD | 2195.83 | 631.57 | <LOD | <LOD | <LOD | <LOD |
| 63.81 | ppm | Y546239B | NG | <LOD | 49.21 | 51.05 | <LOD | <LOD | <LOD | 91.77 | <LOD | 357.35 | <LOD | 524.58 | <LOD | 211.01 | <LOD | 1082540 | 5608.66 | 376.29 | 298.81 | 5264.77 | <LOD | 2768.17 | 563.94 | <LOD | <LOD | <LOD | <LOD |
| 63.49 | ppm | Y546239C | NG | 20.11 | 158.09 | 62.8 | <LOD | <LOD | <LOD | 64.65 | <LOD | 100.99 | <LOD | 552.76 | <LOD | <LOD | 507.88 | 763825.19 | 6113.4 | 213.51 | 301.85 | 3883.91 | <LOD | 2176.82 | 975.79 | <LOD | <LOD | <LOD | <LOD |
| 61.94 | ppm | DEASE1A | NG | <LOD | 65.75 | 199.53 | <LOD | 16.27 | <LOD | 168.55 | <LOD | 65.92 | 65.44 | 722.33 | <LOD | 113.6 | <LOD | 321165.78 | 1737.85 | <LOD | 150.6 | 961.93 | <LOD | 7593.59 | 1569.22 | <LOD | <LOD | <LOD | <LOD |
| 64.53 | ppm | DEASE1B | NG | 11.38 | 85.84 | 120.48 | <LOD | 27.19 | <LOD | 154.5 | <LOD | 52.59 | 33.85 | 451.81 | <LOD | 82.15 | <LOD | 134865.33 | 941.74 | <LOD | 168.95 | 1521.8 | <LOD | 6357.97 | 2421.03 | <LOD | <LOD | <LOD | <LOD |
| 64.68 | ppm | DEASE2A | NG | <LOD | 89.56 | <LOD | <LOD | <LOD | <LOD | 83.62 | <LOD | <LOD | <LOD | 1154.94 | <LOD | <LOD | <LOD | 1493390.13 | 6120.58 | 223.91 | 633.74 | 4076.18 | <LOD | 482.18 | <LOD | <LOD | <LOD | <LOD | <LOD |
| 63 | ppm | DEASE2B | NG | <LOD | <LOD | 24.12 | <LOD | <LOD | 58.53 | 78.53 | 68.6 | <LOD | <LOD | 1229.08 | <LOD | <LOD | <LOD | 1460128.5 | 7538.37 | 262.96 | 482.3 | 3415.71 | <LOD | 342.57 | 281.64 | <LOD | <LOD | <LOD | <LOD |
| 61.54 | ppm | DEASE3A | NG | <LOD | 101.83 | 185.76 | <LOD | <LOD | 56.2 | 65.05 | <LOD | <LOD | <LOD | 369.84 | <LOD | <LOD | <LOD | 1020186 | 9314.83 | 916.31 | 479.17 | 9455.29 | <LOD | 2414.12 | 1355.64 | <LOD | <LOD | <LOD | <LOD |
| 61.56 | ppm | DEASE3B | NG | <LOD | 120.61 | 58.93 | <LOD | <LOD | 37.15 | <LOD | <LOD | <LOD | <LOD | 369.8 | <LOD | <LOD | 460.6 | 1293186.75 | 9118.83 | 258.04 | 517.68 | 7836.13 | <LOD | 1624.81 | 750.84 | <LOD | <LOD | <LOD | <LOD |

**Figure 6.** XRF results

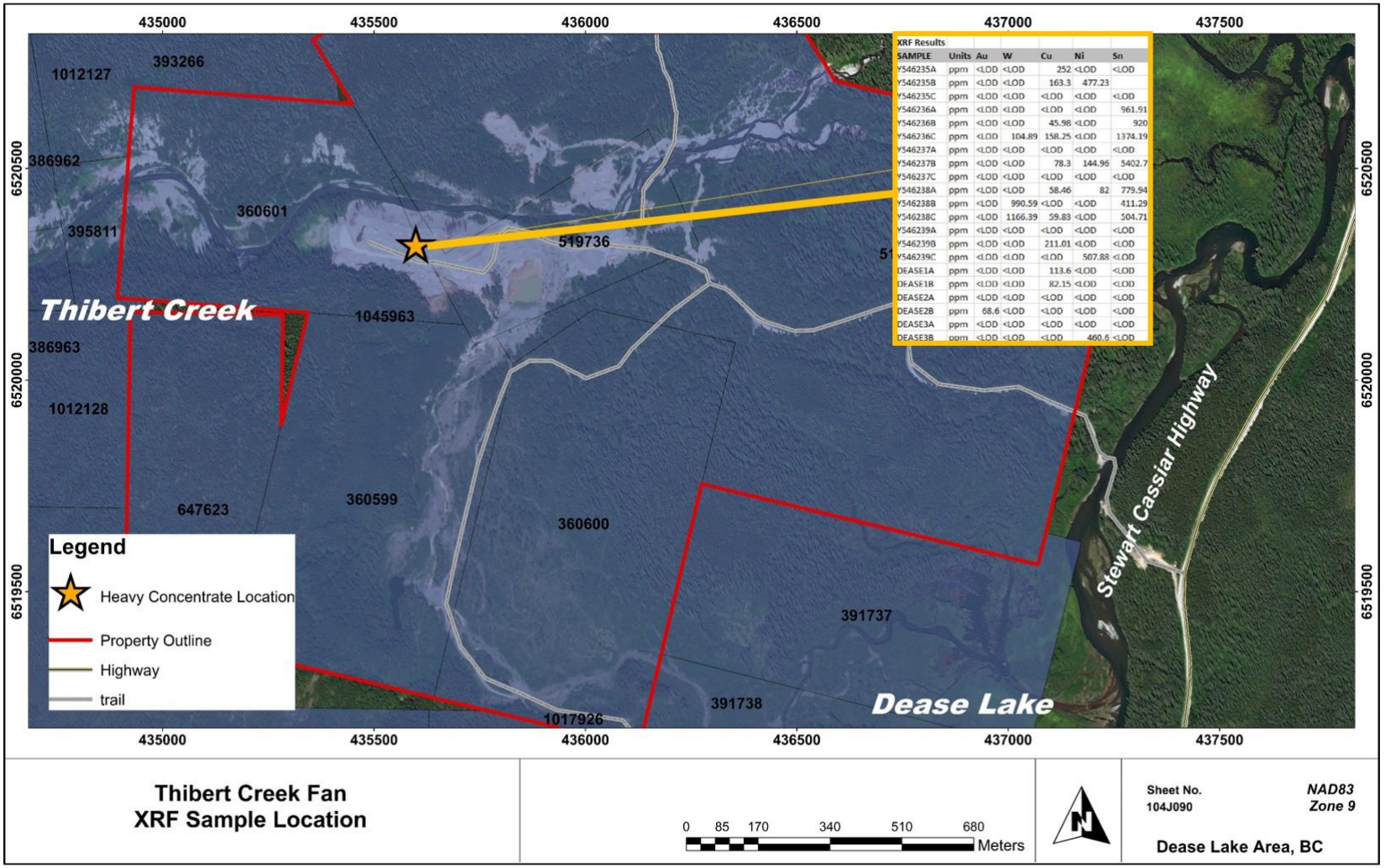
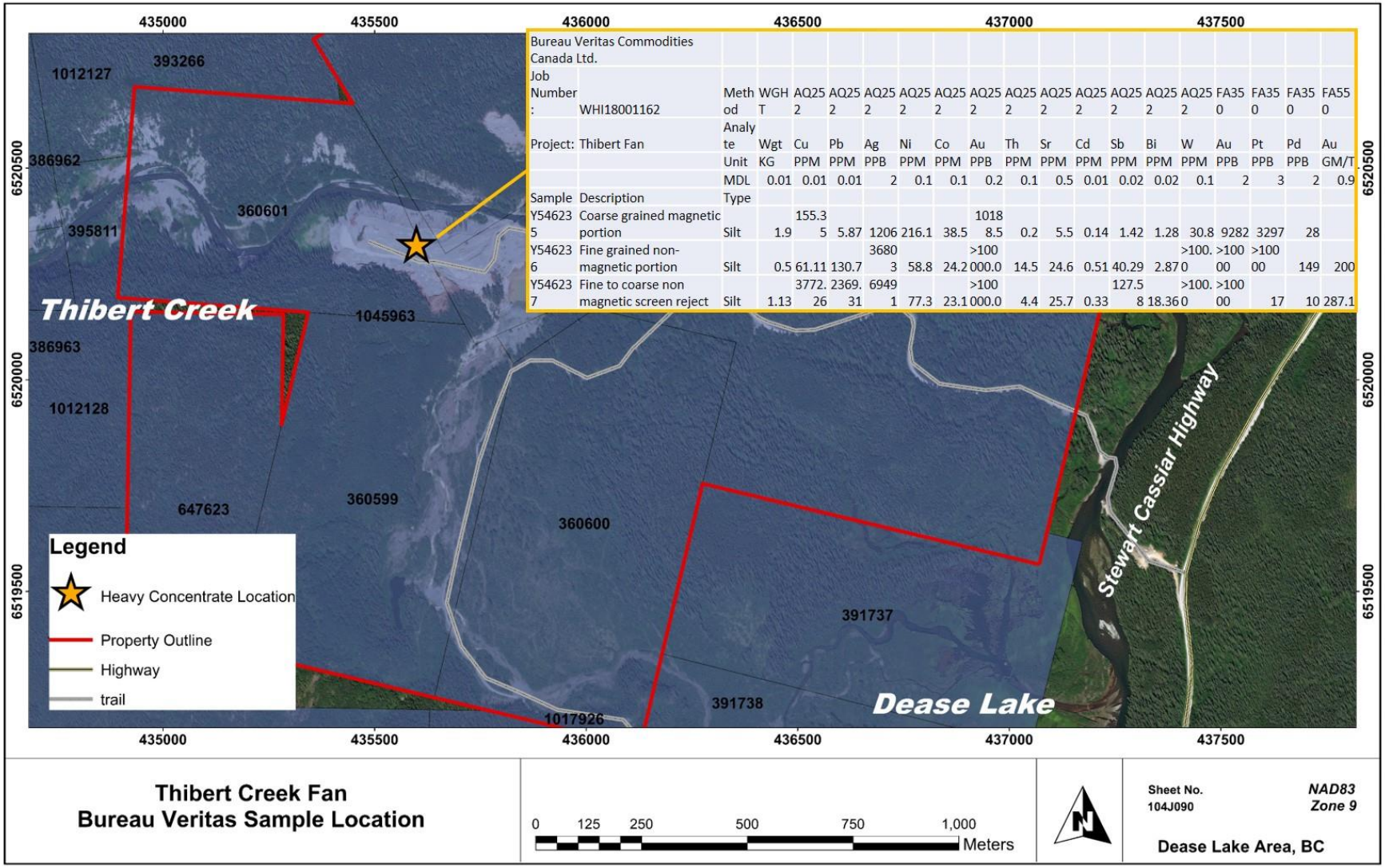



**Figure 7.** XRF sample location




| Bureau Veritas Commodities Canada Ltd. | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Job Number: | WHI18001162 | Method | WGHT | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | FA350 | FA350 | FA350 | FA550 |
| Project: | Thibert Fan | Analyte | Wgt | Cu | Pb | Ag | Ni | Co | Au | Th | Sr | Cd | Sb | Bi | W | Au | Pt | Pd | Au |
| | | Unit | KG | PPM | PPM | PPB | PPM | PPM | PPB | PPM | PPM | PPM | PPM | PPM | PPM | PPB | PPB | PPB | GM/T |
| | | MDL | 0.01 | 0.01 | 0.01 | 2 | 0.1 | 0.1 | 0.2 | 0.1 | 0.5 | 0.01 | 0.02 | 0.02 | 0.1 | 2 | 3 | 2 | 0.9 |
| Sample | Description | Type | | | | | | | | | | | | | | | | | |
| Y546235 | Coarse grained magnetic portion | Silt | 1.9 | 155.35 | 5.87 | 1206 | 216.1 | 38.5 | 1018 8.5 | 0.2 | 5.5 | 0.14 | 1.42 | 1.28 | 30.8 | 9282 | 3297 | 28 | |
| Y546236 | Fine grained non-magnetic portion | Silt | 0.5 | 61.11 | 130.7 | 3680 3 | 58.8 | 24.2 | >1000.0 | 14.5 | 24.6 | 0.51 | 40.29 | 2.87 | >100.0 | >10000 | >10000 | 149 | 200 |
| Y546237 | Fine to coarse non magnetic screen reject | Silt | 1.13 | 3772.26 | 2369.31 | 6949 1 | 77.3 | 23.1 | >1000.0 | 4.4 | 25.7 | 0.33 | 127.58 | 18.36 | >100.0 | >10000 | 17 | 10 | 287.1 |

Figure 8. Bureau Veritas sample location

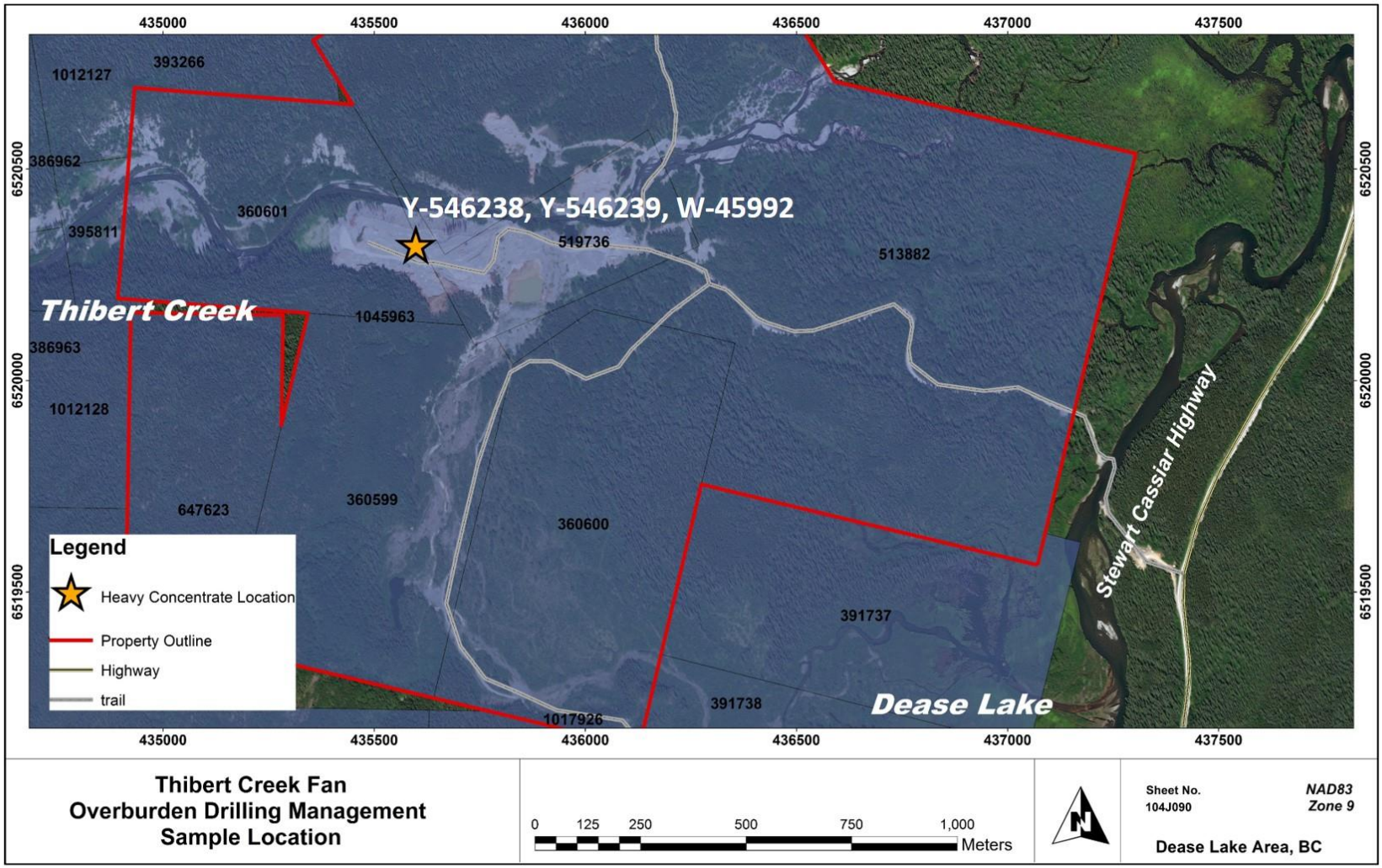



Figure 9. Overburden Drilling Management sample locations

# Appendix II

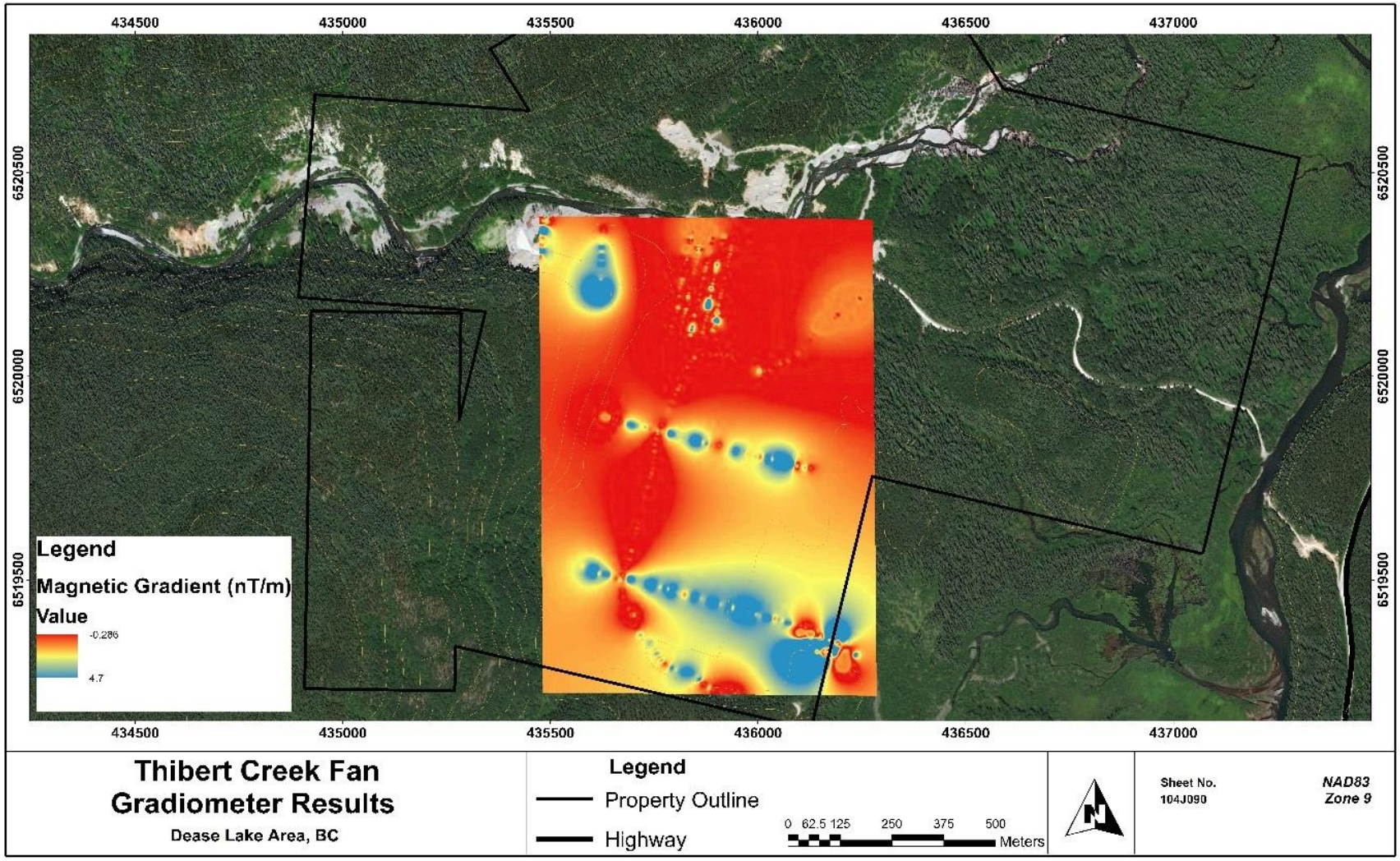



**Figure 1.** Map of all combined gradiometer readings

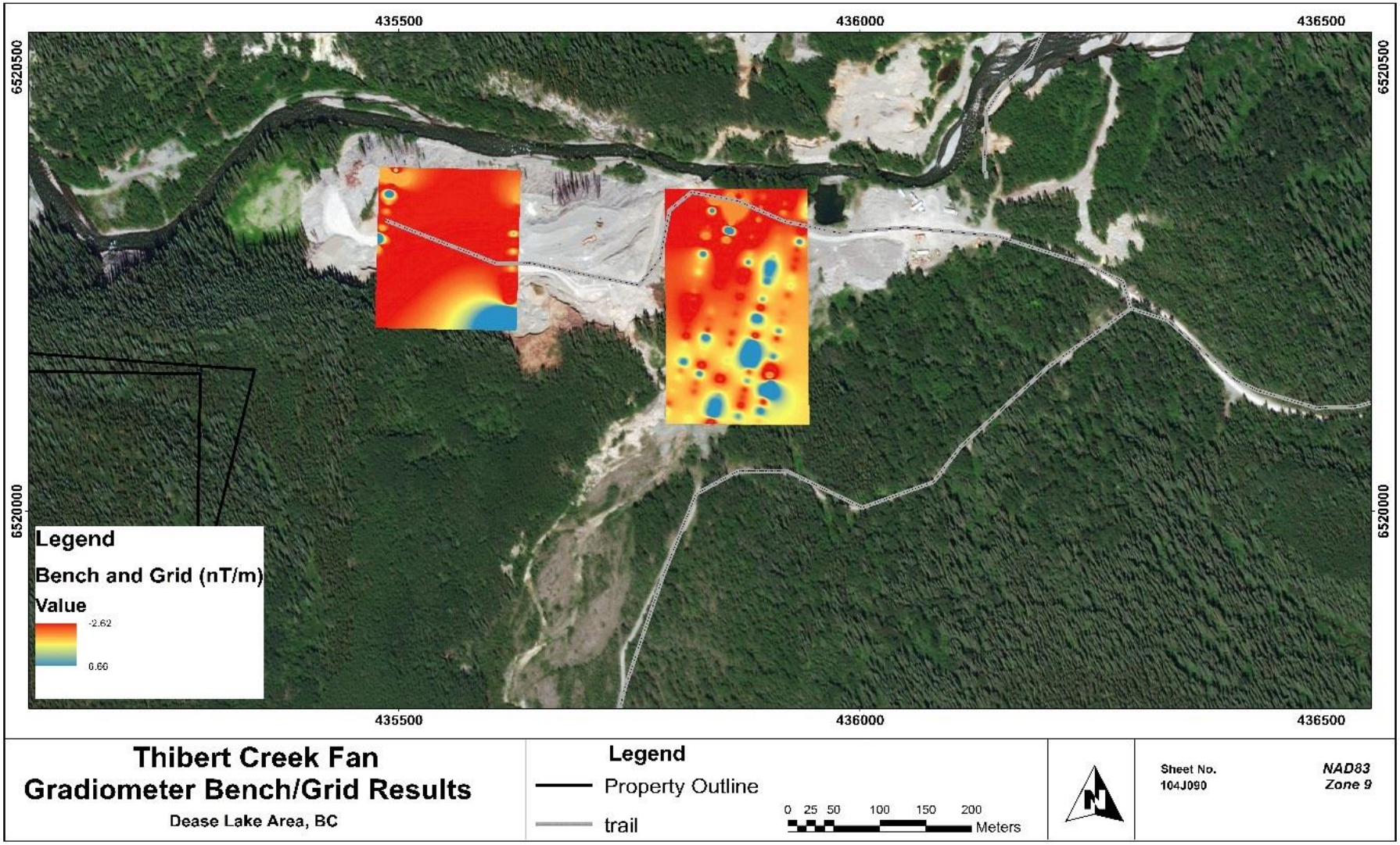



**Figure 2.** Gradiometer grid and bench map

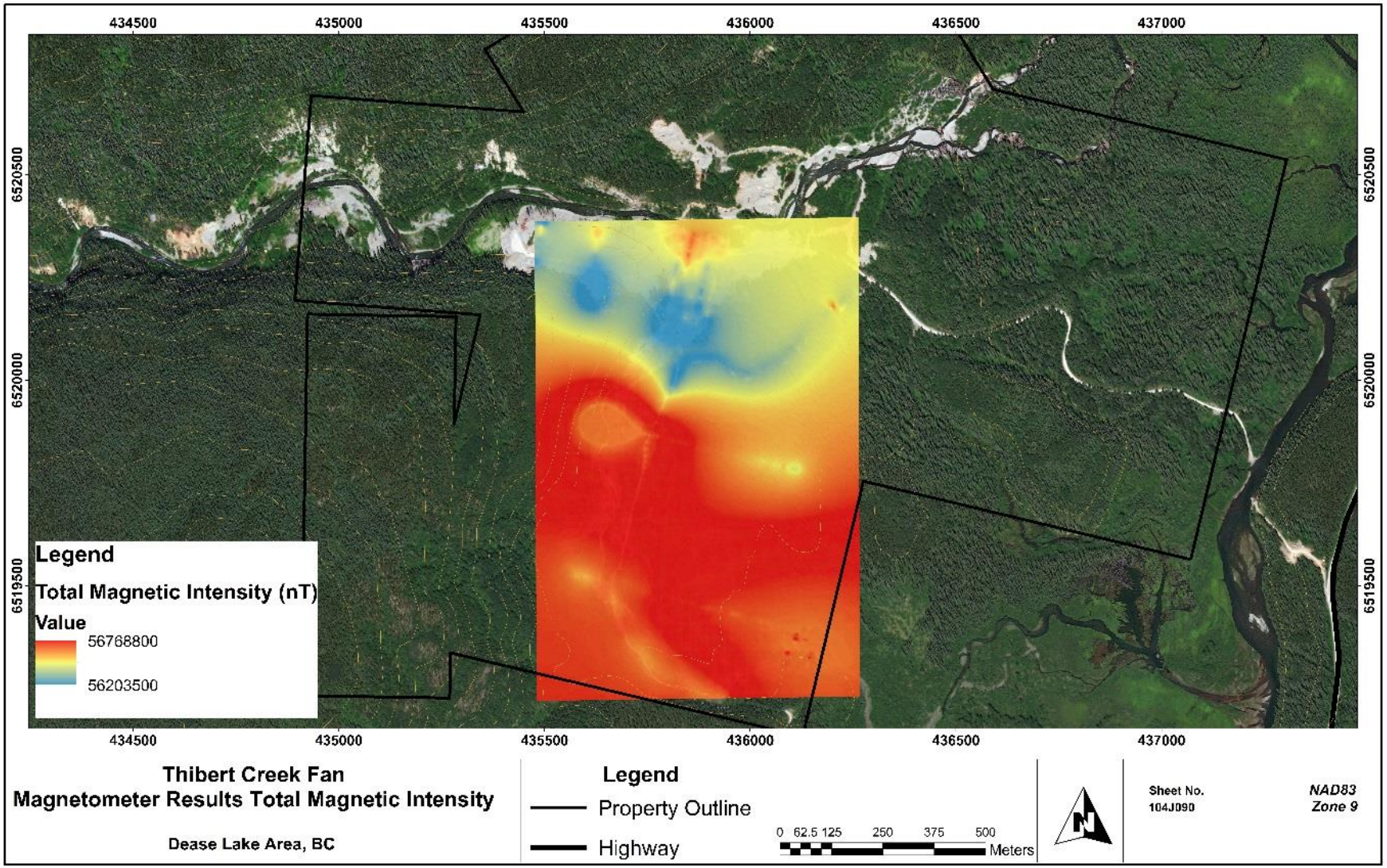



**Figure 3.** All total magnetic intensity map

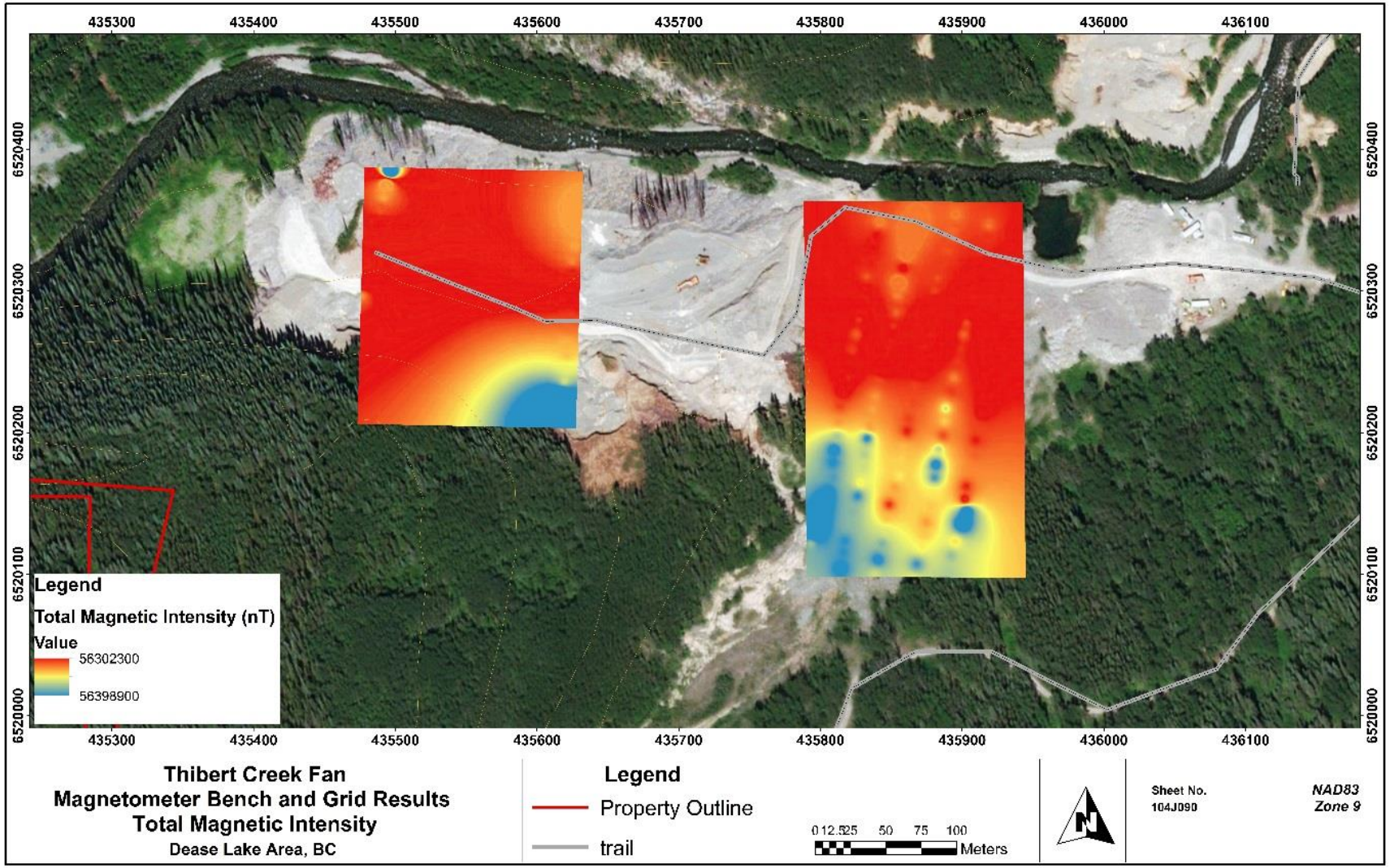



**Figure 4.** Bench and grid total magnetic intensity map

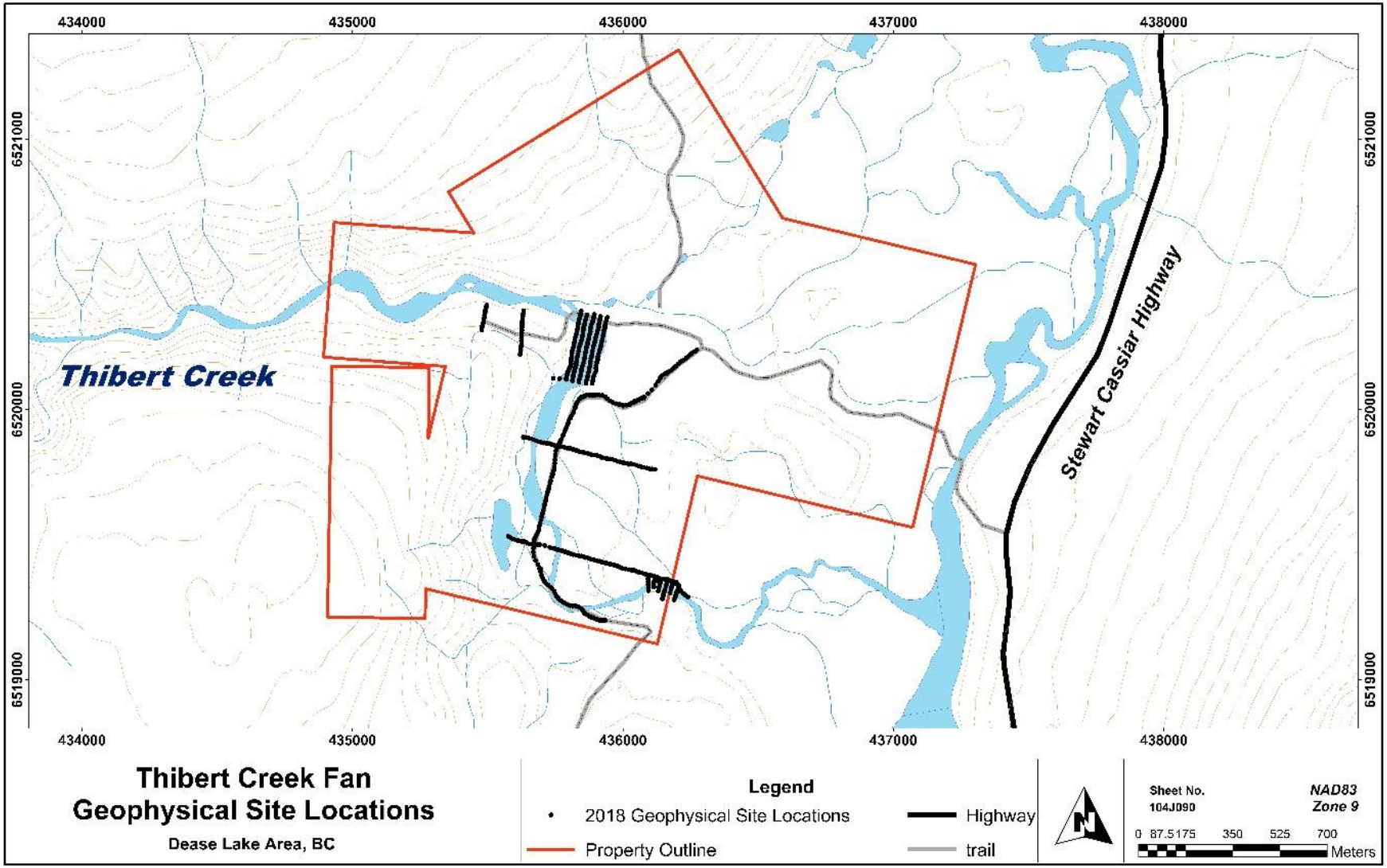



**Figure 5.** All geophysical survey site locations

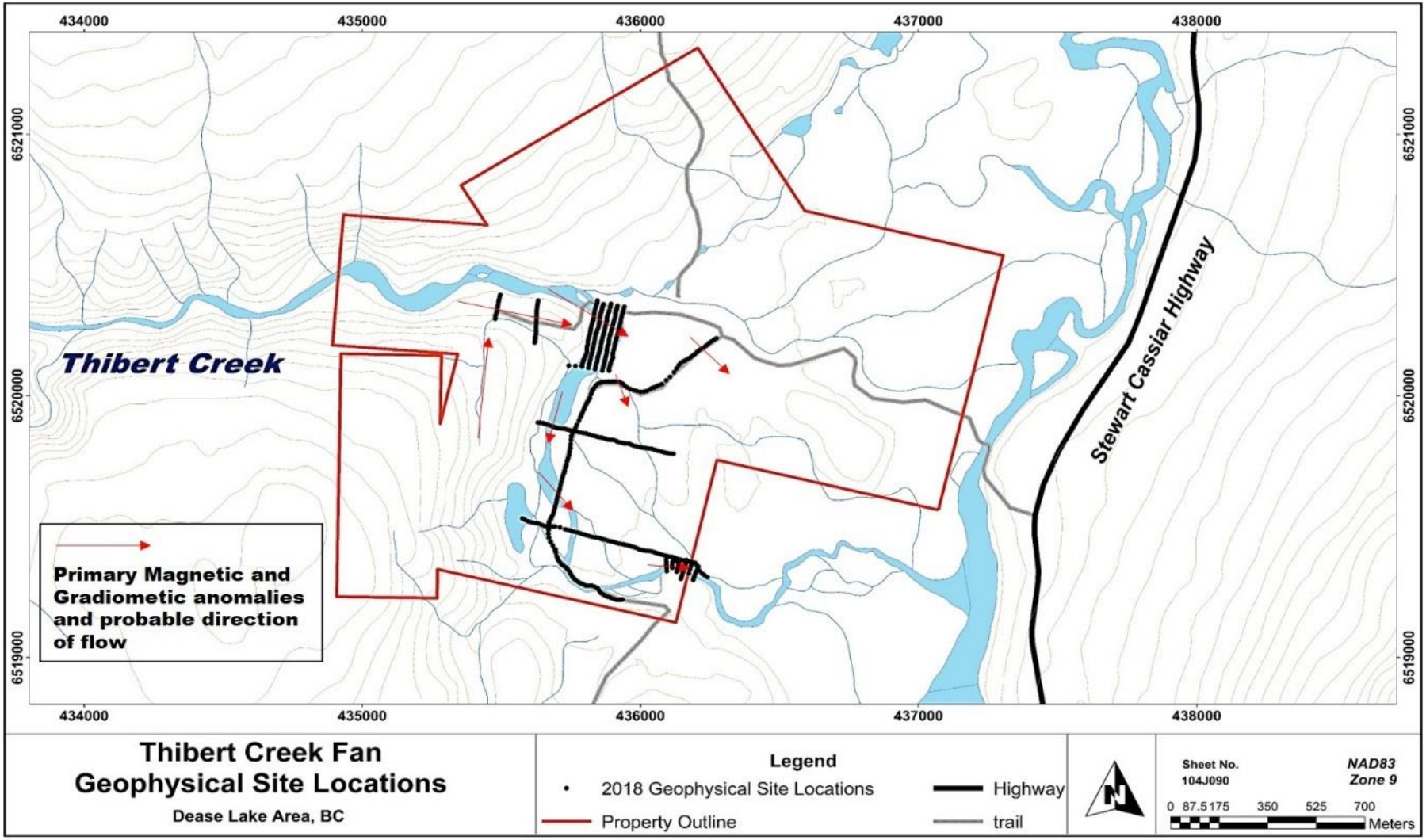



**Figure 6.** Geophysical site locations with primary magnetometer and gradiometer anomalies and probable flow direction

# Appendix III

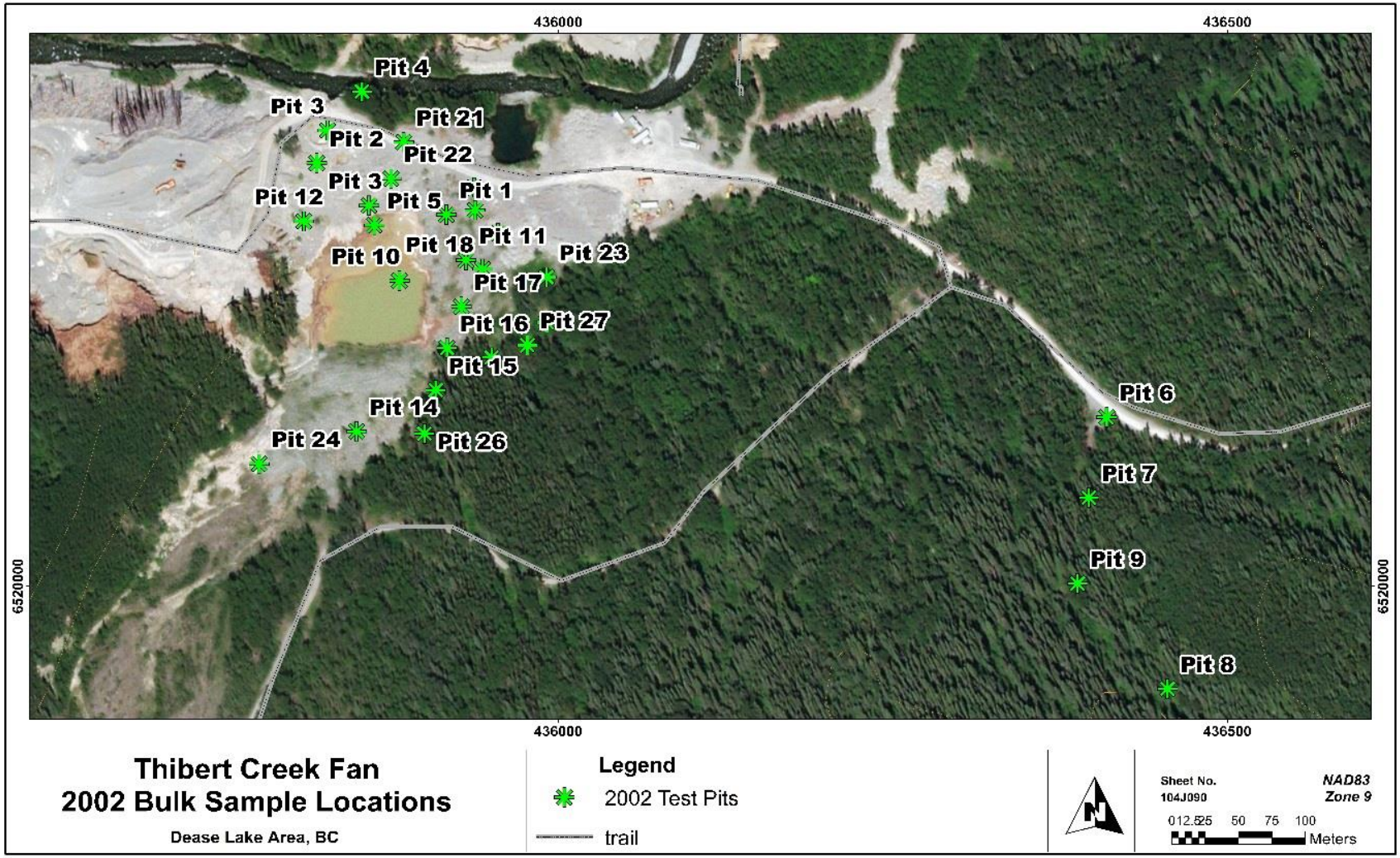



**Figure 1.** 2002 bulk sample test pit locations

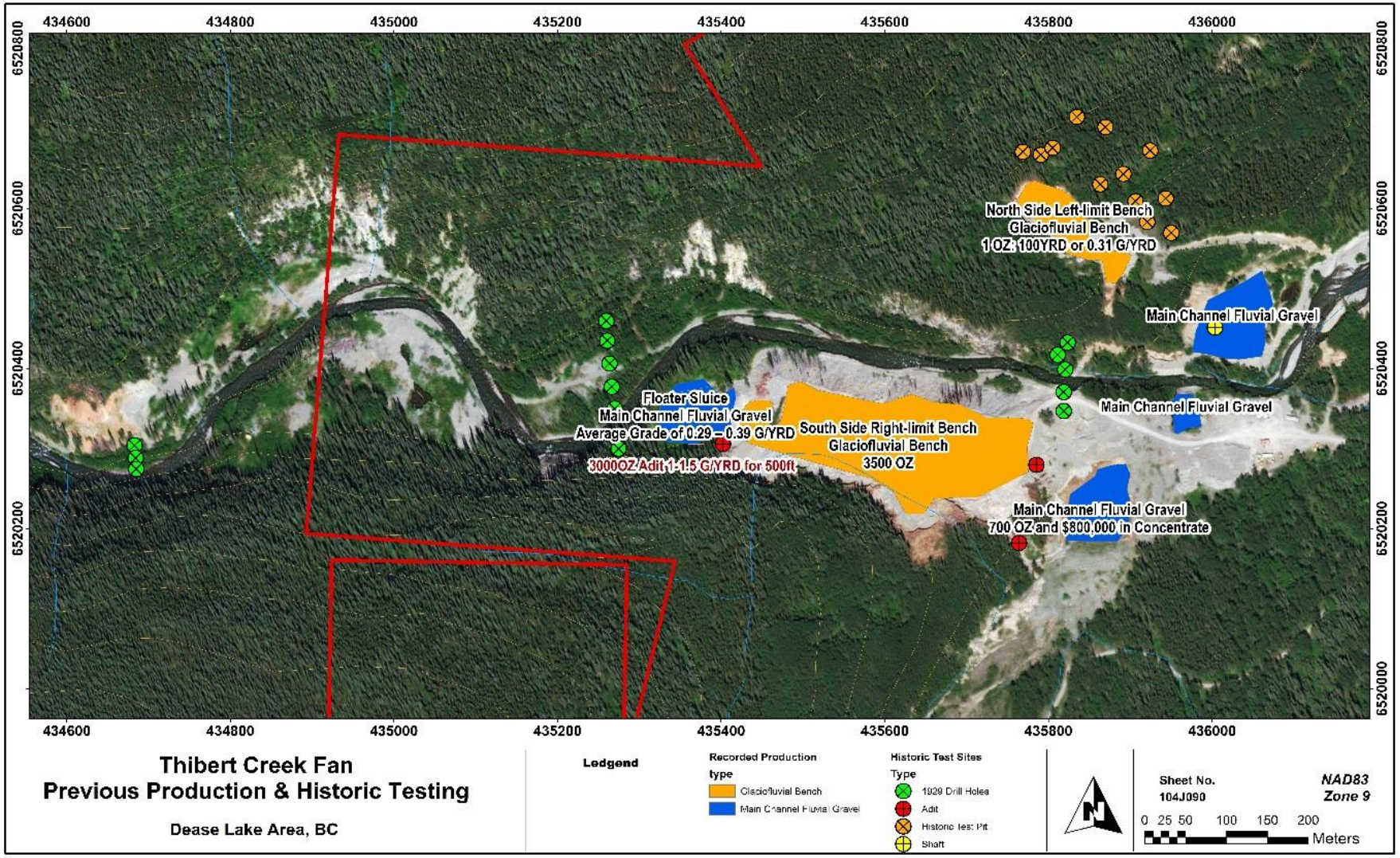



**Figure 2.** Recent production and historic test sites

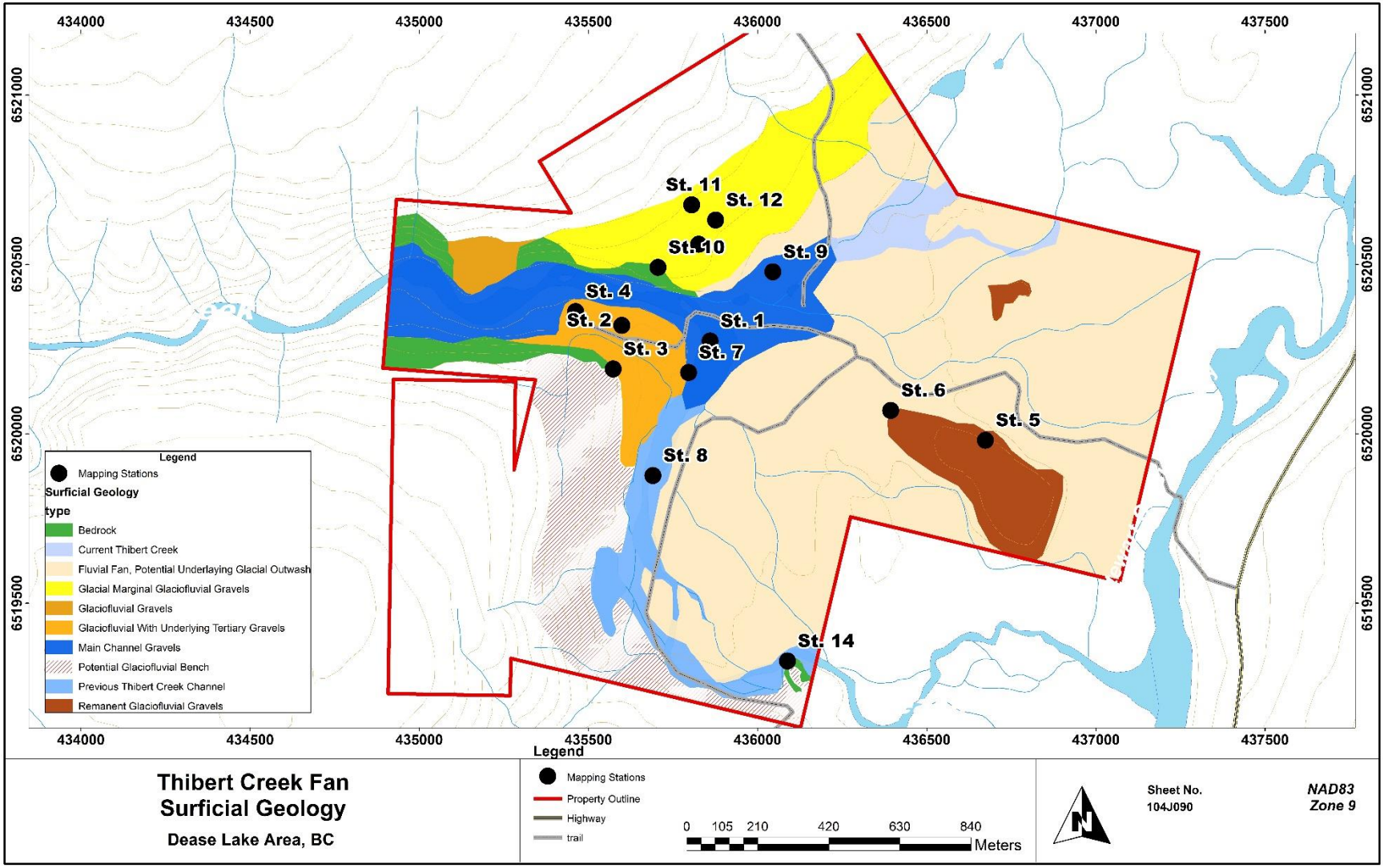



**Figure 3.** Surficial geology

| 2018 Surficial Mapping Stations | | | | | |
|---|---|---|---|---|---|
| **Station Number** | **UTM Zone** | **Easting** | **Northing** | **Date** | **Description** |
| St. 1 | 09V | 435860 | 6520274 | 31-Oct-19 | Previously disturbed pit mined and later in filled with tailings. Boulders over 2m across. Excavated area to the south has up to 2m exposure of unmined gravels. These gravels are poorly sorted ranging from medium gravels to boulders up to 0.75m across. Matrix is a coarse to medium sand and silt. Gravels likely originate from recent main channel gravels from Thibert Creek and lie on the previously mapped course of Thibert Creek. |
| St. 2 | 09V | 435599 | 6520320 | 31-Oct-19 | Previously disturbed right-limit bench adjacent to mouth of Thibert Creek. Exposure to south shows bedrock in higher elevations going into the flat bench. Material in the exposure is a very coarse gravel with boulders greater than 1.5m across packed with a coarse sand with 15-10% clay. Likely glacial-fluvial flow associated glacial dewatering. |
| St. 3 | 09V | 435573 | 6520191 | 31-Oct-19 | Bedrock consisting of pervasively chloritized and fractured fine grained mafic volcanic at edge of bench. |
| St. 4 | 09V | 435463 | 6520361 | 31-Oct-19 | small section approximately 150m long and 50m wide of undisturbed bench glacial-fluvial gravels. Coarse gravel to cobble with medium sand and 20% clay matrix. Coarse near top of exposure with sandier sections towards base. |
| St. 5 | 09V | 436674 | 6519981 | 01-Nov-19 | gravel-cobble, matrix supported medium sand. Lacks the general characteristics of glacial till. Material resembled a washed fluvial or glacial-fluvial gravel with a low clay content and absence of striated clasts that are definitive indicators of glacial till. |
| St. 6 | 09V | 436394 | 6520069 | 01-Nov-19 | gravel-cobble, matrix supported medium sand. Lacks the general characteristics of glacial till. Material resembled a washed fluvial or glacial-fluvial gravel with a low clay content and absence of striated clasts that are definitive indicators of glacial till. |
| St. 7 | 09V | 435796 | 6520181 | 01-Nov-19 | Small exposure of rusty-brown gravel-cobble with medium sand matrix overlaying 2m clay seam above gravel-cobble material with fine sand and 30% clay matrix at the base of the exposure. Imbrication in gravels would suggest southernly paleo flow. |
| St. 8 | 09V | 435691 | 6519877 | 01-Nov-19 | Located near Test Pit 3 in recent Thibert Creek channel. Scoured out region in medium gravel-sand apron indicates recent Thibert Creek channel. Little overburden show how channel has meandered, out flowing in different directions and generally hugging the western limit of the Thibert creek fan. |

| | | | | | |
|---|---|---|---|---|---|
| St. 9 | 09V | 436045 | 6520478 | 02-Nov-19 | gravel-cobble, matrix is well-packed medium sand with some boulders 0.5-1.5m across. Gravels likely originate from recent main channel gravels from Thibert Creek. |
| St. 10 | 09V | 436089 | 6519329 | 02-Nov-19 | medium grained biotite quartz diorite-granodiorite on left-limit bench by mouth of Thibert Creek. Similar bench elevation as the right-limit bench across the creek. |
| St. 11 | 09V | 435805 | 6520676 | 02-Nov-19 | abundant “turn of the century” hand workings. Restricted to shallow diggings. Large boulders greater than 2m across are abundant with old working in-between and around boulders. Coarse gravel with coarse sand-clay matrix. This horizon likely formed as a glacial marginal feature during the onset of glacial dewatering as water shed off the glacier and would have concentrated material along its margins. This would explain the presence of glacial marginal features such as eskers and kettles. |
| St. 12 | 09V | 435876 | 6520631 | 02-Nov-19 | abundant “turn of the century” hand workings. Restricted to shallow diggings. Large boulders greater than 2m across are abundant with old working in-between and around boulders. Coarse gravel with coarse sand-clay matrix. This horizon likely formed as a glacial marginal feature during the onset of glacial dewatering as water shed off the glacier and would have concentrated material along its margins. This would explain the presence of glacial marginal features such as eskers and kettles. |
| St. 13 | 09V | 435826 | 6520559 | 02-Nov-19 | Pit to bedrock mechanically dug. Bedrock is pervasively chloritized dark green mafic tuff or agglomerate. See how boulder layer is from surface to bedrock. |
| St. 14 | 09V | 435706 | 6520491 | 02-Nov-19 | Large exposure of pervasively chloritized fine-grained mafic volcanic. Fracture planes at 055/87, 036/55 and 270/54 |

**Figure 4.** Surficial mapping station descriptions

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**Client:** **Bill Harris**
Canada

Submitted By: Bill Harris
Receiving Lab: Canada-Whitehorse
Received: December 10, 2018
Report Date: January 07, 2019


# CERTIFICATE OF ANALYSIS WHI18001162.1

## CLIENT JOB INFORMATION

Project: Thibert Fan
Shipment ID:
P.O. Number
Number of Samples: 4

## SAMPLE DISPOSAL

DISP-PLP Dispose of Pulp After 90 days
DISP-RJT Dispose of Reject After 60 days

Bureau Veritas does not accept responsibility for samples left at the laboratory after 90 days without prior written instructions for sample storage or return.

## SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

| Procedure Code | Number of Samples | Code Description | Test Wgt (g) | Report Status | Lab |
|---|---|---|---|---|---|
| PRP70-500 | 4 | Crush, split and pulverize 500g rock to 200 mesh | | | WHI |
| AQ252 | 4 | 1:1:1 Aqua Regia digestion Ultratrace ICP-MS analysis | 30 | Completed | VAN |
| FA350 | 4 | 50g lead collection fire assay analysis by ICP | 50 | Completed | VAN |
| EN002 | 4 | Environmental disposal charge-Fire assay lead waste | | | VAN |
| SHP01 | 4 | Per sample shipping charges for branch shipments | | | VAN |
| FA550 | 3 | Lead collection fire assay 50G fusion - Grav finish | 50 | Completed | VAN |

## ADDITIONAL COMMENTS

Invoice To: Bill Harris

Canada

CC: Nicolai Goeppel

JEFFREY CANNON
Geochemistry Department Supervisor

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Report Date: January 07, 2019



# CERTIFICATE OF ANALYSIS WHI18001162.1

| | Method | WGHT | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | Wgt | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | U | Au | Th | Sr | Cd | Sb | Bi | V | Ca |
| | Unit | kg | ppm | ppm | ppm | ppm | ppb | ppm | ppm | ppm | % | ppm | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | % |
| | MDL | 0.01 | 0.01 | 0.01 | 0.01 | 0.1 | 2 | 0.1 | 0.1 | 1 | 0.01 | 0.1 | 0.1 | 0.2 | 0.1 | 0.5 | 0.01 | 0.02 | 0.02 | 1 | 0.01 |
| Y546235 | Silt | 1.90 | 51.59 | 155.35 | 5.87 | 28.6 | 1206 | 216.1 | 38.5 | 647 | 39.47 | 18.4 | 0.6 | 10188.5 | 0.2 | 5.5 | 0.14 | 1.42 | 1.28 | 285 | 0.15 |
| Y546236 | Silt | 0.50 | 2.70 | 61.11 | 130.70 | 141.7 | 36803 | 58.8 | 24.2 | 680 | 6.44 | 748.6 | 2.2 | >100000 | 14.5 | 24.6 | 0.51 | 40.29 | 2.87 | 63 | 0.31 |
| Y546237 | Silt | 1.13 | 2.43 | 3772.26 | 2369.31 | 106.9 | 69491 | 77.3 | 23.1 | 569 | 12.46 | 417.2 | 1.3 | >100000 | 4.4 | 25.7 | 0.33 | 127.58 | 18.36 | 89 | 0.48 |
| W495993 | Silt | 0.94 | 14.89 | 76.62 | 29.74 | 78.0 | 4606 | 431.3 | 72.4 | 1159 | >40 | 9.1 | 2.3 | 16846.9 | 5.0 | 11.3 | 0.18 | 1.04 | 0.26 | 714 | 0.41 |

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# CERTIFICATE OF ANALYSIS WHI18001162.1

| | Method | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | FA350 | FA350 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Analyte | P | La | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Sc | Tl | S | Hg | Se | Te | Ga | Au | Pt |
| | Unit | % | ppm | ppm | % | ppm | % | ppm | % | % | % | ppm | ppm | ppm | % | ppb | ppm | ppm | ppm | ppb | ppb |
| | MDL | 0.001 | 0.5 | 0.5 | 0.01 | 0.5 | 0.001 | 1 | 0.01 | 0.001 | 0.01 | 0.1 | 0.1 | 0.02 | 0.02 | 5 | 0.1 | 0.02 | 0.1 | 2 | 3 |
| Y546235 | Silt | 0.012 | 1.6 | 238.8 | 0.46 | 61.2 | 0.066 | 4 | 0.16 | 0.006 | 0.02 | 30.8 | 1.8 | 0.03 | 0.03 | 47 | 0.2 | 0.16 | 8.9 | 9282 | 3297 |
| Y546236 | Silt | 0.050 | 96.9 | 40.7 | 0.30 | 91.5 | 0.046 | <1 | 0.89 | 0.023 | 0.19 | >100 | 1.9 | 0.25 | 1.49 | * | 0.8 | 1.53 | 3.3 | >10000 | >10000 |
| Y546237 | Silt | 0.049 | 9.8 | 49.6 | 0.61 | 42.8 | 0.057 | 4 | 0.94 | 0.028 | 0.15 | >100 | 2.3 | 0.36 | 2.42 | * | <0.1 | 5.56 | 3.5 | >10000 | 17 |
| W495993 | Silt | 0.055 | 14.3 | 945.1 | 1.44 | 289.4 | 0.125 | 3 | 0.28 | 0.009 | 0.02 | 8.6 | 2.6 | 0.09 | 0.07 | 4204 | 0.2 | <0.02 | 11.3 | >10000 | 242 |

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Canada

Project: Thibert Fan
Report Date: January 07, 2019



# CERTIFICATE OF ANALYSIS WHI18001162.1

| | | Method | FA350 | FA550 |
|---|---|---|---|---|
| | | Analyte | Pd | Au |
| | | Unit | ppb | gm/t |
| | | MDL | 2 | 0.9 |
| Y546235 | Silt | | 28 | |
| Y546236 | Silt | | 149 | 200.0 |
| Y546237 | Silt | | 10 | 287.1 |
| W495993 | Silt | | 14 | 37.1 |

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# QUALITY CONTROL REPORT WHI18001162.1

| | | Method | WGHT | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Analyte | Wgt | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | U | Au | Th | Sr | Cd | Sb | Bi | V | Ca |
| | | Unit | kg | ppm | ppm | ppm | ppm | ppb | ppm | ppm | ppm | % | ppm | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | % |
| | | MDL | 0.01 | 0.01 | 0.01 | 0.01 | 0.1 | 2 | 0.1 | 0.1 | 1 | 0.01 | 0.1 | 0.1 | 0.2 | 0.1 | 0.5 | 0.01 | 0.02 | 0.02 | 1 | 0.01 |
| Pulp Duplicates | | | | | | | | | | | | | | | | | | | | | | |
| Y546236 | Silt | | 0.50 | 2.70 | 61.11 | 130.70 | 141.7 | 36803 | 58.8 | 24.2 | 680 | 6.44 | 748.6 | 2.2 | >100000 | 14.5 | 24.6 | 0.51 | 40.29 | 2.87 | 63 | 0.31 |
| REP Y546236 | QC | | | | | | | | | | | | | | | | | | | | | |
| Y546237 | Silt | | 1.13 | 2.43 | 3772.26 | 2369.31 | 106.9 | 69491 | 77.3 | 23.1 | 569 | 12.46 | 417.2 | 1.3 | >100000 | 4.4 | 25.7 | 0.33 | 127.58 | 18.36 | 89 | 0.48 |
| REP Y546237 | QC | | | | | | | | | | | | | | | | | | | | | |
| Reference Materials | | | | | | | | | | | | | | | | | | | | | | |
| STD AGPROOF | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD DS11 | Standard | | | 15.52 | 151.16 | 142.03 | 353.9 | 1780 | 83.2 | 14.1 | 1058 | 3.19 | 44.9 | 2.9 | 90.8 | 8.3 | 75.9 | 2.44 | 7.94 | 12.04 | 50 | 1.10 |
| STD OREAS262 | Standard | | | 0.67 | 117.05 | 61.36 | 152.9 | 487 | 64.1 | 28.0 | 556 | 3.21 | 37.3 | 1.3 | 56.9 | 10.4 | 38.8 | 0.65 | 4.20 | 1.10 | 22 | 2.99 |
| STD OXC129 | Standard | | | 1.34 | 27.74 | 6.16 | 40.9 | 15 | 81.1 | 21.0 | 422 | 3.00 | 0.7 | 0.7 | 195.8 | 1.9 | 201.7 | <0.01 | 0.03 | <0.02 | 53 | 0.76 |
| STD OXQ114 | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD PD05 | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD PD05 | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD PD05 | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD PG04 | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD SP49 | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD AGPROOF Expected | | | | | | | | | | | | | | | | | | | | | | |
| STD SP49 Expected | | | | | | | | | | | | | | | | | | | | | | |
| STD OXQ114 Expected | | | | | | | | | | | | | | | | | | | | | | |
| STD OXC129 Expected | | | | 1.3 | 28 | 6.2 | 42.9 | 13 | 79.5 | 20.3 | 421 | 3.065 | 0.6 | 0.69 | 195 | 1.9 | | 0.03 | 0.04 | | 51 | 0.684 |
| STD DS11 Expected | | | | 14.6 | 149 | 138 | 345 | 1710 | 77.7 | 14.2 | 1055 | 3.1 | 42.8 | 2.59 | 79 | 7.65 | 67.3 | 2.37 | 8.74 | 12.2 | 50 | 1.063 |
| STD OREAS262 Expected | | | | 0.68 | 118 | 56 | 154 | 450 | 62 | 26.9 | 530 | 3.284 | 35.8 | 1.22 | 72 | 9.33 | 36 | 0.61 | 5.06 | 0.98 | 22.5 | 2.98 |
| STD PD05 Expected | | | | | | | | | | | | | | | | | | | | | | |
| STD PG04 Expected | | | | | | | | | | | | | | | | | | | | | | |
| BLK | Blank | | | | | | | | | | | | | | | | | | | | | |
| BLK | Blank | | | | | | | | | | | | | | | | | | | | | |
| BLK | Blank | | | <0.01 | 0.01 | <0.01 | <0.1 | <2 | <0.1 | <0.1 | <1 | <0.01 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.01 | <0.02 | <0.02 | <1 | <0.01 |
| BLK | Blank | | | | | | | | | | | | | | | | | | | | | |
| BLK | Blank | | | | | | | | | | | | | | | | | | | | | |

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# QUALITY CONTROL REPORT WHI18001162.1

| | | Method | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | FA350 | FA350 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Analyte | P | La | Cr | Mg | Ba | Ti | B | Al | Na | K | W | Sc | Tl | S | Hg | Se | Te | Ga | Au | Pt |
| | | Unit | % | ppm | ppm | % | ppm | % | ppm | % | % | % | ppm | ppm | ppm | % | ppb | ppm | ppm | ppm | ppb | ppb |
| | | MDL | 0.001 | 0.5 | 0.5 | 0.01 | 0.5 | 0.001 | 1 | 0.01 | 0.001 | 0.01 | 0.1 | 0.1 | 0.02 | 0.02 | 5 | 0.1 | 0.02 | 0.1 | 2 | 3 |
| Pulp Duplicates | | | | | | | | | | | | | | | | | | | | | | |
| Y546236 | Silt | | 0.050 | 96.9 | 40.7 | 0.30 | 91.5 | 0.046 | <1 | 0.89 | 0.023 | 0.19 | >100 | 1.9 | 0.25 | 1.49 | * | 0.8 | 1.53 | 3.3 | >10000 | >10000 |
| REP Y546236 | QC | | | | | | | | | | | | | | | | | | | | >10000 | >10000 |
| Y546237 | Silt | | 0.049 | 9.8 | 49.6 | 0.61 | 42.8 | 0.057 | 4 | 0.94 | 0.028 | 0.15 | >100 | 2.3 | 0.36 | 2.42 | * | <0.1 | 5.56 | 3.5 | >10000 | 17 |
| REP Y546237 | QC | | | | | | | | | | | | | | | | | | | | >10000 | <3 |
| Reference Materials | | | | | | | | | | | | | | | | | | | | | | |
| STD AGPROOF | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD DS11 | Standard | | 0.075 | 20.4 | 62.7 | 0.86 | 374.7 | 0.098 | 8 | 1.25 | 0.078 | 0.41 | 2.8 | 3.4 | 5.05 | 0.29 | 290 | 2.3 | 4.94 | 5.1 | | |
| STD OREAS262 | Standard | | 0.043 | 18.5 | 45.4 | 1.18 | 268.7 | 0.003 | 4 | 1.47 | 0.071 | 0.33 | 0.2 | 3.4 | 0.47 | 0.27 | 162 | 0.4 | 0.23 | 4.2 | | |
| STD OXC129 | Standard | | 0.090 | 12.2 | 55.0 | 1.55 | 52.3 | 0.382 | <1 | 1.67 | 0.604 | 0.36 | <0.1 | 0.9 | 0.03 | <0.02 | <5 | 0.1 | <0.02 | 5.5 | | |
| STD OXQ114 | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD PD05 | Standard | | | | | | | | | | | | | | | | | | | | 505 | 433 |
| STD PD05 | Standard | | | | | | | | | | | | | | | | | | | | 529 | 416 |
| STD PD05 | Standard | | | | | | | | | | | | | | | | | | | | 486 | 438 |
| STD PG04 | Standard | | | | | | | | | | | | | | | | | | | | 958 | 877 |
| STD SP49 | Standard | | | | | | | | | | | | | | | | | | | | | |
| STD AGPROOF Expected | | | | | | | | | | | | | | | | | | | | | | |
| STD SP49 Expected | | | | | | | | | | | | | | | | | | | | | | |
| STD OXQ114 Expected | | | | | | | | | | | | | | | | | | | | | | |
| STD OXC129 Expected | | | 0.102 | 12.5 | 52 | 1.545 | 50 | 0.4 | 1 | 1.58 | 0.59 | 0.3655 | 0.08 | 1.1 | 0.03 | | | | | 5.5 | | |
| STD DS11 Expected | | | 0.0701 | 18.6 | 61.5 | 0.85 | 385 | 0.0976 | | 1.1795 | 0.0762 | 0.4 | 2.9 | 3.4 | 4.9 | 0.2835 | 260 | 2.2 | 4.56 | 5.1 | | |
| STD OREAS262 Expected | | | 0.04 | 15.9 | 41.7 | 1.17 | 248 | 0.0027 | 4 | 1.3 | 0.071 | 0.295 | 0.2 | 3.24 | 0.47 | 0.253 | 170 | 0.4 | 0.23 | 3.73 | | |
| STD PD05 Expected | | | | | | | | | | | | | | | | | | | | | 519 | 430 |
| STD PG04 Expected | | | | | | | | | | | | | | | | | | | | | 1004 | 903 |
| BLK | Blank | | | | | | | | | | | | | | | | | | | | 3 | <3 |
| BLK | Blank | | | | | | | | | | | | | | | | | | | | | |
| BLK | Blank | | <0.001 | <0.5 | <0.5 | <0.01 | <0.5 | <0.001 | <1 | <0.01 | <0.001 | <0.01 | <0.1 | <0.1 | <0.02 | <0.02 | <5 | <0.1 | <0.02 | <0.1 | | |
| BLK | Blank | | | | | | | | | | | | | | | | | | | | 4 | <3 |
| BLK | Blank | | | | | | | | | | | | | | | | | | | | 2 | <3 |

BUREAU VERITAS MINERAL LABORATORIES Canada

www.bureauveritas.com/um

Bureau Veritas Commodities Canada Ltd.
9050 Shaughnessy St Vancouver British Columbia V6P 6E5 Canada
PHONE (604) 253-3158

**Client:** **Bill Harris**
Canada

Project: Thibert Fan
Report Date: January 07, 2019



# QUALITY CONTROL REPORT WHI18001162.1

| | Method | FA350 | FA550 |
|---|---|---|---|
| | Analyte | Pd | Au |
| | Unit | ppb | gm/t |
| | MDL | 2 | 0.9 |
| Pulp Duplicates | | | |
| Y546236 | Silt | 149 | 200.0 |
| REP Y546236 | QC | 174 | 199.3 |
| Y546237 | Silt | 10 | 287.1 |
| REP Y546237 | QC | <2 | |
| Reference Materials | | | |
| STD AGPROOF | Standard | | <0.9 |
| STD DS11 | Standard | | |
| STD OREAS262 | Standard | | |
| STD OXC129 | Standard | | |
| STD OXQ114 | Standard | | 33.6 |
| STD PD05 | Standard | 598 | |
| STD PD05 | Standard | 577 | |
| STD PD05 | Standard | 591 | |
| STD PG04 | Standard | 1142 | |
| STD SP49 | Standard | | 18.5 |
| STD AGPROOF Expected | | | 0 |
| STD SP49 Expected | | | 18.34 |
| STD OXQ114 Expected | | | 35.2 |
| STD OXC129 Expected | | | |
| STD DS11 Expected | | | |
| STD OREAS262 Expected | | | |
| STD PD05 Expected | | 596 | |
| STD PG04 Expected | | 1196 | |
| BLK | Blank | <2 | |
| BLK | Blank | | <0.9 |
| BLK | Blank | | |
| BLK | Blank | <2 | |
| BLK | Blank | <2 | |

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# QUALITY CONTROL REPORT WHI18001162.1

| | | WGHT | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 | AQ252 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Wgt | Mo | Cu | Pb | Zn | Ag | Ni | Co | Mn | Fe | As | U | Au | Th | Sr | Cd | Sb | Bi | V | Ca |
| | | kg | ppm | ppm | ppm | ppm | ppb | ppm | ppm | ppm | % | ppm | ppm | ppb | ppm | ppm | ppm | ppm | ppm | ppm | % |
| | | 0.01 | 0.01 | 0.01 | 0.01 | 0.1 | 2 | 0.1 | 0.1 | 1 | 0.01 | 0.1 | 0.1 | 0.2 | 0.1 | 0.5 | 0.01 | 0.02 | 0.02 | 1 | 0.01 |
| Prep Wash | | | | | | | | | | | | | | | | | | | | | |
| ROCK-WHI | Prep Blank | | 0.89 | 2.80 | 2.09 | 33.2 | 15 | 1.1 | 3.8 | 503 | 1.89 | 1.6 | 0.4 | <0.2 | 2.4 | 25.6 | <0.01 | 0.05 | <0.02 | 23 | 0.61 |

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# QUALITY CONTROL REPORT WHI18001162.1

| | | AQ252 P % 0.001 | AQ252 La ppm 0.5 | AQ252 Cr ppm 0.5 | AQ252 Mg % 0.01 | AQ252 Ba ppm 0.5 | AQ252 Ti % 0.001 | AQ252 B ppm 1 | AQ252 Al % 0.01 | AQ252 Na % 0.001 | AQ252 K % 0.01 | AQ252 W ppm 0.1 | AQ252 Sc ppm 0.1 | AQ252 Tl ppm 0.02 | AQ252 S % 0.02 | AQ252 Hg ppb 5 | AQ252 Se ppm 0.1 | AQ252 Te ppm 0.02 | AQ252 Ga ppm 0.1 | FA350 Au ppb 2 | FA350 Pt ppb 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Prep Wash | | | | | | | | | | | | | | | | | | | | | |
| ROCK-WHI | Prep Blank | 0.047 | 6.7 | 2.2 | 0.46 | 62.4 | 0.070 | 3 | 0.83 | 0.060 | 0.06 | <0.1 | 3.0 | <0.02 | <0.02 | 5 | <0.1 | <0.02 | 4.1 | <2 | <3 |

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# QUALITY CONTROL REPORT WHI18001162.1

| | | FA350 Pd ppb 2 | FA550 Au gm/t 0.9 |
|---|---|---|---|
| Prep Wash | | | |
| ROCK-WHI | Prep Blank | <2 | |

Exploring Heavy Minerals

Overburden Drilling Management Limited
Unit 107, 15 Capella Court
Nepean, Ontario, Canada, K2E 7X1
Tel: (613) 226-1771 Fax: (613) 226-8753
odm@storm.ca www.odm.ca

# Laboratory Data Report

**Client Information**

Higher Ground Exploration
609 Drury Street
Whitehorse YT
Y1A 1T6
867-336-1498

highergroundexploration@outlook.com bill@yukon.ca

Attention: Nocolai Goeppel

**Data-File Information**

| | |
|---|---|
| Date: | April 17, 2019 |
| Project name: | Placer Concentrates |
| ODM batch number: | 8056 |
| Sample numbers: | Y-546238, Y-546239, W-45992 |
| Data file: | 20198056 - Higher Ground Exploration - Goeppel - April 2019 |
| Number of samples in this report: | 3 |
| Number of samples processed to date: | 3 |
| Total number of samples in project: | 3 |
| Preliminary data: | |
| Final data: | X |
| Revised data: | |

**Samples Processed For:** Gold and PGM's

**Processing Specifications:**

1. Submitted by Client: Placer concentrates.
2. Samples sieved to -1.0 mm.
3. -1.0 mm fraction micro-panned for gold, PGM's and fine grained metallic indicator minerals.

**Notes**

Mike Crawford
Laboratory Manager

## Gold Grain Summary

Client: Higher Ground Exploration
File Name: 20198056 - Higher Ground Exploration - Goeppel - April 2019
Total Number of Samples in this Report: 3
ODM Batch Number(s): 8056

| | Number of Visible Gold Grains | | | | | Calculated PPB Visible Gold | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample Number | Total | Reshaped | Modified | Pristine | -1.0 mm Weight (g) | Total | Reshaped | Modified | Pristine |
| Y-546238 | 1630 | 1630 | 0 | 0 | 670.4 | 189174 | 189174 | 0 | 0 |
| Y-546239 | 210 | 210 | 0 | 0 | 501.0 | 3695 | 3695 | 0 | 0 |
| W-495992 | 130 | 130 | 0 | 0 | 625.2 | 1650 | 1650 | 0 | 0 |

## Detailed Gold Grain Data

Client: Higher Ground Exploration
File Name: 20198056 - Higher Ground Exploration - Goeppel - April 2019
Total Number of Samples in this Report: 3
ODM Batch Number(s): 8056

| Sample Number | Dimensions (µm) Thickness | | Width | Length | Number of Visible Gold Grains Reshaped | Modified | Pristine | Total | -1.0 mm Weight (g) | Calculated V.G. Assay (ppb) | Metallic Minerals in Pan Concentrate |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Y-546238 | 13 | C | 25 | 100 | 500 | | | 500 | | 178 | Tr (~5000 grains) pyrite (25-1500 µm). |
| | 54 | C | 100 | 500 | 1000 | | | 1000 | | 30206 | Tr (59 grains) platinum (100-500 µm). |
| | 101 | C | 500 | 1000 | 60 | | | 60 | | 33982 | Pan concentrate and platinum grains vialed. |
| | 106 | C | 1000 | 1500 | 70 | | | 70 | | 124809 | |
| | | | | | | | | 1630 | 670.4 | 189174 | |
| Y-546239 | 13 | C | 25 | 100 | 120 | | | 120 | | 57 | Tr (~2000 grains) pyrite (25-100 µm). |
| | 54 | C | 100 | 500 | 90 | | | 90 | | 3638 | Tr (26 grains) platinum (50-500 µm). |
| | | | | | | | | 210 | 501.0 | 3695 | Pan concentrate and platinum grains vialed. |
| W-495992 | 13 | C | 25 | 100 | 80 | | | 80 | | 31 | Tr (2 grains) cinnabar (50-125 µm). |
| | 54 | C | 100 | 500 | 50 | | | 50 | | 1619 | Tr (9 grains) platinum (50-150 µm). |
| | | | | | | | | 130 | 625.2 | 1650 | Pan concentrate and platinum grains vialed. |

# Platinum Grain Summary

Client: Higher Ground Exploration
File Name: 20198056 - Higher Ground Exploration - Goeppel - April 2019
Total Number of Samples in this Report: 3
ODM Batch Number(s): 8056

| | Number of Visible Platinum Grains | | | | | Calculated PPB Visible Platinum | | | |
|---|---|---|---|---|---|---|---|---|---|
| Sample Number | Total | Reshaped | Modified | Pristine | -1.0 mm Weight (g) | Total | Reshaped | Modified | Pristine |
| Y-546238 | 59 | 59 | 0 | 0 | 670.4 | 1782 | 1782 | 0 | 0 |
| Y-546239 | 26 | 26 | 0 | 0 | 501.0 | 654 | 654 | 0 | 0 |
| W-495992 | 9 | 9 | 0 | 0 | 625.2 | 16 | 16 | 0 | 0 |

# Detailed Platinum Grain Data

Client: Higher Ground Exploration
File Name: 20198056 - Higher Ground Exploration - Goeppel - April 2019
Total Number of Samples in this Report: 3
ODM Batch Number(s): 8056

| Sample Number | Dimensions (µm) Thickness | | Width | Length | Number of Visible Platinum Grains Reshaped | Modified | Pristine | Total | -1.0 mm Weight (g) | Calculated Platinum Assay (ppb) |
|---|---|---|---|---|---|---|---|---|---|---|
| Y-546238 | 54 | C | 100 | 500 | 59 | | | 59 | | 1782 |
| | | | | | | | | 59 | 670.4 | 1782 |
| Y-546239 | 13 | C | 25 | 100 | 15 | | | 15 | | 7 |
| | 54 | C | 100 | 500 | 11 | | | 11 | | 445 |
| | | | | | | | | 26 | 501.0 | 452 |
| W-495992 | 20 | C | 50 | 150 | 9 | | | 9 | | 16 |
| | | | | | | | | 9 | 625.2 | 16 |

# Placer Concentrate Processing Weights

Client: Higher Ground Exploration
File Name: 20198056 - Higher Ground Exploration - Goeppel - April 2019
Total Number of Samples in this Report: 3
ODM Batch Number(s): 8056

| Sample Number | Weight (g) | | |
|---|---|---|---|
| | Total | +1.0 mm | -1.0 mm |
| Y-546238 | 670.4 | 0.0 | 670.4 |
| Y-546239 | 501.0 | 0.0 | 501.0 |
| W-495992 | 848.3 | 223.1 | 625.2 |


0.5 mm


0.5 mm


0.1 mm