

**GEOPHYSICAL AND GEOCHEMICAL  
REPORT ON THE TOBI PROJECT  
in the Kluane Ultramafic Belt, Yukon Territory**

AKK 1-112  
TOBI 1-113

YF48001- YF48112  
YF48113- YF48225

**In support of YMEP Project No. 16-027  
Target Evaluation Module  
Yukon Mineral Exploration Program**

**NTS: 115G/5**

**Latitude 61°26'N      Longitude 139°36'W**

**Whitehorse Mining District**

Work performed between  
September 30 and November 16, 2016

**For**  
41376 Yukon Inc.  
Box 2128, Haines Junction,  
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## 1.0 SUMMARY

The 4640 hectare Tobi Project, comprising 112 AKK and 113 Tobi claims in the Whitehorse Mining District on NTS map sheet 115G/5, lies within the Kluane ultramafic belt, southwestern Yukon Territory at a latitude and longitude of 61°26'N, 136°36'W. The Project is situated 40 km by road northwest of Burwash Landing, which is approximately 125 km northwest of Haines Junction and 285 km northwest of Whitehorse, Yukon Territory by paved highway. Road access exists to within less than 1 km of the property. Mr. Bill Karman of Haines Junction, Yukon Territory, sole Director and Officer of 41376 Yukon Inc., is the registered owner of the claims and funded the current program.

The Kluane ultramafic belt is a 600 km long belt characterized by Triassic aged mafic to ultramafic sills of the Kluane mafic-ultramafic suite, which host the Wellgreen and Canalask deposits and over twenty-five documented magmatic nickel (Ni) - copper (Cu) - platinum group element (PGE) ±gold (Au) occurrences within Wrangellia from northern British Columbia, through Yukon and into Alaska. The deposit model is flood basalt associated nickel-copper-PGE.

The Tobi Project is primarily underlain by a succession of Pennsylvanian(?) and Permian volcanic and sedimentary rocks of the Skolai Group, overlain by volcanic rocks of the Nikolai Formation. The Skolai Group includes a basal volcanic sequence (Station Creek Formation), overlain by clastic rocks and limestone of the Hasen Creek Formation. The Skolai Group is intruded by ultramafic and gabbroic rocks of the Upper Triassic age Kluane mafic-ultramafic complex and diabase and gabbro sills, dykes and plugs of the Triassic Maple Creek gabbro. The above units are intruded by a dioritic body of the Cretaceous age Kluane Ranges suite in the southwest property area and related dykes and sills. A number of northwest trending faults and fold axes transect the property.

The AKK and Tobi claims were staked in November, 2015 to cover ground considered to be favourable for PGE and Ni-Cu mineralization. The claims are underlain by similar geology, including gabbro to ultramafic bodies, to that of the Wellgreen deposit, which lies 3 km to the northeast. The Wellgreen deposit has NI 43-101 compliant Measured and Indicated Mineral Resources of 330 million tonnes at 1.67 g/t platinum equivalent (Pt Eq) or 0.44% nickel equivalent (Ni Eq) and an Inferred Mineral Resource of 846 million tonnes at 1.57 g/t Pt Eq. or 0.41% Ni Eq, both at a 0.57 g/t Pt Eq or 0.15% Ni Eq cutoff, including a higher grade Mineral Resource of 72 million tonnes at 2.49 g/t Pt Eq or 0.65% Ni Eq Measured and Indicated and 174 million tonnes at 2.41 g/t Pt Eq or 0.63% Ni Eq, both at a 1.9 g/t Pt Eq or 0.50% Ni Eq cutoff (*Simpson, 2014*).

The Tobi showing, consisting of mineralized gabbro float which returned 0.96% Cu, >1% Ni, 0.48 g/t Pd, and 0.18 g/t Pt, was discovered during the course of staking in the upper canyon of Wade Creek and significant DIGHEM airborne magnetic-electromagnetic geophysical anomalies were previously defined by Coronation Minerals Inc. along the northwest fork of Maple Creek in areas of favourable geology. In addition, green staining (possibly malachite) was observed on the rocks exposed along the lower canyon on Wade Creek on the AKK claims with a rumour of malachite staining in a tributary of Wade Creek in this vicinity.



The 2016 work program consisted of a 200 line km airborne magnetic geophysical survey over the property to delineate favourable ultramafic sills and the extent of the Kluane Ranges suite intrusion in the southwest property area, and prospecting with rock geochemical and auger bedrock interface sampling with the collection and analysis of 69 samples.

The program was successful in defining an open ended 250 by 100m area of significant Cu-Ni-PGE mineralization at the Tobi showing with maximum values of 2.39% Cu, 5.31% Ni, 0.19% Co, 2.87 g/t Pd, 1.015 g/t Pt and 0.286 g/t Au. Similar mineralization 600m to the southeast returned 0.89% Cu, 0.53% Ni, 0.04% Co, 1.055 g/t Pd, 1.32 g/t Pt and 0.072 g/t Au. An open ended 600m extent of mineralized gabbro was intersected in auger drilling in an overburden covered area in the vicinity of the 2008 electromagnetic anomaly in West Basin (headwaters of NW Fork Maple Creek) with values of 0.24 to 0.87% Cu, 0.35 to 1.89% Ni, 0.013 to 0.112% Co, 0.3 to 0.738 g/t Pd and 0.365 to 0.931 g/t Pt. An open ended 330 by 200m mineralized gabbro showing was discovered about 1 km west of Maple Peak returning 0.37 to 0.56% Cu, 0.10 to 0.26% Ni, 0.014 to 0.049% Co, 0.188 to 0.713 g/t Pd, 0.112 to 0.339 g/t Pt and 0.041 to 0.219 g/t Au.

Malachite stained siltstones, with carbonate  $\pm$ quartz stringers, veinlets and veins with chalcopyrite and chalcocite and significant Cu-Ni values (commonly 0.1-0.4% range) occur proximal to the three Cu-Ni-PGE showings discussed above. The Wade area covers a 1 by 1 km area of similar malachite stained siltstone in lower Wade canyon which may lie proximal to another Cu-Ni-PGE mineralized sill, possibly to the south. Anomalous arsenic and antimony values are often associated with the copper-nickel bearing sedimentary rocks on the property with maximum values of 1590 ppm As and 75 ppm Sb.

The airborne magnetic survey defined a 6 km long, curvilinear sharp magnetic high anomaly transecting current mapped lithologies, suggestive of a folded magnetic horizon along a northwest plunging axis. The Maple Peak and West Basin showings occur below the magnetic high with the newly discovered Tobi showing occurring proximal to the fold closure. The anomaly may represent a mafic to ultramafic horizon, possibly beneath a thin veneer of Nikolai volcanic rocks. The Wade showing along the lower canyon of Wade Creek lies proximal to the western extent of this curvilinear magnetic high anomaly, suggestive of another nickel-copper-PGE occurrence along this horizon.

The extent of the Cretaceous granodiorite - diorite body of the Kluane Ranges suite in the southwest property area appears to be more limited in extent than previously shown on government maps. The intrusion is characterized by a magnetic high signature which is surrounded by a distinct magnetic low in the first vertical and tilt derivatives. The sharp contrast is not suggestive of a multiphase intrusion. The high magnetic signature suggests a dioritic composition, which appears to have intruded along the axial plane of a northwest trending fold.

A program of excavator and hand trenching is recommended over the three known Cu-Ni-PGE showings with auger drilling over the lower airborne electromagnetic anomaly in the West Basin area of Maple Creek. Conventional soil geochemical surveys are recommended over additional airborne electromagnetic anomalies and along trend of known showings. Property scale mapping, detailed prospecting and sampling, and minor stream sediment sampling is also recommended.

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## 1.0 INTRODUCTION

Ms. Jean M. Pautler, P.Geo. was commissioned by Mr. Bill Karman of Haines Junction, Yukon Territory, sole Director and Officer of 41376 Yukon Inc., to document the 2016 exploration program on the Tobi Project, comprising 112 AKK and 113 Tobi claims in the Whitehorse Mining District on NTS map sheet 115G/5. The 2016 exploration program, completed between September 30 and November 16, consisted of a 200 line km airborne magnetic geophysical survey and geochemical sampling over priority targets including a new showing. The program was funded by 41376 Yukon Inc. with the aid of a grant under the Yukon Mineral Exploration Program. This report was prepared to support filing requirements under the Yukon Mineral Exploration Program. Most of the work was completed by 41376 Yukon Inc., a company duly incorporated in the Yukon Territory.

## 2.0 PROPERTY DESCRIPTION AND LAND TENURE (Figures 1 and 2)

### 2.1 Location and Access

The Tobi Project, NTS map sheet 115G/5, lies 40 km by road northwest of Burwash Landing, which is approximately 125 km northwest of Haines Junction and 285 km northwest of Whitehorse, Yukon Territory by paved highway (*Figures 1 and 2*). The property is centered at a latitude of 61°26'N and a longitude of 139°36'W (*Figure 2*).

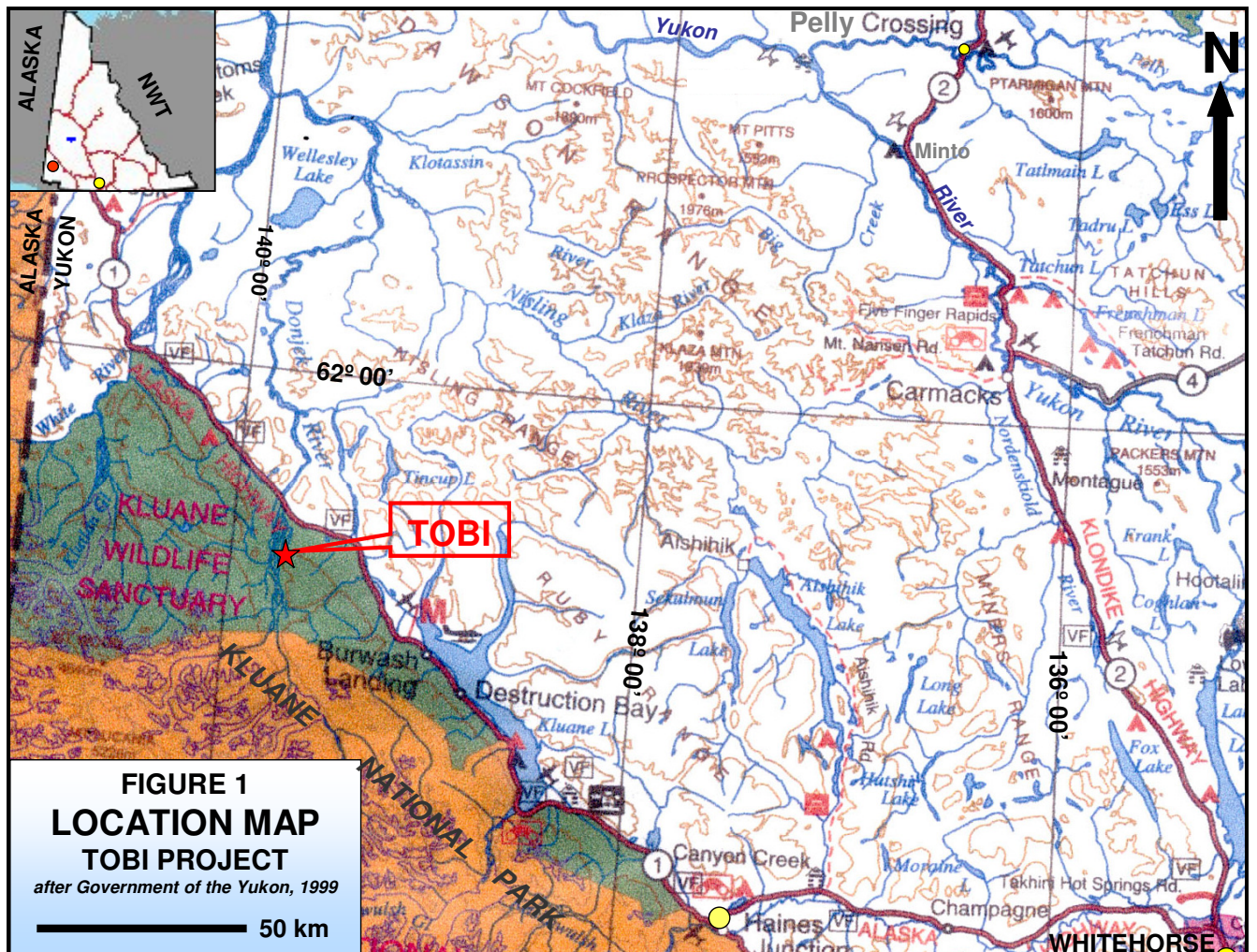
The property is accessible from the paved Alaska Highway (Highway 1) from Whitehorse via the Quill Creek gravel road (at km post 1799), past the Wellgreen mine road, to Arch Creek and continuing along the Quill Creek to almost Maple Creek. The northern claim boundary lies 2 km from the Arch Creek road and the eastern claim boundary lies 0.75 km from the Quill Creek road. A suitable cabin is located on Arch Creek that can be used as a temporary camp base. Helicopter access is available from Haines Junction, with a suitable staging site at the Donjek River bridge along the Alaska Highway. In 2016 the main access was by helicopter from Haines Junction using Kluane Helicopters Ltd.

### 2.2 Physiography, Climate And Infrastructure

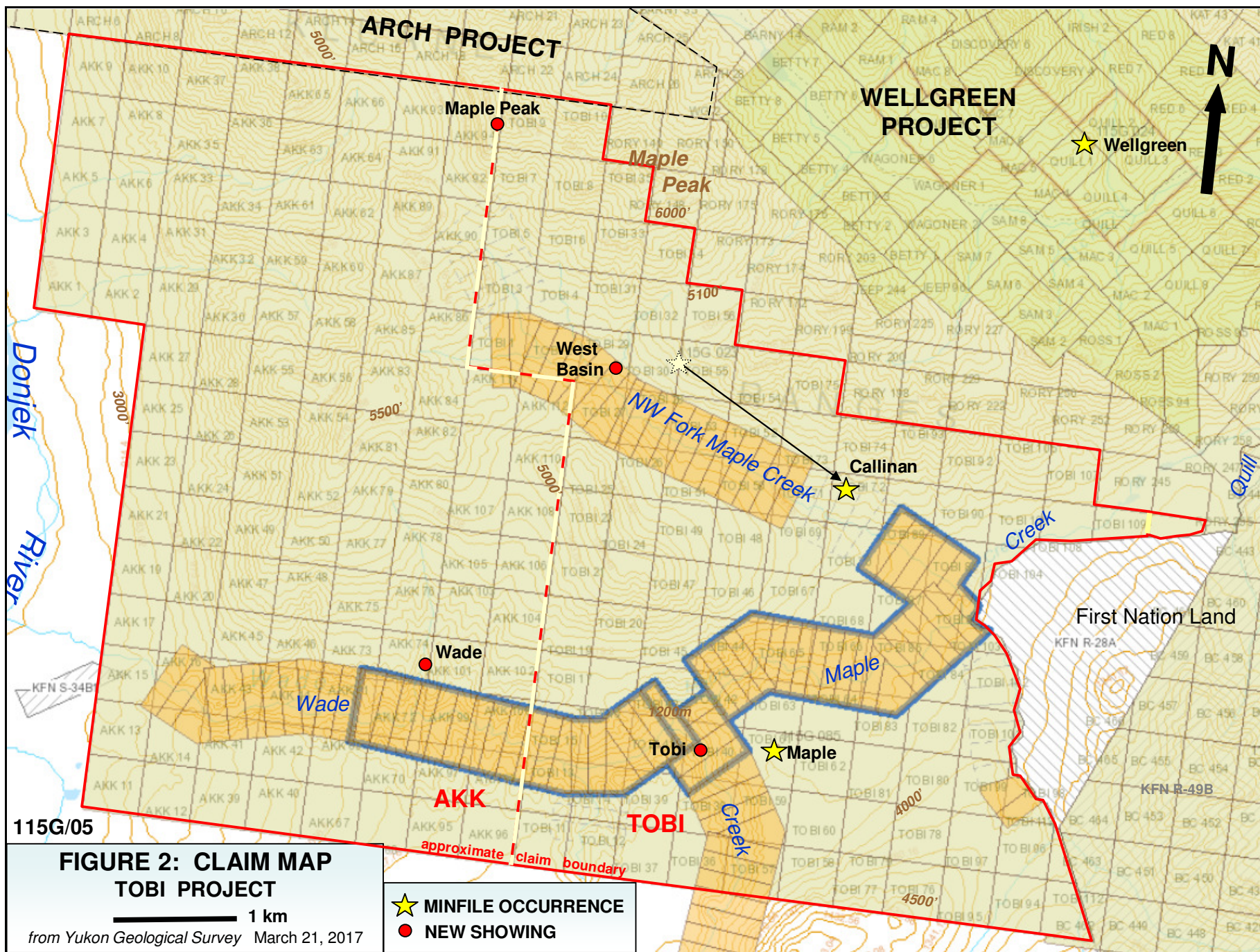
The property is transected by Maple and Wade Creeks, just east of the Donjek River within the Kluane Ranges of the St. Elias Mountains in southwestern Yukon (*Figure 1*). Elevations range from just below 2800 feet along the Donjek River to over 6400 feet on the Tobi 9 claim in the northern property area (*Figure 2*). Topography is moderate to steep with outcrop exposure best developed on north facing slopes, along ridges and in creeks. Vegetation consists of black spruce and poplar at lower elevations, with alder, buckbrush and moss on the higher slopes.

The area has a northern interior climate strongly influenced by the St. Elias Mountains. The area is known for high winds which constantly blow from the mountains into the Shakwak Valley, just north of the property. Winter temperatures average less than  $-20^{\circ}$  Celsius while summer temperatures average  $20^{\circ}$  Celsius. The exploration season generally extends from June to October.

Haines Junction is the closest major town with a population of approximately 800. Facilities include a grocery store, health centre, ambulance service, RCMP, service stations and restaurants. The town is on the power grid with diesel backup. Complete services are available in Whitehorse. Haines Junction is the gateway to Kluane National Park and lies 255 km via Highway 3 from the seaport of Haines, Alaska.







### 2.3 Land Tenure (Figure 2)

The Tobi Project consists of 225 Yukon Quartz Mining claims covering an area of approximately 4640 hectares in the Whitehorse Mining District (*Figure 2*). The area is approximate since claim boundaries have not been legally surveyed. The mineral claims were located by GPS and compass and staked in November, 2015 in accordance with the Yukon Quartz Mining Act on claim sheet 115G/5, available for viewing in the Whitehorse Mining Recorder's Office. The project is situated within the Kluane Wildlife Sanctuary within which mining is allowed (*Figure 1*). A table summarizing pertinent claim data follows.

**TABLE 1: Claim data**

Claim Name	Grant No.	No. of Claims	Expiry Date*
AKK 1-112	YF48001 - YF48112	112	2019-11-17
TOBI 1-97	YF48113 - YF48209	97	2020-11-17
TOBI 98-113	YF48210 - YF48225	16	2019-11-17
<b>TOTAL:</b>		<b>225</b>	

\*based on acceptance of assessment report

The registered owner of the claims is Bill Karman of Haines Junction, Yukon Territory, sole Director and Officer of 41376 Yukon Inc. The claims are located within the Traditional Territory of the Kluane and White River First Nations. A small block of First Nations surveyed land (KFN S-34B1), with surface rights only (Category B land), extends onto the western portion of AKK 15, on the margins of the property. No exploration was or will be conducted there. Otherwise the land in which the mineral claims are situated is Crown Land and the mineral claims fall under the jurisdiction of the Yukon Government. A class 1 notification was filed. To the author's knowledge, the Tobi Project area is not subject to any environmental liability.

### 3.0 HISTORY (Figures 2 and 5)

The Tobi Project covers the Callinan Minfile occurrence (Minfile Number 115G 023), as documented by the Yukon Geological Survey (*Deklerk, 2009*). The occurrence was plotted by the YGS as the centre of the claim block at the time. The author has moved the occurrence to the location of a gabbro sill that was discovered in 1953, and delineated by SP geophysics in 1955, on the north bank of the main southeast flowing tributary (NW fork) of Maple Creek (*Davis, 1953*).

The Maple gypsum occurrence (Minfile Number 115G 085), is reported to occur along a thrust faulted contact between a Cretaceous diorite intrusion and Upper Triassic Nikolai greenstone.

The following is a record of the known work history on the Tobi Project.

1953-5 Geological mapping and an SP survey by Callinan Flin Flon Mining Ltd. uncovered a gabbro body (*Callinan – Figure 5*) northwest of Maple Creek (*Davis, 1953 and Allan, 1955*).



- 1986 Area was restaked and road building was carried out by Columbia Mining Ltd. (*Deklerk, 2009*).
- 1987-8 The northern portion (PC claims) and south-central portion (Don claims) of the Tobi Project were acquired by Avanti Mining Ltd. and transferred to Gold City Resources Inc., which completed minor prospecting and rock geochemical sampling (*Hart and Doherty, 1988, and Van Angeren, 1988*). Limited work uncovered an occurrence of gabbro float (*Figure 5*).
- 1988-9 Soil geochemical sampling and magnetometer surveying conducted by Lodestar Exploration Inc. under option from Harjay Exploration Ltd. on the SF and Missy claims just north of northwestern property area, outlined a magnetic high anomaly proximal to Pt, Pd and Au in soil anomalies (*Davidson, 1988 and 1989*).
- 2008 A DIGHEM airborne magnetic-electromagnetic geophysical survey was carried out for Coronation Minerals Inc. as part of a survey over their Wellgreen property (*Fugro, 2008*). Significant anomalies were obtained along the northwest fork of Maple Creek in areas of favourable geology (underlying Station/Hasen Creek contact).

## 4.0 GEOLOGICAL SETTING AND MINERALIZATION

### 4.1 Regional Geology (Figures 3-4)

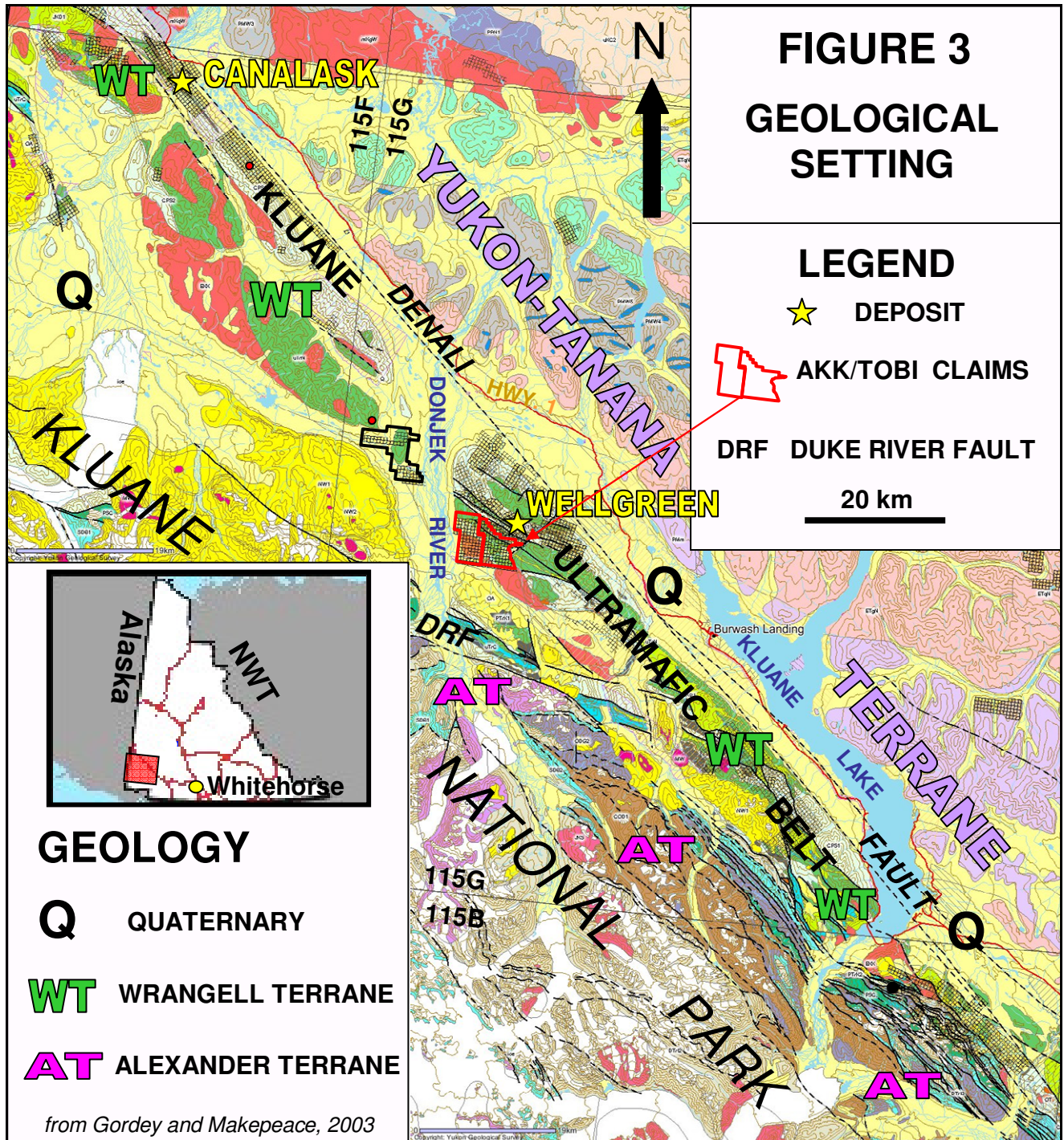
The Tobi Project lies within a displaced portion of the Wrangell Terrane bounded by the 290° trending Duke River Fault to the south and the 310° Denali Fault System to the north (*Figure 3*). The regional area has been mapped by Campbell and Dodds (1979) and compiled by Gordey and Makepeace (2003), with additional mapping and compilation by Israel (2004) and recently compiled by Colpron et al. (2016).

Regionally, the Tobi Project is situated within the 600 km long Kluane Ultramafic belt (*Figure 3*), which is characterized by Triassic aged mafic (gabbro to diorite) to ultramafic (commonly peridotite) sills that are referred to as the Kluane mafic-ultramafic suite. The Kluane mafic-ultramafic suite hosts the Wellgreen and Canalask deposits and over twenty-five documented magmatic nickel (Ni) - copper (Cu) - platinum group element (PGE) ± gold (Au) occurrences within Wrangell from Northern British Columbia, through Yukon and into Alaska.

The Wellgreen deposit, 3 km northeast of Tobi, was mined between 1972 and 1973, producing only 171,652 tonnes with an average grade of 2.23% Ni, 1.39% Cu, 0.073% Co and 2.15 grams/tonne Pt and Pd due to weak metal prices, excessive dilution and erratic distribution. The deposit, now 100% owned by Wellgreen Platinum Ltd., Vancouver, British Columbia, is one of the largest undeveloped platinum group metal (PGM) deposits outside of southern Africa and Russia (*GMP Securities, 2012*). The Wellgreen deposit has NI 43-101 compliant Measured and Indicated Mineral Resources



of 330 million tonnes at 1.67 g/t platinum equivalent (Pt Eq) or 0.44% nickel equivalent (Ni Eq) and an Inferred Mineral Resource of 846 million tonnes at 1.57 g/t Pt Eq. or 0.41% Ni Eq, both at a 0.57 g/t Pt Eq or 0.15% Ni Eq cutoff, including a higher grade Mineral Resource of 72 million tonnes at 2.49 g/t Pt Eq or 0.65% Ni Eq Measured and Indicated and 174 million tonnes at 2.41 g/t Pt Eq or 0.63% Ni Eq, both at a 1.9 g/t Pt Eq or 0.50% Ni Eq cutoff (*Simpson, 2014*). The author has not been able to independently verify the above resource information and it is not necessarily indicative of the mineralization on the Tobi Project which is the subject of this report.



The Glen drilled prospect, shown in the southeast corner of Figure 4, (Minfile Number 115G 016), as documented by the Yukon Geological Survey (*Deklerk, 2009*), lies 16 km southeast along trend of the Tobi showing. A 427 by 732m copper-nickel zone was defined on Glen with reports of up to 3% Ni and 2% Cu in 1988 (*Deklerk, 2009*). The same stratigraphy continues across the Tobi Project.

The mafic-ultramafic intrusions in the Kluane Ultramafic belt are sill-like bodies that preferentially intrude the country rock sequences at or near the contact between the Hasen Creek Formation (clastics, tuffs, argillite, limestone and minor mafic volcanics) and Station Creek Formation (tuffs, pyritic black tuff and mafic volcanics), part of the Pennsylvanian(?) to Permian Skolai Group (*Figure 4*). Many of the ultramafic sills have marginal gabbro phases at their bases that appear to be preferentially mineralized. The Kluane Belt nickel-copper-PGE occurrences are particularly enriched in the rarer platinum group elements osmium, iridium, ruthenium and rhodium. Previous exploration within the belt primarily focused on the nickel-copper potential.

The Kluane Belt is considered one of the largest nickel-copper-PGE mineralized mafic-ultramafic trends in North America, second only to the nickeliferous intrusions from the Circum-Superior Belt, which includes the Thompson Nickel Belt. Similarities in the geologic setting have also been drawn to that of the Noril'sk Talnakh region of Siberia, the world's largest nickel-copper-PGE producing area.

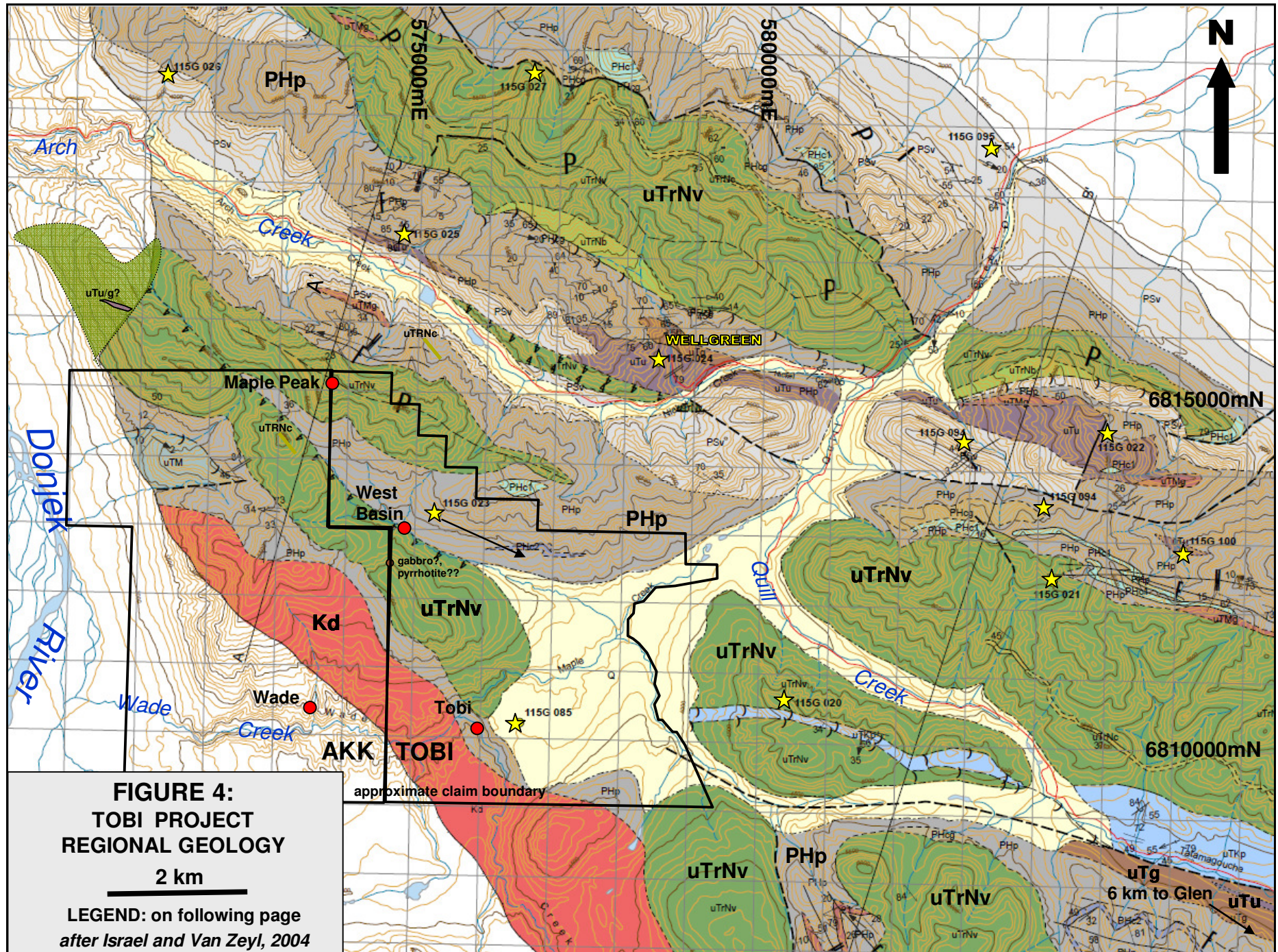
## **4.2 Property Geology (Figures 4-5 & 9-10)**

The Tobi Project is primarily underlain by a succession of Pennsylvanian(?) and Permian volcanic and sedimentary rocks of the Skolai Group, overlain by volcanic rocks of the Nikolai Formation. The Skolai Group includes a basal volcanic sequence (Station Creek Formation), overlain by clastic rocks and limestone of the Hasen Creek Formation. The Skolai Group is intruded by ultramafic and gabbroic rocks of the Upper Triassic age Kluane mafic-ultramafic complex and diabase and gabbro sills, dykes and plugs of the Triassic Maple Creek gabbro. All of the above units are intruded by a granodiorite - diorite body of the Cretaceous age Kluane Ranges suite in the southwest property area and probable related dykes and sills. A number of northwest trending faults and fold axes transect the property.

Property scale mapping has not been carried out on the property. Minor mapping was completed by Callinan Flin Flon Mining Ltd. along a southeast flowing tributary of Maple Creek (*Davis, 1953*) uncovering a gabbro sill on the north bank of the NW Fork Maple Creek. Limited mapping, submitted by Gold City Resources Inc., indicated gabbro with pyrrhotite 2.5 km to the west on the AKK 110 claim (*Hart and Doherty, 1988*). In 2015 a gabbro body was found in the upper canyon of Wade Creek at the Tobi showing and two additional gabbroic bodies were identified in the 2016 program at Maple Peak and West Basin (*Figures 9-10*).

The Hasen Creek Formation is shown to underlie the NW Fork Maple Creek, the upper canyon of Wade Creek and at the Tobi showing (*Figures 4-5*), and was identified in the 2016 program in the lower canyon of Wade Creek and on Maple Peak (*Figures 9-10*).





**FIGURE 4:**  
**TOBI PROJECT**  
**REGIONAL GEOLOGY**  
 2 km

LEGEND: on following page  
 after Israel and Van Zeyl, 2004



LEGEND for FIGURES 4 and 5

- New showing
  - ★ Minfile showing
- RGS Anomalies on Figure 5**
- | Cu in ppm   | Ni         |
|-------------|------------|
| ● 112.6-223 | ● 75.6-110 |
| ● 52-112.6  | ● 36-75.6  |
- QUATERNARY**
- Q unconsolidated alluvium, colluvium and glacial deposits
- INTRUSIVE ROCKS**
- OLIGOCENE**  
*Tkope suite*
- Ofp fine- to medium-grained, equigranular hornblende +/- biotite quartz-feldspar porphyry
- CRETACEOUS**  
*Kluane Ranges suite*
- Kd fine- to medium-grained, equigranular hornblende +/- pyroxene diorite and gabbro
- TRIASSIC**
- Maple Creek gabbro*
- uTMg fine- to coarse-grained diabase and gabbro sills and dykes, locally abundant epidote- and chlorite-altered. Locally columnar jointed
- Kluane mafic-ultramafic complex*
- uTg coarse-grained and pegmatitic gabbro
  - uTu peridotite, dunite and clinopyroxenite, layered intrusions, locally with gabbroic chilled margins

STRATIGRAPHIC ROCKS

TRIASSIC TO CRETACEOUS

*Tatamagouche succession*

uTKp dark to light grey phyllite, minor greywacke and brick red pebble conglomerate, may include upper parts of McCarthy Formation

UPPER TRIASSIC

*McCarthy Formation*

uTM light to dark grey shale and argillite interbedded with buff-coloured limestone

*Nikolai formation*

uTrNc thinly bedded grey limestone and minor maroon to olive green argillite

uTrNv dark green to maroon amygdaloidal basalt and basaltic andesite flows, locally pyroxene- and plagioclase-phyric; and developed pillows. Rare olivine crystals

uTrNb light to dark green volcanic breccia; angular clasts of amygdaloidal and pyroxene porphyry volcanic rocks and minor argillite in a fine-grained matrix

PENNSYLVANIAN (?) AND PERMIAN

*Hasen Creek Formation*

PHcg pebble- to cobble-conglomerate, rounded to sub-angular clasts of siltstone, chert, greywacke and minor mafic volcanic rocks. massive to graded beds several metres thick

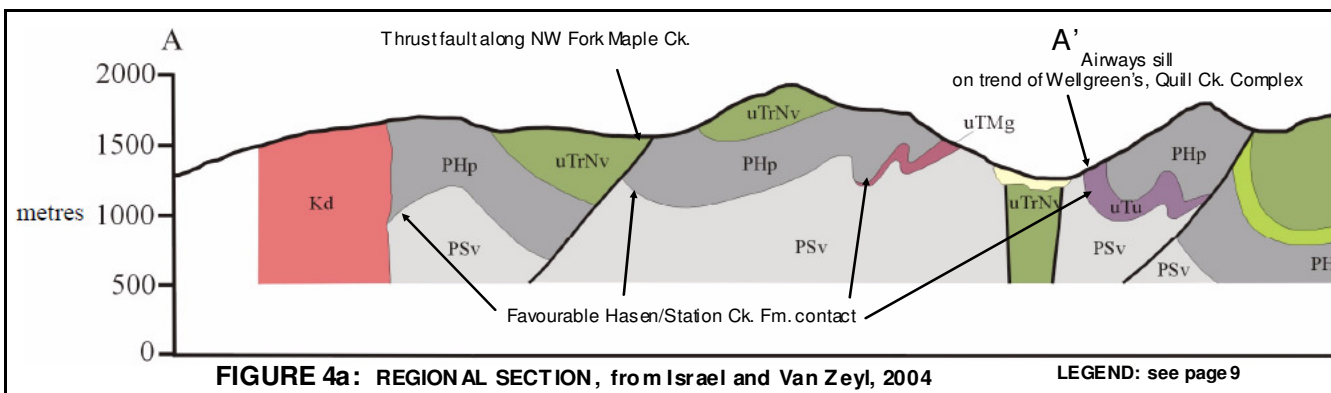
PHc2 light to dark grey limestone, fossiliferous and frequently pebbly, commonly graded and cross-bedded

PHc1 light grey to white bioclastic limestone, local cherty interbeds

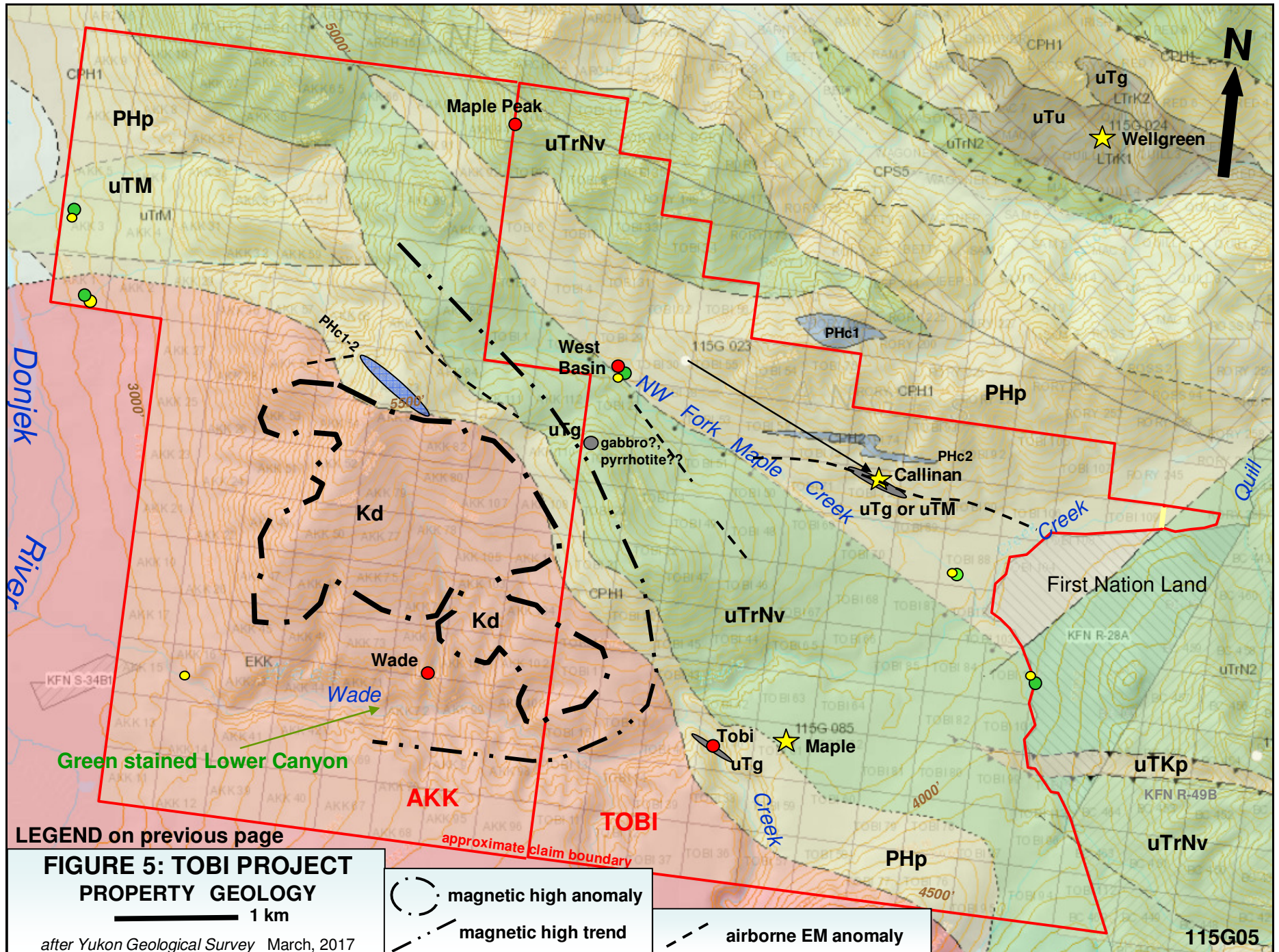
PHp dark to light grey/brown siltstone turbidites, siliceous argillite, chert and minor volcanoclastic sandstone and tuffs

*Station Creek Formation*

PSv dark to light green volcanic breccia, crystal tuff and tuffaceous sandstone; breccia clasts consist of augite phyric basalt within tuffaceous matrix; minor augite phyric, local amygdaloidal basalt flows







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**FIGURE 5: TOBI PROJECT  
PROPERTY GEOLOGY**

1 km

after Yukon Geological Survey March, 2017

- magnetic high anomaly
- magnetic high trend
- airborne EM anomaly

115G05





Photo 1: Mineralization in upper canyon of Wade Creek on Tobi. View looking southwesterly.

Regionally the stratigraphy is shown to be folded (*Figure 4a*) with repetitions of the favourable Hasen/Station Creek contact underlying the NW Fork Maple Creek and, by inference, the upper canyon of Wade Creek. This favourable stratigraphy continues northwesterly across the AKK claims.

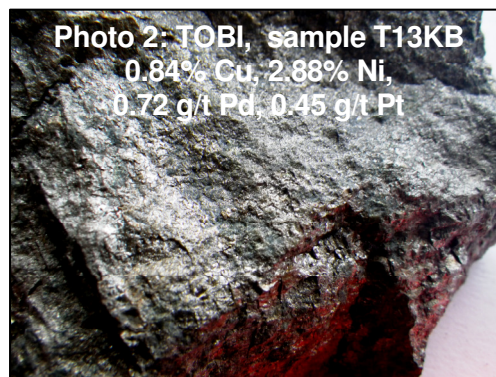
Prospecting in 2016 indicated that lower Wade Creek and a southerly flowing tributary are underlain by siltstone, limy siltstone and minor limestone of the Hasen Creek Formation. This area had previously been regionally mapped by the government as part of the Cretaceous age Kluane Ranges suite. This supports the airborne geophysics survey (*Figures 6-8*) which shows a more restrictive, about 2 km diameter, magnetic body of probable diorite composition further to the north.

### 4.3 Mineralization (Figures 4-5 & 9-10, Photos 1-4)

Mineralization within the Kluane ultramafic belt consists of fine grained massive sulphide lenses consisting of pyrrhotite with lesser amounts of chalcopyrite, pentlandite and magnetite. The pentlandite occurs as exsolution flames in pyrrhotite. Individual sulphide lenses at Wellgreen vary from 1 to 18m thick and are interpreted as magmatic segregation deposits. Assays as high as 4.57% nickel (Ni), 1.58% copper (Cu), 0.10% cobalt (Co), 4.14 g/t platinum (Pt) and 3.08 g/t palladium (Pd) over 6m have been recorded. The massive sulphides contain an unusually high proportion of the rarer platinum group elements, especially osmium, iridium, ruthenium and rhodium.

Three significant Cu-Ni-PGE showings have been discovered on the Tobi Project, the Tobi showing, West Basin and Maple Peak. No mineralization has been reported from the Callinan occurrence, but the sill here is only partially exposed within a 2 km long electromagnetic anomaly (*Figures 5 & 10 and Fugro, 2008*).

The Tobi showing was discovered in the upper canyon of Wade Creek during the course of staking in 2015 (*Photo 1*). A grab sample of gabbro float returned 0.96% Cu, >1% Ni, 0.48 g/t Pd, and 0.18 g/t Pt. An open ended 250 by 100m area of significant Cu-Ni-PGE mineralization was delineated at the Tobi showing in 2016 consisting of pentlandite with lesser chalcopyrite and pyrrhotite, primarily hosted by gabbro (*Photo 3*). Maximum values of 2.39% Cu, 5.31% Ni, 0.19% Co, 2.87 g/t Pd, 1.015 g/t Pt and 0.286 g/t Au were obtained (*Figure 9*). Similar mineralization 600m to the southeast returned 0.89% Cu, 0.53% Ni, 0.04% Co, 1.055 g/t Pd, 1.32 g/t Pt and 0.072 g/t Au (*Figure 9*).

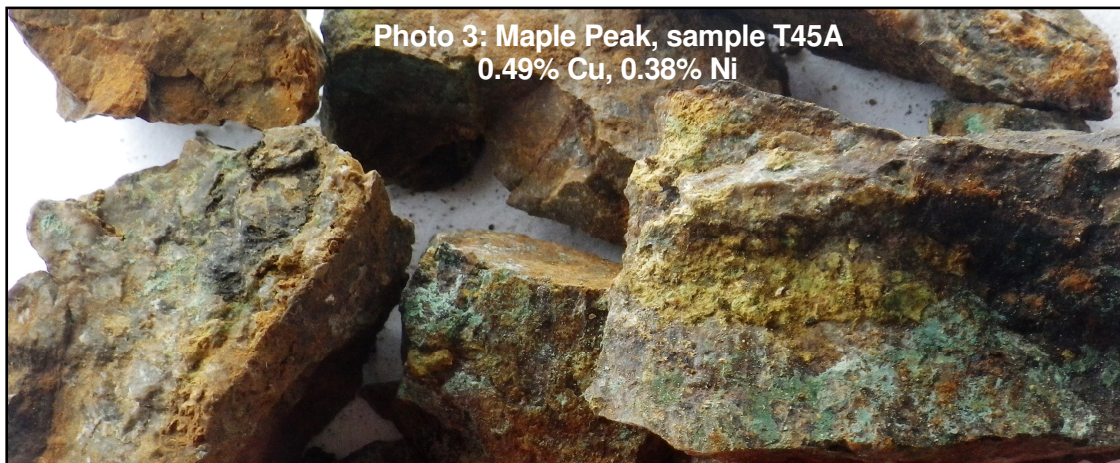


A 600m extent of gabbro, mineralized with pyrrhotite and lesser chalcopyrite, pentlandite and possible magnetite, was intersected in auger drilling in 2016 from an overburden covered area in the vicinity of a 2008 electromagnetic anomaly in West Basin (headwaters of NW Fork Maple Creek). Values ranged from 0.24 to 0.87% Cu, 0.35 to 1.89% Ni, 0.013 to 0.112% Co, 0.3 to 0.738 g/t Pd and 0.365 to 0.931 g/t Pt (*Figure 9*). Possible gabbro with pyrrhotite float (*Figures 5 and 10*) was previously mapped just south of this area on the AKK 110 claim (*Hart and Doherty, 1988*). The DIGHEM



airborne electromagnetic anomaly continues to the southeast and another electromagnetic anomaly lies about 1 km to the northwest in a divide area above West Basin (*Figure 10*).

A 330 by 200m mineralized gabbro showing was discovered in 2016 about 1 km west of Maple Peak returning 0.37 to 0.56% Cu, 0.10 to 0.26% Ni, 0.014 to 0.049% Co, 0.188 to 0.713 g/t Pd, 0.112 to 0.339 g/t Pt and 0.041 to 0.219 g/t Au (*Figure 9*).



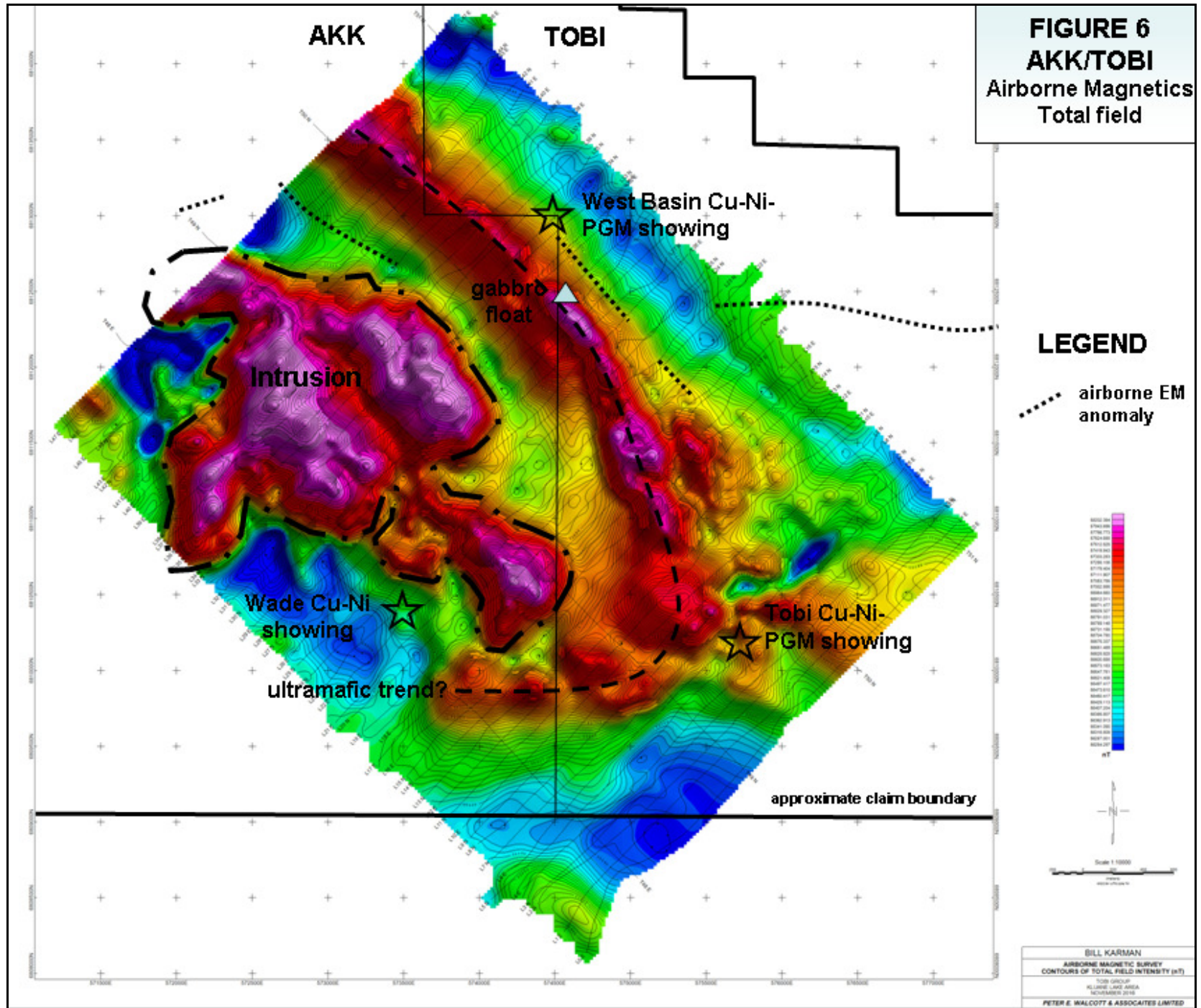
Malachite stained siltstones, with carbonate ± quartz stringers, veinlets and veins with chalcopyrite and chalcocite (*Photo 3*) and significant Cu-Ni values (commonly 0.1-0.4% range) occur proximal to the three Cu-Ni-PGE showings discussed above. Investigation of green staining along the lower canyon of Wade Creek defined a 1 by 1 km area of similar malachite stained siltstone (*Photo 4*) which may lie proximal to another Cu-Ni-PGE mineralized sill, possibly to the south (*Figure 9*). Anomalous arsenic and antimony values are often associated with the copper-nickel bearing sediments on the property with maximum values of 1590 ppm As and 75 ppm Sb (*Appendix II*).

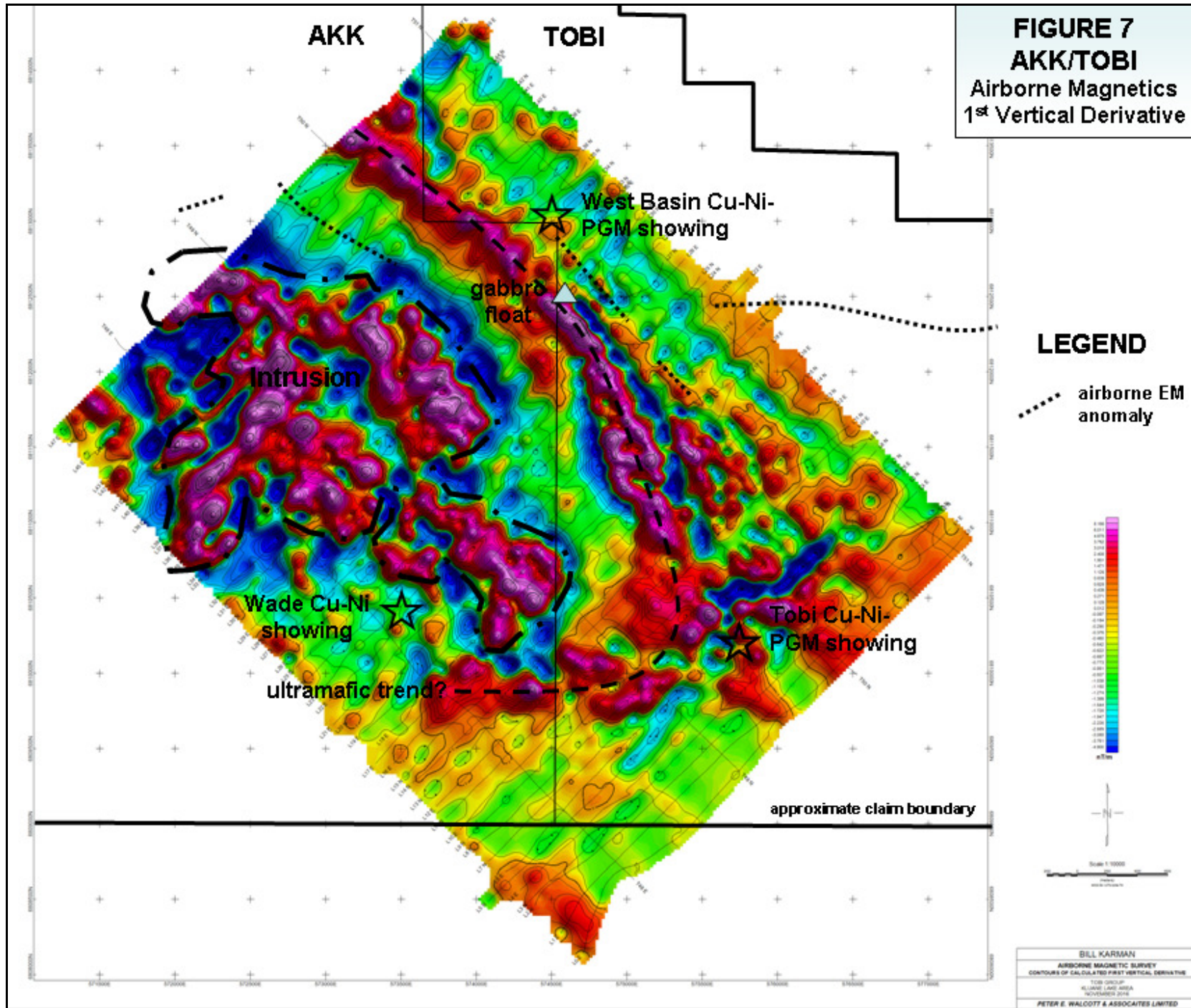


Two greater than 95<sup>th</sup> percentile copper and one nickel, with another lower order nickel, Regional Geochemical Survey (RGS) stream sediment anomalies also occur along tributaries of the Donjek River, draining a body of Maple Creek gabbro (*Figures 5 and 10*). It is doubtful that the source would be solely from the Maple Peak showing. Additional Cu-Ni-PGE mineralization may occur upstream of these stream sediment anomalies.

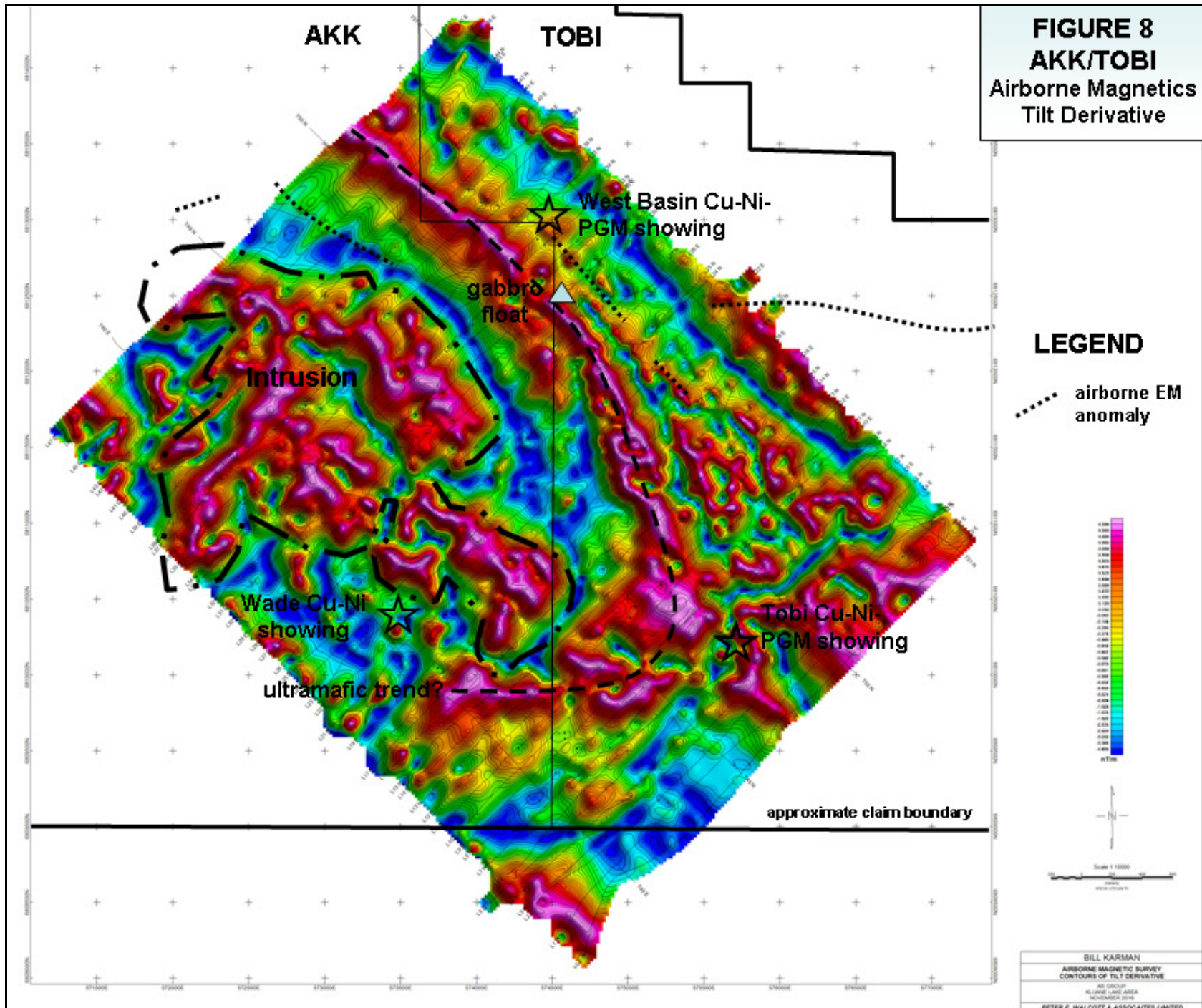
Gypsum is reported along a thrust faulted contact between a Cretaceous diorite intrusion and Upper Triassic Nikolai greenstone just east of the Tobi showing (Minfile Number 115G 085) (*Figure 5*).











## 5.0 2016 WORK PROGRAM

A total of 19 man-days were spent on the Project, NTS map sheet 115I/07, between September 30 and November 16, 2016. Due to a delay in permitting, the 2016 work program consisted of a 200 line km magnetic geophysical survey over the property to delineate favourable ultramafic sills and the extent of the Kluane Ranges suite intrusion in the southwest property area, and prospecting with rock geochemical and auger bedrock interface sampling with the collection and analysis of 69 samples. The program was funded by Bill Karman of Haines Junction, Yukon Territory, sole Director and Officer of 41376 Yukon Inc., with the aid of a grant under the Yukon Mineral Exploration Program.

### 5.1 Geophysics: (Figures 5 to 8)

A 200 line km airborne magnetic geophysical survey was flown along northeast-southwest lines, with a nominal 100m line spacing, by Peter E. Walcott & Associates Limited of Coquitlam, British Columbia using an ASTAR B3 C-FSBK helicopter operated by Kluane Helicopters of Haines Junction, Yukon Territory. The survey was flown on November 15 with a mean nominal bird height of 53m. Mobilization and equipment installation was undertaken on November 14 with demobilization and equipment removal on November 16. Complete details are described in Appendix IV.

In 2015 an airborne magnetic geophysical survey was flown along northeast-southwest lines, with a 250m line spacing and a nominal terrain clearance of 100m, by the Geological Survey of Canada – Yukon Geological Survey over the Kluane West area (*Coyle, and Oneschuk, 2015 a & b*). The 2016 survey is more detailed with a greater resolution of anomalies. The total field magnetic intensity is shown in Figure 6, the first vertical derivative in Figure 7 and the tilt derivative (angle) of the magnetic field in Figure 8. Significant magnetic features are shown on the geology map (*Figure 5*).

“The first vertical derivative of the magnetic field is the rate of change of the magnetic field in the vertical direction. Computation of the first vertical derivative removes long-wavelength features of the magnetic field and significantly improves the resolution of closely spaced and superposed anomalies. A property of first vertical derivative maps is the coincidence of the zero-value contour with vertical contacts at high magnetic latitudes” (*Hood, 1965*). The tilt angle is the local phase of a residual magnetic field and enhances weak magnetic anomalies, defining the edges.

A sharply defined, 6 km long, curvilinear magnetic high anomaly is evident in all magnetic maps, but particularly evident in the tilt derivative (*Figure 8*). The anomaly transects current mapped lithologies and the curvilinear shape suggests folding of a magnetic horizon along a northwest plunging axis. The Maple Peak and West Basin showings occur below the magnetic high with the newly discovered Tobi showing occurring proximal to the fold closure. The anomaly may represent a mafic to ultramafic horizon, possibly beneath a thin veneer of Nikolai volcanic rocks (*Figure 4a*). The Wade

showing along the lower canyon of Wade Creek lies proximal to the western extent of this curvilinear magnetic high anomaly, suggestive of another nickel-copper-PGE occurrence along this horizon, probably to the south.

The extent of the Cretaceous granodiorite - diorite body of the Kluane Ranges suite in the southwest property area appears to be more limited in extent than previously shown on government maps. The intrusion is characterized by a magnetic high signature (*Figure 6*) which is surrounded by a distinct magnetic low in the first vertical and tilt derivatives (*Figures 7 and 8*). The sharp contrast is not suggestive of a multiphase intrusion. The high magnetic signature suggests a dioritic composition (as noted by limited previous mapping in the area). The dioritic body appears to have intruded along the axial plane of a northwest trending fold.

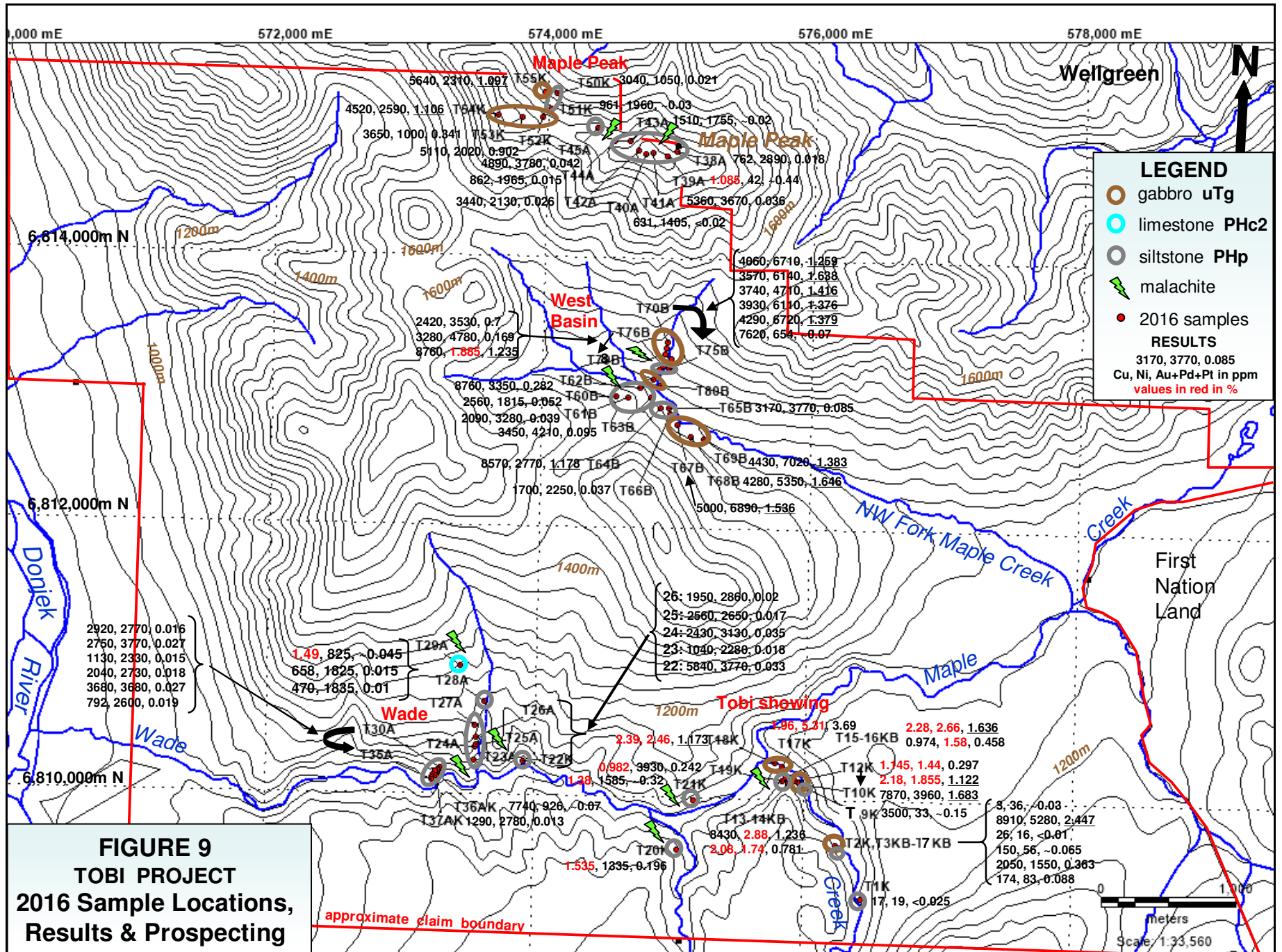
## **5.2 Prospecting: (Figure 9)**

Prospecting was undertaken by Bill Karman, Kyle Karman and Andre Tisdale over four separate areas of interest on the property, the Tobi showing and surrounding area (Tobi), an electromagnetic anomaly in the upper portion of the NW Fork Maple Creek (West Basin), malachite and rusty staining in the Maple Peak area (Maple Peak), and malachite stained exposures along lower Wade Creek (Wade).

Prospecting was successful in tracing mineralization at the Tobi showing, discovered in 2015 during staking, over 250m along a trend of 312°. The mineralization consists of pentlandite-pyrrhotite and chalcopyrite hosted by gabbro. Additional, similar gabbro hosted mineralization was discovered 600m to the southeast of the Tobi showing for a total discontinuous length of 750m.

Investigation of a 2008 DIGHEM airborne electromagnetic geophysical anomaly (*Fugro, 2008*) uncovered mineralized gabbro beneath overburden in West Basin over a 600m possible strike extent, trending about 320°. Another new showing of mineralized gabbro was discovered about 1 km west of Maple Peak, for a total discontinuous strike length of approximately 6 km at 335-340° from the southeast Tobi showing. The newly discovered gabbroic bodies may represent the folded continuation of the Wellgreen sill horizon.

Prospecting of the green stained canyon walls along lower Wade Creek and a southerly flowing tributary uncovered malachite stained siltstone, limy siltstone and minor limestone, with carbonate ±quartz stringers, veinlets and veins with chalcopyrite and chalcocite. This area had previously been regionally mapped by the government as part of the Cretaceous age Kluane Ranges suite. This supports the airborne geophysics survey (*Figures 6-8*) which shows a more restrictive, about 2 km diameter, magnetic stock of probable diorite composition further to the north. Similar copper bearing siltstone mineralization was found just west of the Tobi sill, the West Basin sill and to the east of the Maple Peak sill. The lower Wade canyon mineralization may lie proximal to another mineralized sill.





### 5.3 Geochemistry: (Figure 9, Photos 2-5)

#### 5.3.1 Geochemical Procedure:

A total of 69 rock samples were collected for 41376 Yukon Inc. on the Tobi Project in the fall of 2016; 50 during prospecting by Bill Karman (B), Kyle Karman (K) and Andre Tisdale (A) and 19 by a bombardier mounted auger by Bill Karman (B). Sample numbers, which are tabulated in Appendix II, include the sampler(s) first initial in the suffix.

The prospecting samples consisted of 50 grab samples from three separate areas of interest, the Tobi showing and surrounding area (Tobi), malachite and rusty staining in the Maple Peak area (Maple Peak), and malachite stained exposures along lower Wade Creek and a southerly flowing tributary (Wade). Samples consisted of small grab samples of sulfide mineralization, oxidized zones, malachite, azurite and limonite staining, carbonate  $\pm$ quartz veins, veinlets and stringers and breccias. An additional 19 samples were collected using a bombardier mounted power auger (*Photo 5*) from an overburden covered electromagnetic anomaly (*Fugro, 2008*) in the upper portion of the NW Fork of Maple Creek (West Basin). Chips of bedrock were collected at an approximate 100m spacing (10 samples – T60B to T69B) along the NW Fork of Maple Creek and at about a 40m spacing (9 samples – T70B to T78B) along a southerly flowing tributary.



Photo 5: Bombardier mounted auger

All rock samples were placed in clear plastic sample bags, and later described and photographed by the author. Sample locations were marked with flagging tape, labelled with the sample number, and recorded by GPS. Locations are reported in Appendix II in UTM coordinates, Nad 83 datum, Zone 7 projection, with select results. An excel spreadsheet of the data and photographs are included on the attached CD.

All samples were delivered to the preparation facility of ALS Minerals in Whitehorse by the author where the samples were prepared, then internally sent to ALS Minerals' Vancouver, British Columbia facility for analysis. All samples were analyzed for gold and PGE's by fire assay on 30g, with an atomic absorption finish (PGM-ICP23), and 35 elements using an aqua regia digestion on a 0.5g sample with an ICP-atomic emission spectrometry finish (ME-ICP41). Overlimit (>10,000 ppm) copper and nickel values were assayed by aqua regia digestion with ICP-atomic emission spectrometry finish (ME-ICP46). ALS Minerals is ISO 9001:2008 certified and ISO/IEC 17025 accredited for the analyses being used.

### 5.3.2 Geochemical Results:

Significant results were obtained from all four areas of interest investigated on the property in 2016; these include the Tobi showing and surrounding area (Tobi), an electromagnetic anomaly in the upper portion of the NW Fork Maple Creek (West Basin), malachite and rusty staining in the Maple Peak area (Maple Peak), and malachite stained exposures along lower Wade Creek (Wade). All of the areas contain generally lower grade copper - nickel mineralization hosted by siltstone. Higher grade primarily gabbro hosted nickel (Ni) - copper (Cu) - platinum group element (PGE) ± gold mineralization also occurs in the first three areas. Samples with locations and select results are summarized in Appendix II, with complete assay data in Appendix III.

Highly significant Cu-Ni-PGE results were returned from the Tobi showing over a 250 by 100m area. Seven of the eleven samples (T9 to T19) collected from the showing returned greater than 1% Cu and 1% Ni (*Photo 2*). Six of the samples contain greater than 1 g/t combined Pd+Pt+Au and five contain greater than 0.1% Co (cobalt). Maximum values from the Tobi showing were 2.39% Cu, 5.31% Ni, 0.19% Co, 2.87 g/t Pd, 1.015 g/t Pt and 0.286 g/t Au. Similar mineralization was sampled 600m to the southeast of the Tobi showing, returning 0.89% Cu, 0.53% Ni, 0.04% Co, 1.055 g/t Pd, 1.32 g/t Pt and 0.072 g/t Au (sample T3K). A sample of hornfelsed siltstone at the Tobi showing returned 2.3% Cu, 2.66% Ni 0.146% Co, 0.718 g/t Pd, 0.639 g/t Pt and 0.279 g/t Au (T15KB).

The 600m extent of mineralized gabbro intersected in auger drilling of the overburden covered electro-magnetic anomaly (*Fugro, 2008*) in West Basin returned values of 0.24 to 0.87% Cu, 0.35 to 1.89% Ni, 0.013 to 0.112% Co, 0.3 to 0.738 g/t Pd, 0.365 to 0.931 g/t Pt and <0.08 g/t Au from 10 samples (T67B to T74B, T76B, T78B). The siltstone in the area returned values of 0.17 to 0.86% Cu, 0.065 to 0.48% Ni from the 9 samples collected (T60B to T66B, T75B, T77B), with low Co, Au and PGE values except for 0.634 g/t Pd and 0.326 g/t Pt in sample T64B.

The new 330 by 200m mineralized gabbro showing discovered about 1 km west of Maple Peak returned values of 0.37 to 0.56% Cu, 0.10 to 0.26% Ni, 0.014 to 0.049% Co, 0.188 to 0.713 g/t Pd, 0.112 to 0.339 g/t Pt and 0.041 to 0.219 g/t Au from the 4 samples collected (T52K to T55K). The siltstone just to the east returned values of 0.06 to 1.09% Cu, 0.004 to 0.38% Ni from the 10 samples collected (T38A to T45A, T50-51K), generally with low Co, Au and PGE values (*Photo 3*) except for 0.407 g/t Au with 8.5 /t Ag associated with the 1.09% Cu in sample T39A, which was brecciated.

The malachite stained siltstones, with carbonate ± quartz stringers, veinlets and veins with chalcopyrite and chalcocite, from the Wade area in lower Wade canyon returned values of 0.05 to 0.77% Cu, 0.09 to 0.38% Ni from the 15 samples collected (T22-28 & T30-37), with low Co, Au and PGE values (*Photo 4*). A sample of limestone returned 1.49% Cu, 0.08% Ni, with 858 ppm As and 75 ppm Sb (T29A). The lower Wade canyon mineralization may lie proximal to another mineralized sill, possibly to the south.



Anomalous arsenic and antimony values are often associated with the copper-nickel bearing siltstones, ±quartz-carbonate stringers, on the property with maximum values of 1590 ppm As and 71 ppm Sb.

## **6.0 CONCLUSIONS AND RECOMMENDATIONS (Figures 4-6)**

The 2016 program was successful in defining an open ended 250 by 100m area of significant Cu-Ni-PGE mineralization at the Tobi showing with maximum values of 2.39% Cu, 5.31% Ni, 0.19% Co, 2.87 g/t Pd, 1.015 g/t Pt and 0.286 g/t Au. Similar mineralization 600m to the southeast returned 0.89% Cu, 0.53% Ni, 0.04% Co, 1.055 g/t Pd, 1.32 g/t Pt and 0.072 g/t Au. An open ended 600m extent of mineralized gabbro was intersected in auger drilling in an overburden covered area in the vicinity of the 2008 electromagnetic anomaly in West Basin (headwaters of NW Fork Maple Creek) with values of 0.24 to 0.87% Cu, 0.35 to 1.89% Ni, 0.013 to 0.112% Co, 0.3 to 0.738 g/t Pd and 0.365 to 0.931 g/t Pt. An open ended 330 by 200m mineralized gabbro showing was discovered about 1 km west of Maple Peak returning 0.37 to 0.56% Cu, 0.10 to 0.26% Ni, 0.014 to 0.049% Co, 0.188 to 0.713 g/t Pd, 0.112 to 0.339 g/t Pt and 0.041 to 0.219 g/t Au.

Malachite stained siltstones, with carbonate ±quartz stringers, veinlets and veins with chalcopyrite and chalcocite and significant Cu-Ni values (commonly 0.1-0.4% range) occur proximal to the three Cu-Ni-PGE showings discussed above. The Wade area covers a 1 by 1 km area of malachite stained siltstone in lower Wade canyon which may lie proximal to another Cu-Ni-PGE mineralized sill, possibly to the south. Anomalous arsenic and antimony values are often associated with the copper-nickel bearing sedimentary rocks on the property with maximum values of 1590 ppm As and 75 ppm Sb.

The airborne magnetic survey defined a 6 km long, curvilinear sharp magnetic high anomaly transecting current mapped lithologies, suggestive of a folded magnetic horizon along a northwest plunging axis. The Maple Peak and West Basin showings occur below the magnetic high with the newly discovered Tobi showing occurring proximal to the fold closure. The anomaly may represent a mafic to ultramafic horizon, possibly beneath a thin veneer of Nikolai volcanic rocks. The Wade showing along the lower canyon of Wade Creek lies proximal to the western extent of this curvilinear magnetic high anomaly, suggestive of another nickel-copper-PGE occurrence along this horizon.

The extent of the Cretaceous granodiorite - diorite body of the Kluane Ranges suite in the southwest property area appears to be more limited in extent than previously shown on government maps. The intrusion is characterized by a magnetic high signature which is surrounded by a distinct magnetic low in the first vertical and tilt derivatives. The sharp contrast is not suggestive of a multiphase intrusion. The high magnetic signature suggests a dioritic composition, which appears to have intruded along the axial plane of a northwest trending fold.

Potential exists for the discovery of a significant magmatic nickel (Ni) - copper (Cu) - platinum group element (PGE) ± gold (Au) deposit associated with the Kluane Ultramafic belt on the Tobi Project based on the discovery of three new nickel-copper showings with PGE's, the presence of untested airborne geophysical anomalies, and the presence of copper - nickel (RGS) stream sediment anomalies in tributaries of the Donjek River. Consequently, the following exploration program is recommended on the Tobi Project.

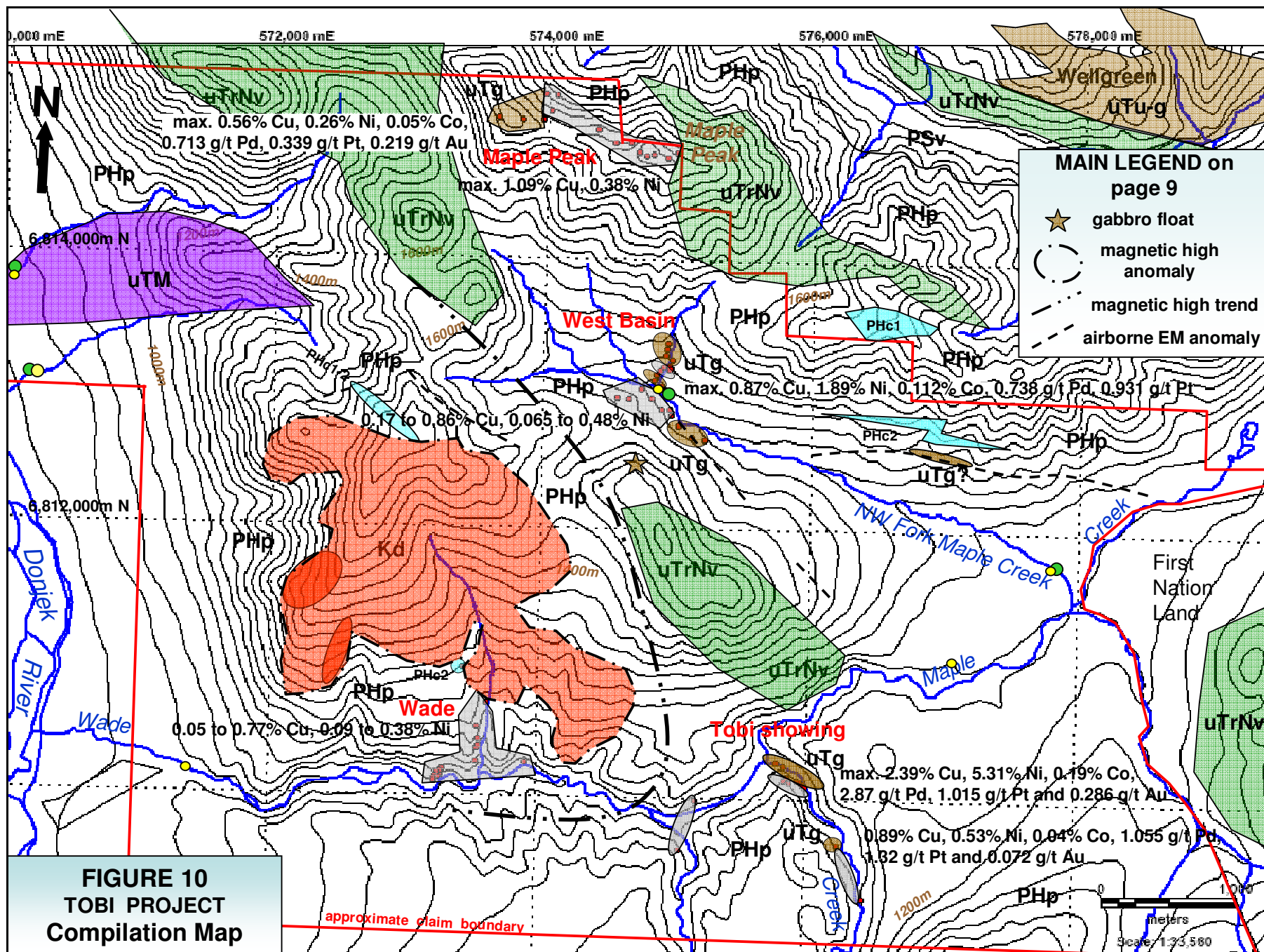
Excavator trenching with detailed mapping and sampling is recommended on the Tobi showing to expose and delineate the zone and facilitate chip sampling. If excavator trenching cannot be undertaken, hand/blast trenching is recommended. Excavator trenching is also recommended over the West Basin showing if possible and actual locations will require ground truthing. Auger drilling is recommended over the lower airborne geophysical anomaly in the northwest fork of Maple Creek to determine the source and possible continuation of the mineralized zone from West Basin. Samples should be collected at a 50m spacing. Specifications are tabulated below and shown on Figure 11. Hand trenching is recommended over the Maple Peak showing.

**Table 2: Proposed trenching and auger drilling**

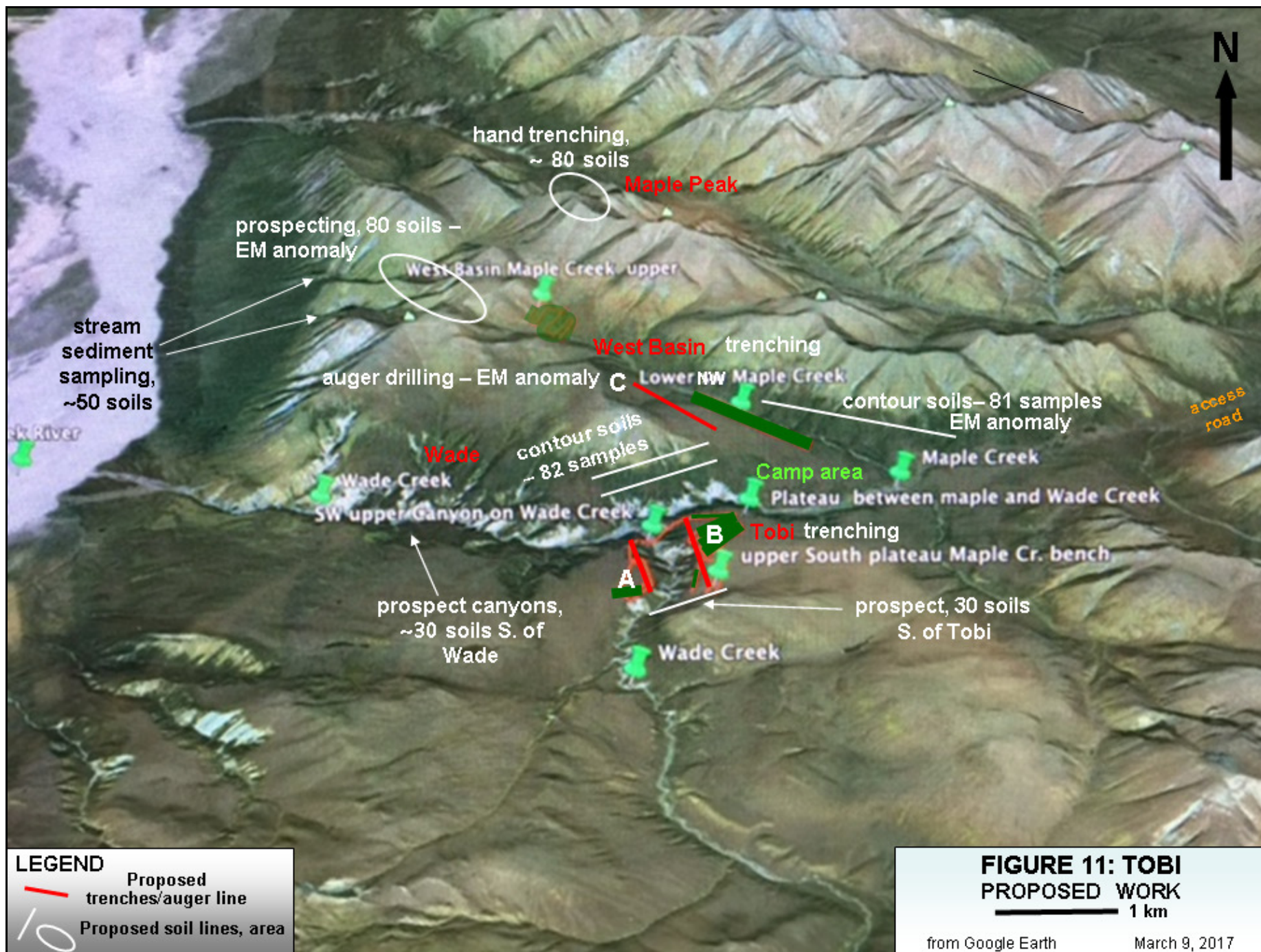
Hole Number	Nad 83 Easting	Zone 7 Northing	Az. (°)	Length (m)	Target
P-Trench A	573795	6813444	150	700	Above Tobi showing, west side
P- Trench B	576026	6810292	145	1300	Above Tobi showing, east side
End of B	575964	6810052			
P- Auger C	576112	6812310	135	1000	Airborne geophysical anomaly

Soils are recommended over additional airborne geophysical anomalies and along trend of the new showings (450 samples). Stream sediment sampling at 500m spacings along the two tributaries of the Donjek River with select conventional ridge and spur and bank soil geochemical sampling is also recommended.

Property 1:5,000 scale mapping is recommended, concentrating on areas with known gabbro exposure and geophysical anomalies (*Figure 10*), in areas prospective for the exposure of the favourable Hasen/Station Creek contact where the mafic/ultramafic sills tend to occur, to the south of the Wade showing to investigate the possible existence of a fourth zone of Cu-Ni-PGE mineralization and on trend of the Tobi showing.







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## 8.0 CERTIFICATE, DATE AND SIGNATURE

- 1) I, Jean Marie Pautler of 103-108 Elliott Street, Whitehorse, Yukon Territory am employed as a consulting geologist, President of JP Exploration Services Inc., authored and am responsible for this report entitled “Geophysical and geochemical report on the Tobi Project in the Kluane ultramafic belt, Yukon Territory”, dated March 10, 2017.
- 2) I am a graduate of Laurentian University, Sudbury, Ontario with an Honours B.Sc. degree in geology (May, 1980) with over 35 years mineral exploration experience in the North American Cordillera. Pertinent experience includes extensive exploration throughout the Yukon since 1980, including throughout the Kluane Ultramafic belt. The author has examined the Wellgreen and Canalask deposits and worked on many of the properties in the regional area, including the Arch, AR, Donjek, Spy and Ultra.
- 3) I am a registered member of the Association of Professional Engineers and Geoscientists of British Columbia, registration number 19804.
- 4) This report is based upon discussions with Bill Karman, 2016 sample descriptions and photographs by the author, work in the regional area by the author from 2006 to 2016, and a review of historical work on the property and regional area.
- 5) As stated in this report, in my professional opinion the property is of potential merit and further exploration work is justified.
- 6) I am entirely independent, as defined in section 1.5 of National Instrument 43-101, of 41376 Yukon Inc. any associated companies, Bill Karman and the Tobi property. I do not have any agreement, arrangement or understanding with 41376 Yukon Inc. and any affiliated company to be or become an insider, associate or employee. My professional relationship is at arm’s length as an independent consultant, and I have no expectation the relationship will change.

Dated at Carcross, Yukon Territory this 10th day of March, 2017,

“Signed and Sealed”

“Jean Pautler”

Jean Pautler, P.Geo. (APEGBC Reg. No. 19804)  
JP Exploration Services Inc.  
#103-108 Elliott St. Whitehorse, Yukon Y1A 6C4

## APPENDIX I

### Statement of Expenditures

<b>Wages:</b>	Bill Karman	Sept 30, Oct 4,10-16, ½Nov.14,16	10 days @ 350.00/day	3,500.00	
	Andre Tisdale	Sept 30, Oct. 1-2, 4	4 days @ 275.00/day	1,100.00	
	Kyle Karman	Sept 30, Oct. 1-2	<u>3 days @ 275.00/day</u>	<u>825.00</u>	
			<b>Total: 17 man days +3.3% WCB</b>		<b>\$5,604.03</b>
<b>Airborne Geophysical Survey:</b>	(excluding helicopter and DFE)				
	Peter E. Walcott & Associates Limited Coquitlam, BC				
	½ Nov. 14 & 16: 1 day mob/demob in Yukon and install/remove equipment				
	Nov. 15 : <u>1 day</u> airborne survey				
			2 days @ \$2,900.00/day:	\$ 5,800.00	
			1 day field report & maps	1,000.00	
	Nov. 15,	7.3 helicopter hours (B3) @ 2,400.00/hr +fuel:		<u>20,412.00</u>	
			<b>Total: Airborne Survey</b>		<b>27,212.00</b>
<b>Helicopter:</b>	Kluane Helicopters Ltd. Haines Junction, YT				
			B1 - @1,900.00/hr +fuel		
		Sept 30, 1.7 hrs AT, KK, BK:		\$3,860.06	
		Oct 1, 2.1 hrs AT, KK		4,768.31	
		Oct 2, 1.6 hrs AT, KK		3,633.00	
		Oct 4, 4.8hrs AT, BK		<u>10,458.00</u>	
			<b>Total:</b>		<b>22,719.37</b>
<b>Geochemistry:</b>	69 rocks for Au, PGM, ICP, Cu assays			1,985.22	
	9 rock assays for Ni			<u>16.82</u>	
			<b>Total:</b>		<b>2,002.04</b>
<b>Mob/Demob within Yukon:</b>	Mileage: -2 trips Haines Junction to Whitehorse and return to pick up Alex Walcott and airborne equipment				
		-2 return trips Haines Junction to Quill Creek			
		2 X 320 km @ 0.60/km		384.00	
		2 X 360 km @ 0.60/km		<u>432.00</u>	
			<b>Total:</b>		<b>816.00</b>
<b>Equipment Rental:</b>	Bombardier:	7 days @ \$150/day		1,050.00	
	Auger drill:	7 days @ \$50/day		350.00	
haul airborne equip. & bombi	Big Trailer:	4 days @ \$30/day		<u>120.00</u>	
			<b>Total:</b>		<b>1,520.00</b>
<b>Daily Field Expense:</b>	meals, accommodation, radios, field supplies				
	17 man days: A.T. & K.K., B.K.				
	<u>2 man days: Alex Walcott</u>				
			<b>Total: 19 man days @ \$100/day</b>		<b>1,900.00</b>
<b>Sample Descriptions, Photos, Report, Drafting, Printing:</b>					<u><b>7,500.00</b></u>
<b>GRAND TOTAL:</b>					<b>\$69,273.44</b>



Sample		NAD 83	ZONE 7	Appendix II: Sample Locations and Select Results	Cu	Ni	Co	Au	Pd	Pt	Pd+Pt+Au	Ag	Sb	As
No.	Location	Easting	Northing	Description	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
T1K	Tobi S.	576442	6809270	black-buff-weak orange weathering highly oxidized, weakly calcareous siltstone	17	19	21	0.02	<0.005	<0.001	<0.025	0.2	<2	2
T2K	Tobi S.	576245	6809672	4 cm quartz vein in brown siltstone with minor fine quartz veinlets	3	36	3	0.026	<0.005	<0.001	~0.03	0.2	2	6
T3KB	Tobi S.	576245	6809672	small pieces of green colored gabbro with pentlandite, chalcopyrite, weak pyrrhotite; some highly oxidized, overall nonmagnetic, but minor magnetic, small pieces	8910	5280	382	0.072	1.055	1.32	2.447	1.8	2	3
T4KB	Tobi S.	576245	6809672	brown-black to yellow-buff to weak green (ep) weathering highly oxidized gabbro?	26	16	22	<0.001	<0.005	0.004	<0.01	<0.2	<2	2
T5KB	Tobi S.	576245	6809672	buff-brown-black highly oxidized grunge with minor sulphide in gabbro?, siltstone?	150	56	27	0.001	<0.005	0.061	~0.065	<0.2	<2	3
T6KB	Tobi S.	576245	6809672	buff-brown-black highly oxidized grunge with minor pentlandite, chalcopyrite in gabbro	2050	1550	133	0.009	0.208	0.146	0.363	0.4	3	2
T7KB	Tobi S.	576245	6809672	buff-brown-black highly oxidized grunge with minor pentlandite, chalcopyrite in gabbro	174	83	28	0.001	0.005	0.082	0.088	<0.2	<2	3
T9K	Tobi	575997	6810103	moderately malachite stained orange weathering dolomitic siltstone with 5 cm quartz vein	3500	33	9	0.145	<0.005	0.005	~0.15	1	<2	9
T10K	Tobi	575972	6810114	rusty weathering gabbro with 5% pentlandite - pyrrhotite, 1% chalcopyrite, some oxidized grunge	7870	3960	290	0.107	0.561	1.015	1.683	1.6	4	2
T11K	Tobi	575956	6810133	rusty weathering gabbro with 5% pentlandite, 3-5% chalcopyrite; 2 small pieces	2.18	1.855	1065	0.285	0.519	0.318	1.122	2.3	<2	9
T12K	Tobi	575941	6810139	float of rusty weathering coarse grained (1 piece) and fine silicified gabbro with 10% pentlandite - pyrrhotite, 2% chalcopyrite; from sulphide zone higher up	1.145	1.44	826	0.014	0.146	0.137	0.297	1.2	3	8
T13KB	Tobi	575884	6810122	7 by 9 cm piece of rusty weathering gabbro with semi-massive pentlandite, pyrrhotite and minor chalcopyrite	8430	2.88	1575	0.066	0.723	0.447	1.236	1.2	<2	9
T14KB	Tobi	575884	6810122	7 by 7 cm piece of rusty weathering silicified gabbro with 10% pentlandite, and 1% chalcopyrite; from 8 - 10" thick sulphide vein that runs across face	2.08	1.74	958	0.067	0.457	0.257	0.781	2.2	<2	8
T15KB	Tobi	575865	6810171	2 small pieces of hornfelsed siltstone with semi-massive pentlandite, and 2-3% chalcopyrite; 1460 ppm Co	2.28	2.66	1460	0.279	0.718	0.639	1.636	2.4	<2	6
T16K	Tobi	575865	6810171	float from above of massive rusty weathering gabbro with near-massive pentlandite, and 1-2% chalcopyrite and quartz-carbonate vein (4 cm) with malachite, 3% chalcopyrite	0.974	1.58	888	0.038	0.27	0.15	0.458	2.1	11	340
T17K	Tobi	575837	6810248	small pieces of rusty weathering gabbro with 7-10% pyrrhotite (magnetic), pentlandite and minor chalcopyrite and quartz-carbonate vein (1 cm) with malachite, chalcopyrite; float coming off vein above, but too steep to climb	1.96	5.31	1945	0.286	2.87	0.535	3.691	4.9	<2	33
T18K	Tobi	575784	6810274	2 small pieces of rusty weathering green gabbro with massive pentlandite, and 3% chalcopyrite	2.39	2.46	1385	0.097	0.63	0.446	1.173	2.4	2	11
T19K	Tobi	575839	6810139	rusty weathering limy siltstone with fine carbonate stringers and veinlets (to 1 cm) minor pyrrhotite, & quartz-carbonate stringers with malachite, azurite, chalcopyrite; exposed in outcrop on creek	0.982	3930	158	0.087	0.121	0.034	0.242	3.3	53	900
T20K	Tobi W.	575070	6809618	limy siltstone cut by carbonate stringers and quartz-carbonate stringers with malachite, azurite, and 5% chalcopyrite; malachite stained outcrop above side pup	1.535	1335	36	0.181	0.008	0.007	0.196	5.5	69	1590
T21K	Tobi W.	575187	6809986	malachite stained, rusty weathering limy siltstone with fine chalcopyrite stringers with malachite, and minor carbonate veins (1 cm); outcrop above creek 12'	1.38	1585	38	0.309	<0.005	0.005	~0.32	4.2	70	1545
T22K	Wade	573909	6810253	malachite stained, rusty weathering grungy limy siltstone with minor quartz-carbonate stringers and limonite (after sulphide)	5840	3770	120	0.006	0.013	0.014	0.033	<0.2	4	127
T23A	Wade	573545	6810254	malachite stained, rusty weathering siltstone with quartz & carbonate stringers from malachite stained outcrop	1040	2280	72	0.004	0.009	0.005	0.018	<0.2	<2	57

Sample		NAD 83	ZONE 7	Appendix II: Sample Locations and Select Results	Cu	Ni	Co	Au	Pd	Pt	Pd+Pt+Au	Ag	Sb	As
No.	Location	Easting	Northing	Description	Cu & Ni values in red are in %									
					ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
T24A	Wade	573551	6810353	malachite stained, rusty weathering limy siltstone with rusty slickensided surface	2430	3130	82	0.011	0.008	0.016	0.035	<0.2	3	120
T25A	Wade	573561	6810369	malachite stained, rusty weathering siltstone with quartz & carbonate veinlets with tarnished chalcopryite?, +/-silicified	2560	2650	81	0.003	0.007	0.007	0.017	<0.2	3	68
T26A	Wade	573557	6810422	malachite, minor azurite stained, rusty weathering siltstone with fine carbonate stringers, minor chalcocite; from outcrop	1950	2860	107	0.007	0.009	0.004	0.02	0.2	10	150
T27A	Wade	573553	6810514	silicified limy siltstone with quartz +/- carbonate & carbonate stringers, quartz & carbonate patches with chalcocite,?; green staining observed in field	470	1835	67	0.002	0.005	0.003	0.01	<0.2	<2	45
T28A	Wade	573613	6810692	rusty weathering limy siltstone with rusty slickensided surface, carbonate and quartz veinlets, green staining observed in field	658	1825	83	0.005	0.005	0.005	0.015	0.2	5	70
T29A	Wade	573437	6810951	malachite stained limestone to silicified limestone with 1-3% chalcopryite as fine stringers and blebs +/- chalcocite, malachite and azurite, carbonate & quartz - carbonate stringers	1.49	825	23	0.041	<0.005	0.003	~0.045	5.5	75	858
T30A	Wade	573295	6810190	malachite stained, rusty weathering siltstone from outcrop with malachite staining across face	2920	2770	98	0.002	0.007	0.007	0.016	<0.2	3	67
T31A	Wade	573281	6810177	rusty weathering siltstone with carbonate stringers and patches, some quartz stringers, chalcocite?	2750	3770	127	0.004	0.013	0.01	0.027	<0.2	<2	51
T32A	Wade	573264	6810168	malachite stained, rusty weathering siltstone	1130	2330	73	0.003	0.008	0.004	0.015	<0.2	<2	83
T33A	Wade	573242	6810143	malachite stained, rusty weathering siltstone	2040	2730	92	0.003	0.012	0.003	0.018	<0.2	3	60
T34A	Wade	573237	6810124	weak malachite stained, rusty weathering siltstone, carbonate stringers +/- quartz	3680	3680	120	0.007	0.012	0.008	0.027	<0.2	3	166
T35A	Wade	573236	6810105	weak malachite stained, rusty weathering siltstone, carbonate stringers +/- quartz, +/- vuggy	792	2600	91	0.007	0.007	0.005	0.019	<0.2	3	91
T36AK	Wade	573284	6810140	malachite and azurite stained, buff weathering grey siltstone, carbonate and quartz stringers and veinlets with 1-2% chalcopryite, and chalcocite	7740	926	26	0.064	<0.005	0.004	~0.07	2.3	71	1085
T37AK	Wade	573269	6810131	weak malachite stained, rusty weathering siltstone, carbonate stringers +/- quartz; notes say sampled every 4' across face but only 2 pieces	1290	2780	90	0.003	0.005	0.005	0.013	<0.2	4	37
T38A	Maple Peak	574966	6814794	malachite stained, rusty weathering silicified siltstone +/- limy with quartz +/- carbonate stringers; chalcopryite observed in field	762	2890	98	0.006	0.007	0.005	0.018	0.2	<2	85
T39A	Maple Peak	574894	6814752	1 - 10 by 15 cm piece of malachite stained, rusty weathering, grungy limonitic, brecciated siltstone	1.085	42	36	0.407	<0.005	0.03	~0.44	8.5	2	193
T40A	Maple Peak	574730	6814770	1 piece, weak rusty weathering grey siltstone with minor calcite stringers	631	1405	65	0.006	<0.005	0.008	<0.02	0.3	19	114
T41A	Maple Peak	574790	6814778	rusty weathering grey siltstone with limonitic vugs, quartz veined, with malachite, chalcocite, limonite; carbonate +/- quartz fracture fillings	5360	3670	120	0.003	0.011	0.022	0.036	0.2	2	38
T42A	Maple Peak	574674	6814797	weak rusty weathering grey siltstone with quartz veinlets with malachite, chalcocite, limonite	3440	2130	73	0.004	0.009	0.013	0.026	0.6	4	50
T43A	Maple Peak	574618	6814864	malachite stained, rusty weathering grey siltstone with quartz and carbonate stringers, limonite fracture fillings, trace chalcopryite?	1510	1755	57	0.005	<0.005	0.013	~0.02	<0.2	2	71
T44A	Maple Peak	574496	6814865	malachite stained, rusty weathering grey siltstone with quartz, veinlets, quartz-carbonate stringers, limonitic vugs, about 1% chalcopryite, chalcocite	862	1965	66	0.001	0.008	0.006	0.015	0.4	3	59
T45A	Maple Peak	574368	6814961	malachite stained siltstone, weakly brecciated, with quartz veinlets and limonitic grunge (weathered out carbonate or sulphide), vuggy	4890	3780	117	0.002	0.026	0.014	0.042	<0.2	<2	15
T50K	Maple Peak	574066	6815205	weak rusty weathering grey siltstone with calcite stringers	3040	1050	37	0.004	0.007	0.01	0.021	0.9	3	59
T51K	Maple Peak	574019	6815096	very rusty weathering, siliceous grey siltstone with fine calcite stringers, well fractured	961	1960	77	0.024	<0.005	0.003	~0.03	0.2	15	1000

Sample		NAD 83	ZONE 7	Appendix II: Sample Locations and Select Results	Cu	Ni	Co	Au	Pd	Pt	Pd+Pt+Au	Ag	Sb	As
No.	Location	Easting	Northing	Description	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
T52K	Maple Peak	573958	6815033	rusty weathering gabbro, with 3% disseminated pentlandite and minor disseminated chalcopyrite	5110	2020	140	0.045	0.587	0.27	0.902	2.8	4	4
T53K	Maple Peak	573812	6815023	rusty weathering gabbro, with 2% disseminated pentlandite, minor disseminated chalcopyrite and 1% bornite? 1 piece more massive pentlandite, chalcopyrite, bornite, magnetite? and pyrrhotite? - magnetic	3650	1000	493	0.041	0.188	0.112	0.341	1.4	<2	10
T54K	Maple Peak	573632	6815038	very small piece of rusty weathering gabbro, with 3% disseminated pentlandite and minor disseminated chalcopyrite	4520	2590	147	0.219	0.579	0.308	1.106	2.6	2	<2
T55K	Maple Peak	573975	6815216	rusty weathering gabbro, with 3-4% sulphide as disseminations and aggregates - pentlandite, chalcopyrite, bornite	5640	2310	162	0.045	0.713	0.339	1.097	2.9	<2	<2
T60B	West Basin	574550	6812965	small-fine chips of weak-moderate rusty weathering, grey siltstone with carbonate stringers and veinlets with chalcopyrite, minor malachite, +/- limy, well fractured	2560	1815	59	0.01	0.016	0.026	0.052	0.7	8	171
T61B	West Basin	574635	6812961	small-fine chips of weak-moderate rusty weathering grey siltstone with carbonate and quartz veinlets, trace chalcopyrite and chalcocite	2090	3280	83	0.004	0.013	0.022	0.039	<0.2	6	96
T62B	West Basin	574724	6813031	small chips of weak-moderate rusty weathering, moderate malachite stained grey siltstone with carbonate and quartz veinlets with minor chalcopyrite and chalcocite	8760	3350	138	0.04	0.178	0.064	0.282	0.5	12	118
T63B	West Basin	574808	6812968	small chips of rusty weathering and orange limonite stained grey siltstone with no stringers and noncalcareous	3450	4210	94	0.006	0.035	0.054	0.095	<0.2	4	157
T64B	West Basin	574881	6812889	small chips of orange rusty stained grey siltstone with carbonate-quartz veinlets, limonite vugs, malachite, chalcocite; up small pup	8570	2770	91	0.218	0.634	0.326	1.178	1.8	4	74
T65B	West Basin	574939	6812887	small chips of moderate rusty weathering weak limy grey siltstone with carbonate and quartz stringers, trace chalcopyrite, minor malachite	3170	3770	88	0.007	0.028	0.05	0.085	<0.2	3	158
T66B	W. Basin	574952	6812847	small chips of moderate rusty weathering weak limy grey siltstone with no stringers	1700	2250	54	0.004	0.011	0.022	0.037	<0.2	<2	83
T67B	W. Basin	575005	6812761	fine chips of highly oxidized dark rusty bits of gabbro?, with pentlandite	5000	6890	239	0.085	0.614	0.837	1.536	1	2	7
T68B	W. Basin	575108	6812677	good heavy rock of rusty, oxidized gabbro	4280	5350	193	0.05	0.665	0.931	1.646	1.1	<2	6
T69B	W. Basin	575208	6812664	rusty, magnetic, heavily oxidized gabbro with pyrrhotite	4430	7020	266	0.07	0.54	0.773	1.383	1	<2	10
T70B	W. Basin	574920	6813376	fine chips of dark rusty gabbro, with some magnetic chips - pyrrhotite?	4060	6710	254	0.069	0.507	0.683	1.259	1.1	<2	7
T71B	West Basin	574916	6813335	fine chips of weakly rusty, weakly oxidized gabbro, with some magnetic chips - pyrrhotite?	3570	6140	222	0.053	0.738	0.847	1.638	1.8	<2	4
T72B	West Basin	574911	6813289	rusty, brown-black oxidized gabbro? (Co, Mg, Fe) with trace malachite, chalcopyrite, some magnetic pieces - pyrrhotite?	3740	4710	173	0.039	0.605	0.772	1.416	1.7	<2	6
T73B	West Basin	574953	6813252	rusty with some magnetic (pyrrhotite?) bits, minor malachite, chalcopyrite	3930	6110	228	0.061	0.542	0.773	1.376	1.1	<2	5
T74B	West Basin	574938	6813212	small to fine chips of highly oxidized with dark magnetic bits (magnetite), some pyrrhotite?, minor chalcopyrite	4290	6720	245	0.079	0.558	0.742	1.379	1.1	<2	7
T75B	West Basin	574937	6813184	1 10 by 12 cm piece of grey siltstone with calcite stringers and carbonate-quartz vein (1 cm), with chalcopyrite blebs to 0.5 cm, with malachite rims	7620	654	25	0.061	<0.005	0.004	~0.07	2.6	34	644
T76B	W. Basin	574888	6813202	small rusty highly oxidized pieces with weak malachite, some magnetic (pyrrhotite?)	2420	3530	134	0.035	0.3	0.365	0.7	0.7	<2	6
T77B	West Basin	574862	6813170	2 pieces of rusty malachite stained quartz-carbonate vein with chalcopyrite, malachite, chalcocite in grey siltstone	3280	4780	175	0.008	0.112	0.049	0.169	0.5	2	24
T78B	West Basin	574837	6813142	small rusty, oxidized pieces with semi-massive pentlandite, 2-3% chalcopyrite and few % pyrrhotite, (magnetic)	8760	1.885	1115	0.034	0.706	0.495	1.235	1.1	4	5

**Appendix III  
Geochemical Results**



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To: **BILL KARMEN**  
**HANGER A**  
**TAIT ROAD**  
**HAINES JUNCTION YT YOB 1L0**

Page: 1  
 Total # Pages: 3 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 4-MAR-2017  
 Account: KARBIL

**CERTIFICATE WH17031515**

Project: TOBI

This report is for 69 Rock samples submitted to our lab in Whitehorse, YT, Canada on 20-FEB-2017.

The following have access to data associated with this certificate:

BILL KARMEN	JEAN PAUTLER
-------------	--------------

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
Cu-OG46	Ore Grade Cu - Aqua Regia	ICP-AES
PGM-ICP23	Pt, Pd, Au 30g FA ICP	ICP-AES
ME-ICP41	35 Element Aqua Regia ICP-AES	ICP-AES
ME-OG46	Ore Grade Elements - AquaRegia	ICP-AES

To: **BILL KARMEN**  
**ATTN: JEAN PAUTLER**  
**HANGER A**  
**TAIT ROAD**  
**HAINES JUNCTION YT YOB 1L0**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager





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To: BILL KARMEN  
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 TAIT ROAD  
 HAINES JUNCTION YT YOB 1L0

Page: 2 - A  
 Total # Pages: 3 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 4-MAR-2017  
 Account: KARBIL

Project: TOBI

**CERTIFICATE OF ANALYSIS WH17031515**

Sample Description	Method Analyte Units LOR	WEI-21 Recvd Wt. kg	ME-ICP41 Ag ppm	ME-ICP41 Al %	ME-ICP41 As ppm	ME-ICP41 B ppm	ME-ICP41 Ba ppm	ME-ICP41 Be ppm	ME-ICP41 Bi ppm	ME-ICP41 Ca %	ME-ICP41 Cd ppm	ME-ICP41 Co ppm	ME-ICP41 Cr ppm	ME-ICP41 Cu ppm	ME-ICP41 Fe %	ME-ICP41 Ga ppm
		0.02	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01	10
T1K		0.25	0.2	2.73	2	<10	270	1.2	<2	1.21	<0.5	21	39	17	5.18	10
T2K		0.27	0.2	0.96	6	<10	90	1.2	<2	1.03	<0.5	3	206	3	1.11	10
T3K		0.13	1.8	1.69	3	110	60	<0.5	6	1.74	0.5	382	139	8910	14.40	10
T4K		0.22	<0.2	2.79	2	<10	280	1.1	<2	1.13	<0.5	22	7	26	5.74	10
T5K		0.18	<0.2	3.02	3	<10	290	1.1	<2	1.18	<0.5	27	22	150	6.05	10
T6K		0.14	0.4	2.77	2	<10	110	1.0	<2	1.25	<0.5	133	28	2050	9.35	10
T7K		0.20	<0.2	3.18	3	<10	310	1.1	<2	1.40	<0.5	28	8	174	6.10	10
T9K		0.25	1.0	0.31	9	<10	40	<0.5	<2	3.53	1.9	9	38	3500	2.48	<10
T10K		0.22	1.6	1.93	2	60	50	<0.5	<2	1.43	0.9	290	253	7870	12.45	10
T11K		0.16	2.3	0.98	9	<10	50	<0.5	<2	1.24	<0.5	1065	111	>10000	32.1	<10
T12K		0.27	1.2	2.48	8	<10	30	0.7	<2	6.88	0.7	826	80	>10000	23.9	10
T13KB		0.57	1.2	0.55	9	<10	30	<0.5	<2	0.74	<0.5	1575	40	8430	42.8	<10
T14KB		0.18	2.2	0.91	8	<10	60	<0.5	<2	1.23	<0.5	958	119	>10000	30.0	<10
T15K		0.23	2.4	1.03	6	<10	60	<0.5	<2	1.55	<0.5	1460	63	>10000	37.0	<10
T16K		0.40	2.1	0.66	340	<10	20	<0.5	<2	3.04	0.6	888	31	>10000	26.5	<10
T17K		0.27	4.9	0.08	33	<10	30	<0.5	<2	1.02	0.6	1945	92	>10000	>50	<10
T18K		0.28	2.4	1.00	11	<10	60	<0.5	<2	1.25	<0.5	1385	68	>10000	38.5	<10
T19K		0.24	3.3	0.72	900	<10	10	<0.5	<2	5.24	1.0	158	18	>10000	5.94	<10
T20K		0.51	5.5	0.56	1590	<10	10	<0.5	<2	4.73	1.0	36	12	>10000	2.91	<10
T21K		0.34	4.2	0.84	1545	<10	20	<0.5	<2	4.14	0.9	38	20	>10000	3.18	<10
T22K		0.26	<0.2	2.75	127	<10	40	<0.5	<2	0.94	<0.5	120	52	5840	6.69	10
T23A		0.40	<0.2	2.41	57	<10	30	<0.5	<2	1.32	<0.5	72	50	1040	5.59	10
T24A		0.23	<0.2	2.36	120	<10	50	<0.5	<2	0.45	<0.5	82	56	2430	6.24	10
T25A		0.47	<0.2	2.06	68	<10	30	<0.5	<2	2.18	<0.5	81	41	2560	4.90	10
T26A		0.32	0.2	1.93	150	<10	30	<0.5	<2	3.13	<0.5	107	33	1950	4.42	10
T27A		0.65	<0.2	1.76	45	<10	30	<0.5	<2	1.55	<0.5	67	40	470	4.13	10
T28A		0.39	0.2	1.32	70	<10	30	<0.5	<2	2.64	<0.5	83	32	658	3.42	10
T29A		0.36	5.5	0.66	858	<10	10	<0.5	<2	5.73	0.9	23	11	>10000	2.78	<10
T30A		0.45	<0.2	2.41	67	<10	50	<0.5	<2	1.16	<0.5	98	45	2920	5.68	10
T31A		0.38	<0.2	1.95	51	<10	40	<0.5	<2	2.20	<0.5	127	42	2750	4.63	10
T32A		0.28	<0.2	1.73	83	<10	40	<0.5	<2	1.41	<0.5	73	42	1130	3.96	10
T33A		0.26	<0.2	1.61	60	<10	30	<0.5	<2	2.71	0.5	92	36	2040	3.66	10
T34A		0.27	<0.2	2.97	166	<10	40	0.6	<2	2.68	0.5	120	60	3680	6.93	10
T35A		0.41	<0.2	2.14	91	<10	30	<0.5	<2	2.41	<0.5	91	47	792	5.13	10
T38A		0.72	0.2	2.46	85	<10	40	<0.5	<2	1.21	<0.5	98	53	762	5.58	10
T39A		0.77	8.5	1.07	193	<10	<10	<0.5	<2	9.9	0.7	36	22	>10000	13.75	10
T40A		0.16	0.3	0.79	114	10	20	1.1	<2	4.73	<0.5	65	13	631	2.45	<10
T41A		0.49	0.2	1.83	38	<10	30	<0.5	<2	0.50	<0.5	120	36	5360	5.01	10
T42A		0.29	0.6	3.01	50	<10	40	<0.5	<2	0.98	<0.5	73	179	3440	6.93	10
T43A		0.44	<0.2	2.39	71	<10	40	<0.5	<2	0.13	<0.5	57	48	1510	6.40	10



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To: **BILL KARMEN**  
**HANGER A**  
**TAIT ROAD**  
**HAINES JUNCTION YT YOB 1L0**

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Project: TOBI

**CERTIFICATE OF ANALYSIS WH17031515**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm
		1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1	20
T1K		<1	0.54	20	1.70	785	<1	0.15	19	770	36	0.02	<2	14	121	<20
T2K		<1	0.74	10	0.86	523	1	0.02	36	450	51	0.04	2	5	25	<20
T3K		<1	0.16	10	0.81	180	<1	0.05	5280	640	21	6.11	2	3	42	<20
T4K		<1	0.46	20	1.65	580	1	0.16	16	690	7	0.02	<2	13	130	<20
T5K		<1	0.48	20	1.76	612	1	0.17	56	640	10	0.08	<2	14	133	<20
T6K		<1	0.42	20	1.57	548	<1	0.20	1550	760	9	2.46	3	12	126	<20
T7K		<1	0.52	20	1.82	668	<1	0.19	83	1130	7	0.12	<2	15	146	<20
T9K		1	0.04	<10	0.78	544	1	0.03	33	160	4	0.07	<2	7	58	<20
T10K		<1	0.15	10	1.15	222	1	0.04	3960	600	9	4.68	4	3	34	<20
T11K		1	0.05	<10	0.12	41	2	0.03	>10000	230	8	6.53	<2	3	8	<20
T12K		<1	0.04	10	1.09	458	1	0.02	>10000	290	10	9.01	3	5	38	<20
T13KB		<1	0.02	<10	0.05	<5	2	0.02	>10000	140	7	5.73	<2	2	2	<20
T14KB		<1	0.07	<10	0.10	46	2	0.03	>10000	280	6	8.30	<2	3	10	<20
T15K		<1	0.03	10	0.12	78	1	0.02	>10000	840	3	8.37	<2	2	18	<20
T16K		<1	0.02	<10	0.20	158	1	0.04	>10000	200	7	9.07	11	3	104	<20
T17K		<1	<0.01	<10	0.03	132	<1	0.02	>10000	20	9	7.99	<2	1	33	<20
T18K		<1	0.03	<10	0.12	51	1	0.02	>10000	200	3	5.95	2	2	9	<20
T19K		<1	0.01	10	0.56	411	<1	0.06	3930	200	15	2.67	53	6	182	<20
T20K		<1	0.01	10	0.45	322	1	0.07	1335	190	13	1.12	69	5	171	<20
T21K		<1	0.03	10	0.61	445	1	0.06	1585	340	13	0.99	70	6	155	<20
T22K		<1	0.11	50	1.70	1305	1	0.03	3770	3190	4	0.05	4	10	24	<20
T23A		<1	0.11	20	1.59	981	1	0.03	2280	900	3	0.03	<2	9	55	<20
T24A		<1	0.10	10	1.48	876	1	0.03	3130	1060	4	0.03	3	9	18	<20
T25A		<1	0.10	20	1.30	996	<1	0.04	2650	1320	7	0.02	3	8	94	<20
T26A		<1	0.08	20	1.29	1090	<1	0.04	2860	690	23	0.09	10	9	131	<20
T27A		<1	0.09	20	1.15	825	1	0.04	1835	1490	5	0.02	<2	6	65	<20
T28A		<1	0.06	20	0.87	793	1	0.03	1825	1330	5	0.02	5	6	115	<20
T29A		<1	0.01	10	0.55	425	3	0.07	825	210	20	0.97	75	6	165	<20
T30A		<1	0.11	20	1.55	1015	1	0.04	2770	920	5	0.03	3	9	49	<20
T31A		<1	0.10	20	1.22	1025	1	0.03	3770	710	5	0.03	<2	8	95	<20
T32A		<1	0.10	10	1.08	824	<1	0.04	2330	920	7	0.02	<2	8	61	<20
T33A		<1	0.08	20	1.01	872	<1	0.03	2730	1140	7	0.02	3	7	110	<20
T34A		<1	0.16	70	1.76	1620	1	0.03	3680	5370	4	0.02	3	13	91	<20
T35A		<1	0.09	30	1.35	1045	1	0.04	2600	1880	7	0.02	3	8	93	<20
T38A		<1	0.12	30	1.59	1030	1	0.04	2890	1770	3	0.02	<2	10	48	<20
T39A		<1	<0.01	10	0.39	839	4	0.01	42	2700	9	1.31	2	2	4	<20
T40A		<1	0.06	10	0.73	649	2	0.09	1405	300	16	0.04	19	9	74	<20
T41A		<1	0.09	10	0.96	769	<1	0.03	3670	340	5	0.10	2	7	23	<20
T42A		<1	0.14	10	1.74	820	1	0.03	2130	640	8	0.41	4	13	10	<20
T43A		<1	0.12	10	1.54	677	1	0.03	1755	500	4	0.02	2	7	6	<20



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Project: TOBI

**CERTIFICATE OF ANALYSIS WH17031515**

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	Cu-OG46	PGM-ICP23	PGM-ICP23	PGM-ICP23
	Analyte Units LOR	Ti %	Ti ppm	U ppm	V ppm	W ppm	Zn ppm	Cu %	Au ppm	Pt ppm	Pd ppm
		0.01	10	10	1	10	2	0.001	0.001	0.005	0.001
T1K		0.62	<10	<10	97	<10	126		0.020	<0.005	<0.001
T2K		0.05	<10	<10	41	<10	87		0.026	<0.005	<0.001
T3K		0.19	<10	<10	71	<10	91		0.072	1.055	1.320
T4K		0.68	<10	<10	114	<10	99		<0.001	<0.005	0.004
T5K		0.70	<10	<10	101	<10	102		0.001	<0.005	0.061
T6K		0.68	<10	<10	109	<10	107		0.009	0.208	0.146
T7K		0.71	<10	<10	102	<10	104		0.001	0.005	0.082
T9K		0.01	<10	<10	51	<10	126		0.145	<0.005	0.005
T10K		0.22	<10	<10	76	<10	96		0.107	0.561	1.015
T11K		0.15	<10	<10	155	<10	58	2.18	0.285	0.519	0.318
T12K		0.15	<10	<10	125	<10	52	1.145	0.014	0.146	0.137
T13KB		0.08	<10	<10	112	<10	74		0.066	0.723	0.447
T14KB		0.17	<10	<10	177	<10	53	2.08	0.067	0.457	0.257
T15K		0.08	<10	<10	79	<10	38	2.28	0.279	0.718	0.639
T16K		0.06	<10	<10	90	<10	31	0.974	0.038	0.270	0.150
T17K		0.01	<10	<10	30	<10	92	1.960	0.286	2.87	0.535
T18K		0.11	<10	<10	109	<10	50	2.39	0.097	0.630	0.446
T19K		0.01	<10	<10	37	<10	31	0.982	0.087	0.121	0.034
T20K		<0.01	<10	<10	26	<10	31	1.535	0.181	0.008	0.007
T21K		0.01	<10	<10	45	<10	42	1.380	0.309	<0.005	0.005
T22K		0.01	<10	<10	174	<10	116		0.006	0.013	0.014
T23A		0.01	<10	<10	152	<10	91		0.004	0.009	0.005
T24A		0.01	<10	<10	149	<10	91		0.011	0.008	0.016
T25A		0.01	<10	<10	136	<10	82		0.003	0.007	0.007
T26A		0.01	<10	<10	130	<10	106		0.007	0.009	0.004
T27A		0.01	<10	<10	113	<10	66		0.002	0.005	0.003
T28A		<0.01	<10	<10	86	<10	60		0.005	0.005	0.005
T29A		0.01	<10	<10	30	<10	30	1.490	0.041	<0.005	0.003
T30A		0.01	<10	<10	155	<10	93		0.002	0.007	0.007
T31A		0.01	<10	<10	134	<10	92		0.004	0.013	0.010
T32A		0.01	<10	<10	123	<10	73		0.003	0.008	0.004
T33A		<0.01	<10	<10	112	<10	73		0.003	0.012	0.003
T34A		0.01	<10	<10	198	<10	127		0.007	0.012	0.008
T35A		0.01	<10	<10	137	<10	87		0.007	0.007	0.005
T38A		0.01	<10	<10	168	<10	93		0.006	0.007	0.005
T39A		0.04	<10	<10	43	<10	54	1.085	0.407	<0.005	0.030
T40A		0.09	<10	<10	43	<10	24		0.006	<0.005	0.008
T41A		<0.01	<10	<10	93	<10	78		0.003	0.011	0.022
T42A		0.13	<10	<10	178	<10	81		0.004	0.009	0.013
T43A		<0.01	<10	<10	112	<10	95		0.005	<0.005	0.013



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**CERTIFICATE OF ANALYSIS WH17031515**

Sample Description	Method Analyte Units LOR	WEI-21	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41
		Recvd Wt. kg	Ag ppm	Al %	As ppm	B ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm
		0.02	0.2	0.01	2	10	10	0.5	2	0.01	0.5	1	1	1	0.01	10
T44A		0.40	0.4	2.05	59	<10	30	<0.5	<2	0.71	0.6	66	39	862	4.79	10
T45A		0.21	<0.2	1.00	15	<10	10	<0.5	<2	1.81	<0.5	117	17	4890	2.78	<10
T50K		0.37	0.9	3.27	59	10	50	0.5	<2	0.79	<0.5	37	69	3040	7.54	10
T51K		0.31	0.2	1.18	1000	<10	<10	<0.5	<2	1.75	<0.5	77	13	961	3.88	10
T52K		0.58	2.8	2.69	4	<10	20	<0.5	<2	1.59	1.0	140	162	5110	6.40	10
T53K		0.28	1.4	1.34	10	<10	10	<0.5	<2	2.55	0.9	493	70	3650	12.05	10
T54K		0.16	2.6	2.95	<2	<10	20	<0.5	<2	1.86	0.8	147	125	4520	6.41	10
T55K		0.79	2.9	2.35	<2	<10	10	<0.5	<2	1.16	1.3	162	182	5640	7.28	10
T60B		0.18	0.7	2.84	171	<10	40	<0.5	<2	0.60	<0.5	59	101	2560	7.67	10
T61B		0.23	<0.2	2.64	96	<10	40	<0.5	<2	0.58	<0.5	83	74	2090	7.52	10
T62B		0.29	0.5	1.90	118	<10	40	<0.5	<2	0.75	<0.5	138	87	8760	5.81	10
T63B		0.17	<0.2	2.65	157	<10	50	0.6	<2	0.26	<0.5	94	86	3450	9.00	10
T64B		0.33	1.8	1.87	74	10	70	<0.5	<2	0.79	0.5	91	25	8570	8.45	10
T65B		0.15	<0.2	2.77	158	<10	50	0.5	<2	0.40	<0.5	88	105	3170	8.84	10
T66B		0.20	<0.2	2.64	83	<10	50	<0.5	<2	0.18	<0.5	54	68	1700	7.72	10
T67B		0.26	1.0	3.17	7	40	140	<0.5	<2	0.41	<0.5	239	1030	5000	11.90	10
T68B		0.38	1.1	3.32	6	30	140	<0.5	<2	0.37	<0.5	193	1060	4280	10.60	10
T69B		0.31	1.0	3.09	10	40	110	<0.5	<2	0.39	<0.5	266	975	4430	12.15	10
T70B		0.26	1.1	2.84	7	40	110	<0.5	<2	0.40	<0.5	254	983	4060	10.85	10
T71B		0.16	1.8	3.01	4	30	80	<0.5	<2	0.47	<0.5	222	941	3570	10.45	10
T72B		0.27	1.7	2.48	6	40	110	<0.5	<2	0.83	<0.5	173	730	3740	9.43	10
T73B		0.46	1.1	2.82	5	40	120	<0.5	<2	0.37	<0.5	228	1020	3930	10.55	10
T74B		0.35	1.1	2.83	7	40	110	<0.5	<2	0.37	<0.5	245	948	4290	11.45	<10
T75B		1.54	2.6	0.78	644	<10	10	<0.5	<2	5.55	0.6	25	16	7620	2.39	<10
T76B		0.32	0.7	3.36	6	10	50	<0.5	<2	0.69	<0.5	134	990	2420	8.20	10
T77B		0.34	0.5	1.47	24	<10	40	<0.5	<2	2.69	0.5	175	46	3280	3.62	<10
T78B		0.36	1.1	1.03	5	<10	10	<0.5	<2	1.26	<0.5	1115	109	8760	34.3	<10
T36AK		0.55	2.3	0.76	1085	<10	10	<0.5	<2	3.65	0.5	26	14	7740	2.30	<10
T37AK		0.39	<0.2	1.44	37	<10	20	<0.5	<2	5.46	<0.5	90	29	1290	3.44	10





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**CERTIFICATE OF ANALYSIS WH17031515**

Sample Description	Method Analyte Units LOR	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	
		Hg ppm	K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm
		1	0.01	10	0.01	5	1	0.01	1	10	2	0.01	2	1	1	20
T44A		<1	0.13	20	1.39	669	1	0.02	1965	310	86	0.05	3	5	24	<20
T45A		<1	0.03	10	0.46	679	<1	0.02	3780	210	5	0.08	<2	4	78	<20
T50K		<1	0.17	10	2.03	867	1	0.03	1050	960	<2	0.29	3	10	19	<20
T51K		<1	<0.01	10	0.73	455	1	0.06	1960	210	6	0.03	15	7	31	<20
T52K		<1	0.04	<10	2.57	315	1	0.02	2020	280	7	2.17	4	1	10	<20
T53K		<1	0.02	<10	1.26	252	2	0.02	1000	3290	4	7.42	<2	1	17	<20
T54K		<1	0.05	<10	2.77	356	1	0.02	2590	390	20	2.12	2	1	10	<20
T55K		<1	0.04	<10	2.43	292	<1	0.02	2310	220	7	2.84	<2	1	8	<20
T60B		<1	0.16	10	1.92	792	1	0.04	1815	680	8	0.21	8	10	23	<20
T61B		<1	0.13	10	1.66	851	1	0.03	3280	860	7	0.06	6	9	29	<20
T62B		1	0.06	10	1.26	894	1	0.05	3350	380	30	0.08	12	8	17	<20
T63B		1	0.12	10	1.55	799	1	0.03	4210	650	9	0.05	4	10	15	<20
T64B		<1	0.07	10	1.09	699	2	0.04	2770	290	99	0.12	4	6	28	<20
T65B		<1	0.12	10	1.71	856	1	0.03	3770	760	8	0.05	3	11	15	<20
T66B		<1	0.13	10	1.60	764	1	0.03	2250	810	4	0.03	<2	9	10	<20
T67B		<1	0.26	<10	7.98	631	1	0.02	6890	210	4	0.09	2	6	36	<20
T68B		<1	0.30	<10	8.01	635	1	0.02	5350	300	2	0.08	<2	5	30	<20
T69B		<1	0.24	<10	7.89	694	1	0.02	7020	200	6	0.10	<2	6	25	<20
T70B		<1	0.23	<10	7.20	650	1	0.02	6710	210	7	0.07	<2	5	31	<20
T71B		<1	0.14	<10	6.98	598	1	0.01	6140	230	4	0.05	<2	6	22	<20
T72B		<1	0.18	<10	5.81	503	1	0.02	4710	210	3	0.18	<2	4	22	<20
T73B		<1	0.24	<10	7.23	609	1	0.02	6110	200	3	0.07	<2	5	25	<20
T74B		1	0.21	<10	7.94	697	1	0.02	6720	200	6	0.05	<2	5	20	<20
T75B		<1	0.01	10	0.63	407	1	0.07	654	200	13	0.68	34	6	147	<20
T76B		<1	0.10	<10	6.10	528	1	0.02	3530	340	3	0.05	<2	4	17	<20
T77B		<1	0.08	10	1.00	638	<1	0.02	4780	320	9	0.55	2	4	71	<20
T78B		<1	0.03	<10	0.45	76	1	0.02	>10000	230	6	8.87	4	2	10	<20
T36AK		<1	0.01	10	0.66	365	<1	0.07	926	200	11	0.70	71	6	79	<20
T37AK		<1	0.07	10	0.90	1045	<1	0.03	2780	500	6	0.05	4	7	245	<20



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**TAIT ROAD**  
**HAINES JUNCTION YT YOB 1L0**

Page: 3 - C  
 Total # Pages: 3 (A - C)  
 Plus Appendix Pages  
 Finalized Date: 4-MAR-2017  
 Account: KARBIL

Project: TOBI

**CERTIFICATE OF ANALYSIS WH17031515**

Sample Description	Method	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	ME-ICP41	Cu-OG46	PGM-ICP23	PGM-ICP23	PGM-ICP23
	Analyte	Ti	Ti	U	V	W	Zn	Cu	Au	Pt	Pd
Units		%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
LOR		0.01	10	10	1	10	2	0.001	0.001	0.005	0.001
T44A		<0.01	<10	<10	77	<10	149		0.001	0.008	0.006
T45A		<0.01	<10	<10	51	<10	58		0.002	0.026	0.014
T50K		0.06	<10	<10	163	<10	83		0.004	0.007	0.010
T51K		<0.01	<10	<10	43	<10	48		0.024	<0.005	0.003
T52K		0.08	<10	<10	31	<10	103		0.045	0.587	0.270
T53K		0.04	<10	<10	16	<10	50		0.041	0.188	0.112
T54K		0.09	<10	<10	34	<10	80		0.219	0.579	0.308
T55K		0.07	<10	<10	31	<10	115		0.045	0.713	0.339
T60B		0.01	<10	<10	157	<10	92		0.010	0.016	0.026
T61B		0.01	<10	<10	143	<10	92		0.004	0.013	0.022
T62B		0.06	<10	<10	75	<10	85		0.040	0.178	0.064
T63B		0.02	<10	<10	145	<10	99		0.006	0.035	0.054
T64B		0.09	<10	<10	53	<10	71		0.218	0.634	0.326
T65B		0.02	<10	<10	156	<10	100		0.007	0.028	0.050
T66B		0.01	<10	<10	152	<10	89		0.004	0.011	0.022
T67B		0.14	<10	<10	83	<10	80		0.085	0.614	0.837
T68B		0.18	<10	<10	92	<10	74		0.050	0.665	0.931
T69B		0.13	<10	<10	75	<10	77		0.070	0.540	0.773
T70B		0.14	<10	<10	79	<10	77		0.069	0.507	0.683
T71B		0.15	<10	<10	78	<10	75		0.053	0.738	0.847
T72B		0.12	<10	<10	64	<10	56		0.039	0.605	0.772
T73B		0.15	<10	<10	80	<10	69		0.061	0.542	0.773
T74B		0.12	<10	<10	74	<10	74		0.079	0.558	0.742
T75B		0.01	<10	<10	34	<10	23		0.061	<0.005	0.004
T76B		0.19	<10	<10	79	<10	77		0.035	0.300	0.365
T77B		0.03	<10	<10	56	<10	73		0.008	0.112	0.049
T78B		0.07	<10	<10	66	<10	60		0.034	0.706	0.495
T36AK		0.01	<10	<10	36	<10	23		0.064	<0.005	0.004
T37AK		0.01	<10	<10	98	<10	65		0.003	0.005	0.005



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Page: **Appendix 1**  
 Total # Appendix Pages: **1**  
 Finalized Date: **4-MAR-2017**  
 Account: **KARBIL**

Project: TOBI

<b>CERTIFICATE OF ANALYSIS WH17031515</b>
---

<b>CERTIFICATE COMMENTS</b>									
	<b>LABORATORY ADDRESSES</b>								
Applies to Method:	Processed at ALS Whitehorse located at 78 Mt. Sima Rd, Whitehorse, YT, Canada. <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">CRU-31</td> <td style="width: 33%;">CRU-QC</td> <td style="width: 33%;">LOG-22</td> <td style="width: 33%;">PUL-31</td> </tr> <tr> <td>PUL-QC</td> <td>SPL-21</td> <td>WEI-21</td> <td></td> </tr> </table>	CRU-31	CRU-QC	LOG-22	PUL-31	PUL-QC	SPL-21	WEI-21	
CRU-31	CRU-QC	LOG-22	PUL-31						
PUL-QC	SPL-21	WEI-21							
Applies to Method:	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada. <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Cu-OG46</td> <td style="width: 33%;">ME-ICP41</td> <td style="width: 33%;">ME-OG46</td> <td style="width: 33%;">PGM-ICP23</td> </tr> </table>	Cu-OG46	ME-ICP41	ME-OG46	PGM-ICP23				
Cu-OG46	ME-ICP41	ME-OG46	PGM-ICP23						



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Page: 1  
 Total # Pages: 2 (A)  
 Plus Appendix Pages  
 Finalized Date: 7-MAR-2017  
 This copy reported on  
 8-MAR-2017  
 Account: KARBIL

**CERTIFICATE WH17040964**

Project: TOBI

This report is for 9 Rock samples submitted to our lab in Whitehorse, YT, Canada on 5-MAR-2017.

The following have access to data associated with this certificate:

BILL KARMEN	JEAN PAUTLER	
-------------	--------------	--

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
FND-02	Find Sample for Addn Analysis

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
Ni-OG46	Ore Grade Ni - Aqua Regia	ICP-AES
ME-OG46	Ore Grade Elements - AquaRegia	ICP-AES

To: **BILL KARMEN**  
**ATTN: JEAN PAUTLER**  
**HANGER A**  
**TAIT ROAD**  
**HAINES JUNCTION YT YOB 1L0**

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.

\*\*\*\*\* See Appendix Page for comments regarding this certificate \*\*\*\*\*

Signature:   
 Colin Ramshaw, Vancouver Laboratory Manager





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Page: 2 - A  
 Total # Pages: 2 (A)  
 Plus Appendix Pages  
 Finalized Date: 7-MAR-2017  
 Account: KARBIL

Project: TOBI

**CERTIFICATE OF ANALYSIS WH17040964**

Sample Description	Method Analyte Units LOR	Ni-OG46 Ni %
		0.001
T11K		1.855
T12K		1.440
T13KB		2.88
T14KB		1.740
T15K		2.66
T16K		1.580
T17K		5.31
T18K		2.46
T78B		1.885



**APPENDIX IV  
Geophysical Report**

**A LOGISTICS REPORT**

**ON**

**A HELIBORNE MAGNETIC SURVEY**

**TOBI GROUP  
BURWASH LANDING AREA, YUKON**

**WATSON M.D.  
61° 25.87'N, 139° 36.2'W  
NTS 115G05**

**Grants Worked.**

**YF 48020-48026,48044-48058,48068-48088,48090,  
48090,48095-48118,48123-48143,48149-48165,  
48173,48175-48179,48181**

**Work Dates: November 14<sup>th</sup>-16<sup>th</sup> , 2016**

**FOR**

**BILL KARMAN  
HAINES JUNCTION, YUKON**

**BY**

**ALEXANDER WALCOTT, B.Sc**

**PETER E. WALCOTT & ASSOCIATES LIMITED  
Coquitlam, British Columbia**

**JANUARY 2017**

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PROPERTY, LOCATION AND ACCESS.....	4
SURVEY SPECIFICATIONS.....	6
DATA PROCESSING AND PRESENTATION.....	8

### APPENDIX I

Cost of Project  
 Personnel Employed on Project  
 Data Description

### ACCOMPANYING MAPS

Block 1

Claim and Flight Line Map	Scale 1:10,000
Contours of Total Field Intensity	Scale 1:10,000
Contours of Calculated Vertical Gradient	Scale 1:10,000
Contours of Tilt Derivative	Scale 1:10,000



## **INTRODUCTION.**

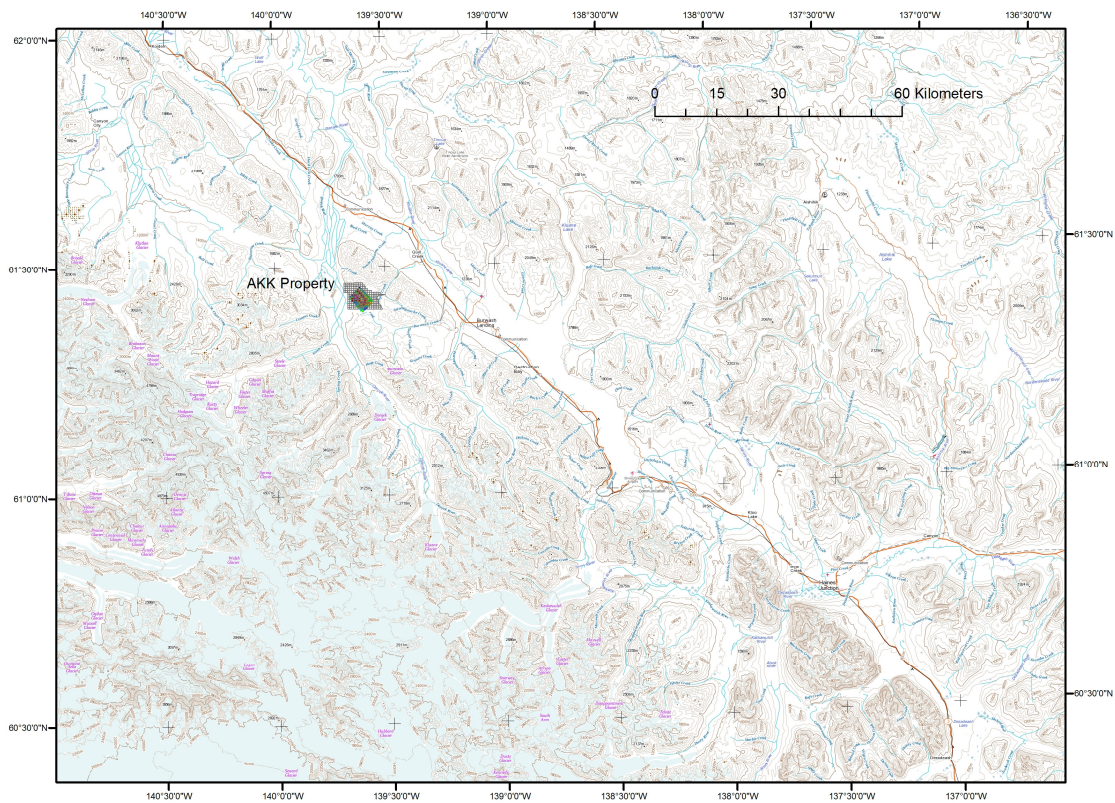
Between November 14<sup>th</sup>-16<sup>th</sup>, 2016, Peter E. Walcott & Associates Limited undertook a heli-borne magnetic survey over the AKK/Tobi Group for Bill Karman.

The survey consisted of some 200 line kilometers of airborne magnetics flown with a nominal line spacing of some 100 meters on northeast orientated lines, and with northwest tie lines spaced with a nominal line spacing of some 1000 meters.

## **PROPERTY LOCATION AND ACCESS**

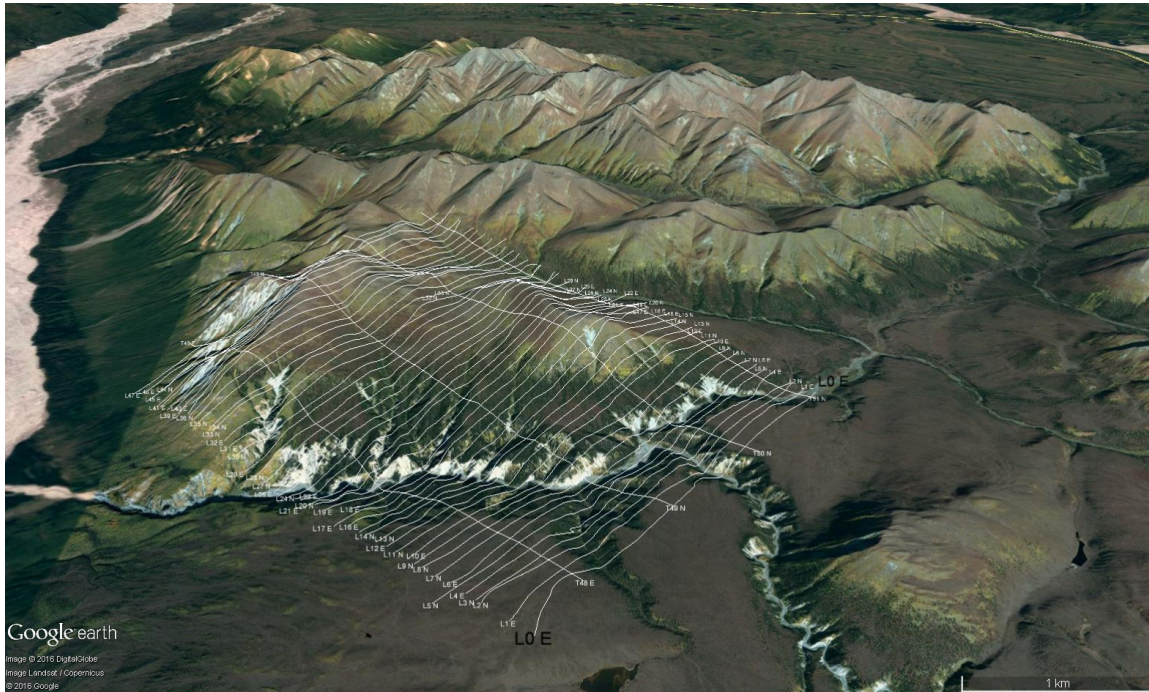
The AKK/Tobi project is located some 136 kilometres northwest of the community of Haines Junction, Yukon.

Access to the property, was gained via helicopter from Haines Junction, where the crew was housed for the duration of the survey.



*Property Location Map*

## PROPERTY LOCATION AND ACCESS con't



*Flight Block 1*

## **SURVEY SPECIFICATIONS.**

### *The Airborne Magnetic Survey.*

The airborne magnetic survey was conducted using a bird type system towed on a 65' line by a ASTAR B3 C-FSBK operated by Kluane Helicopters of Haines Junction, Yukon.

The bird unit consists of three main components – C-824 Cesium Magnetometer manufactured by Geometrics San Jose, California, AR3000 Laser Range Finder manufactured by Acuity of Portland, Oregon and a 19x GPS manufactured by Garmin International Inc. of Kansas City, Kansas.

The C-824 Cesium Magnetometer is a highly sensitive magnetic sensor capable of providing sensitivity up to 0.01 nT and sampling rates up to 1000 Hz. On this survey a sampling rate of 10 Hz was employed.

The respective components were in turn connected to the helicopter via a shielded multi-conductor cable within the tow line for power and data transmission to the logging units on the helicopter.

Flight line navigation data was obtained using Hemisphere R330 GNSS receiver with a 10 Hz update rate.

Data logging and navigation were carried out utilizing Geometrics MagLogPro software on a Panasonic CF-19 Toughbook computer with a secondary 7" daylight viewable pilot navigation monitor.

In addition to the airborne unit the survey also utilized two GSM 19 proton precession magnetometer manufactured by GEM Instruments of Richmond Hill, Ontario as base magnetometers. These instruments measure variations in the total intensity of the earth's magnetic field to an accuracy of plus or minus one nanotesla.

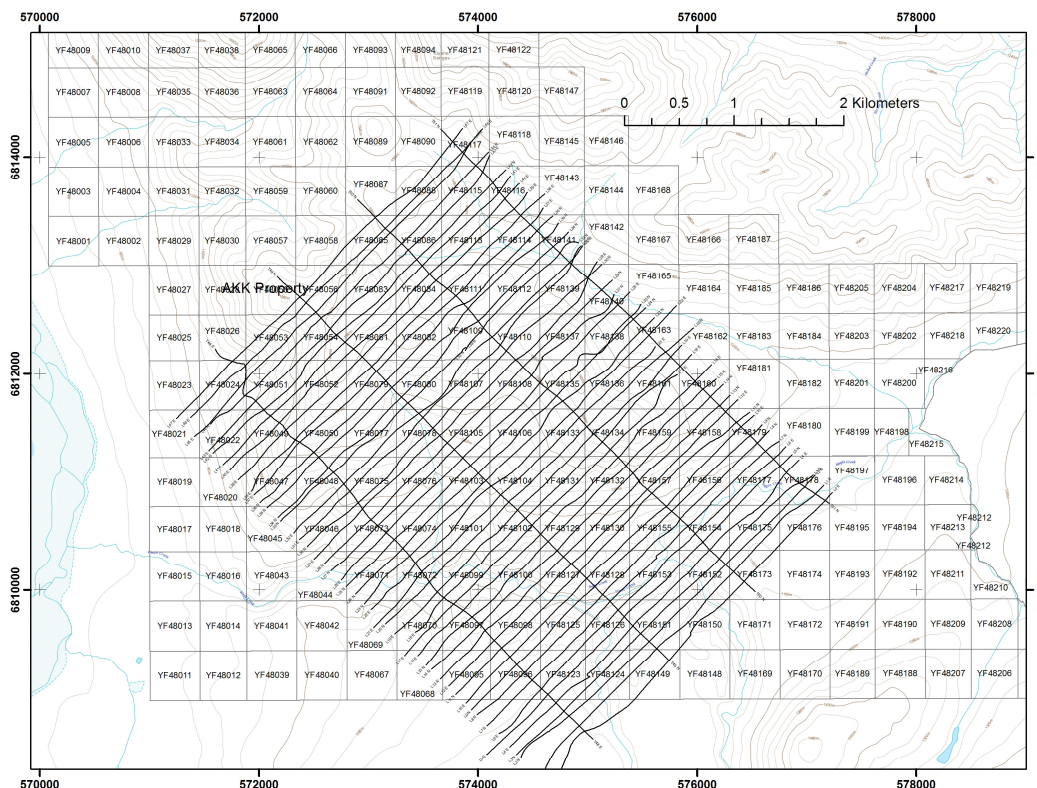


**SURVEY SPECIFICATIONS cont'd**

The survey coverage consisted of some 48 flight lines orientated at 045 and 4 orthogonal tie lines orientated at a 135 azimuth.

The survey was carried out with a mean bird height of some 53 meters. This is somewhat higher, than would be desired due several factors.

Survey Area	# of Lines	# of Tie Lines	Total Distance
Block 1	48	4	200 km



Block 1 – Flight Lines

## **DATA PROCESSING AND PRESENTATION.**

The data was first exported from MagLogPro, where the various sensor inputs were merged into Geosoft compatible ascii files. This merged dataset was then loaded into Geosoft Oasis Montaj for data reduction and processing.

The data was first corrected for diurnal magnetic drift, utilizing the magnetic base stations. The data was then lag corrected to account for positioning errors due to instrument delay and other positional errors. Tie line levelling was then undertaken prior to gridding.

Gridding was then undertaken on the levelled line data utilizing Geosoft's Rangrid algorithm using a 20 meter cell size.

The reduced and leveled data set was then subject to several filtering techniques using the Geosoft MagMap module for evaluation and presentation.

The magnetic data for each of the respective block is presented in this report is Contours of Total Magnetic Intensity, and Contours of the Calculated First Vertical Derivative at a scale of 1:10,000.

**Respectfully submitted,**

**PETER E. WALCOTT & ASSOCIATES LTD.**

**Alexander Walcott, B.Sc.  
Geophysicist**

**Peter E. Walcott, P.Eng.  
Geophysicist**

**Coquitlam, B.C.**

**January 2017**

**APPENDIX I**

**COST OF PROJECT.**

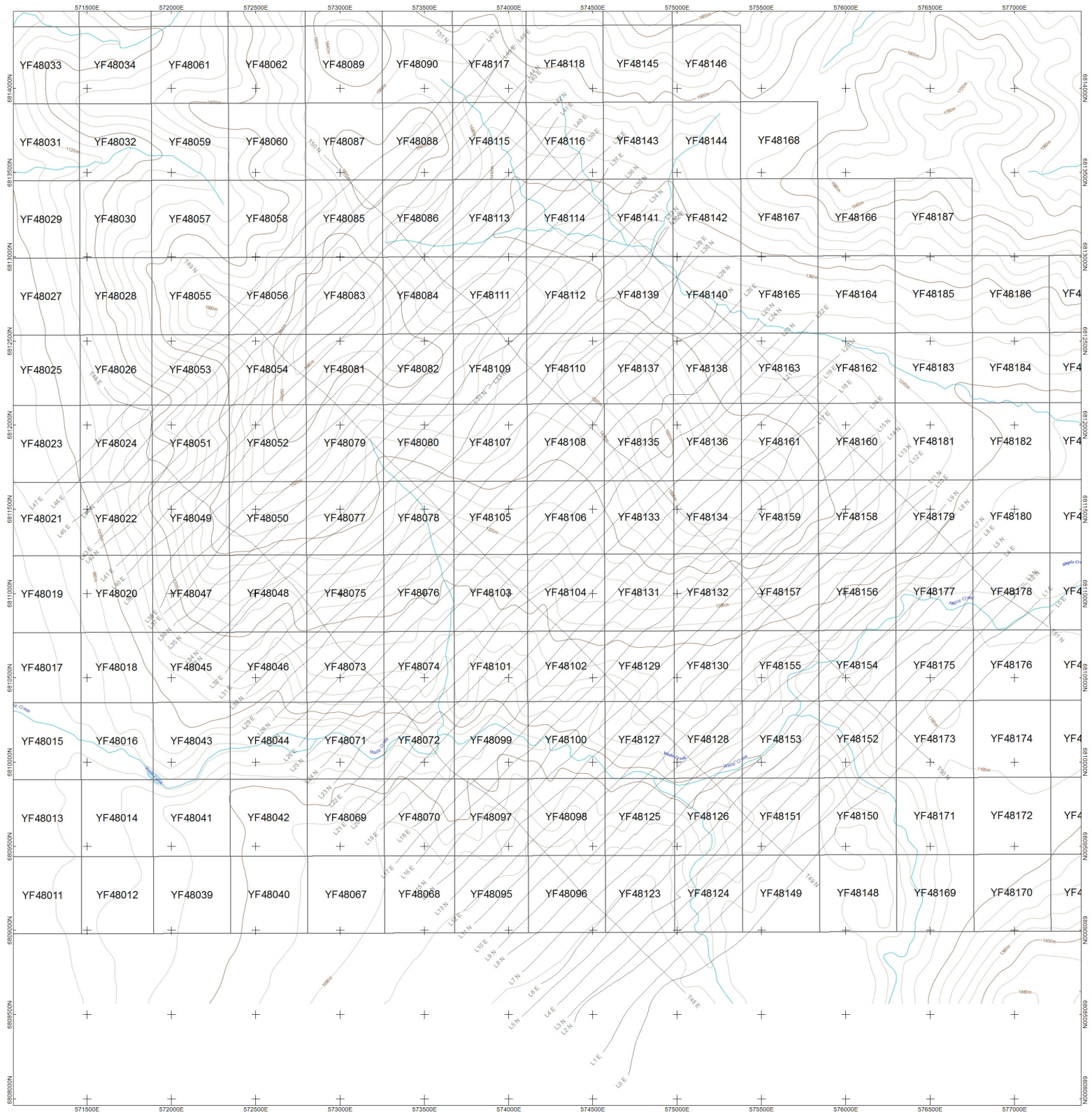
Peter E. Walcott & Associates Limited undertook the survey daily basis of \$2900.00 per day.

Mobilization/installation and Demobilization/removal where charged at half day rate. Expenses of \$627.85 were also incurred, thus the total cost of the project was \$6427.85 excluding helicopter and accommodation.



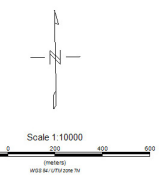
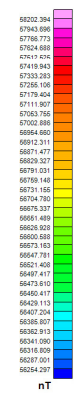
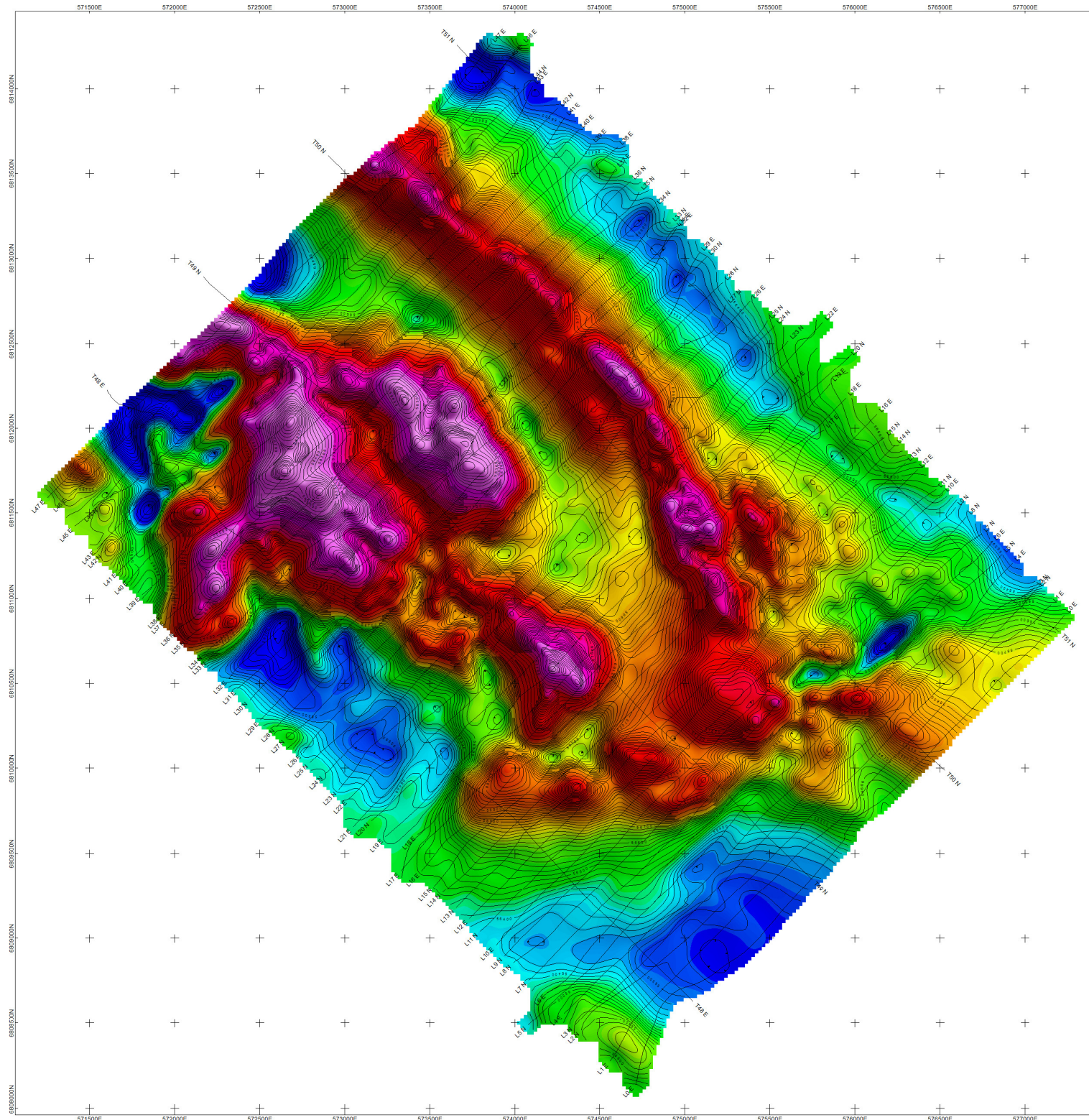
**PERSONNEL EMPLOYED ON PROJECT.**

<b>Name</b>	<b>Occupation</b>	<b>Address</b>	<b>Dates</b>
Peter E. Walcott	Geophysicist	Unit 111- 17, Fawcett Rd. Coquitlam, B.C. V3K 6V2	
Alexander Walcott	"	"	November 14-16 <sup>th</sup> , 2016
Bill Karman	Pilot Kluane Helicopters		November 15 <sup>th</sup> , 2016



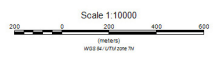
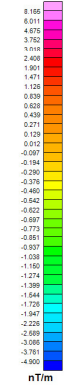
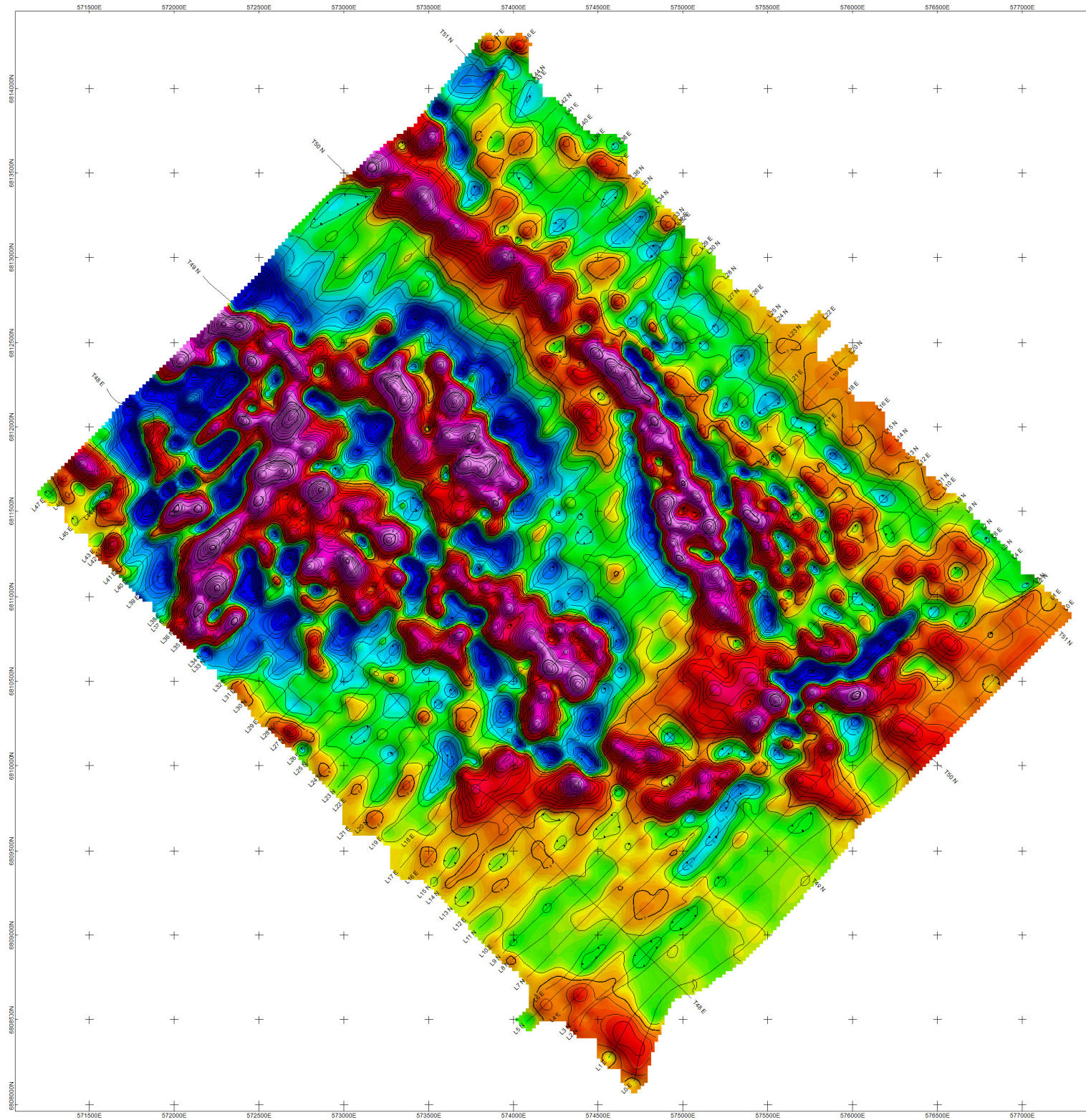
**BILL KARMAN**  
**AIRBORNE MAGNETIC SURVEY**  
**CLAIM AND LINE LOCATION MAP**  
 TOBI GROUP  
 KILMER LANE AREA  
 NOVEMBER 2016  
**PETER E. WALCOTT & ASSOCIATES LIMITED**





**BILL KARMAN**  
**AIRBORNE MAGNETIC SURVEY**  
**CONTOURS OF TOTAL FIELD INTENSITY (nT)**  
 TOBI GROUP  
 KLLWANE LAKE AREA  
 NOVEMBER 2016  
**PETER E. WALCOTT & ASSOCIATES LIMITED**





**BILL KARMAN**  
**AIRBORNE MAGNETIC SURVEY**  
**CONTOURS OF CALCULATED FIRST VERTICAL DERIVATIVE**  
 TOBI GROUP  
 KLUANE LAKE AREA  
 NOVEMBER 2016  
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