2017 Assessment Report
Geochemical Sampling and Geophysical Surveying of the Etta Property

NTS: 115O/10
Dawson Mining District, Yukon Territory, Canada

Property Centre:
(UTM NAD 83) 608940 E, 7052540 N, Zone 7N
63°32'8" N, 138°41'29" W

Work Applied to CLAIMS:

ETTA 1-24 YE32201 - YE32224

Held by Eureka Resources Inc. (100%)

WORK PERFORMED:
September 18, 2017
Prepared for:
Eureka Resources Inc.

Prepared by:

AURORA GEOSCIENCES

2017 Assessment Report
Geochemical Sampling and Geophysical Surveying of the Etta Property

Effective Date:
April 10, 2018

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1 SUMMARY

Eureka Resources Inc. contracted Aurora Geosciences Ltd. to conduct an exploration program on the Etta property, consisting of two phases in May and September of 2017 respectively. This property is currently held by Eureka Resources Inc. (100%). The program comprised an early May phase of airborne Versatile Time Domain Electromagnetics (VTEM) survey, conducted by Geotech Ltd. on contract to Aurora Geosciences Ltd.; and one day in mid-September of soil geochemical sampling, conducted by Aurora Geosciences Ltd.

In December of 2016, Eureka entered into an agreement to acquire a 100% interest in these properties from two vendors, Panarc Resources Ltd. and Heli Dynamics Ltd. The Etta property consists of 24 Yukon quartz mining claims covering 502 hectares, centered 57 kilometres southeast of Dawson City, Yukon. Although access is currently by helicopter, the northwest corner of the property extends within 1.4 km of a seasonally accessible placer access road extending from the main Black Hills Creek road.

The property is located within the Yukon-Tanana Terrane (YTT), a major accreted terrane comprised of variably metamorphosed, highly deformed intrusive, volcanic and sedimentary rocks that are mainly Neoproterozoic to late Paleozoic in age, but also includes significant Mesozoic- aged assemblages. The regional stratigraphy, including that of the local area, trends NNW – SSE. The property itself is underlain by two major stratigraphic groups: an aerially extensive assemblage of Permian Sulphur Creek Suite orthogneiss comprised of metamorphosed granodiorite to quartz monzonite; and an extensive package of Proterozoic to Devonian-aged Nasina Series, “Snowcap Assemblage” metaclastic rocks comprised mainly of quartzite, psammite and pelites. The property is located within “Beringia”, an area covering west-central Yukon and most of central Alaska that was not affected by Pleistocene glaciation.

The exploration target for this project is an orogenic gold system. These systems are characterized by sizable auriferous quartz veins, potentially up to 1.0 km in length and multiple metres in width. In an orogenic setting there is no evidence of intrusive activity, such as hornfels aureoles or contact metamorphic minerals; hence, intrusion-related mineralization is absent. Rather, the structural conduits are district-scale “crustal” faults that allow for hydrothermal fluid movement from a typically deep-seated source. Hard-rock gold mineralization in the Klondike area is considered to be of orogenic origin.

In May of 2017, Eureka Resources Inc. conducted an “Airborne Inductively Induced Polarization” (AIIP) survey combined with an airborne Total Magnetic Intensity (TMI) magnetic survey across the Etta property. The survey was conducted by Geotech Ltd., supervised by Aurora Geosciences Ltd., and was designed to evaluate for shallow conductive features within the claim block but also to determine the aeromagnetic signature of the property. The Mid-Time Gate plot of the electromagnetic response identified a positive signature coincident with a Total Magnetic Intensity magnetic low anomaly in the east-central part of the property.

The results of the airborne survey were then used to design a reconnaissance soil geochemistry program to follow up on geophysical anomalies and test their potential to host mineralization. This survey consisted of a ridge-and-spur soil survey, which identified two areas of interest, a zinc anomaly in the NE corner of the property, and a coincident Zn–Pb–As anomaly somewhat south of the strong TMI feature. Metal values are weakly to moderately anomalous, and of limited extent.

Total exploration expenditures in 2017 are $18,856.25. Proposed follow-exploration comprises in-fill soil sampling and geological mapping along existing placer access roads. Proposed expenditures for this work are estimated at $10,658.

2 INTRODUCTION

Eureka Resources Inc. (Eureka) retained Aurora Geosciences Ltd. (Aurora) of Whitehorse, Yukon, as the primary contractor to conduct the 2017 exploration program on its Etta property, located approximately 57 km southeast of Dawson City, Yukon, and towards the southern limit of the Klondike placer mining district. The program consisted of two phases. The first phase was an airborne geophysical survey and the second phase was a ground geochemical and geological reconnaissance survey. Aurora retained Geotech Ltd. of the Town of Aurora, Ontario, to conduct the airborne survey.

From May 6-17, 2017, Geotech Ltd. conducted an "Airborne Inductively Induced Polarization" (AIIP) survey combined with an airborne magnetic survey across the Etta property, one of five surveys conducted on each of a suite of five properties held by Eureka.

On September 18, 2017, Aurora personnel conducted a short soil sampling program on the Etta property. A total of 48 soil samples were collected. A lack of outcrop on the property constrained prospecting and mapping efforts.

2.1 Terms of Reference

The author has been requested to write this report using the following terms of reference:

a) To review and compile all available data obtained by Eureka during its 2017 field program.

b) To provide an Assessment Report to be filed with the Ministry of Energy, Mines and Resources, Government of Yukon.

2.2 Terms, Definitions and Units

All costs contained in this report are in Canadian dollars (CDN$). Distances are reported in centimetres (cm), metres (m) and km (kilometres). The term "GPS" refers to "Global Positioning System" with co-ordinates reported in UTM NAD 83 projection, Zone 7. "Minfile Occurrence" refers to documented mineral occurrences on file with the Yukon Minfile, Department of Energy, Mines and Resources, Government of Yukon.

"Mag" and "EM" refer to "Magnetic" and "Electromagnetic" methods respectively of geophysical surveying. "IP" is an abbreviation for Induced Polarization surveying. "AIIP" stands for "Airborne Inductively Induced Polarization" study.

"Ma" refers to million years. "QAQC" refers to "Quality Assurance/ Quality Control".

The term "g/t" stands for grams per metric tonne. The term "ppm" stands for "parts per million, and "ppb" for "parts per billion". ICP-AES stands for "Inductively coupled plasma mass spectroscopy", and AA stands for "atomic absorption".

Elemental abbreviations used in this report are:

Ag: Silver	Mg: Magnesium
Al: Aluminum	Mn: Manganese
As: Arsenic	Mo: Molybdenum

Au: Gold	Na: Sodium
B: Boron	Ni: Nickel
Ba: Barium	P: Phosphorous
Bi: Bismuth	Pb: Lead
Ca: Calcium	S: Sulphur
Cd: Cadmium	Sb: Antimony
Co: Cobalt	Sc: Scandium
Cr: Chrome	Sr: Strontium
Cu: Copper	Th: Thorium
Fe: Iron	Ti: Titanium
Ga: Gallium	Tl: Thallium
Hg: Mercury	V: Vanadium
K: Potassium	W: Tungsten
La: Lanthium	Zn: Zinc

2.3 Sources of Information

Information on claim tenure, including adjacent properties, and regional geology was provided by the "Yukon Mapmaker Online" website of the Yukon Geology Survey at http://mapservices.gov.yk.ca/YGS/Load.htm. Information on regional geology was provided by the "Yukon Bedrock Geology" website and by the "YGS Mapmaker Online" website, both available at http://www.geology.gov.yk.ca/Web_map_gallery.html.

3 PROPERTY DESCRIPTION AND LOCATION

3.1 Property Description

The Etta property is located approximately 57 km southeast of Dawson City, on NTS map sheet 115 O/10 (Fig. 1). The property consists of 24 Yukon quartz mining claims covering 502 hectares and is centered at 63° 35' 2" N, 138° 48' 19" W (UTM NAD 83 coordinates 608940 E, 7052540 N, Zone 7N), approximately 5 km north of Eureka Dome. The property is crossed by a placer mining road in fair condition (driveable by a pick-up truck from June to September) that is connected to the main Black Hills Creek access road, and within seven kilometres of the Indian River. Access to the property is also possible by helicopter or on foot from one of the nearby main placer mining roads.

Table 1 shows the claim status of the ETTA 1-24 block as of March 14, 2017.

Table 1: Claim Status, Etta claim block

Claim Names	Grant No's	Expiry Date
ETTA 1-24	YE32201-YE32224	May 10, 2018

The property is located within Crown Land in the traditional territory of the Tr'ondek Hwech'in First Nation (THFN). There are no current exploration permits for hard rock exploration on the property. Activities allowed under "Class 1" notification comprise rock, soil and silt geochemical sampling, geological mapping, trenching (to a limit of 400m^3 per claim), temporary trail construction (to a maximum of 3.0 km) and a maximum of 250 person-days in camp for a total of all activities. As of April 1, 2018, formal "Class 1 Notification" is required for all exploration within the traditional territory of the Tr'ondek Hwech'in

A gradation of permits, for Class 2 through Class 4 activities, is required for more significant programs, which may include diamond drilling and reverse-circulation programs having a footprint exceeding Class 1 limits. Larger exploration programs require a "Class 3 Permit", valid for five years and acquired through the local Mining Recorder, Department of Energy, Mines and Resources (EMR), Government of Yukon.

Class 3 permit activities allow for sizable diamond drilling programs (depending on the number of clearings per claim), up to 5,000 m^3 of trenching per claim per year, the establishment of up to 15 km of new roads and 40 km of new trails, and up to 200,000 tonnes of underground excavation work during the length of the exploration program. A "Yukon Water License" is required if water usage exceeds 300m^3/day. Additional licenses may be required for "Disposal of Special Waste," and a "Consolidated Environmental Act Permit" is required for proper disposal of camp waste and ash resulting from incineration, etc. A "Fuel Spill Contingency Plan" will also be required.

All applications for Class 2 through Class 4 require review by the Yukon Environmental and Socioeconomic Board (YESAB). YESAB will provide recommendations on whether the project may proceed, may proceed with modifications, or is not allowed to proceed. Following submission by YESAB, a Decision Body will determine whether to accept the recommendations, and whether a permit will be awarded and, if so, the conditions of the permit.

3.2 Land Tenure and Underlying Agreements

The present Etta property was staked in May 2017 for Eureka Resources Inc. by Aurora Geosciences Ltd. Eureka Resources Inc. has 100% ownership in this property.

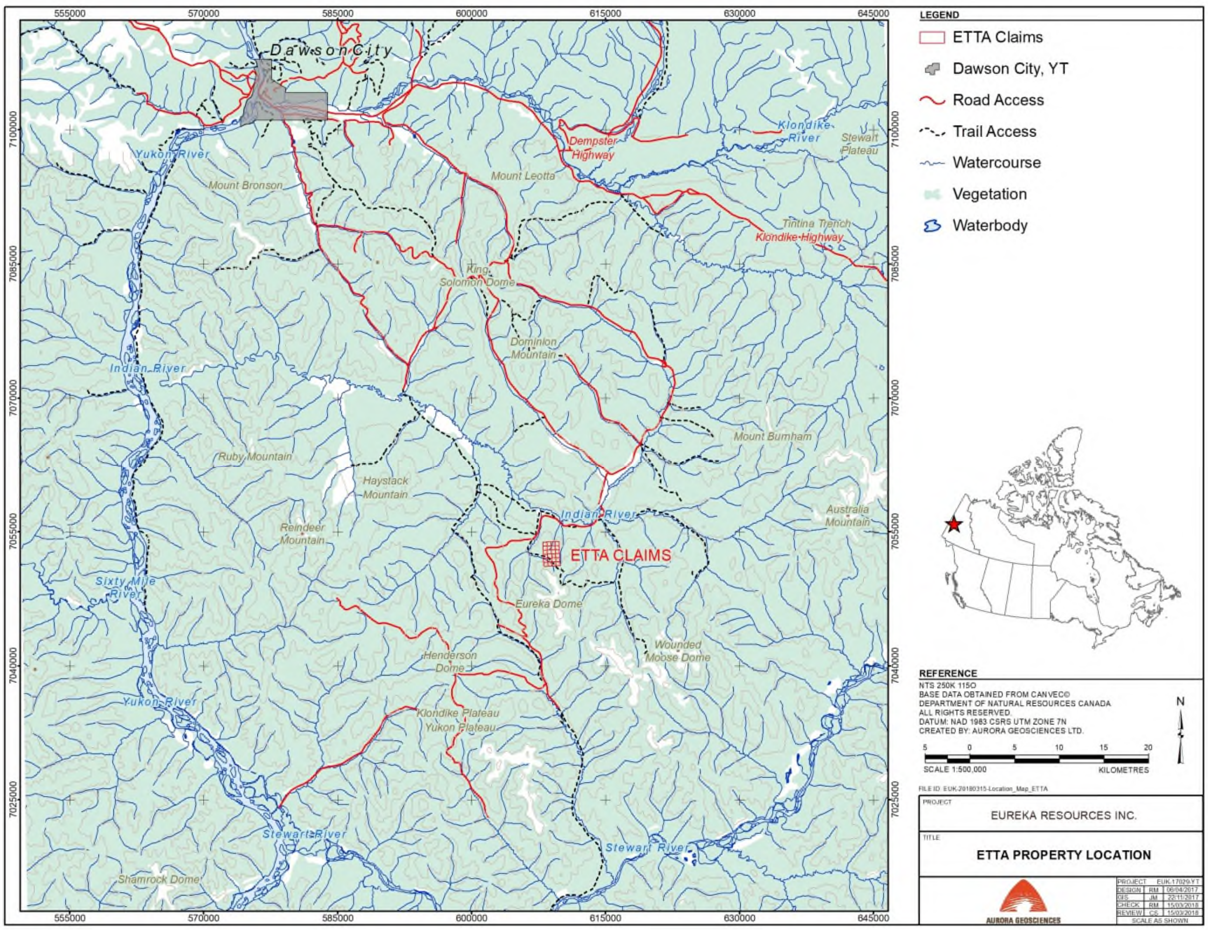

Figure 1: Location of the Etta property.

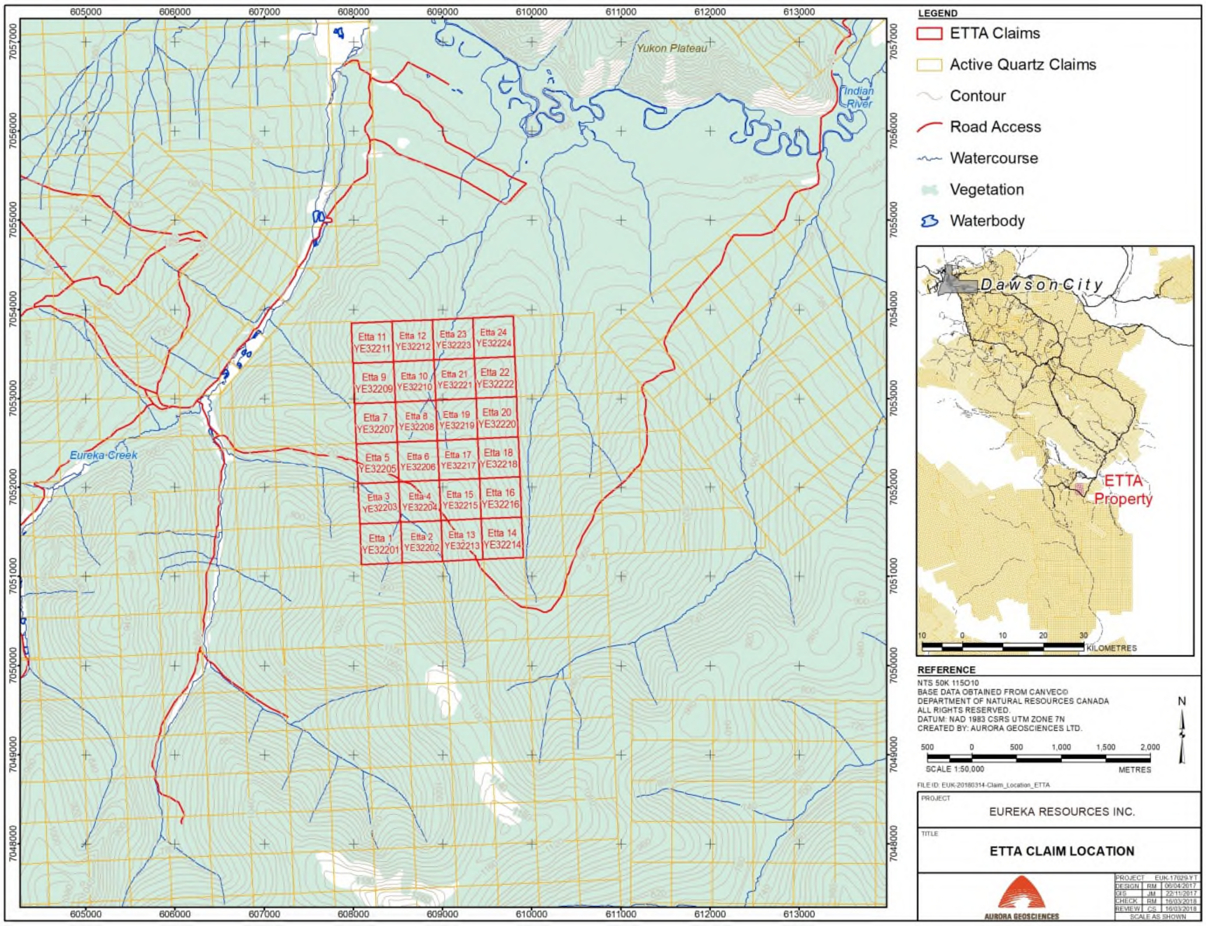

Figure 2: Claim location map for the Etta property.

4 ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Etta property is centered 57 km southeast of Dawson City, Yukon. Access to the property is provided by a fair quality placer mine access road; this is feasible from June to September. This placer mine road connects to the main Black Hills Creek placer access road. This road extends southwest from the junction of the Dominion Creek and Sulphur Creek roads, and is seasonally privately maintained by the local operators. The Dominion and Sulphur Creek roads are seasonally maintained by the Department of Highways and Public Works, Government of Yukon, and are accessible from mid-April to mid-October. Alternatively, the property may be accessed by helicopter or by foot from the main placer mining roads.

Note: Portions of the access roads, including parts of the Black Hills Creek road, may become refurbished and potentially accessible year-round, if Goldcorp Inc. commences construction of an access road extending from the North Klondike Highway near Dawson to the Coffee Property directly south of the Yukon River.

The terrain on the property is moderate, consisting of a broad forked ridgeline with moderate slopes desceding towards creek valleys in the centre and east and west sides of the property. All of the property is easily accessible on foot. There is almost no outcrop on the property, however some outcrop and subcrop may be exposed in bulldozer cuts along the placer mining road. Elevations range from about 620 metres in the central creek bottom to 920 metres at the highest point on the ridgeline near the southern boundary.

The climate is continental subarctic, with short warm summers with daily highs commonly exceeding 20°C, and long, cold winters with low temperatures averaging -25° to -30°C, although temperatures below -40°C are not uncommon. North facing slopes and some east-facing slopes are typically underlain by permafrost. Precipitation is light to moderate, although showers and thundershowers are common in summer. Maximum snowpack averages from 0.4 to 0.6m, depending on elevation. The field season extends from late May to mid-September, depending on elevation and snow conditions, although drilling may extend into late autumn, provided that water lines can remain unfrozen.

Dawson City is a full-service community with a population of 1,319. The neighbouring communities in the Klondike area increase the population to roughly 2,000. Dawson City has bulk fuel, grocery and hardware services, abundant accommodation, and government services including the Mining Recorder’s office for the Dawson Mining District. Dawson City is located roughly 425 air-kilometres (550 road-kilometres) NNW of Whitehorse along the North Klondike Highway. Whitehorse, Yukon, is a full-service community of about 29,000, with excellent accommodations, groceries, hardware, camp supplies, bulk fuel and expediting services. Both Dawson City and Whitehorse have a substantial skilled labour force, including professional geoscientists and tradespeople.

5 EXPLORATION HISTORY

The present Etta property was staked in May 2017 for Eureka Resources Inc. by Aurora Geosciences Ltd. Although the area in the vicinity of the property was explored for placer gold during and after the Klondike Gold Rush, no records of hard rock exploration activity prior to 2011 within the claim block are known. The Etta property is roughly 7 km northeast of the Eureka Prospect (Yukon Minfile # 115O 057). This prospect and local area underwent several episodes of staking from 1900 through 1920, although little data exists on early exploration. Interest in the prospect resumed in 1988 following release of RGS stream sediment data, showing an “extremely anomalous” gold value of 89 ppb Au. Several episodes of bedrock mapping, rock, soil and silt geochemical sampling took place from 1988 through 2000. Exploration identified three main mineralized showings: the Allen, Wealth and Childs showings. In 2002 Viceroy Exploration Canada Ltd. conducted mechanical trenching and drilled four reverse-circulation holes; three holes for 290 metres on the Allen showing and one 90-metre hole on the Wealth showing (Yukon Minfile, 2017).

Grab samples from the Allen showing, located along the upper reaches of Eureka Creek 1.5 km south of the indicated Minfile location, consisted of milled, clay-rich brecciated quartzite and quartz-muscovite and returned values to 15 g/t gold. Continuous chip sampling across this zone returned a value of 0.44 g/t gold across 4 metres. At the Wealth showing, located about 3 km south of the Eureka Minfile location, chip sampling returned a value of 0.33 g/t gold across 6.5 metres. Check assaying returned a value of 0.41 g/t gold across the same interval. Reverse-circulation drilling returned a value of 0.66 g/t gold across 8 metres. At the Childs showing, 5 km south of the Minfile location, grab sampling returned values to 3.97 g/t gold with 3.2 g/t silver. All showings are associated with sizable gold anomalies from soil geochemical sampling (Yukon Minfile, 2017).

In 2010 Taku Gold Corp. (Taku) acquired the Wounded Moose property from local vendors. The western extent of this property is currently covered by the Etta claims and at the time was covered by the Wam 168-191 claims. In 2011 Taku conducted reconnaissance-style soil geochemical sampling along ridge and spur lines across the property, and established two small soil grids in the south-central and northwest areas of the present property. Both grids returned rare anomalous values, to a maximum of 32.4 ppb Au from the north-central grid, and to 113.4 ppb Au from the southern grid. Gold analysis was done as part of a suite of 36 elements by 15-gram Aqua Regia digestion, with ICP-MS finish, rather than by fire assay. This area remains held by Taku Gold, although the remainder of the claim block was allowed to lapse. Ridge and spur soil sampling was conducted over the Wam 168-191 claim block but it only returned background values (Fekete and Huber, 2011).

6 REGIONAL GEOLOGY

6.1 Regional Geology

The Etta property is located within the Yukon-Tanana Terrane (YTT), a major accreted terrane comprised of variably metamorphosed, highly deformed intrusive, volcanic and sedimentary rocks (Gordey and Makepeace, 2001). The majority of this terrane ranges from Neoproterozoic to late Paleozoic in age, but also includes significant Mesozoic- aged assemblages. The YTT abuts against Selwyn Basin shelf and off-shelf sedimentary and volcanic rocks to the north, formed along the margins of the Ancient North American Continent. These two terranes are separated by the 65 Ma Tintina Fault Zone, a major transpressional fault with a dextral displacement of roughly 450 km.

The major stratigraphic orientation in the Etta area is NNW - SSE, conforming to that of most of southwestern Yukon (Figure 3). Major stratigraphic groups and formations include a large assemblage of Permian Sulphur Creek Suite orthogneiss comprised of metamorphosed granodiorite to quartz monzonite (Yukon Geology Survey, “Mapmaker” website). The Sulphur Creek Suite units occur alongside, and may be coeval with, large packages of Permian Klondike Schist, consisting of metaclastic, metavolcanic and minor ultramafic rocks, commonly chloritic, and underlying much of the main Klondike placer district. Also prominent in the area are large assemblages of Proterozoic to Devonian-aged Nasina Series, Snowcap Assemblage metaclastic rocks; these are comprised mainly of quartzite, psammite and pelites with minor greenstone and amphibolite. Large packages of Mississippian-aged Simpson Range meta-intrusive rocks, consisting of metamorphosed granodiorite, diorite and tonalite, occur to the west of the Snowcap Assemblage package. Late Cretaceous Carmacks Group rhyolitic to rhyodacitic tuffs, welded tuffs and lapilli tuffs occur throughout the project area.

6.2 Property Geology

The Etta Property is underlain mainly by Snowcap Assemblage metasediments with a NW trending Permian Sulphur Creek assemblage granite to quartz monzonite intrusion cutting across the property (Figure 4). The Sulphur Creek and coeval Klondike Schist assemblages extend northwest-southeast and underlie much of the Klondike area, including parts of the Bonanza, Hunker and Sulphur Creek drainage basins (Yukon Geological Survey, online “Mapmaker”). Regional-scale total magnetic field surveying shows a weak linear magnetic high anomaly extending NNW – SSE, likely indicating the regional trend of stratigraphy.

6.3 Surficial Geology

The Etta property is within “Beringia”, an area which escaped all Pleistocene glaciation, extending from west-central Yukon through the majority of central and western Alaska. Surficial deposits consist mainly of colluvium, as well as locales of “loess”, consisting of wind-blown fine sand to silt. Bedrock exposure is sparse, due to mechanical and chemical weathering of outcrop, except for areas of very rugged terrain.

Surficial deposits, particularly at lower elevations, have been developed over much longer time periods than post-glacial overburden elsewhere in Yukon. This is particularly applicable to fluvial deposits; local placer gold deposits have developed over much greater time periods than those in glaciated areas.

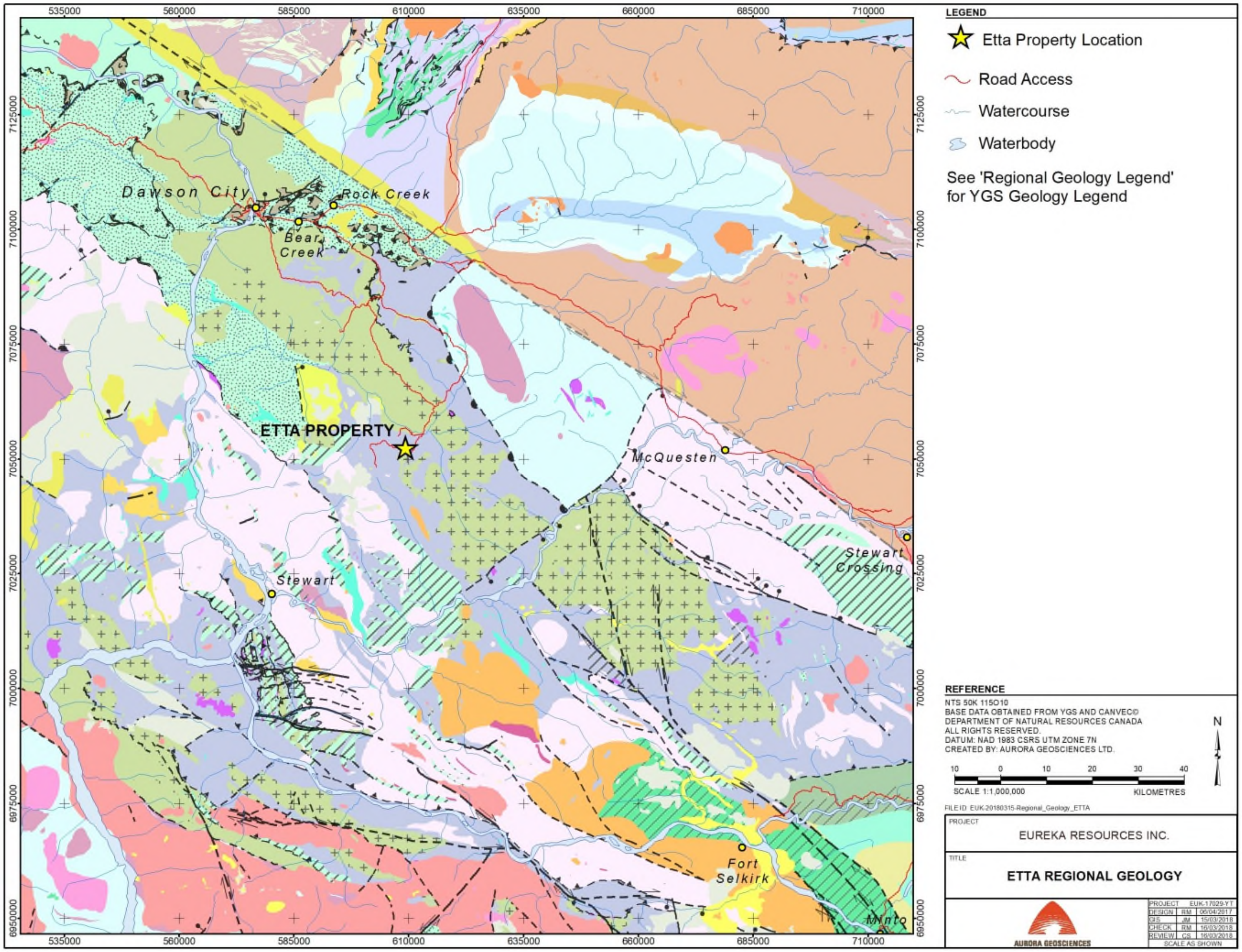

Figure 3: Regional Geology map for area surrounding the ETTA claims. See legend below

REGIONAL GEOLOGY LEGEND

Yukon Faults

- normal, , approximate
- normal, , inferred
- normal, low-angle detachment, inferred
- strike slip, dextral, approximate
- strike slip, dextral, covered
- strike slip, dextral, inferred
- strike slip, sinistral, approximate
- strike slip, sinistral, defined
- strike slip, sinistral, inferred
- thrust, , approximate
- thrust, , inferred
- unknown, , inferred

Yukon Bedrock Geology

TERTIARY(?) AND

- TQS: SELKIRK: columnar jointed, vesicular to massive basalt flows

PALEOCENE TO LOWER EOCENE

- PRC1: RHYOLITE CREEK: light grey, green, maroon, purple and black rhyolite and dacite
- PRC4: RHYOLITE CREEK: andesite and dacite-rhyolite flows and breccia, minor basalt

LOWER TERTIARY, MOSTLY(?) EOCENE

- lTR1: ROSS: dark grey-green olivine basalt necks and flows
- lTR2: ROSS: rhyolite flows, tuff, ash-flow tuff and breccia
- lTR3: ROSS: brown, thin-bedded, claystone, siltstone, shale and coal
- lTR4: ROSS: quartz-feldspar porphyry and rhyolite

LATE CRETACEOUS TO TERTIARY

- LKgP: PROSPECTOR MOUNTAIN SUITE: Hbl-Bt granodiorite, Hbl diorite, quartz diorite
- LKyP: PROSPECTOR MOUNTAIN SUITE: syenite
- LKfC: CASINO SUITE: quartz-feldspar porphyry

LATE CRETACEOUS

- LKqM: MCQUESTEN SUITE: Bt-Ms granite and quartz monzonite

MID-CRETACEOUS

- mKqM: MAYO SUITE: Bt granite; K-feldspar porphyritic granite
- mKdW: WHITEHORSE SUITE: Hbl diorite, Bt-Hbl quartz diorite
- mKgW: WHITEHORSE SUITE: Bt-Hbl granodiorite, Hbl quartz diorite and Hbl diorite
- mKqW: WHITEHORSE SUITE: Bt quartz monzonite, Bt granite and leucogranite
- mKyT: TOMBSTONE SUITE: Bt-Hbl-Cpx syenite, quartz syenite

UPPER CRETACEOUS

- uKC1: CARMACKS: augite-olivine basalt and breccia
- uKC2: CARMACKS: andesite, porphyry
- uKC3: CARMACKS: acid vitric crystal tuff, lapilli tuff and welded tuff
- uKC4: CARMACKS: sandstone, pebble conglomerate, shale, tuff, and coal

LOWER CRETACEOUS

- lKIR: INDIAN RIVER: clast-supported pebble to cobble conglomerate

JURASSIC

- JB1: 'LOWER SCHIST': dark grey argillite, slate, and phyllite, commonly graphitic

EARLY JURASSIC

- EJgL: LONG LAKE SUITE: massive to weakly foliated Bt-Hbl granodiorite

LATE TRIASSIC TO EARLY

- LTrEJgM: MINTO SUITE: foliated Bt-Hbl granodiorite; Bt-rich screens and gneissic schlieren
- LTrEJqM: MINTO SUITE: Bt, Bt-Ms and Bt-Hbl quartz monzonite to granite
- LTrEJgbM: MINTO SUITE: Hbl gabbro

LATE TRIASSIC

- LTrgS: STIKINE SUITE: coarse-grained, foliated, gabbroic Hbl orthogneiss

UPPER TRIASSIC, CARNIAN AND OLDER

- uTrP?: POVOAS: augite or feldspar-phyric andesitic basalt flows, breccia, tuff, sandstone, argillite

UPPER TRIASSIC TO LOWER

- uTrJS1: SEMENOF: augite-phyric basalt flow and agglomerate, andesite

MIDDLE TO UPPER TRIASSIC

- TrJ1: JONES LAKE: calcareous siltstone, shale, and fine sandstone
- TrJ2: JONES LAKE: bioclastic limestone and interbedded sandy or silty limestone

TRIASSIC

- TrGs: SNAG CREEK SUITE: Hbl gabbro and pyroxenite sills
- TrG: GALENA SUITE: Hbl diorite and gabbro sills

MIDDLE TO LATE PERMIAN

- PgS: SULPHUR CREEK SUITE: granodiorite and quartz monzonite
- PqS: SULPHUR CREEK SUITE: variably foliated, K-feldspar augen granite, metaporphyry
- PK1: KLONDIKE SCHIST: quartz-muscovite-chlorite schist
- PK2: KLONDIKE SCHIST: silvery grey muscovite-chlorite quartz phyllite, micaceous quartzite
- PK3: KLONDIKE SCHIST: chlorite schist and phyllite, amphibolite

LOWER AND MIDDLE

- PJC3: TAHKANDIT: crystalline skeletal limestone, black chert, calcareous sandstone, conglomerate

UPPER CARBONIFEROUS, LOWER AND MIDDLE PENNSYLVANIAN

- uCB1: BOSWELL: siliceous argillite, siltstone, sandstone, chert conglomerate, volcanic breccia
- uCB3: BOSWELL: micritic limestone, bioclastic limestone, marble

CARBONIFEROUS

- CT1: TSICHU/KENO HILL: massive to thick-bedded quartz arenite
- CT2: TSICHU/KENO HILL: black to silvery shale or carbonaceous phyllite
- CT4: TSICHU: siliceous calcarenite, dolostone, sandy dolostone and minor grey quartzite

CARBONIFEROUS TO PERMIAN

- CPSM2: CAMPBELL RANGE: dark green to black basalt, greenstone, locally pillowed
- CPSM4: SLIDE MOUNTAIN: brown weathering, variably serpentinized ultramafic rocks
- CPSM5: SLIDE MOUNTAIN: medium to coarse-grained gabbro
- CPMC: MOUNT CHRISTIE: burrowed, interbedded greenish grey cherty shale and green shale

MISSISSIPPIAN

- MqSR: SIMPSON RANGE SUITE: foliated metagranite, quartz monzonite and granodiorite; augen granite
- MgSR: SIMPSON RANGE SUITE: Hbl-bearing metagranodiorite, metadiorite and metatonalite
- MgbSR: SIMPSON RANGE SUITE: metagabbro

DEVONIAN, MISSISSIPPIAN AND(?)

- uDMM1: MOOSE: massive and pillow basalt, amphibolite and greenstone
- uDMM3: MOOSE: intermediate metavolcanic and metavolcaniclastic rocks
- DMF1: FINLAYSON: intermediate to mafic volcanic and volcaniclastic rocks
- DMF3: FINLAYSON: dark grey to black carbonaceous metasedimentary rocks, metachert
- DMF4: FINLAYSON: light green to grey, fine-grained siliciclastic and metavolcaniclastic rocks
- DMF5: FINLAYSON: light grey to white marble, locally crinoidal
- DMF6: FINLAYSON: ultramafic rocks, serpentinite; metagabbro

LATE DEVONIAN TO MISSISSIPPIAN

- LDgMB: MT BAKER SUITE: strongly foliated to gneissic granodiorite, diorite and monzogranite
- LDyMB: MT BAKER SUITE: strongly foliated to gneissic diorite, gabbro and minor pyroxenite
- DMgG: GRASS LAKES SUITE: fine to medium-grained, foliated granodiorite, granite, quartz monzonite

DEVONIAN AND

- DMW1: WHITE RIVER: carbonaceous muscovite-quartz phyllite, grey psammitic schist, quartzite
- DME: EARN: black siliceous shale and chert
- DME1: EARN: laminated slate, fine to medium-grained chert-quartz arenite and wacke

ORDOVICIAN TO LOWER DEVONIAN

- ODS: SCOTTIE CREEK: quartzite, micaceous quartzite, psammitic Qtz-Ms-Bt ± Grt schist
- ODSmm: SCOTTIE CREEK: layered paragneiss, migmatite
- ODR: ROAD RIVER - SELWYN: black shale and chert, dolomitic siltstone, calcareous shale, buff platy limestone
- ODR1: DUO LAKE/ELMER CREEK - SELWYN: black graptolitic shale and black chert
- ODR2: STEEL - SELWYN: rusty dark green to orange buff weathering argillite and dolomitic siltstone

CAMBRIAN TO SILURIAN

- CSM3: DEMPSTER: mafic volcanic flows, tuff and hyaloclastic breccia
- CSM9: MENZIE CREEK/DEMPSTER: gabbro, pyroxenite

UPPER CAMBRIAN AND

- COR1: RABBITKETTLE: thin-bedded, silty limestone and grey lustrous calcareous phyllite

LOWER CAMBRIAN

- lCG: GULL LAKE: undivided - shale, siltstone, sandstone, conglomerate, limestone
- lCG1: GULL LAKE: shale, siltstone and mudstone, minor quartz sandstone
- lCG2: GULL LAKE: mafic metavolcanic and volcaniclastic rocks

NEOPROTEROZOIC AND

- PDS1: SNOWCAP: quartzite, psammite, pelite and marble; minor greenstone and amphibolite
- PDS2: SNOWCAP: light grey to buff weathering marble
- PDS3: SNOWCAP: amphibolite, commonly garnet-bearing; greenstone

NEOPROTEROZOIC TO LOWER CAMBRIAN

- PCH1: YUSEZYU: brown to pale green shale, quartz-rich sandstone, grit, pebble conglomerate
- PCH2: ALGAE: grey weathering, very fine crystalline limestone, locally sandy
- PCH3: NARCHILLA: interbedded maroon and apple-green slate
- PCH4: YUSEZYU: quartzose clastic rocks

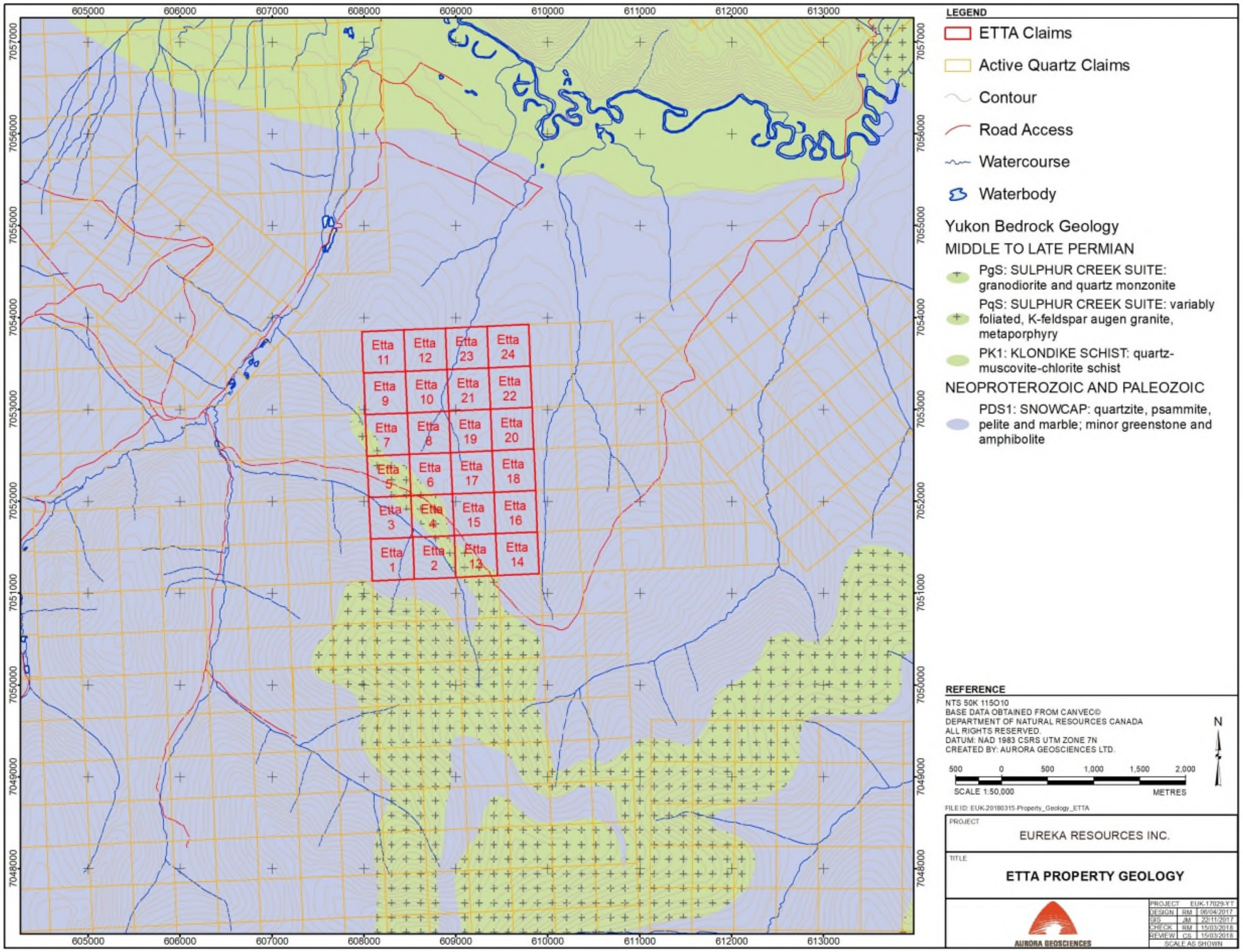

Figure 4: Property Geology (from Yukon Geological Survey's "Mining Map Viewer" website

7 DEPOSIT MODELS

The Etta Property is located towards the southern end of the main Klondike placer mining camp extending southeast from the Klondike River directly east of Dawson. To date, hard rock gold +/- silver occurrences within this have been ascertained to have an orogenic origin, with fluid movement and emplacement related to deep-seated crustal faults rather than local, shallowly emplaced intrusive bodies. Although the Klondike area is located within the 70 – 110 Ma Tintina Gold Belt, an arcuate belt of felsic to intermediate intrusions extending from Southwest Alaska through Fairbanks, Dawson City and terminating in the Watson Lake areas, mineralized zones in the Klondike to date do not have the characteristics of intrusion-related systems. Mineralization typically consists of mesothermal quartz veins, hosting gold +/- silver, and marked by the typical pathfinder elements of arsenic (As), antimony (Sb), and, for silver, lead (Pb) and zinc (Zn). The dominant stratigraphic orientation within the Klondike gold camp is NNW – SSE (Figure 3), likely paralleling that of mineralized structures within this district.

The "Orogenic Gold" setting is characterized by larger auriferous quartz veins, potentially to 1.0 km in length and multiple metres in width. Although mineralized quartz veining may be abundant, in the orogenic setting there is no evidence of intrusive activity, such as hornfels aureoles or contact metamorphic minerals, skarn or replacement-style mineralization (Hart and Lewis, 2005). Rather, the structural conduits are district-scale deep-seated "crustal" faults that allow for hydrothermal fluid movement from a typically unknown source. The mechanism for emplacement in local structures is similar to that of intrusion-related veining, whereby mineralized zones develop from fluid movement from the main fault conduit into splays or other areas of "structural preparation".

8 2017 EXPLORATION PROGRAM

The 2017 field program on the Etta property consisted of two components: (1) a ridge-and-spur reconnaissance soil survey, and (2) an "Airborne Inductively Induced Polarization" (AIIP) and an airborne magnetic survey conducted by Geotech Ltd., in the spring of 2017. A report on the methods and results of that survey can be found in Appendix IV.

8.1 Soil Geochemical Sampling

8.1.1 Crew and Equipment

The following personnel conducted the survey:

Nigel Bocking	Crew Chief	Sept 18, 2017
Heiko Mueller	Geologist	Sept 18, 2017

The crew was equipped with the following instruments and equipment:

Data Processing	1	Computer: geologist's software package
Survey Equipment	2	Sampling tools including mattocks and soil augers.
	2	Non-differential GPS
		Sampling consumables including soil (Kraft) bags, tags, assay books, and flagging.
	2	Juniper CT-5 Handhelds with integrated GPS/GLONASS receivers, using Avenza Maps application
Communication	2	VHF radios (mobile / base)
	1	SAT phone - Iridium
Safety	1	First Aid kit
	2	Bear Safety (Bangers, Spray)
	1	Field Survival kit
Support	1	Office box and equipment repair tools

Soil samples were collected using soil augers, and placed in kraft paper bags.

8.1.2 Line Specifications

On the Etta property both ridge-and-spur and contour lines were executed in order to maximize the coverage of the property. These lines were concentrated in areas of geochemical anomalies identified from previous work and to transect an east-west conductivity (mid dB/DT) and magnetic anomaly identified in the airborne VTEM survey conducted in the spring of 2017. Sampling was conducted at 100m intervals along the ridgelines of the Etta property.

8.1.3 Survey Specifications

The objective of the soil survey was to collect C horizon samples. As the Etta property remained unglaciated during the Pleistocene epoch the parent material for the soil is mostly weathered bedrock. Therefore, the geochemistry of the C horizon closely reflects that of the underlying bedrock. Along hillsides the geochemistry may represent transported soil values, due to downslope dispersion.

8.1.4 Sampling Methodology

Samples were collected using hand augers to drill through the soil profile and extract material at depth. In certain areas, the crew encountered boulders and/or permafrost that could not be penetrated before they were able to reach the C horizon. In these circumstances available material was sampled. This material was typically of B/C horizon, and rarely of B horizon alone; if neither could be obtained then no sample was collected. The horizon sampled was recorded and must be considered when interpreting geochemical results. Samples were bagged in paper "kraft" bags and closed with a cable tie ("Zap Strap"). These were then placed in rice bags for transport to the lab. Field duplicates were taken at a rate of one per every 20 samples and collected by obtaining double the amount of material from the same sample location. The sample material was then homogenized and split between two sample bags, resulting in a primary sample and a duplicate with a different tag number.

8.1.5 Analysis

Soil samples were submitted to Bureau Veritas Commodities Canada Ltd. in Whitehorse, YT for preparation, with the resulting pulps sent to Vancouver for analysis. The preparation code used was SS80 and the analysis package includes Aqua Regia 33 element ICP (AQ 300) and 30g fire assay for gold (FA 330-Au) with an ICP-ES finish.

8.2 Airborne Geophysical Survey

The 2017 work program consisted of an "Airborne Inductively Induced Polarization (AIIP)" survey combined with an airborne magnetic survey, both conducted by Geotech Ltd. from May 6 to 17, 2017, across the Etta property. The main geophysical sensors included a "Versatile Time Domain Electromagnetic" (VTEM^{TM} ET) system and a caesium magnetometer (Kwan and Prikhodko, 2017). The flight lines over the Etta property were oriented at an azimuth of 175°, at a nominal line spacing of 100 metres. Approximately 68 line-kilometres of AIIP and magnetic surveying were flown over the Etta property.

The program was designed to identify resistive units at relatively shallow depths. To achieve this, the AIIP survey consisted of a series of up to 20 readings, or "gates", spaced a few milliseconds apart, which have been divided into "Early Time Gate" and "Mid Time Gate" plots. The early time gate plot favours identification of shallow, poorly conductive horizons, whereas the mid-time blocks are more adept at identifying deeper, more strongly conductive zones. Plots are provided for each time gate and for "Total Magnetic Intensity" (TMI).

The airborne surveys were supported by two personnel employed by Aurora Geosciences Ltd., which placed helicopter fuel caches at two locations along the Black Hills Creek Road. The crew also established landing zones for the helicopter and airborne surveying equipment. Following the completion of the field program, all remaining fuel barrels, including empty barrels, and any other materials were removed from the fuel cache sites. The amount of fuel stored per site was less than the threshold for a fuel storage permit.

9 INTERPRETATION AND DISCUSSION

9.1 Soil Sampling

A total of 48 soil samples (46 samples, 2 field duplicates) were collected on the Etta property (Figure 5). The soil on the Etta property has a well-developed C horizon, however it is quite rocky and penetration below 50cm with a hand-held soil auger was typically not possible. Most samples were collected between 30 and 40 cm depth, but in certain locations samples had to be taken from a very shallow depth (less than 20 cm). The soil was very dry when collected.

The results of the soil program for Au and the commonly associated pathfinder elements Ag, As, Cu, Pb and Zn have been plotted on Figures 6, 7, 8, 9, 10, and 11. Antimony (Sb) was not found in significant concentrations in the soils of the Etta property to warrant plotting it. A table of sample locations and complete geochemical data can be found in Appendix II.

There is one anomalous (>10 ppb) Au value but it is weak (14 ppb), isolated and a corresponding value is not seen to the east along the trend of the geophysical results (Fig. 6), suggesting a limited size. The results for Ag were low and almost all samples were below detection limit (Fig. 7). A few weak arsenic anomalies are scattered around the property (Fig. 8).

Results from Sample 1892352 show anomalous values of Zn (245 ppm), Pb (32 ppm), As (112 ppb) and, SB (11 ppm, the only elevated value returned from the survey). Weakly elevated Cu, As, Pb and Zn values extend NNE from this sample. The anomalous sample is located somewhat south of, but close to, a coincident TMI magnetic low feature and mid-time gate conductive feature (Section 9.2, Figures 13, 14), and may be related to mineralization marginal or slightly outbound of the source of this feature.

Elsewhere, scattered anomalous Zn values were returned, most notably towards the NE end of the eastern line (Fig. 11) where a value of 601 ppm Zn was obtained. Cu analysis showed only very minor scattered anomalies to a maximum of 138 ppm (Fig. 9), none of which are considered as significant. All Pb values were low to weakly anomalous, to a maximum of 34 ppm (Fig. 10). Weakly elevated As values were returned from the extreme northwest end of the western line.

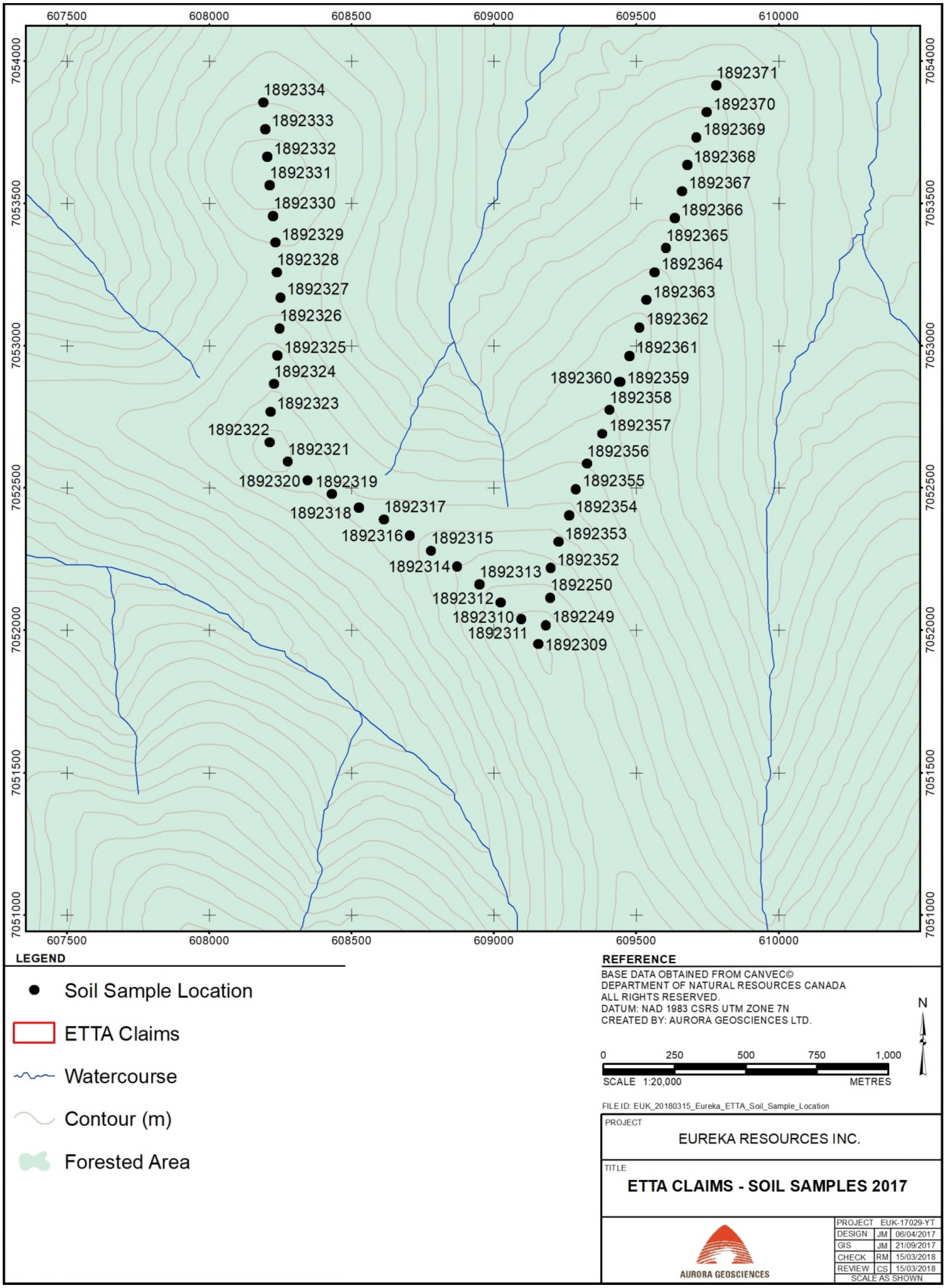

Figure 5: Location of 2017 soil samples.

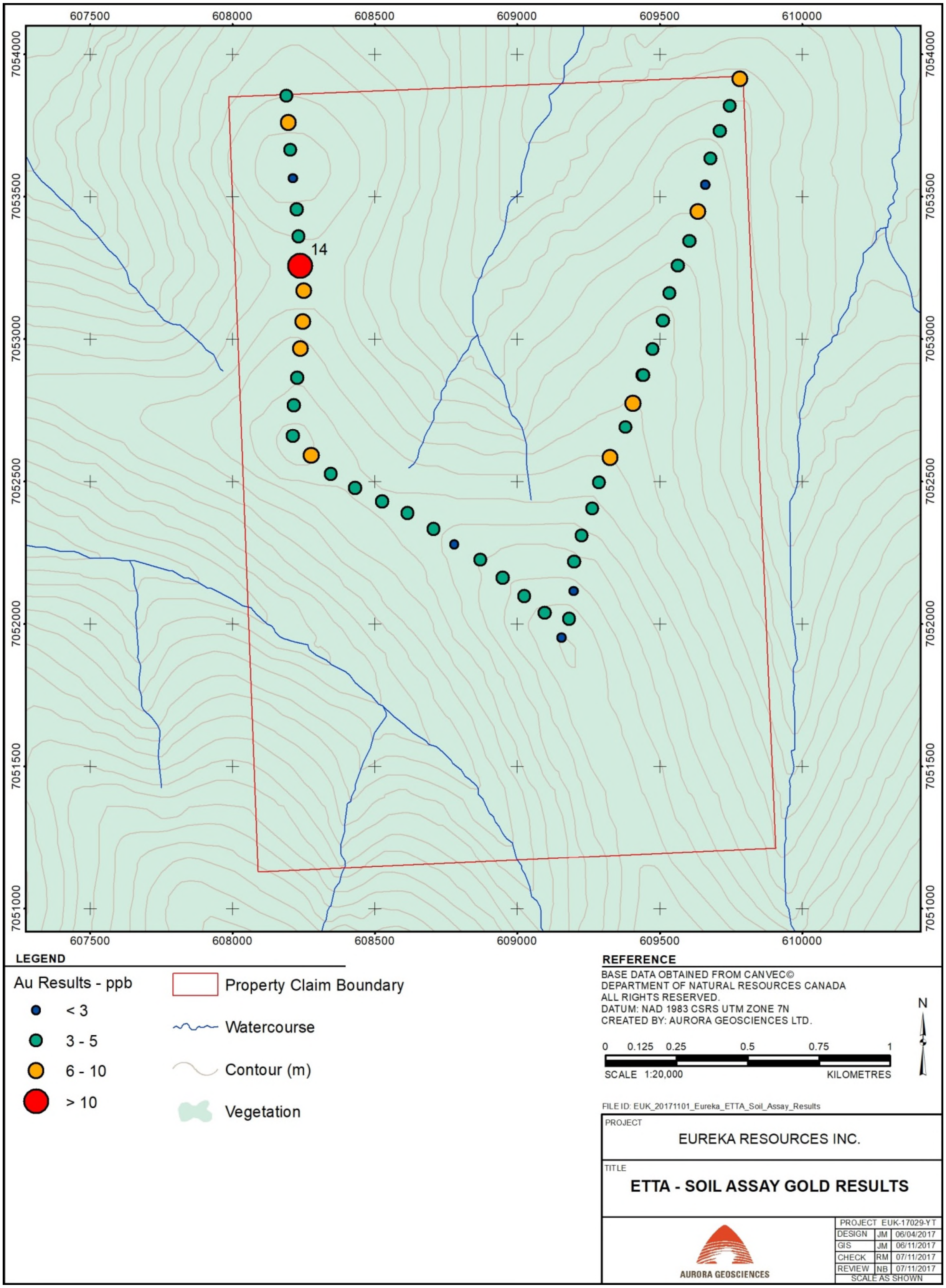

Figure 6: Au values in soil samples collected on the Etta property.

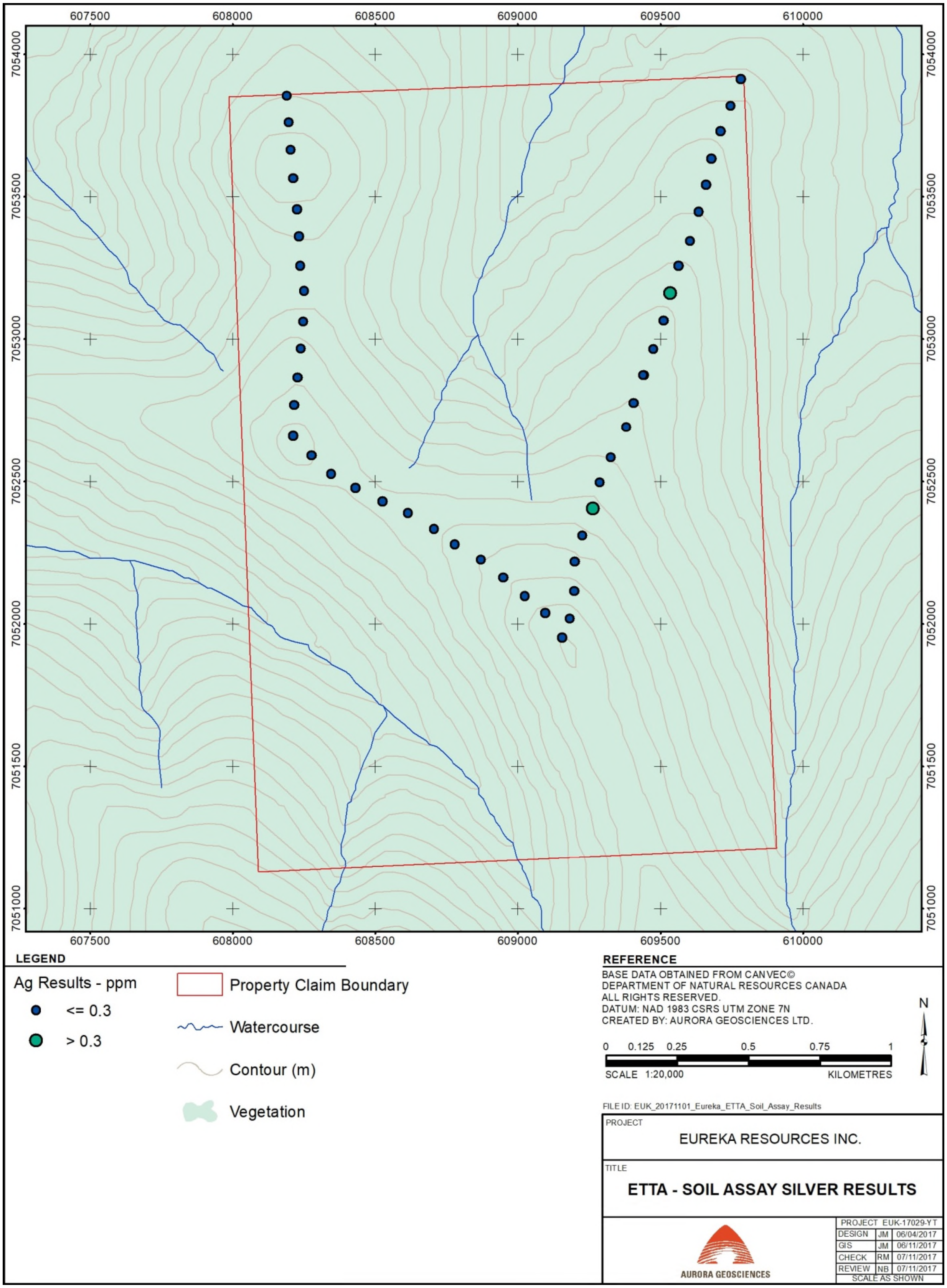

Figure 7: Ag values in soil samples collected on the Etta property.

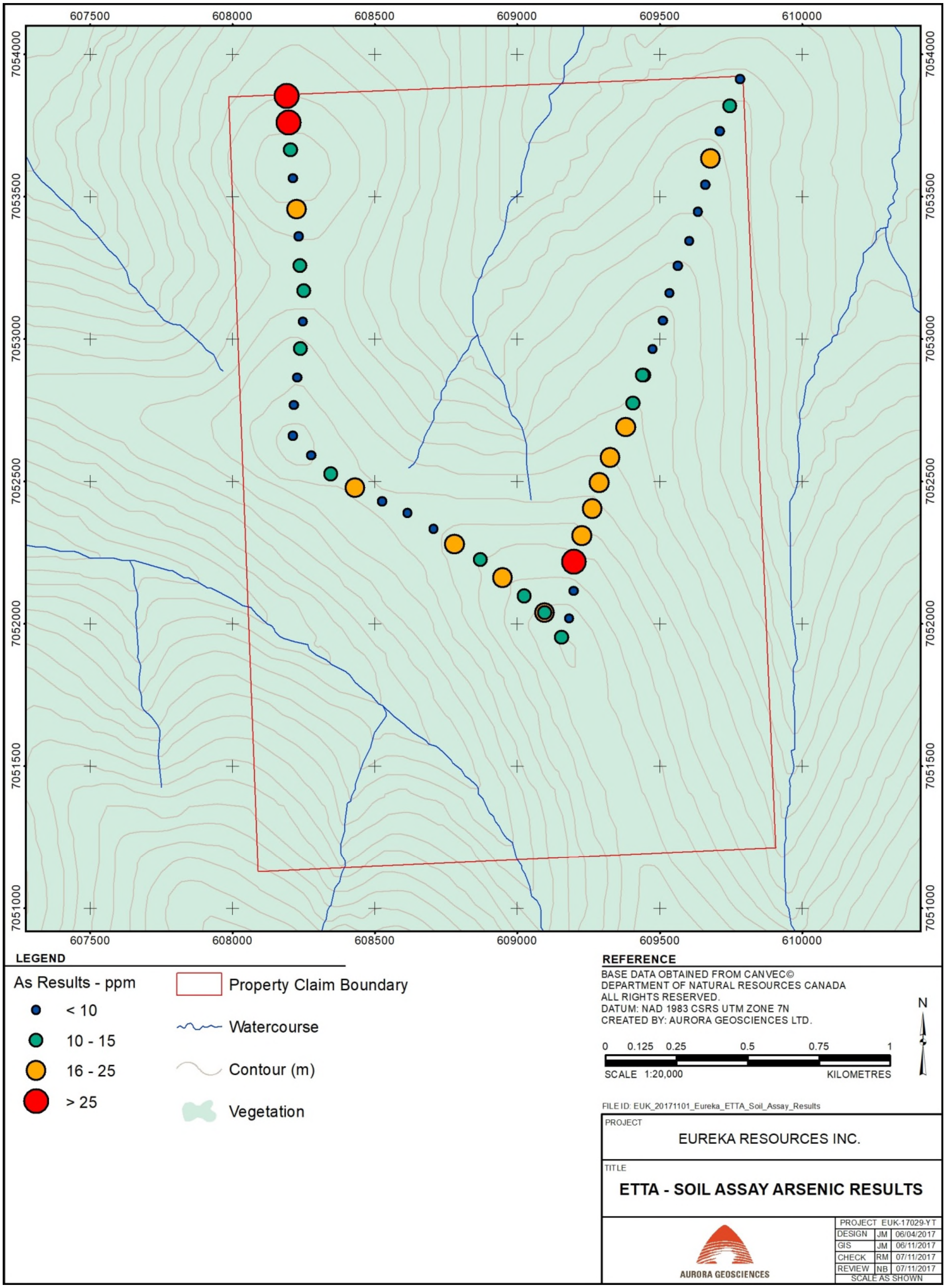

Figure 8: As values in soil samples collected on the Etta property.

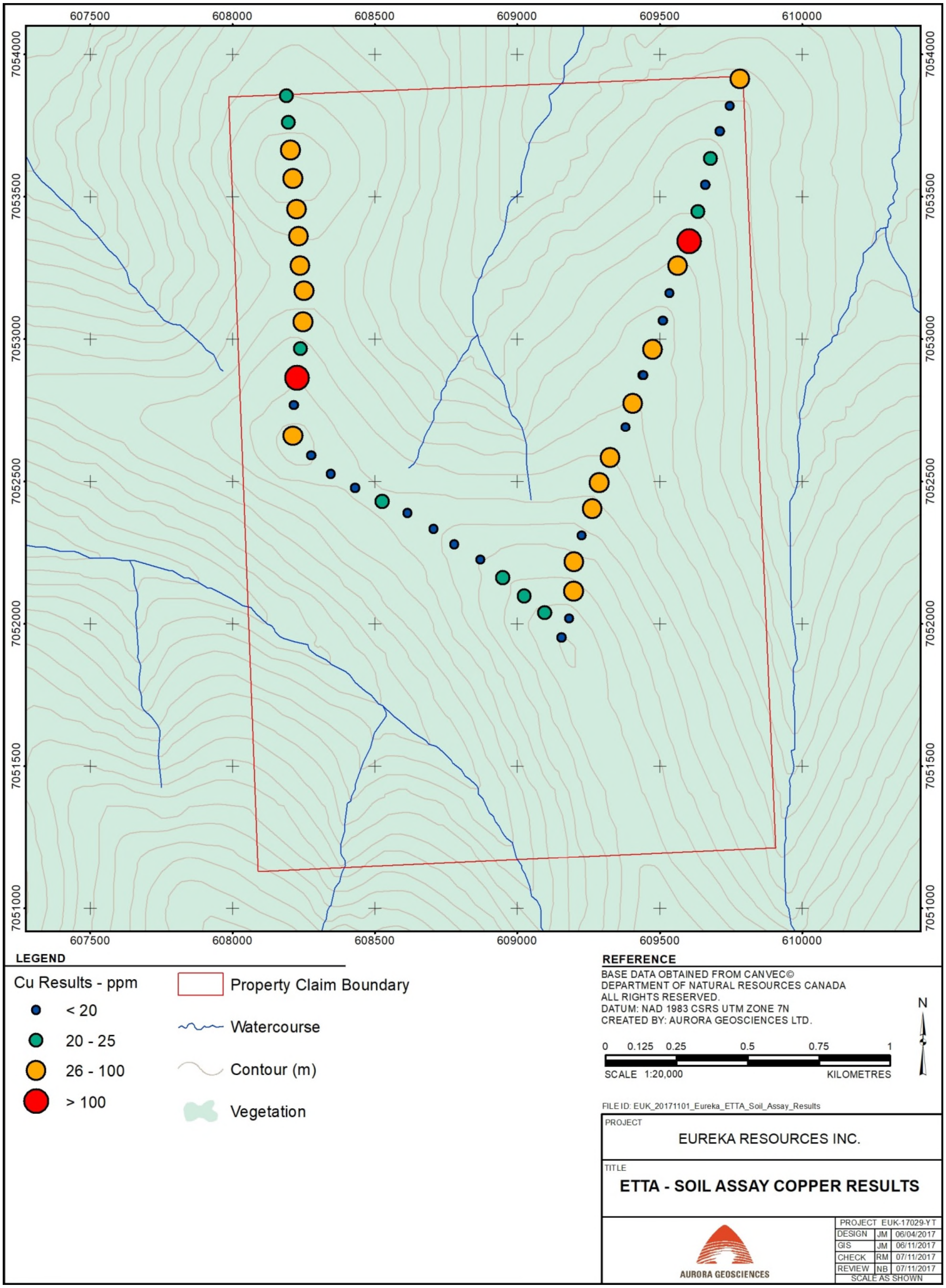

Figure 9: Cu values in soil samples collected on the Etta property.

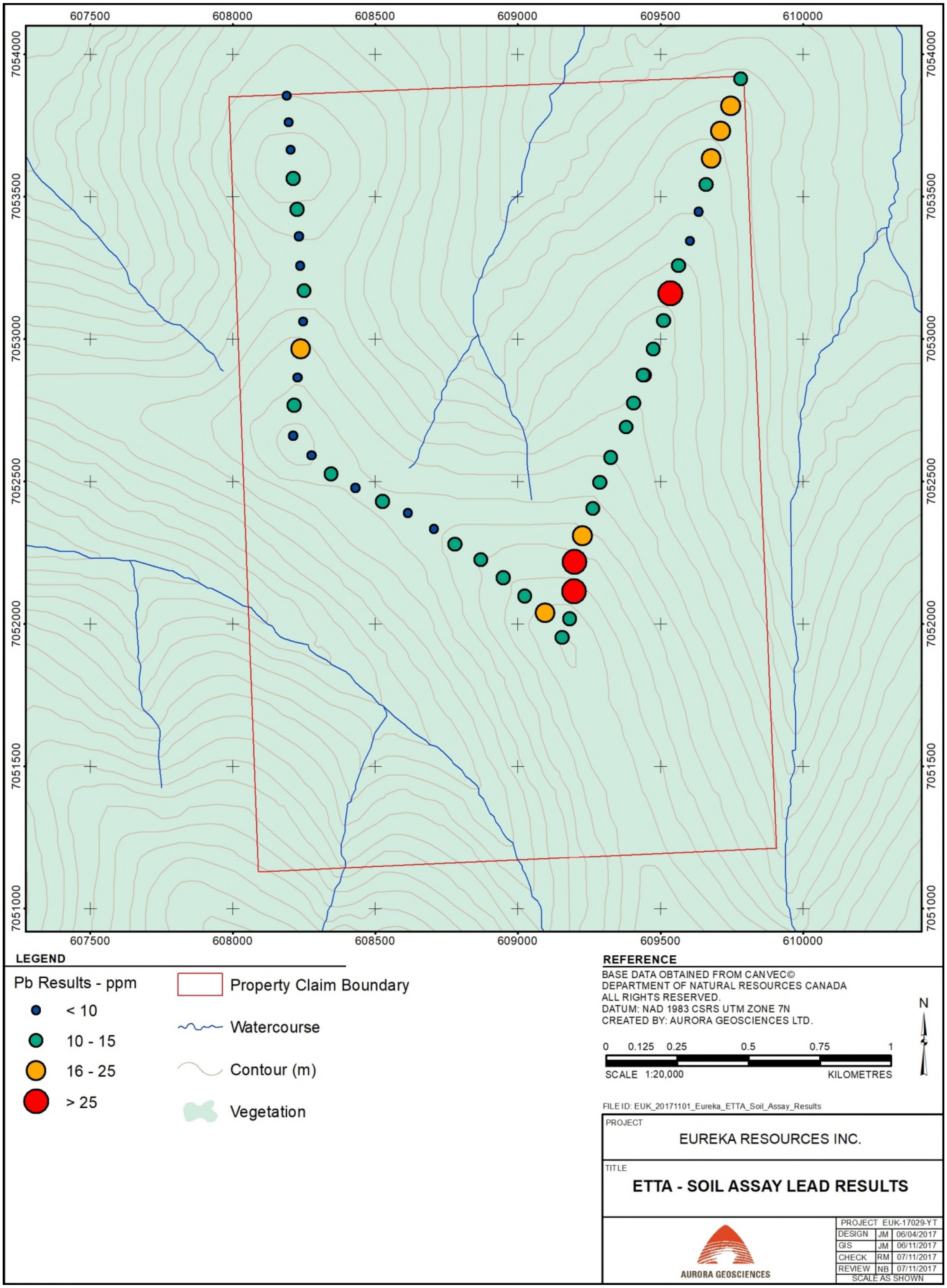

Figure 10: Pb values in soil samples collected on the Etta property.

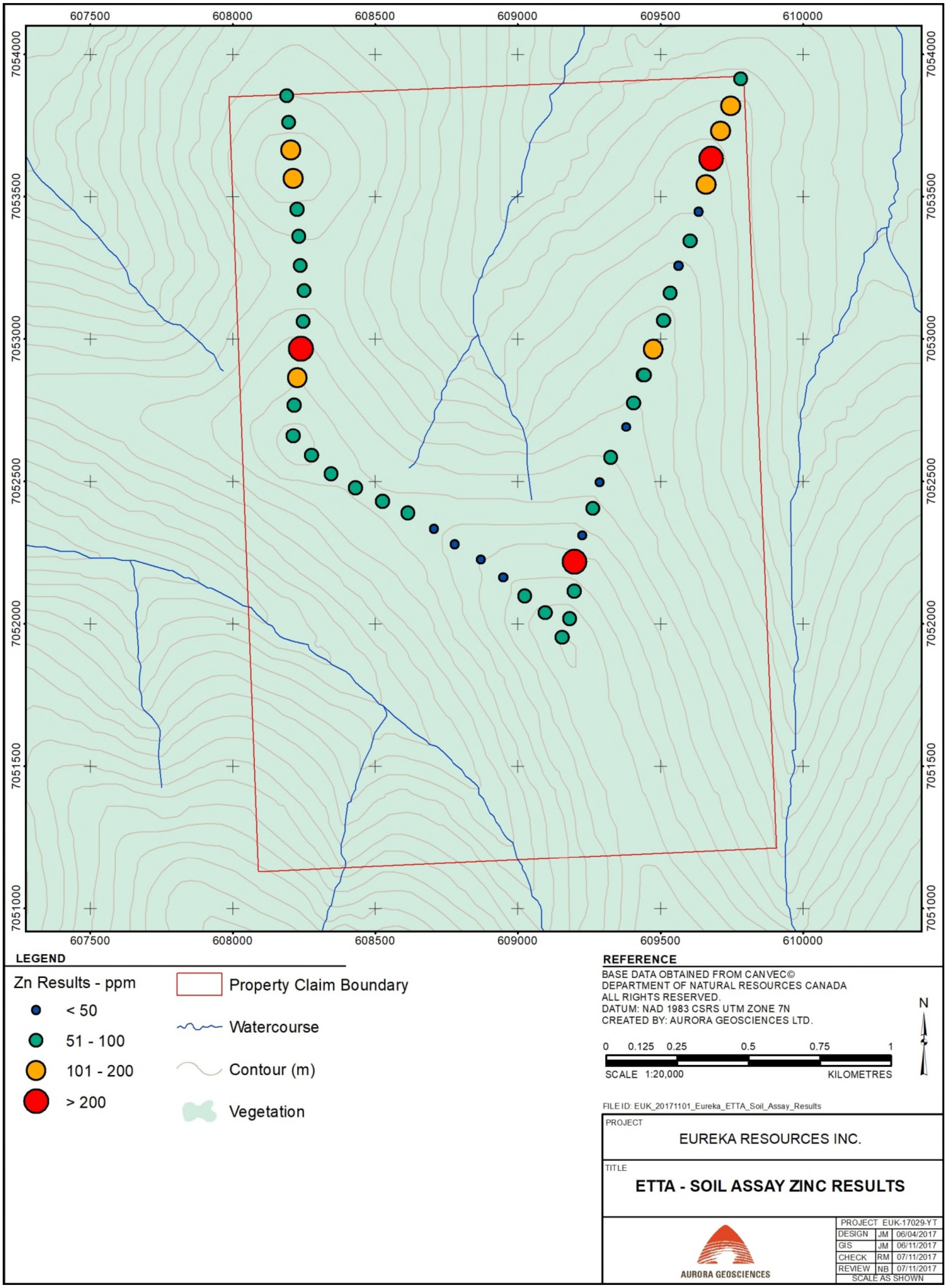

Figure 11: Zn values in soil samples collected on the Etta property.

9.2 Airborne Geophysical Survey

Near-surface sources for AIIP conductors include clays, most metallic sulphides, some oxide minerals, including magnetite, and graphite (Kwan and Prikhodko, 2017). Early time gate plots also typically detect surficial deposits, particularly along larger valley bottoms and stream drainages.

The Early-Time Gate plot (Fig. 12) displays areas of high conductivity along the western side of the survey area in regions of lower topography, suggesting the presence of surficial clays.

The Mid-Time Gate plot (Fig. 13) reveals a NE-SW trending zone of strong conductivity through the centre of the property. This feature continues despite significant variations of topography, indicating that it is likely the result of a bedrock feature rather than surficial deposits.

The Total Magnetic Intensity (TMI) plot shows a NE-SW strong magnetic low (Fig. 14) between two strong magnetic highs. This feature does not appear to be topographically controlled and is coincident with the NE-SW conductivity zone.

Review of the Early and Mid-Time electromagnetic survey plots, combined with the TMI plot, indicates the presence of a NE-SW trending lineation marked by a magnetic low linears, as well as a coincident conductive feature. The property area has not undergone detailed geological mapping; therefore it is undetermined whether these represent structural rather than lithological controls. The interpreted structural fabric extends obliquely to the dominant NNW – SSE stratigraphic fabric of west-central Yukon. The feature is likely to be fairly local, although it may extend beyond property boundaries. Property-scale structural features such as these, including faults and shear zones, are more likely to be mineralized than district or regional-scale features. Any mineralization in the Etta property area may be controlled by these features, and the soil sampling lines were chosen based on this geophysical anomaly.

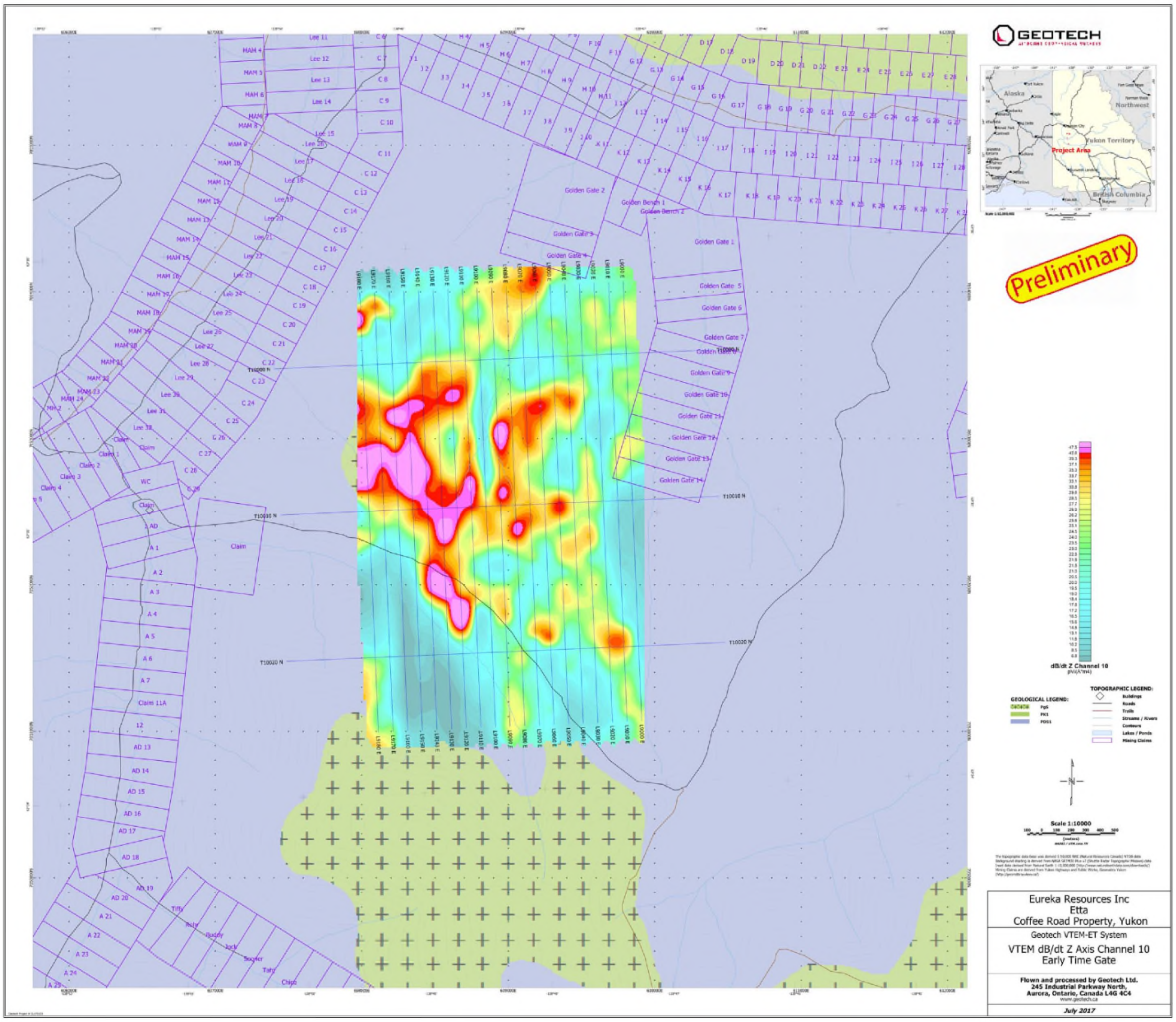

Figure 12: Early time-gate plot for the Etta property.

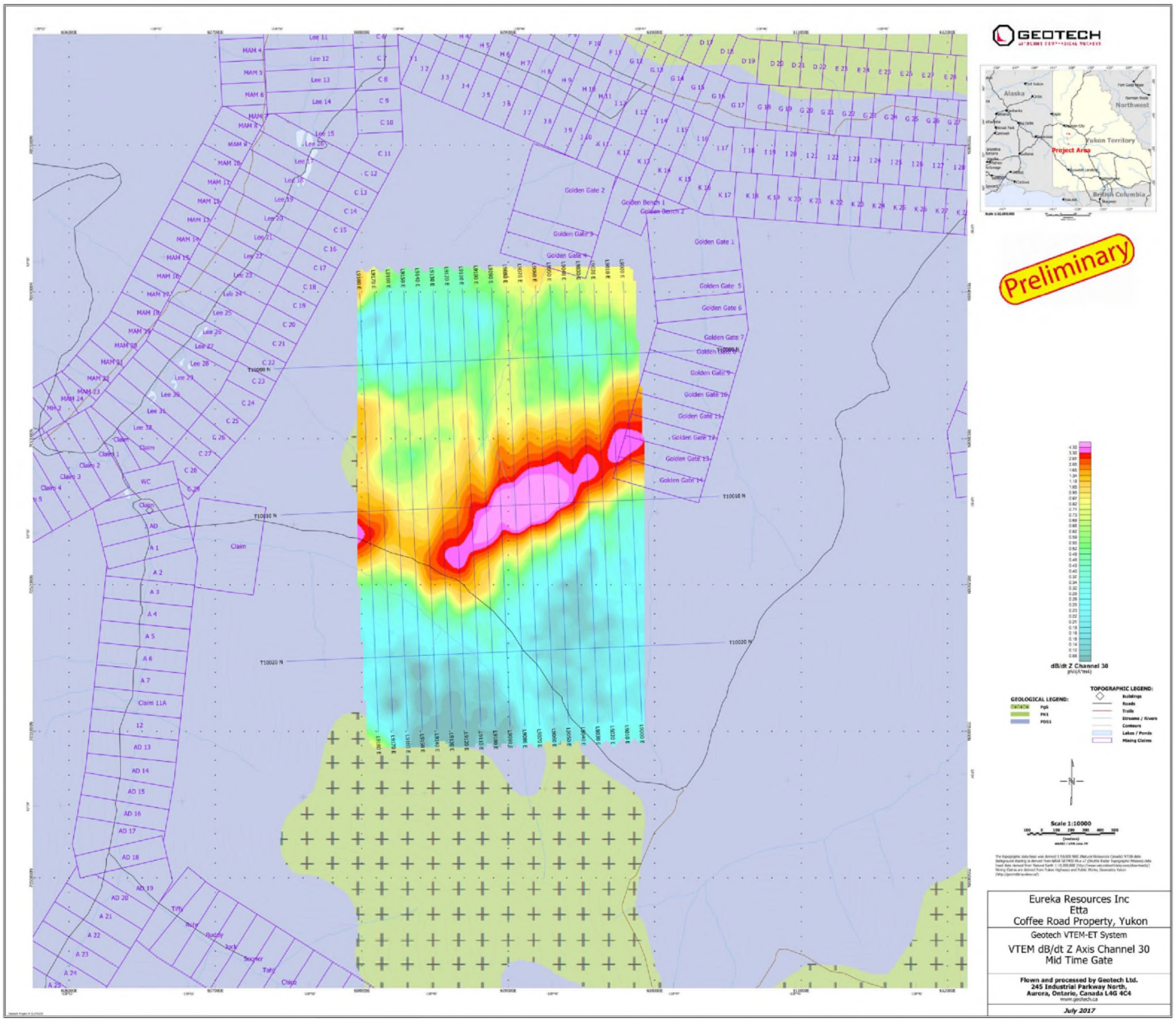

Figure 13: Middle time-gate plot for the Etta property.

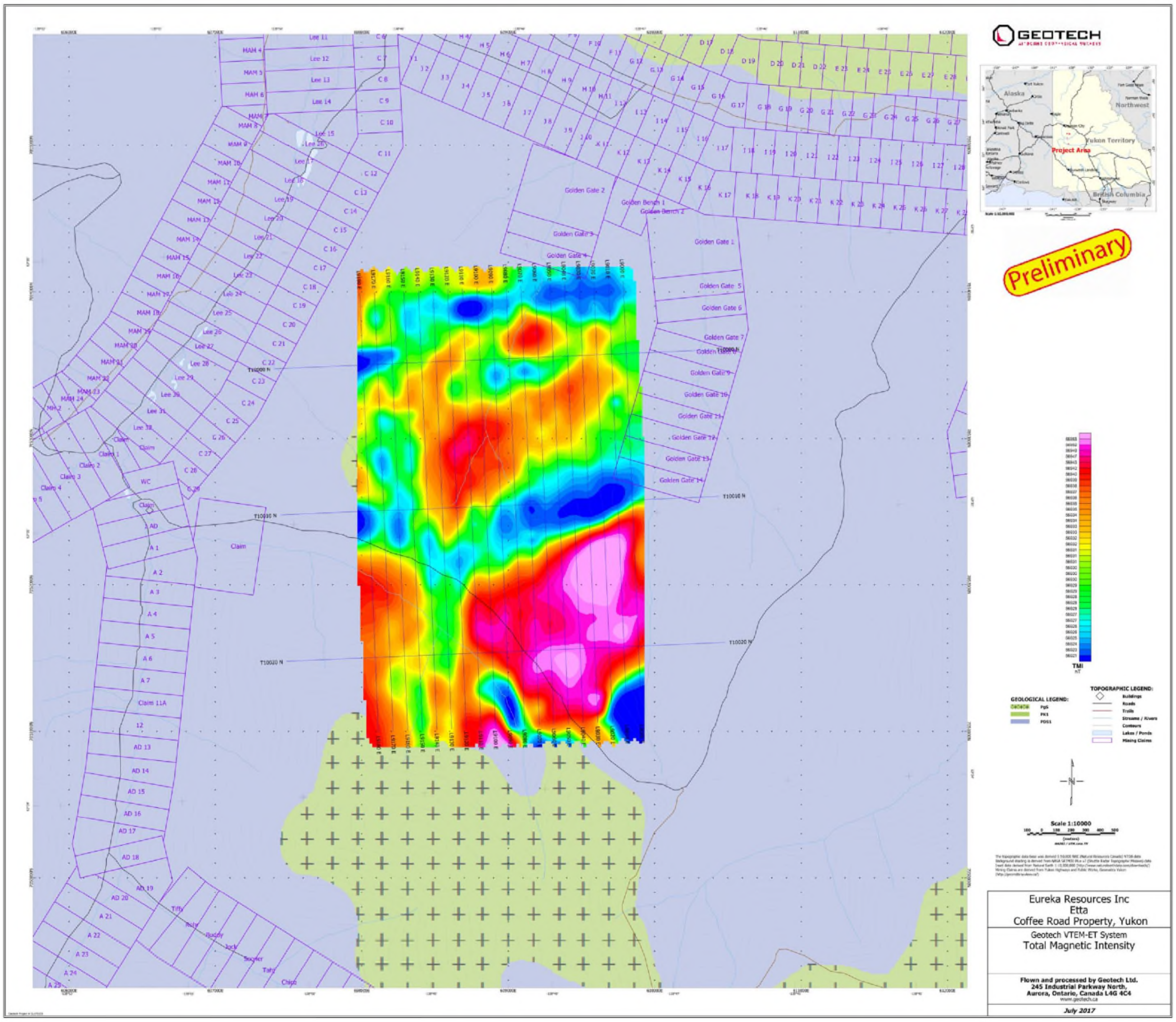

Figure 14: Total magnetic intensity plot for the Etta property.

10 CONCLUSIONS

Work completed by Aurora Geosciences Ltd. in 2017 indicates that potential for sizable mineralized zones is limited. Scattered, weakly elevated gold, silver and/or pathfinder element values were identified. The geochemical results do not show trends of similar strength corresponding to the strong coincident mid-time gate resistivity and TMI low anomaly identified in the east-central property area. However, a 100-metre soil sample spacing does not provide a high degree of resolution and may miss narrower bands of mineralization; further sampling at tighter spacing may be required to have greater confidence in the results.

Two areas of interest were identified. One is centered on the soil sample returning 601 ppm Zn in the NE corner of the property, and the other is the moderate coincident Zn–Pb–As anomaly somewhat south of the strong TMI feature.

11 RECOMMENDATIONS

11.1 Recommended follow-up program

A small infill soil sampling program, to reduce the gaps in the station spacing from 100m to 50m, is recommended. Additional prospecting and geological mapping of exposed outcrop, rubblecrop and subcrop, if any, is recommended along the placer mining access road that crosses the property. Prospecting or additional soil sampling (depending on ground cover) should also be conducted in the vicinity of the anomalous Zn sample in the NE corner of the property. This program should be completed to ensure that potential narrow mineralized zones can be detected. This short program could be conducted by a two-person crew accessing the property with a four-wheel drive truck. The program is recommended to be done in July or August to ensure maximum thawing of permafrost.

11.2 Recommended budget for recommended follow-up program

Personnel, crew boss: 3 person-days @ $600/day:	$ 1,800
Personnel, field technician: 3 person-days @ $450/day:	$ 1,250
Soil samples: 50 samples @ $34/sample:	$ 1,700
Rock sampling: 10 samples @ $40/sample:	$ 400
Truck and fuel: 3 days @ $350/day:	$ 1,050
Hotel lodging: 1 double room @ $135/night:	$ 270
Daily field expenses (including travel): 6 person-days @ $100/day:	$ 600
Job prep, camp and equipment:	$ 400
Job prep, Digital data, maps, etc.: 8 hours @ $85/hr:	$ 680
Drafting, GIS: 5 hrs @ $85/hr:	$ 425
Assessment report: 18 hours @ 100/hr:	$ 1,800
Sub-total:	**$10,375**
5% contingency:	$ 508
Proposed Total:	**$10,658**

Respectfully submitted,

AURORA GEOSCIENCES LTD.

Nigel Bocking

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Nigel Bocking, G.I.T.
Project Geologist

Reviewed by:
Carl Schulze, P.Geo.
Project Manager

12 REFERENCES

Fekete, M. and Huber, M, 2011: 2011 Surface Work on the Wounded Moose Property, Dawson Mining District, Yukon. Assessment report #095983, filed with the Dawson Mining Recorder, Ministry of Energy, Mines and Resources, Government of Yukon

Gordey, S.P., Makepeace, A.J. 2001: Bedrock Geology, Yukon Territory, Geological Survey of Canada, Open File 3754; and Exploration and Geology services Division, Yukon Indian and Northern Affairs Canada, Open File 2001-1.

Hart, C.J.R. and Lewis, L.L. 2005: "Gold Mineralization in the upper Hyland River area: a non-magnetic origin". Reference No. YEG2005_08, Yukon Geology Survey.

Kwan, K. and Prikhodko, A. 2017: AIIP Report on a Helicopter-Borne Versatile Time Domain Electromagnetic (VTEM^{TM} ET) and Aeromagnetic Geophysical Survey. Report for Aurora Geosciences Ltd.

Yukon Geology Survey, Energy Mines and Resources, 2017: Website at http://www.geology.gov.yk.ca/

Yukon Mining Recorder, Energy, Mines and Resources, 2017: Website at http://www.yukonminingrecorder.ca/

Appendix I: Statement of Qualifications

STATEMENT OF QUALIFICATIONS

I, Nigel Bocking, of Yellowknife, Northwest Territories do herby certify that:

1. I am a graduate of Queen's University at Kingston, Ontario with a B.Sc. (Honours) in Geological Sciences obtained in 2016 and a Bachelor of Commerce (Honours) obtained in 2015.

2. I am a member-in-training of the Northwest Territories and Nunavut Association of Professional Engineers and Geoscientists (#T366).

3. I led the 2017 field program on the Etta property.

4. I have no interest, directly or indirectly, nor do I hope to receive any interest, directly or indirectly, in Eureka Resources Inc., its securities, or any of its properties.

Dated this April 10, 2018 in Yellowknife, NT.

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Nigel Bocking, B.Sc., B.Comm., G.I.T.

Appendix II: 2017 Soil Geochemical Data

2017 Soil Geochemical Data

SampleID	N_NAD83	E_NAD83	Description	Depth	Horizon	DepthWithinHorizon	Colour	Organics_%	Gravel_%	Sand_%	Silt_%	Clay_%	AngularRock_%	ParentMaterial	Moisture	Vegetation	TopoPosition	SamplerName	Zone	QAQC	Date
1892249	7052018	609182		20-30	C	10	Light Brown	10	10	20	30	20	10	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892250	7052115	609198		30-40	C	10	Light Brown	5	10	10	30	35	10	Weathered Bedrock	Moist	Evergreen	Ridge Top	Heiko Mueller	7N		9/18/2017
1892309	7051951	609155		20	B/C	10	Light Brown	5	0	40	40	5	10	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892310	7052039	609095		30-40	C	15-20	Light Brown	0	0	50	30	10	10	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892311	7052039	609095	1892310	30-40	C	15-20	Light Brown	0	0	50	30	10	10	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N	FieldDuplicate	9/18/2017
1892312	7052098	609024		40-50	C	15-20	Light Brown	0	0	30	40	15	15	Weathered Bedrock	Dry	Evergreen	Ridge Top	Nigel Bocking	7N		9/18/2017
1892313	7052161	608948		20-30	C	10	Light Brown	0	0	40	40	10	10	Weathered Bedrock	Dry	Evergreen	Ridge Top	Nigel Bocking	7N		9/18/2017
1892314	7052225	608871		30-40	C	20-25	Light Brown	0	0	30	40	15	15	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892315	7052279	608780		20-30	B/C	15-20	Light Grey	5	0	20	50	15	10	Weathered Bedrock	Dry	Evergreen	Ridge Top	Nigel Bocking	7N		9/18/2017
1892316	7052334	608706		30-40	C	20-25	Light Brown	0	0	40	30	15	15	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892317	7052388	608614	5	30-40	C	30up	Light Brown	0	0	40	40	10	10	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892318	7052430	608525		30-40	C	30up	Light Brown	0	0	50	20	15	15	Weathered Bedrock	Dry	Evergreen	Ridge Top	Nigel Bocking	7N		9/18/2017
1892319	7052478	608430		20-30	B/C	20-25	Light Brown	5	0	30	40	15	10	Weathered Bedrock	Dry	Evergreen	Ridge Top	Nigel Bocking	7N		9/18/2017
1892320	7052526	608345		20-30	C	10	Light Brown	0	0	30	40	15	15	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892321	7052591	608276		30-40	C	25-30	Light Brown	0	0	50	30	5	15	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892322	7052660	608213		20-30	C	10	Light Brown	0	0	40	40	10	10	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892323	7052769	608215		20-30	C	15-20	Olive Grey	0	0	30	40	15	15	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892324	7052866	608228		20-30	C	15-20	Light Brown	0	0	60	20	5	15	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892325	7052966	608239		30-40	C	20-25	Light Brown	0	0	45	30	10	15	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892326	7053061	608248		30-40	C	15-20	Light Brown	0	0	20	55	15	10	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892327	7053170	608251		40-50	C	30up	Light Brown	0	0	20	60	10	10	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892328	7053258	608238		30-40	C	15-20	Light Brown	0	0	50	20	10	20	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892329	7053362	608232		30-40	C	20-25	Light Brown	0	0	60	15	10	15	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892330	7053456	608225		20-30	C	10	Yellow-Orange	0	0	60	15	5	20	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892331	7053564	608212		20-30	B/C	15-20	Yellow-Orange	5	0	40	30	5	20	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892332	7053664	608204		20-30	B/C	10	Light Brown	5	0	50	15	10	20	Weathered Bedrock	Dry	Deciduous	Ridge Top	Nigel Bocking	7N		9/18/2017
1892333	7053761	608197		40-50	C	20-25	Light Brown	0	0	30	40	15	15	Weathered Bedrock	Dry	Evergreen	Ridge Top	Nigel Bocking	7N		9/18/2017
1892334	7053854	608190		30-40	B/C	25-30	Light Grey	5	0	30	40	10	15	Weathered Bedrock	Dry	Evergreen	Ridge Top	Nigel Bocking	7N		9/18/2017
1892352	7052219	609199		20-30	C	5	Light Brown	5	20	10	30	20	15	Weathered Bedrock	Moist	Evergreen	Ridge Top	Heiko Mueller	7N		9/18/2017
1892353	7052310	609226		20-30	C	10	Light Brown	5	10	20	40	20	5	Weathered Bedrock	Moist	Evergreen	Ridge Top	Heiko Mueller	7N		9/18/2017
1892354	7052404	609264		20-Oct	C	5	Light Brown	5	5	10	50	20	10	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892355	7052496	609288		20-Oct	C	5	Light Brown	10	10	10	40	20	10	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892356	7052584	609326		20-Oct	C	5	Light Brown	10	10	10	40	20	10	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892357	7052691	609381		20-30	C	10	Light Brown	5	5	20	50	10	10	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892358	7052774	609407		30-40	C	15-20	Light Brown	5	10	20	40	10	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892359	7052873	609443		20-Oct	C	5	Light Brown	5	20	10	30	20	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892360	7052873	609440	1892359	20-Oct	C	5	Light Brown	5	20	10	30	20	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N	FieldDuplicate	9/18/2017
1892361	7052965	609476		20-30	C	10	Light Brown	10	10	10	40	20	10	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892362	7053064	609512		20	C	5	Light Brown	5	10	10	40	20	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892363	7053161	609535		20-30	O	5	brown	5	10	10	40	20	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892364	7053258	609564		30-40	B/C	20-25	Light Brown	0	0	5	70	20	5	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892365	7053344	609604		20	C	5	brown	5	20	10	40	10	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892366	7053448	609635		20	C	10	Light Grey	5	20	20	30	10	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892367	7053542	609661		20-30	C	10	Light Brown	5	10	20	30	20	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892368	7053635	609678		30-40	C	20-25	Light Brown	5	10	10	40	20	15	Weathered Bedrock	Moist	Evergreen	Ridge Top	Heiko Mueller	7N		9/18/2017
1892369	7053731	609712		20	C	5	Light Brown	5	10	10	40	20	15	Weathered Bedrock	Moist	Deciduous	Ridge Top	Heiko Mueller	7N		9/18/2017
1892370	7053819	609747		20	C	5	Light Brown	5	10	10	40	20	15	Weathered Bedrock	Moist	Evergreen	Ridge Top	Heiko Mueller	7N		9/18/2017
1892371	7053914	609781		20	C	5	Light Brown	10	10	10	40	20	10	Weathered Bedrock	Moist	Evergreen	Ridge Top	Heiko Mueller	7N		9/18/2017

Appendix 2: Soil Sample Data

Appendix III: Assay Certificates

BUREAU VERITAS MINERAL LABORATORIES Canada

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Bureau Veritas Commodities Canada Ltd.
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PHONE (604) 253-3158

Client: **Aurora Geosciences Ltd. (Whitehorse)**
34A Laberge Road
Whitehorse Yukon Y1A 5Y9 Canada

Submitted By:	Carl Schulze
Receiving Lab:	Canada-Whitehorse
Received:	September 20, 2017
Report Date:	October 18, 2017
Page:	1 of 3

CERTIFICATE OF ANALYSIS WHI17000897.1

CLIENT JOB INFORMATION

Project:	EUK-17029-YT
Shipment ID:	
P.O. Number	EUK-17029-YT
Number of Samples:	48

SAMPLE DISPOSAL

STOR-PLP	Store After 90 days Invoice for Storage
STOR-RJT-SOIL	Store Soil Reject - RJSV Charges Apply

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

SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
DY060	48	Dry at 60C			WHI
SS80	48	Dry at 60C sieve 100g to -80 mesh			VAN
SVRJT	48	Save all or part of Soil Reject			WHI
FA330	48	Fire assay fusion Au Pt Pd by ICP-ES	30	Completed	VAN
EN002	48	Environmental disposal charge-Fire assay lead waste			VAN
AQ300	48	1:1:1 Aqua Regia digestion ICP-ES analysis	0.5	Completed	VAN
SHP01	48	Per sample shipping charges for branch shipments			VAN

ADDITIONAL COMMENTS

Invoice To: Aurora Geosciences Ltd. (Whitehorse)
34A Laberge Road
Whitehorse Yukon Y1A 5Y9
Canada

CC: Nigel Bocking

BRITISH COLUMBIA CERTIFIED ASSAYER
Marcus Lau
MARCUS LAU
Production Manager

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Bureau Veritas Commodities Canada Ltd.

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PHONE (604) 253-3158

Client: **Aurora Geosciences Ltd. (Whitehorse)**
34A Laberge Road
Whitehorse Yukon Y1A 5Y9 Canada

Project: EUK-17029-YT
Report Date: October 18, 2017

CERTIFICATE OF ANALYSIS WHI17000897.1

	Method	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
1892309	Soil	2	<3	<2	1	10	11	54	<0.3	13	7	371	3.50	12	3	8	<0.5	<3	<3	65	0.08
1892310	Soil	4	<3	<2	1	24	18	66	<0.3	25	11	328	3.12	15	4	11	<0.5	<3	<3	57	0.10
1892311	Soil	5	<3	<2	1	23	18	67	<0.3	24	11	336	3.18	16	4	11	<0.5	<3	<3	58	0.10
1892312	Soil	5	<3	<2	<1	24	11	51	<0.3	19	8	227	2.49	14	4	14	<0.5	<3	<3	49	0.11
1892313	Soil	4	<3	<2	1	22	11	47	<0.3	17	7	230	2.45	16	<2	12	<0.5	<3	<3	58	0.09
1892314	Soil	5	<3	3	<1	20	11	46	<0.3	19	7	238	2.55	13	3	11	<0.5	<3	<3	51	0.10
1892315	Soil	2	<3	<2	<1	10	12	43	<0.3	13	4	162	2.84	17	2	7	<0.5	<3	<3	68	0.08
1892316	Soil	4	<3	8	<1	15	9	46	<0.3	18	8	309	2.61	6	5	11	<0.5	<3	<3	46	0.11
1892317	Soil	5	<3	<2	<1	14	10	75	<0.3	26	7	149	2.69	6	5	10	<0.5	<3	<3	43	0.15
1892318	Soil	3	<3	<2	<1	21	14	80	<0.3	30	13	384	3.45	8	7	17	<0.5	<3	<3	51	0.22
1892319	Soil	4	<3	<2	<1	20	9	84	<0.3	44	9	1944	2.53	19	3	14	<0.5	<3	<3	60	1.22
1892320	Soil	3	<3	<2	<1	12	12	60	<0.3	15	6	267	3.06	11	4	9	<0.5	<3	<3	52	0.09
1892321	Soil	8	<3	4	<1	19	9	66	<0.3	16	6	241	2.79	6	6	14	<0.5	<3	<3	47	0.09
1892322	Soil	3	<3	<2	<1	29	8	65	<0.3	24	5	311	2.22	7	<2	9	<0.5	<3	<3	58	0.16
1892323	Soil	3	<3	<2	<1	19	13	61	<0.3	26	7	127	2.82	9	2	13	<0.5	<3	<3	49	0.12
1892324	Soil	3	<3	<2	1	106	10	135	<0.3	48	15	567	3.88	6	4	11	<0.5	<3	<3	70	0.15
1892325	Soil	7	4	3	<1	21	19	265	<0.3	21	6	216	2.42	15	5	8	<0.5	<3	<3	41	0.07
1892326	Soil	7	3	<2	<1	46	8	67	<0.3	21	9	576	3.26	7	3	19	<0.5	<3	<3	56	0.15
1892327	Soil	7	4	<2	<1	41	11	87	<0.3	26	8	656	3.07	13	4	11	<0.5	<3	<3	53	0.11
1892328	Soil	14	<3	4	<1	39	9	83	<0.3	31	6	754	2.97	14	2	9	<0.5	<3	<3	56	0.08
1892329	Soil	3	<3	<2	<1	41	8	79	<0.3	24	11	484	2.83	9	3	7	<0.5	<3	<3	54	0.09
1892330	Soil	3	<3	<2	1	53	12	82	<0.3	34	11	438	2.78	17	4	12	<0.5	<3	<3	53	0.14
1892331	Soil	<2	3	<2	<1	85	14	115	<0.3	45	14	466	3.44	8	3	13	<0.5	<3	<3	70	0.14
1892332	Soil	5	<3	3	2	48	10	131	<0.3	46	17	1031	4.00	13	3	14	<0.5	<3	<3	51	0.05
1892333	Soil	6	<3	3	<1	22	8	55	<0.3	82	11	207	2.57	27	4	12	<0.5	<3	<3	48	0.13
1892334	Soil	3	<3	<2	1	21	10	68	<0.3	24	9	234	3.02	26	3	9	<0.5	<3	<3	54	0.09
1892249	Soil	3	5	4	<1	10	11	61	<0.3	12	8	266	3.34	9	12	11	<0.5	<3	<3	48	0.18
1892250	Soil	<2	3	<2	<1	37	34	99	<0.3	34	15	705	4.40	10	19	12	<0.5	<3	<3	34	0.32
1892352	Soil	3	4	4	1	40	32	245	<0.3	44	20	685	4.12	112	5	11	0.7	11	<3	67	0.08
1892353	Soil	5	3	2	1	18	16	40	<0.3	14	6	187	2.11	25	3	15	<0.5	<3	<3	43	0.12

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Client: **Aurora Geosciences Ltd. (Whitehorse)**
34A Laberge Road
Whitehorse Yukon Y1A 5Y9 Canada

Project: EUK-17029-YT
Report Date: October 18, 2017

CERTIFICATE OF ANALYSIS WHI17000897.1

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
1892309	Soil	0.052	11	23	0.45	118	0.072	<20	1.66	<0.01	0.12	<2	<0.05	<1	<5	10	<5
1892310	Soil	0.023	18	33	0.51	263	0.057	<20	2.23	<0.01	0.06	<2	<0.05	<1	<5	7	<5
1892311	Soil	0.023	19	34	0.51	259	0.058	<20	2.20	<0.01	0.06	<2	<0.05	<1	<5	6	<5
1892312	Soil	0.017	19	24	0.41	190	0.072	<20	1.42	<0.01	0.05	<2	<0.05	<1	<5	6	5
1892313	Soil	0.024	15	25	0.31	229	0.058	<20	1.63	<0.01	0.04	<2	<0.05	<1	<5	5	<5
1892314	Soil	0.017	15	30	0.45	220	0.050	<20	1.81	<0.01	0.04	<2	<0.05	<1	<5	6	6
1892315	Soil	0.028	10	24	0.28	79	0.034	<20	1.29	<0.01	0.04	<2	<0.05	<1	<5	7	<5
1892316	Soil	0.011	17	33	0.72	156	0.111	<20	1.91	<0.01	0.18	<2	<0.05	<1	<5	5	<5
1892317	Soil	0.018	15	31	0.56	152	0.052	<20	1.74	<0.01	0.07	<2	<0.05	<1	<5	<5	<5
1892318	Soil	0.048	20	38	0.74	234	0.080	<20	2.09	<0.01	0.26	<2	<0.05	<1	<5	<5	<5
1892319	Soil	0.045	27	27	0.90	304	0.042	<20	1.89	<0.01	0.03	<2	<0.05	<1	<5	<5	6
1892320	Soil	0.024	11	26	0.53	241	0.069	<20	1.84	<0.01	0.11	<2	<0.05	<1	<5	7	<5
1892321	Soil	0.029	21	25	0.94	381	0.081	<20	1.93	<0.01	0.14	<2	<0.05	<1	<5	6	<5
1892322	Soil	0.036	6	27	0.58	229	0.059	<20	1.37	<0.01	0.06	<2	<0.05	<1	<5	6	<5
1892323	Soil	0.029	24	27	0.44	151	0.054	<20	1.70	<0.01	0.12	<2	<0.05	<1	<5	5	<5
1892324	Soil	0.054	10	18	1.53	1229	0.085	<20	3.08	<0.01	0.28	<2	<0.05	<1	<5	11	7
1892325	Soil	0.019	26	24	0.35	170	0.044	<20	1.30	<0.01	0.09	<2	<0.05	<1	<5	<5	<5
1892326	Soil	0.024	23	21	0.89	860	0.145	<20	2.18	<0.01	0.30	<2	<0.05	<1	<5	10	8
1892327	Soil	0.033	18	28	0.49	475	0.060	<20	1.83	<0.01	0.05	<2	<0.05	<1	<5	6	6
1892328	Soil	0.025	22	25	0.39	303	0.044	<20	1.50	<0.01	0.03	<2	<0.05	<1	<5	5	10
1892329	Soil	0.044	8	19	0.42	298	0.046	<20	1.50	<0.01	0.08	<2	<0.05	<1	<5	6	5
1892330	Soil	0.055	13	25	0.44	400	0.042	<20	1.61	<0.01	0.05	<2	<0.05	<1	<5	<5	<5
1892331	Soil	0.045	10	27	0.52	556	0.067	<20	2.04	<0.01	0.08	<2	<0.05	<1	<5	8	<5
1892332	Soil	0.066	12	18	0.43	480	0.054	<20	1.37	<0.01	0.05	<2	<0.05	<1	<5	6	<5
1892333	Soil	0.025	15	91	0.78	176	0.059	<20	1.62	<0.01	0.05	<2	<0.05	<1	<5	<5	<5
1892334	Soil	0.041	18	30	0.41	177	0.043	<20	1.81	<0.01	0.14	<2	<0.05	<1	<5	6	<5
1892249	Soil	0.053	41	22	0.46	118	0.044	<20	1.89	<0.01	0.25	<2	<0.05	<1	<5	7	7
1892250	Soil	0.109	74	33	0.78	297	0.163	<20	1.79	<0.01	0.87	<2	<0.05	<1	<5	6	6
1892352	Soil	0.053	21	51	0.29	165	0.029	<20	1.13	<0.01	0.09	<2	<0.05	<1	<5	<5	8
1892353	Soil	0.032	13	22	0.33	203	0.038	<20	1.18	<0.01	0.04	<2	<0.05	<1	<5	<5	<5

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34A Laberge Road
Whitehorse Yukon Y1A 5Y9 Canada

Project: EUK-17029-YT
Report Date: October 18, 2017

CERTIFICATE OF ANALYSIS WHI17000897.1

	Method	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
1892354	Soil	5	<3	<2	2	32	13	66	0.4	23	8	314	2.78	25	3	12	<0.5	<3	<3	55	0.08
1892355	Soil	4	<3	<2	1	26	12	48	0.3	19	7	225	2.72	25	4	11	<0.5	<3	<3	45	0.09
1892356	Soil	8	<3	<2	1	39	13	61	<0.3	38	11	324	3.33	17	6	12	<0.5	<3	<3	65	0.11
1892357	Soil	3	<3	<2	1	14	11	43	<0.3	15	5	189	3.15	19	3	9	<0.5	<3	<3	64	0.09
1892358	Soil	6	4	3	1	27	12	57	<0.3	29	9	517	2.81	14	5	14	<0.5	<3	<3	62	0.13
1892359	Soil	3	<3	<2	1	18	12	51	<0.3	20	9	225	2.89	14	4	9	<0.5	<3	<3	64	0.08
1892360	Soil	4	<3	3	1	20	12	52	<0.3	23	10	266	3.08	14	4	9	<0.5	<3	<3	65	0.08
1892361	Soil	3	<3	<2	<1	28	14	108	<0.3	42	10	323	3.80	9	8	10	<0.5	<3	<3	67	0.09
1892362	Soil	4	5	<2	<1	19	14	66	<0.3	25	9	416	3.05	9	6	13	<0.5	<3	<3	60	0.11
1892363	Soil	5	3	<2	1	16	27	60	0.4	21	12	319	2.83	9	4	14	<0.5	<3	<3	65	0.14
1892364	Soil	4	<3	<2	<1	27	11	50	<0.3	20	10	376	2.93	9	4	17	<0.5	<3	<3	56	0.32
1892365	Soil	3	<3	<2	<1	138	8	88	<0.3	44	10	628	3.04	10	<2	12	<0.5	<3	<3	101	0.24
1892366	Soil	6	3	<2	1	22	8	42	<0.3	6	<1	41	1.81	8	6	7	<0.5	<3	<3	20	0.03
1892367	Soil	<2	<3	<2	<1	18	11	164	<0.3	51	16	384	4.73	6	6	15	<0.5	<3	<3	82	0.23
1892368	Soil	4	<3	<2	<1	22	16	601	<0.3	45	10	345	4.82	25	25	9	<0.5	<3	<3	64	0.10
1892369	Soil	4	3	3	<1	15	19	178	<0.3	26	10	371	3.88	8	8	7	<0.5	<3	<3	58	0.10
1892370	Soil	4	3	<2	<1	17	25	197	<0.3	41	11	276	4.45	14	8	11	<0.5	<3	<3	86	0.13
1892371	Soil	6	<3	<2	<1	51	11	92	<0.3	32	9	373	2.71	10	4	14	<0.5	<3	<3	47	0.13

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CERTIFICATE OF ANALYSIS WHI17000897.1

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
1892354	Soil	0.036	15	29	0.36	265	0.034	<20	1.52	<0.01	0.04	<2	<0.05	<1	<5	<5	<5
1892355	Soil	0.028	13	22	0.28	199	0.031	<20	1.34	<0.01	0.03	<2	<0.05	<1	<5	<5	<5
1892356	Soil	0.033	19	35	0.50	433	0.053	<20	2.32	<0.01	0.06	<2	<0.05	<1	<5	6	6
1892357	Soil	0.036	11	28	0.35	180	0.049	<20	1.52	<0.01	0.06	<2	<0.05	<1	<5	5	<5
1892358	Soil	0.019	18	31	0.46	360	0.059	<20	1.94	<0.01	0.04	<2	<0.05	<1	<5	<5	6
1892359	Soil	0.024	12	30	0.35	259	0.043	<20	1.98	<0.01	0.05	<2	<0.05	<1	<5	6	<5
1892360	Soil	0.023	12	32	0.41	301	0.049	<20	2.22	<0.01	0.05	<2	<0.05	<1	<5	<5	<5
1892361	Soil	0.031	35	42	0.54	241	0.050	<20	2.06	<0.01	0.11	<2	<0.05	<1	<5	<5	6
1892362	Soil	0.031	17	26	0.25	322	0.025	<20	1.61	<0.01	0.07	<2	<0.05	<1	<5	<5	<5
1892363	Soil	0.026	15	28	0.33	487	0.046	<20	1.84	<0.01	0.04	<2	<0.05	<1	<5	<5	<5
1892364	Soil	0.025	18	29	0.58	698	0.068	<20	1.75	<0.01	0.07	<2	<0.05	<1	<5	<5	6
1892365	Soil	0.041	5	22	0.54	240	0.045	<20	1.97	<0.01	0.05	<2	<0.05	<1	<5	6	7
1892366	Soil	0.030	13	13	0.07	148	0.006	<20	0.48	<0.01	0.05	<2	<0.05	<1	<5	<5	<5
1892367	Soil	0.037	9	53	1.17	362	0.232	<20	3.83	<0.01	1.08	<2	<0.05	<1	<5	<5	5
1892368	Soil	0.032	72	47	0.72	351	0.106	<20	2.39	<0.01	0.40	<2	<0.05	<1	<5	<5	6
1892369	Soil	0.034	9	26	0.55	211	0.134	<20	1.73	<0.01	0.56	<2	<0.05	<1	<5	<5	<5
1892370	Soil	0.014	12	66	1.04	453	0.209	<20	3.48	<0.01	0.89	<2	<0.05	<1	<5	<5	<5
1892371	Soil	0.031	24	16	0.69	541	0.076	<20	1.55	<0.01	0.11	<2	<0.05	<1	<5	<5	6

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Whitehorse Yukon Y1A 5Y9 Canada

Project: EUK-17029-YT

Report Date: October 18, 2017

QUALITY CONTROL REPORT WHI17000897.1

	Method	FA330	FA330	FA330	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	Au	Pt	Pd	Mo	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Th	Sr	Cd	Sb	Bi	V	Ca
	Unit	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
	MDL	2	3	2	1	1	3	1	0.3	1	1	2	0.01	2	2	1	0.5	3	3	1	0.01
Pulp Duplicates																					
1892318	Soil	3	<3	<2	<1	21	14	80	<0.3	30	13	384	3.45	8	7	17	<0.5	<3	<3	51	0.22
REP 1892318	QC				<1	22	15	82	<0.3	30	13	378	3.45	8	6	18	<0.5	<3	<3	51	0.22
1892359	Soil	3	<3	<2	1	18	12	51	<0.3	20	9	225	2.89	14	4	9	<0.5	<3	<3	64	0.08
REP 1892359	QC	4	<3	<2																	
1892369	Soil	4	3	3	<1	15	19	178	<0.3	26	10	371	3.88	8	8	7	<0.5	<3	<3	58	0.10
REP 1892369	QC				<1	15	19	179	<0.3	26	10	364	3.92	8	8	7	<0.5	<3	<3	58	0.10
Reference Materials																					
STD CDN-PGMS-19	Standard	237	115	488																	
STD CDN-PGMS-23	Standard	494	462	2118																	
STD CDN-PGMS-19	Standard	234	116	508																	
STD CDN-PGMS-23	Standard	504	524	2186																	
STD DS11	Standard				12	146	139	344	1.6	78	13	1066	3.08	44	6	66	2.3	6	12	49	1.02
STD DS11	Standard				13	156	136	367	1.6	81	13	1069	3.14	43	7	67	2.2	6	11	49	1.10
STD OREAS45EA	Standard				1	717	12	31	<0.3	398	55	431	23.02	5	8	4	<0.5	<3	<3	319	0.04
STD OREAS45EA	Standard				2	726	12	31	<0.3	399	56	430	22.88	5	8	4	<0.5	<3	<3	320	0.04
STD OREAS45EA Expected					1.6	709	14.3	31.4	0.26	381	52	400	23.51	10	10.7	3.5				303	0.036
STD DS11 Expected					13.9	156	138	345	1.71	81.9	14.2	1055	3.2082	42.8	7.65	67.3	2.37	7.2	12.2	50	1.063
STD CDN-PGMS-19 Expected		230	108	476																	
STD CDN-PGMS-23 Expected		496	456	2032																	
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01
BLK	Blank				<1	<1	<3	<1	<0.3	<1	<1	<2	<0.01	<2	<2	<1	<0.5	<3	<3	<1	<0.01
BLK	Blank	<2	<3	<2																	
BLK	Blank	<2	<3	<2																	
BLK	Blank	<2	<3	<2																	
BLK	Blank	<2	<3	<2																	

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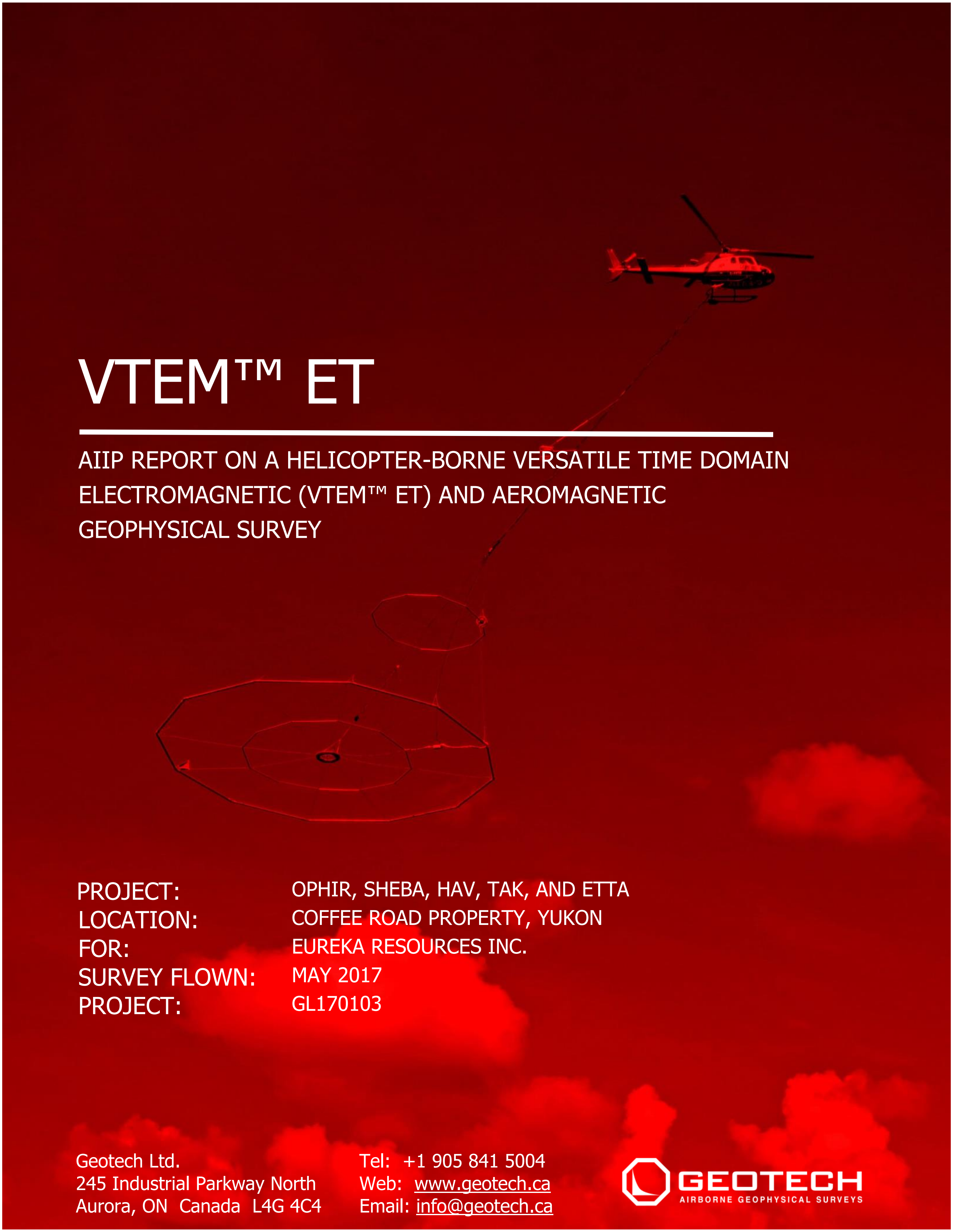
Report Date: October 18, 2017

QUALITY CONTROL REPORT   WHI17000897.1

	Method	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300	AQ300
	Analyte	P	La	Cr	Mg	Ba	Ti	B	Al	Na	K	W	S	Hg	Tl	Ga	Sc
	Unit	%	ppm	ppm	%	ppm	%	ppm	%	%	%	ppm	%	ppm	ppm	ppm	ppm
	MDL	0.001	1	1	0.01	1	0.001	20	0.01	0.01	0.01	2	0.05	1	5	5	5
Pulp Duplicates																	
1892318	Soil	0.048	20	38	0.74	234	0.080	<20	2.09	<0.01	0.26	<2	<0.05	<1	<5	<5	<5
REP 1892318	QC	0.050	20	37	0.75	233	0.079	<20	2.08	<0.01	0.26	<2	<0.05	<1	<5	8	<5
1892359	Soil	0.024	12	30	0.35	259	0.043	<20	1.98	<0.01	0.05	<2	<0.05	<1	<5	6	<5
REP 1892359	QC																
1892369	Soil	0.034	9	26	0.55	211	0.134	<20	1.73	<0.01	0.56	<2	<0.05	<1	<5	<5	<5
REP 1892369	QC	0.035	9	26	0.56	212	0.133	<20	1.73	<0.01	0.56	<2	<0.05	<1	<5	<5	<5
Reference Materials																	
STD CDN-PGMS-19	Standard																
STD CDN-PGMS-23	Standard																
STD CDN-PGMS-19	Standard																
STD CDN-PGMS-23	Standard																
STD DS11	Standard	0.072	16	57	0.86	429	0.087	<20	1.11	0.07	0.40	2	0.28	<1	5	5	<5
STD DS11	Standard	0.073	17	58	0.90	432	0.091	<20	1.14	0.07	0.42	3	0.30	<1	<5	<5	<5
STD OREAS45EA	Standard	0.032	8	909	0.10	154	0.104	<20	3.41	0.02	0.06	<2	<0.05	<1	<5	21	85
STD OREAS45EA	Standard	0.031	8	919	0.10	154	0.105	<20	3.43	0.02	0.06	<2	<0.05	<1	<5	14	84
STD OREAS45EA Expected		0.029	7.06	849	0.095	148	0.0984		3.13	0.02	0.053		0.036			12.4	78
STD DS11 Expected		0.0701	18.6	61.5	0.85	417	0.0976	6	1.129	0.0694	0.4	2.9	0.2835	0.3	4.9	4.7	3.1
STD CDN-PGMS-19 Expected																	
STD CDN-PGMS-23 Expected																	
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank	<0.001	<1	<1	<0.01	<1	<0.001	<20	<0.01	<0.01	<0.01	<2	<0.05	<1	<5	<5	<5
BLK	Blank																
BLK	Blank																
BLK	Blank																
BLK	Blank																

Appendix IV: 2017 Airborne Survey Report



VTEM™ ET

AIIP REPORT ON A HELICOPTER-BORNE VERSATILE TIME DOMAIN ELECTROMAGNETIC (VTEM™ ET) AND AEROMAGNETIC GEOPHYSICAL SURVEY

PROJECT:	OPHIR, SHEBA, HAV, TAK, AND ETTA
LOCATION:	COFFEE ROAD PROPERTY, YUKON
FOR:	EUREKA RESOURCES INC.
SURVEY FLOWN:	MAY 2017
PROJECT:	GL170103

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GEOTECH
AIRBORNE GEOPHYSICAL SURVEYS

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APPENDICES

EXECUTIVE SUMMARY

AIIP report on VTEM™ ET surveys, Coffee Road Property, Yukon

During May 6th – 17th 2017 Geotech Ltd. carried out a helicopter-borne geophysical survey over the A1-Ophir, A2-Sheba, A3-Hav, A4-Tak, and A5-Etta blocks situated within the Coffee Road Property, Yukon.

Principal geophysical sensors included a versatile time domain electromagnetic (VTEM™ ET) system, and a caesium magnetometer. Ancillary equipment included a GPS navigation system and a radar altimeter. A total of 1218 line-kilometers of geophysical data were acquired during the survey.

Geotech Ltd carried out airborne inductively induced polarization (AIIP) chargeability mapping of the VTEM data.

Final AIIP products are:

- AIIP databases;
- AIIP apparent chargeability and resistivity grids;
- AIIP report.

1. SURVEY LOCATION

The VTEM survey blocks were located south of Dawson City, Yukon, Figure 1.

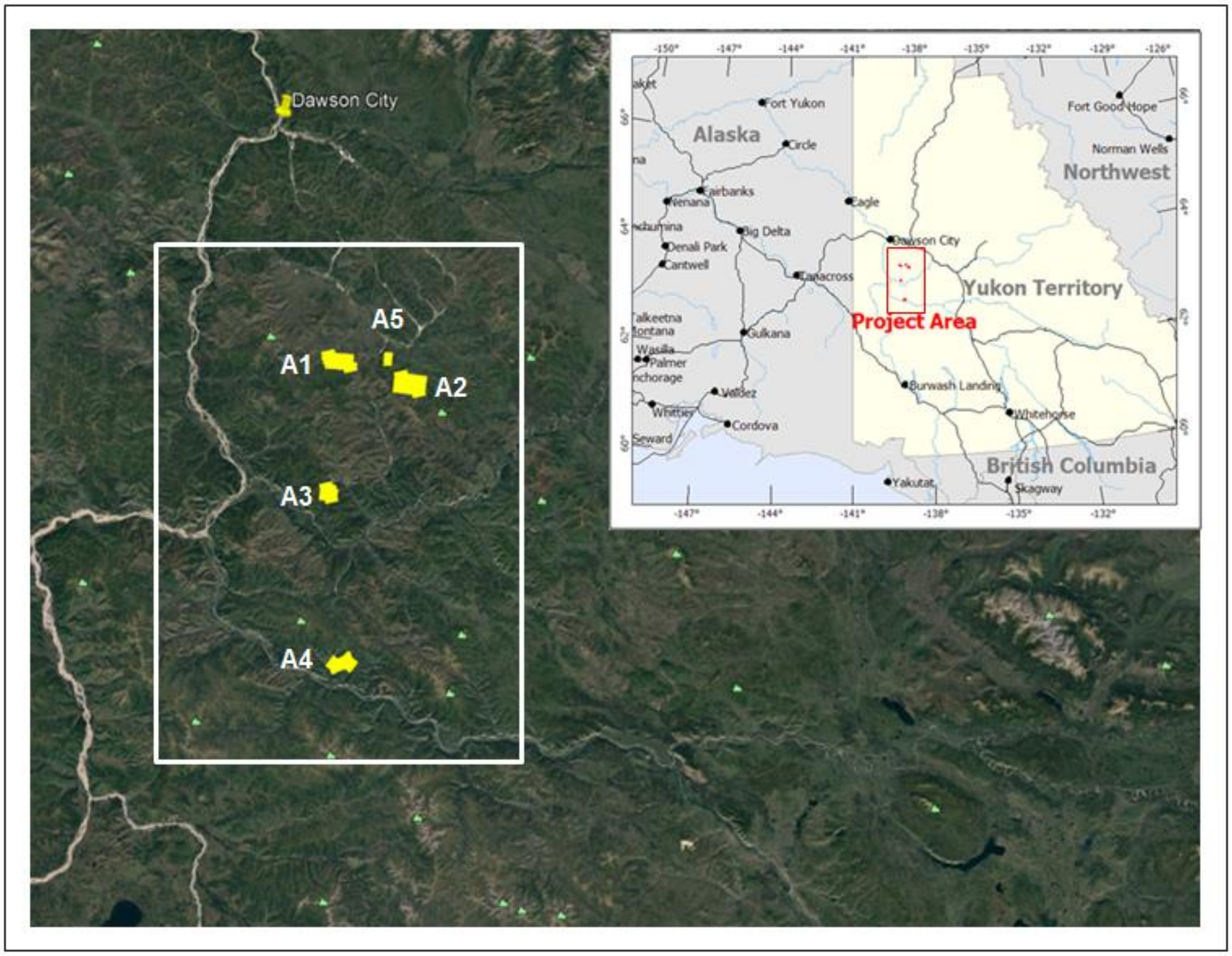


Figure 1: VTEM survey location (image from Google Earth).

The survey areas were flown in an east to west (N 70° E azimuth) direction over A1 (Ophir), A2 (Sheba), and A3 (Hav) blocks. The A4 (Tak) block was flown in a northeast to southwest (N 30° E azimuth), and the A5 (Etta) block was flown in a north to south (N 178° E azimuth). The nominal traverse line spacing is 100 metres.

Blocks A1, A5 and A2 are located approximately 60 kilometers SSE of Dawson City, Yukon. A4 is located approximately 126 kilometers south of Dawson City.

2. AIRBORNE INDUCTIVELY INDUCED POLARIZATION (AIIP)

The objective of AIIP mapping of VTEM data from is to derive Cole-Cole apparent chargeability and resistivity maps for a fixed frequency factor c.

2.1 AIIP EFFECTS IN VTEM DATA

Airborne VTEM™plus data from Coffee Road Property reflect mainly two physical phenomena in the earth:

1. Electromagnetic (EM) induction, related to sub-surface conductivity and governed by Faraday's Law of induction;

2. Induced polarization (IP) effect, related to the relaxation of polarized charges in the ground (Pelton et al., 1978, Weidelt, 1982, Kratzer and Macnae, 2012 and Kwan *et al*., 2015a and 2015b);

For mineral exploration, near-surface sources of AIIP are clays through membrane polarization (electrical energy stored at boundary layer) and most metallic sulphides, some oxides (i.e. magnetite) and graphite through electrode polarization (electrical charges accumulated through electrochemical diffusion at ionic-electronic conduction interfaces).

The absence of negative transients does not preclude the presence of AIIP (Kratzer and Macnae, 2012). The case is clearly illustrated in Figure 2, showing forward modeled VTEM decays over a chargeable half-space of different chargeabilities, using the Cole-Cole relaxation model (Appendix A). As chargeability value increases from m=0 (purely inductive), the rate of VTEM decay increases (pulling down) also in mid-times and eventually crosses into the negative when m≈0.8 V/V. But for vast majority of m values less than 0.8 V/V, there are no negatives in the VTEM decays.

The amount of deviation from the ideal inductive response of a half space with resistivity ρ_0 is a measure of the strength of AIIP.

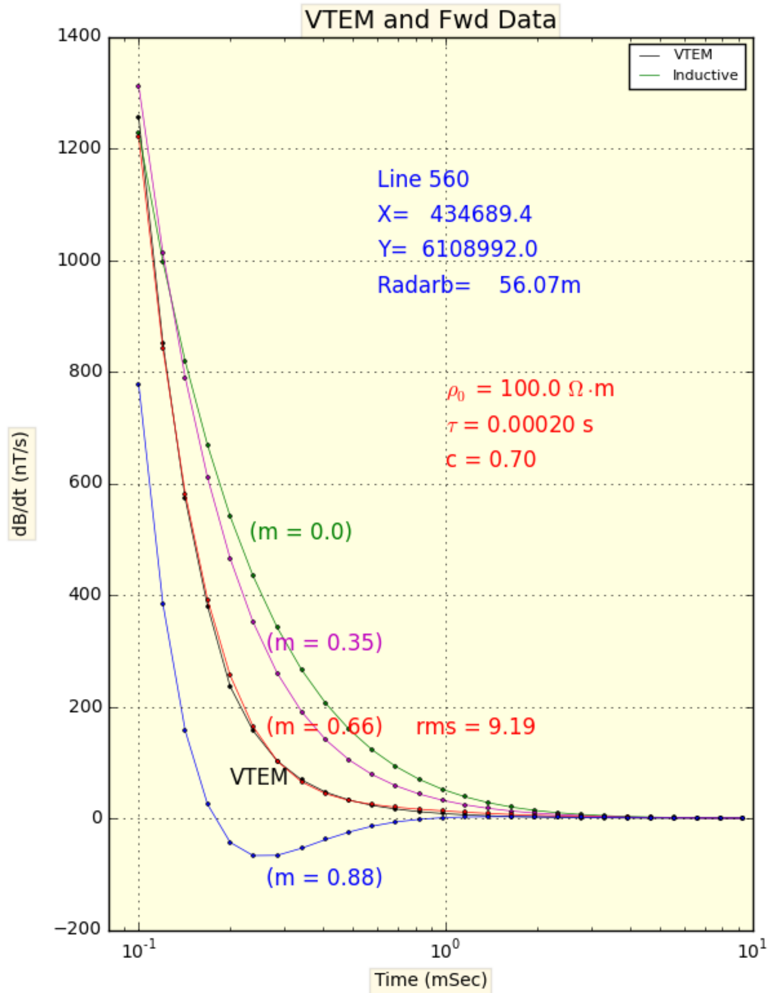


Figure 2: Forward modelled VTEM decays for different chargeability m values; the observed VTEM decay (black) was from Mount Milligan, British Columbia, fits well with the modeled decay (red) with m=0.66.

Numerous negative transients are observed in the VTEM data from A3 and A4. Some of them from L7120 of A4 (Tak) block are shown in Figure 3, providing unequivocal pieces of evidence that there are AIIP effects in the VTEM data.

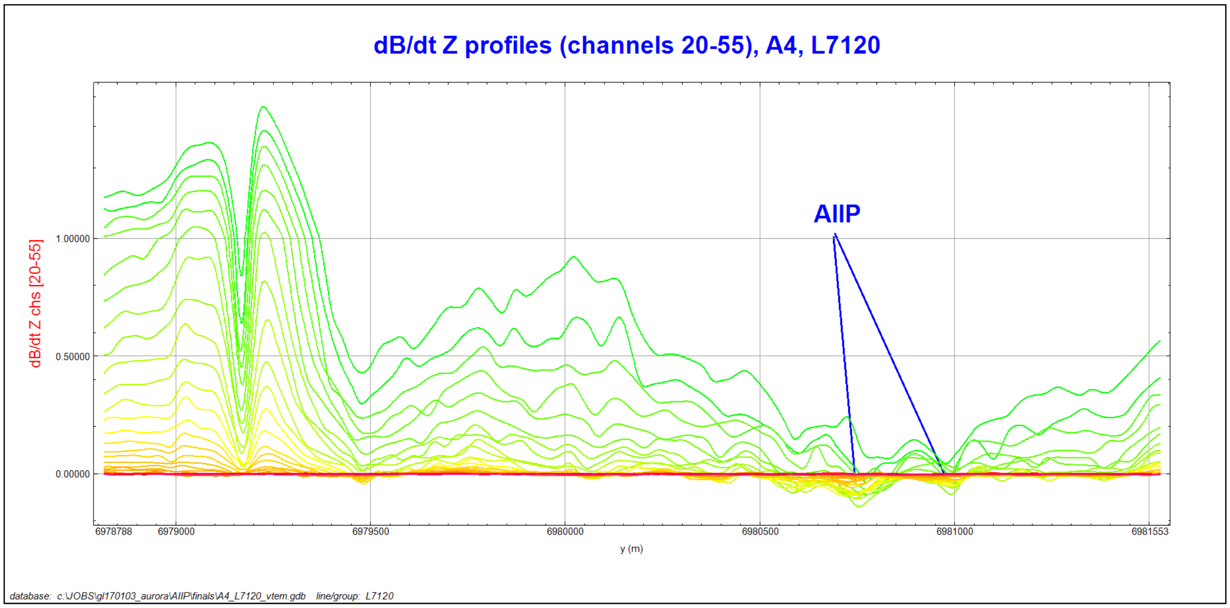


Figure 3: AIIP anomalies in L7120, A4 (Tak) block.

2.2 AIIP MAPPING

VTEM decays associated with AIIP can be studied using the empirical Cole-Cole complex resistivity model (Cole and Cole, 1941 and Pelton *et al*., 1978), shown in equation (1).

$$\rho(\omega) = \rho_0 \left[1 - m\left(1 - \frac{1}{1 + (i\omega\tau)^c}\right)\right] \quad (1)$$

In the equation above, ρ_0 is the DC resistivity, m ($0 \leq m \leq 1.0$) is the chargeability in (V/V), τ is the Cole-Cole time constant in second, $\omega = 2\pi f$, and c ($0 \leq c \leq 1.0$) is the frequency factor. The four parameters (ρ_0, m, τ and c) are characteristic of a polarizable ground.

In general, chargeability m and Cole-Cole time constant τ depend on the quantity and size of polarizable elements in the ground (Pelton *et al*., 1978). The frequency factor describes the size distribution of the polarizable elements (Luo and Zhang, 1998). When c=1, the time-domain decay modelled by Cole-Cole model represents the Debye decay, and when c=0.5, the time-domain decay is the Warburg decay (Wong, 1979).

The extraction of the four Cole-Cole parameters (ρ_0, m, τ and c) from airborne VTEM data is a difficult task. Kwan *et al*. 2015a developed an algorithm, based on Airbeo from CSIRO/AMIRA[1] (Chen & Raiche 1998; Raiche 1998), to extract the (ρ_0, m and τ) parameters while the frequency factor is fixed. There are two deficiencies in the algorithm; one, the precision of the derived (m_o, τ_o) depends on the final mesh size, and two, many of the inversions at the mesh locations far away from (m_o, τ_o) are not necessary.

[1] Commonwealth Scientific and Industrial Research Organization and Amira International;

An improved version of the AIIP mapping algorithm has since been developed by Geotech (Appendix A). The new method applies the Nelder-Mead Simplex minimization (Nelder and Mead, 1965) in the two-dimensional (m,τ) plane. At each required test point (m_i, τ_i), the optimal background resistivity ρ_0 is found by one-dimensional Golden-Section minimization for the user specified resistivity range. The algorithm uses only Airbeo's forward modeling kernel, which can generate synthetic VTEM data with high precision. The Nelder-Mead (NM) search algorithm is more efficient than the grid search method by Kwan *et al*. 2015a, and generates much more precise apparent chargeabilities, resistivities, and IP relaxation time constants. The improved NM AIIP mapping algorithm has been used to process the airborne time-domain electromagnetic data from numerous VTEM surveys since 2015.

AIIP processing is applied to VTEM data desampled to 10 m interval.

2.3 DETERMINATION OF FREQUENCY FACTOR C

The Geotech AIIP chargeability mapping algorithm described in Appendix A requires fixed frequency factor c, while the DC resistivity, chargeability m and IP relaxation time constant τ are allowed to vary. The determination of frequency factor c for selected VTEM data is carried out by interactive forward modelling software, also based on Airbeo from CSIRO/AMIRA. The locations of selected VTEM decays for c calculations, over EM induction time-constant TAU, are shown in Figure 4. Eighteen (18) frequency factor c values are determined from the selected VTEM decays. All c values equal to 0.7.

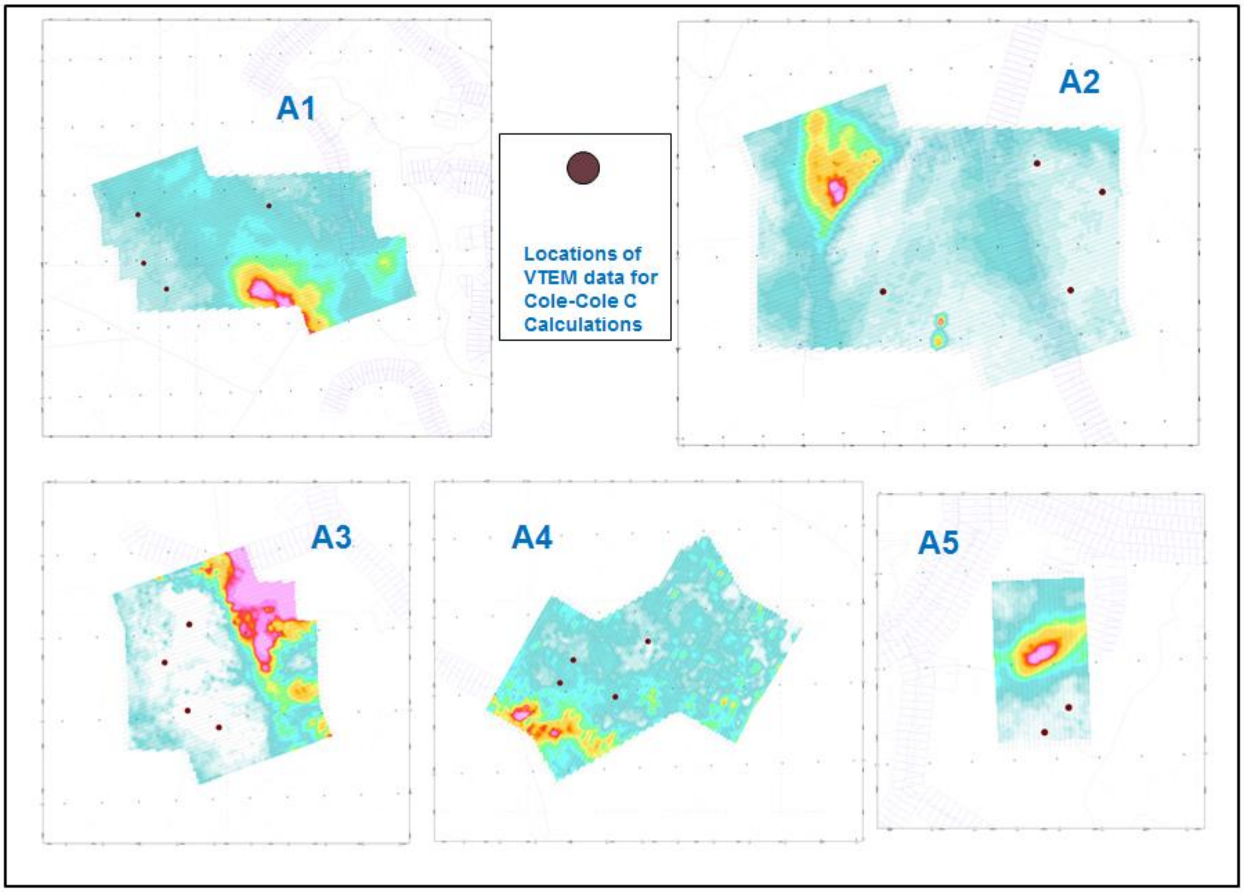


Figure 4: The locations of VTEM decays used for frequency factor c determination over time-constant TAU, areas A1 to A5.

Full Cole-Cole forward modelling results for four selected VTEM decays are shown in Figure 5.

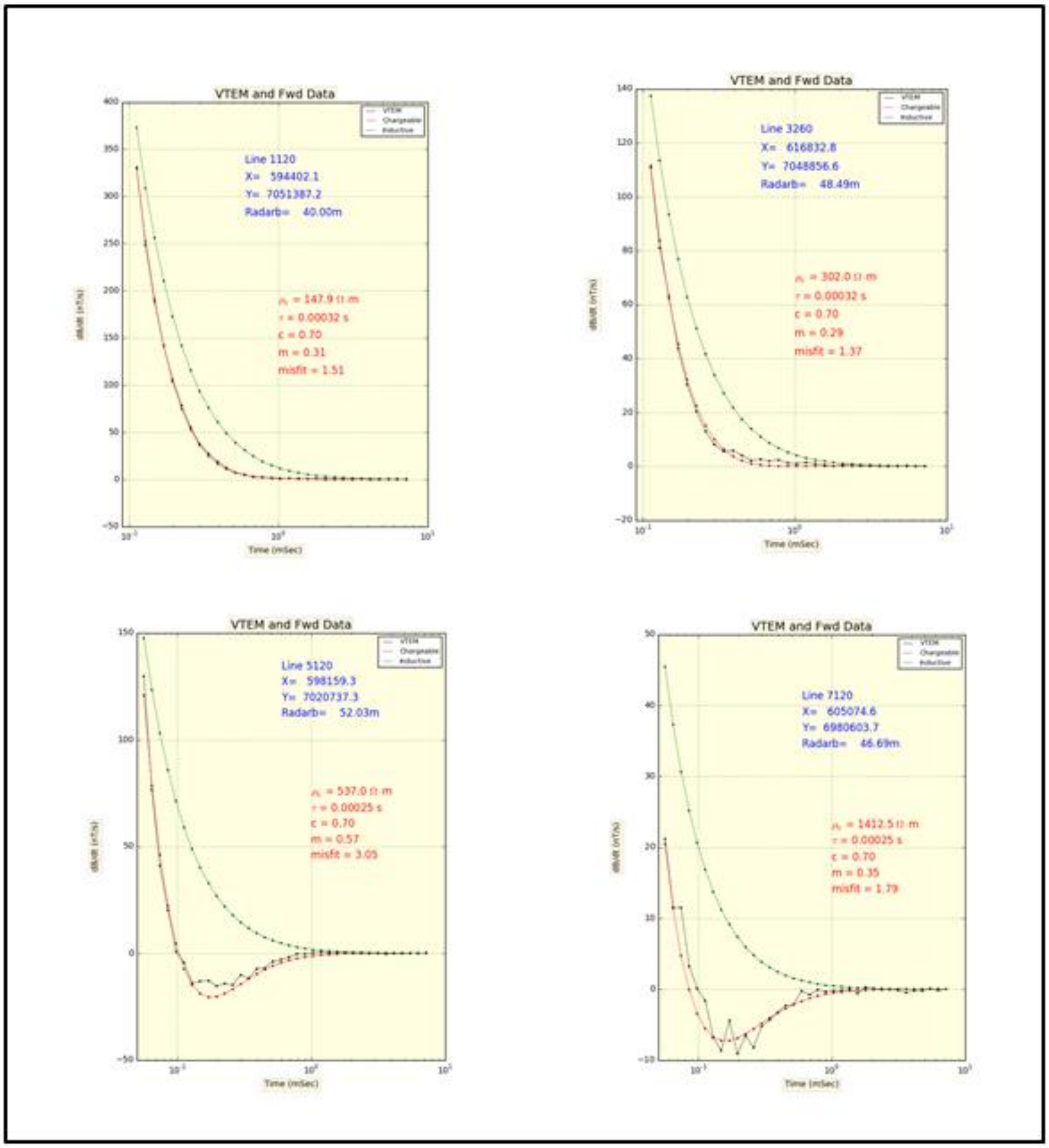
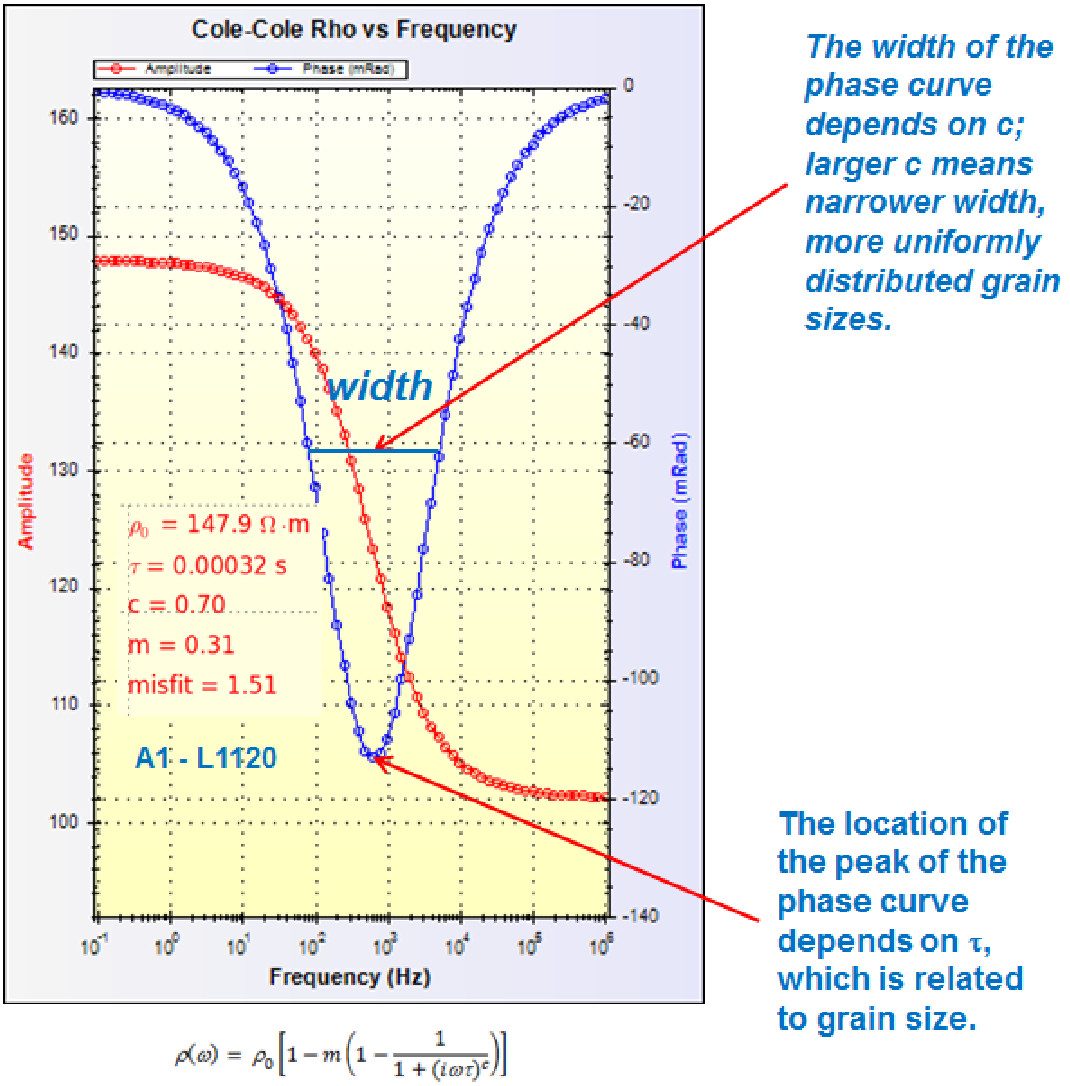


Figure 5: Cole-Cole parameters of four AIIP forward models and corresponding decays; purely inductive m=0 (green), observed data (black) and forward modeled data (red).

Typical Cole-Cole spectra for c=0.7 is shown in Figure 6. The width of the phase curve depends on c. For large c, the grain sizes of the polarizable material are distributed in a narrow range (or more uniformly distributed). The peak of the phase curve is related to the IP relaxation time-constant τ, or the average grain size of the polarizable materials.



$$\rho(\omega) = \rho_0\left[1 - m\left(1 - \frac{1}{1 + (i\omega\tau)^c}\right)\right]$$

Figure 6: The relationship between the distribution of grain sizes and the frequency factor c is illustrated in the Cole-Cole spectra of c=0.7.

2.4 AIIP DEPTH OF INVESTIGATION

Using a buried chargeable prism in a uniform, non-polarizable ground, the depth of investigation of AIIP is studied. A 200 m by 200 m by 20 m prism of resistivity $\rho_1 = 10\ \Omega \cdot m$, $m = 0.5$ v/v, $\tau = 0.0002 s$ and $c = 0.7$ is placed at various depths below ground in a resistive half space of resistivity $\rho_0 = 1{,}000\ \Omega \cdot m$, Figure 7. The size of the prism is within the footprint of the VTEM system, and the ground in the south of Coffee Road Property (A3 and A4) is quite resistive.

The software MarcoAir (CSIRO/AMIRA, Xiong and Tripp 1995) is used to generate the synthetic VTEM data in the AIIP depth of investigation. MarcoAir computes the airborne electromagnetic responses for prisms in layered earth. The Cole-Cole relaxation model is incorporated in MarcoAir.

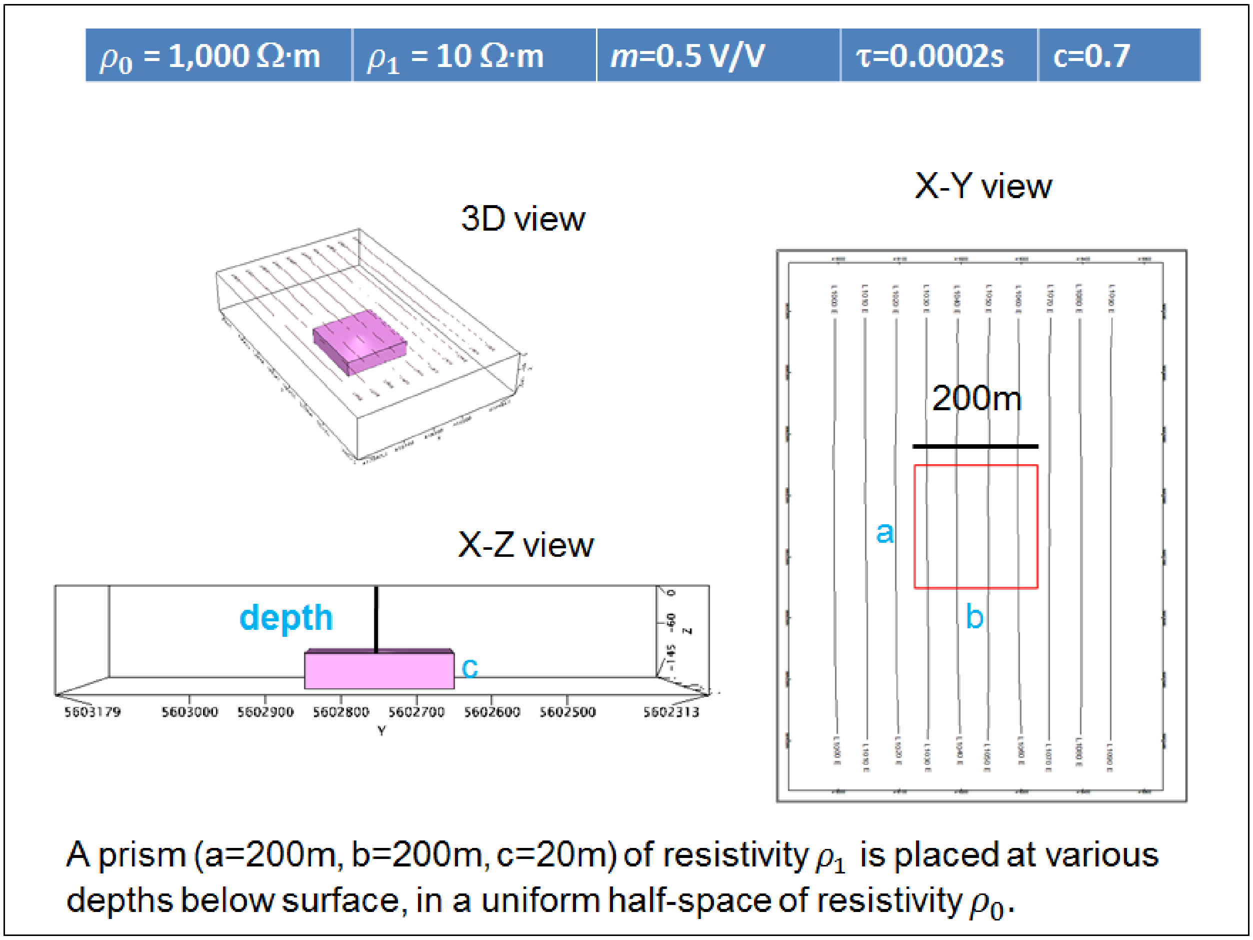


Figure 7: The setup of the 3D prismatic model for AIIP depth of investigation.

The AIIP apparent chargeability maps for the prisms buried at 50m, 75m and 100m depths are shown in Figure 8.

For the case of 50m deep prism, the maximum value of the recovered AIIP apparent chargeability is 0.58 V/V. The maximum recovered AIIP apparent chargeability for the 75m deep prism is 0.39 V/V. At 100m depth, maximum recovered AIIP apparent chargeability is 0.28 V/V, and the prism can still be detected and mapped by the VTEM system.

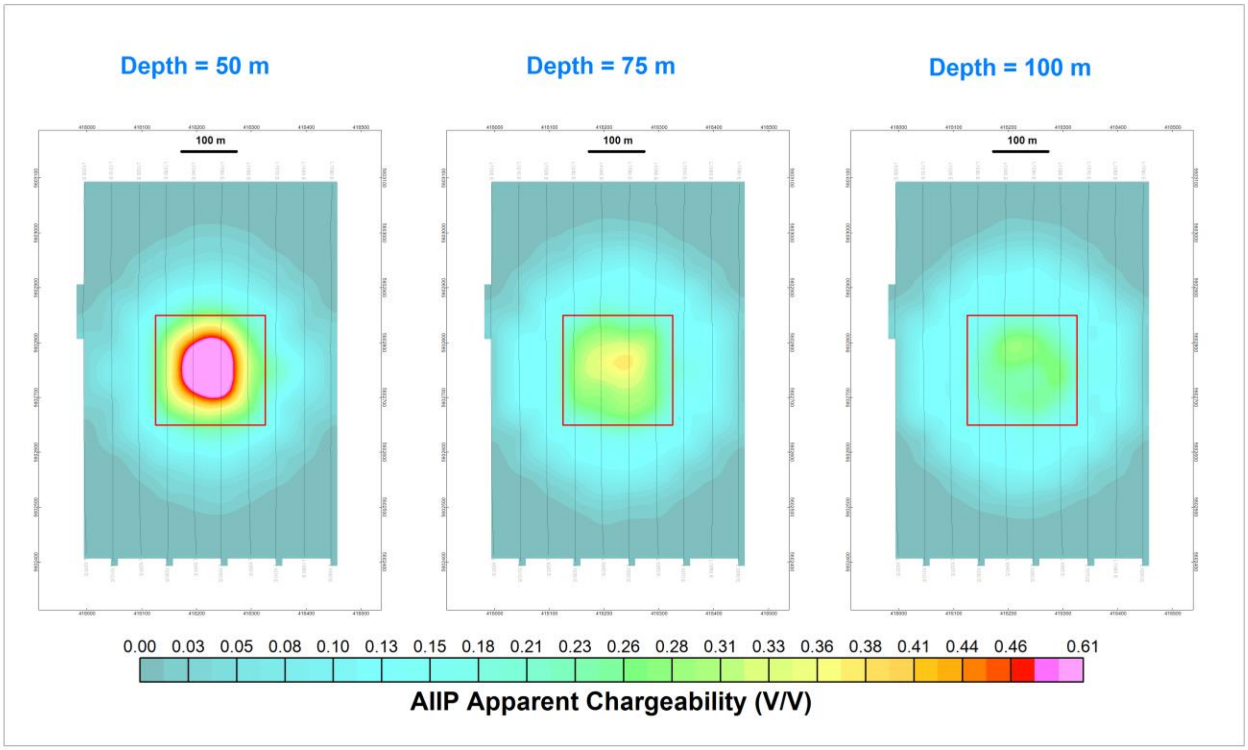


Figure 8: AIIP apparent chargeabilities for prisms located 50m, 75m and 100m below ground; the same color scheme is used.

The AIIP apparent resistivity maps for the prisms buried at 50m, 75m and 100m depths are shown in Figure 9.

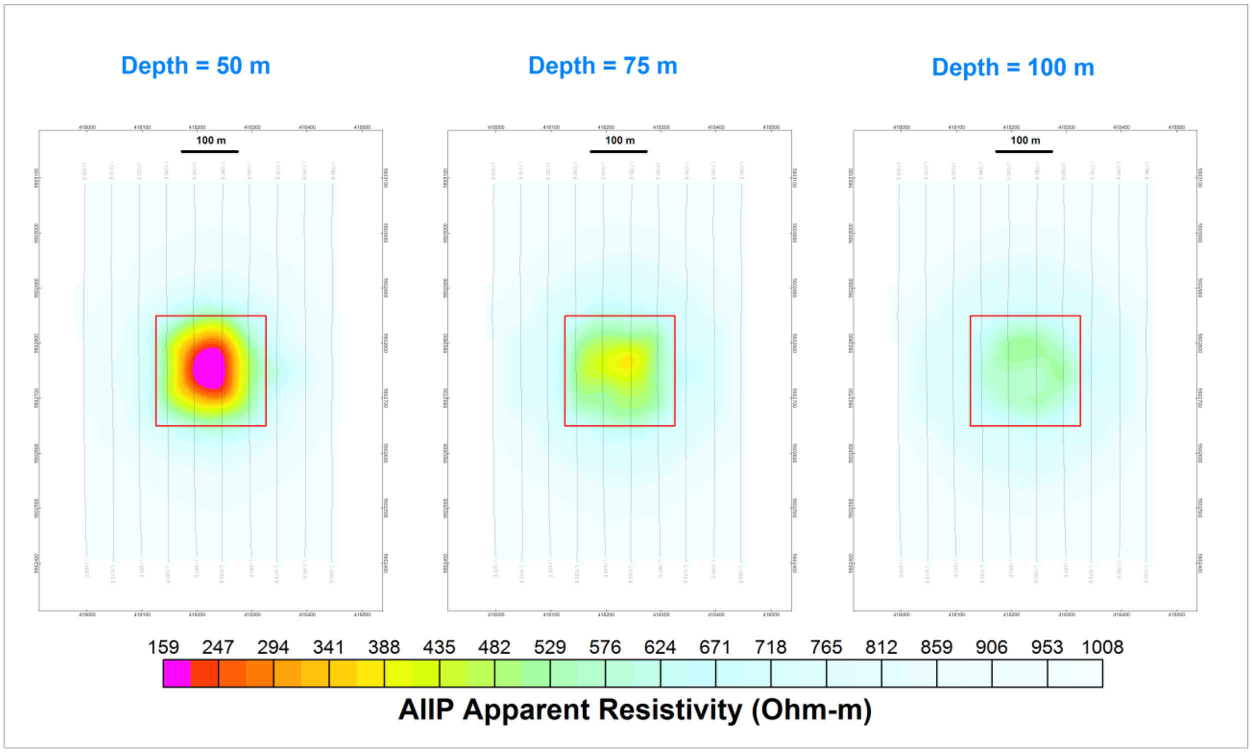


Figure 9: AIIP apparent resistivities for prisms located 50m, 75m and 100m below ground; the same color scheme is used.

At 100m depth in a resistive (1000 Ohm-m) host, a moderately chargeable prism may still be detectable by VTEM system, and the apparent chargeability (albeit weak) and resistivity recovered by AIIP mapping, as illustrated in Figure 10. Again, the expression of the AIIP effect in VTEM data is the distortion of the decay curve. Negative transient is not required to prove the existence of AIIP effect in VTEM data.

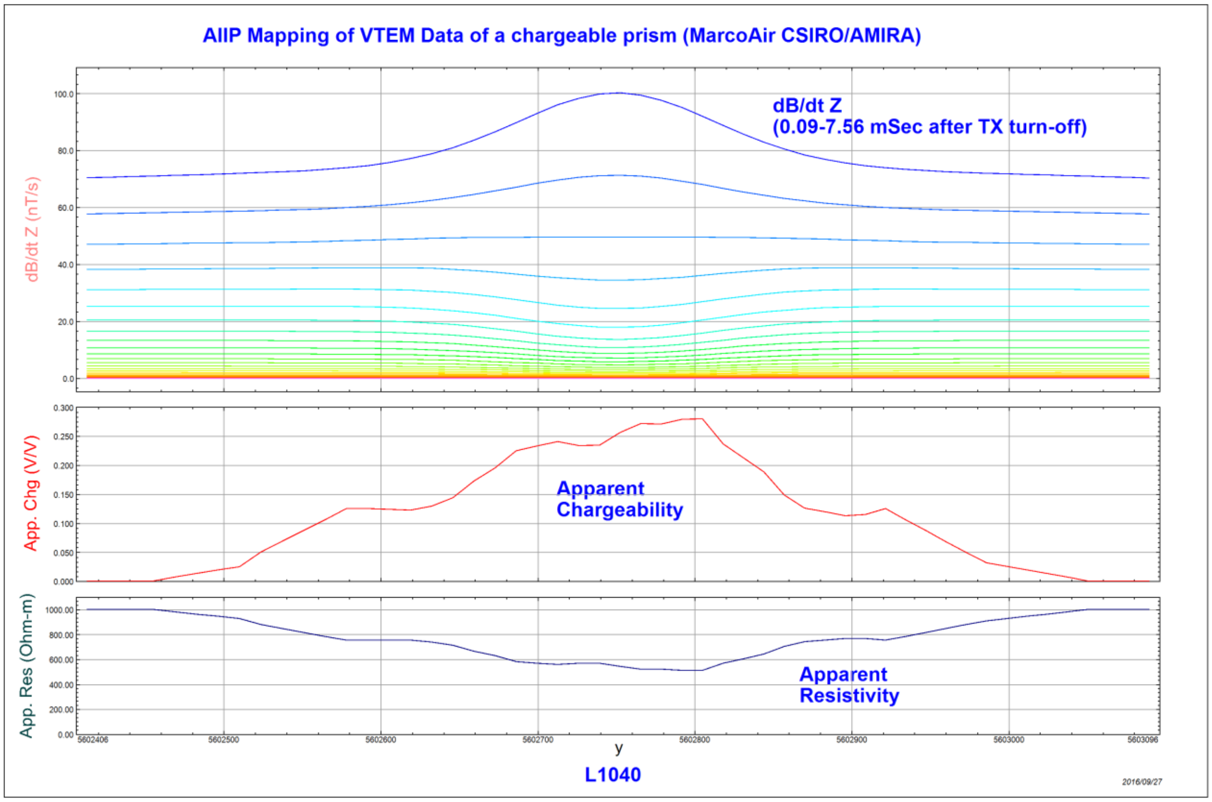


Figure 10: Forward modeled VTEM data of a chargeable prism at 100m depth, and recovered apparent chargeability and resistivity, synthetic line L1040 (just left of the prism centre).

3. AIIP CHARGEABILITY MAPPING RESULTS

3.1 GEOLOGY AND KNOWN GOLD MINERALIZATION

The discussions of the geology of the Coffee Road property are based mainly on the work by MacKenzie, Craw & Finnigan., 2014.

The basement of the Coffee Road property consists of the Paleozoic metamorphic rocks of the Yukon Tanana Terrane (YTT), Figure 11, Mackenzie, Craw & Finnigan, 2014. The basement rocks of VTEM areas A1, A3, A4 and western half of A5 are mainly undifferentiated schist and gneiss, and the basement of areas A2 and eastern half of A5 comprises mainly of Late Permian granitoid.

The basement rocks were deformed, folded and stacked during the Jurassic along regional-scale thrust faults. Greenschist facies shear zones and alteration developed during this time. Later stages of more brittle folding and fracturing subsequently developed and were locally infilled by orogenic quartz veins formed from fluids generated at depth within the thickened metamorphic pile. Hydrothermal alteration and disseminated gold mineralization in the White Gold District located just west of the Coffee Road property are structurally controlled by extensional fractures and EW striking Jurassic faults and shear zones, Mackenzie, Craw & Finnigan, 2014.

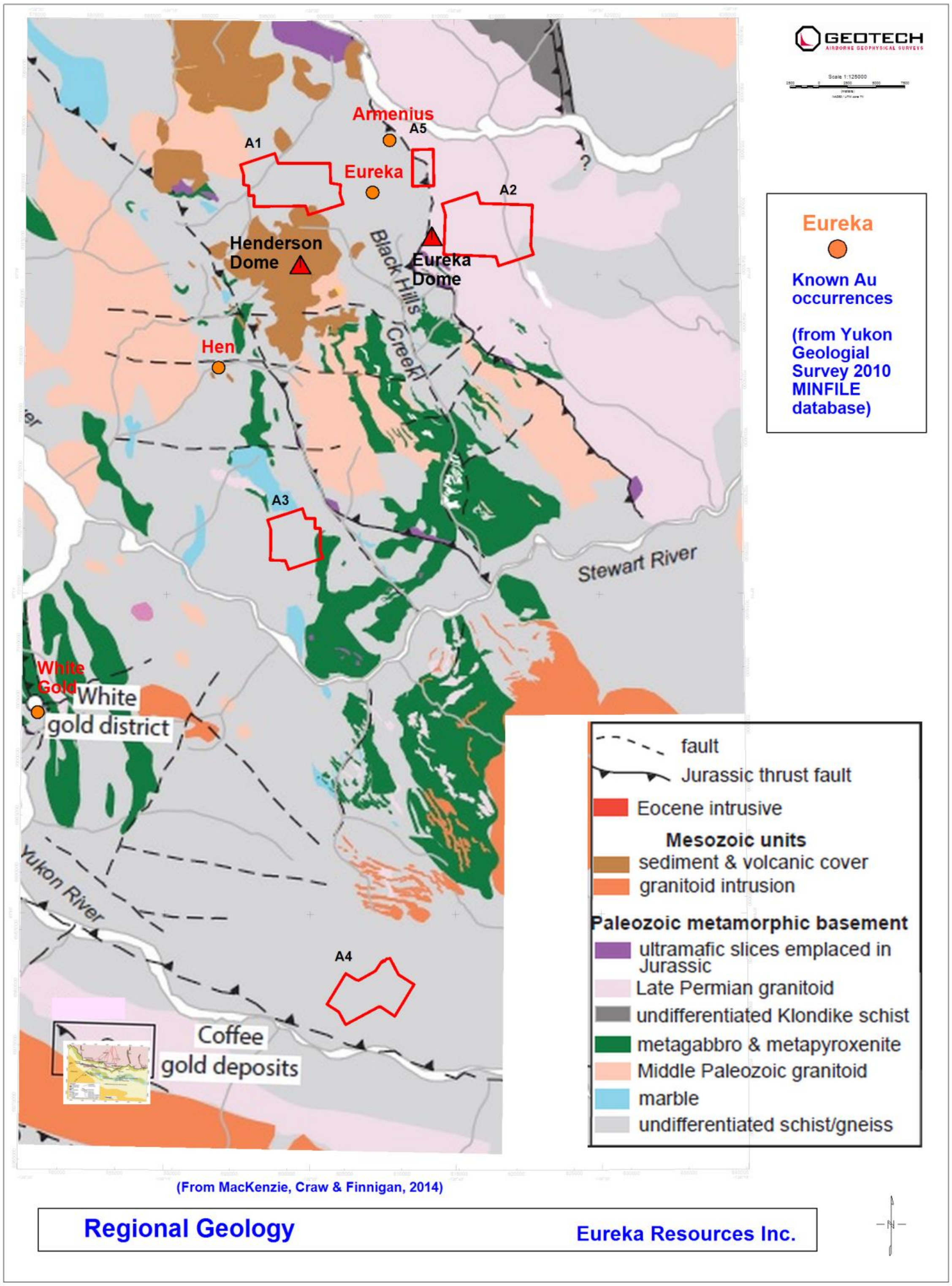


Figure 11: Regional geology of the Coffee Road Property, from MacKenzie, Craw & Finnigan, 2014, three known gold occurrences, i.e., Armenius, Eureka & Hen (from Yukon Geological Survey 2010 and appeared in Chapman et al., 2011) and the Coffee gold deposits (from Bultenhuis, Boyce & Finnigan, 2015) located west and southwest of A4.

Chapman, Mortensen & LeBarge, 2011 concluded that the placer gold deposits of the Indian River and Black Hills Creek (A1, A2 & A5) had formed mainly as a consequence of erosion of orogenic gold mineralization.

Bailey, 2013 proposed a Jurassic orogenic gold mineralization model for the Golden Saddle gold deposit, west and southwest of A3, in the White Gold District.

The Coffee deposits, west and southwest of A4, represent the shallower epizonal extensions of the mesozonal orogenic mineralization at the Boulevard deposit, a Cretaceous orogenic gold deposit, to the south (Buitenhuis, Boyce & Finnigan, 2015).

3.2 MAGNETIC DATA

Potential orogenic gold mineralization in the Coffee Road property is likely to be controlled by local scale geological structures such as fractures or faults, which can be mapped by the magnetic data.

The interpreted structures, i.e., faults, and possible thrusts and intrusions over the Calculated Vertical Gradient (CVG) data of the VTEM areas are shown in Figure 12.

The inferred faults may act as conduits or pathways for possible metamorphic or hydrothermal fluids, leading to possible hydrothermal alteration or even gold mineralization in host rocks.

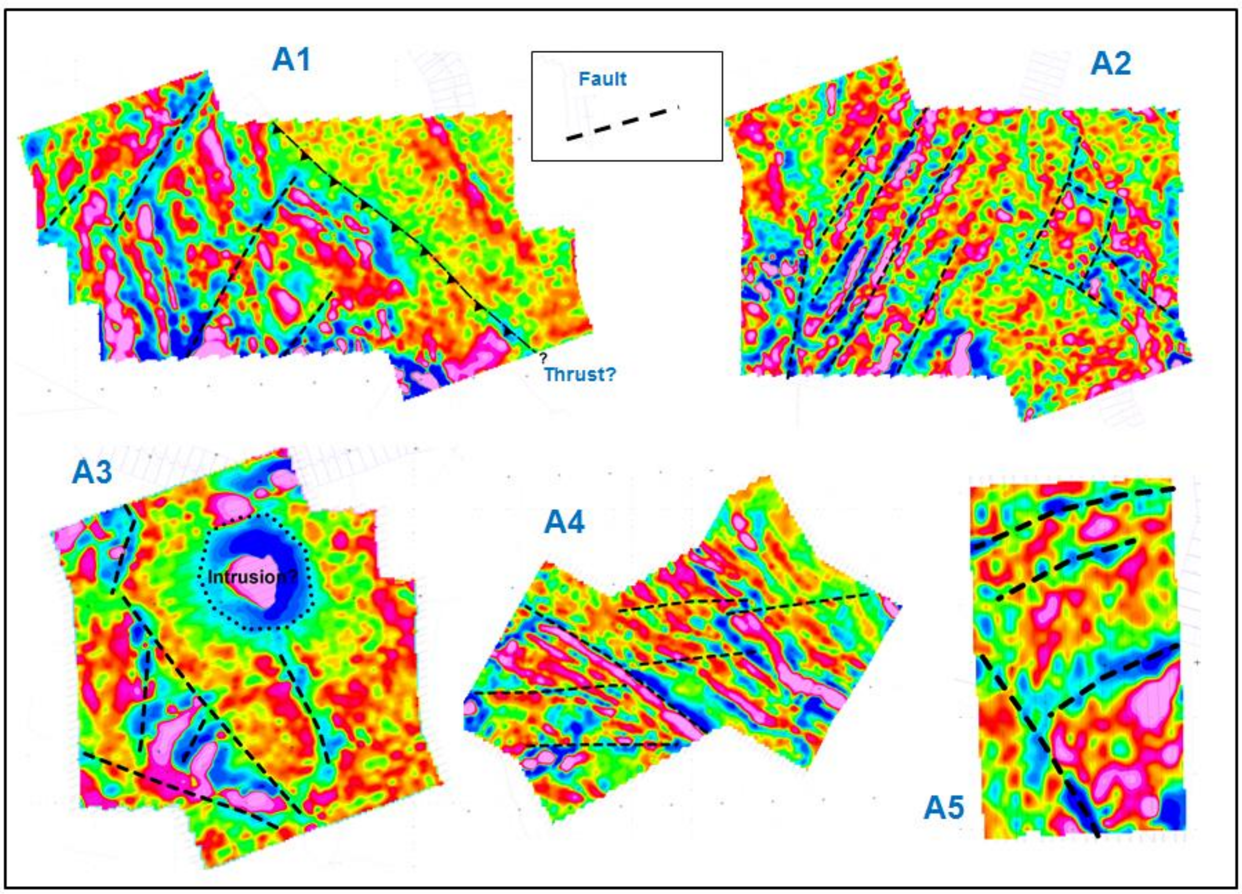


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Figure 12: Inferred faults and possible thrust (A1) and intrusion (A3) over the CVG data of VTEM areas.

3.3 AIIP MAPS AND POTENTIAL GOLD PROSPECTS

The AIIP apparent chargeability and resistivity maps derived using frequency factor c of 0.7 of A1 block are shown in Figure 13. The strong conductive and chargeable zones don't appear to be coinciding with the drainages, implying that the conductive and chargeable materials are located within the hard rocks. The AIIP anomalies could be related to the fault zones, which acted as conduits for hydrothermal or metamorphic fluids possibly carrying sulphide minerals and even gold. The AIIP conductive and chargeable zones are selected as potential orogenic gold exploration prospects.

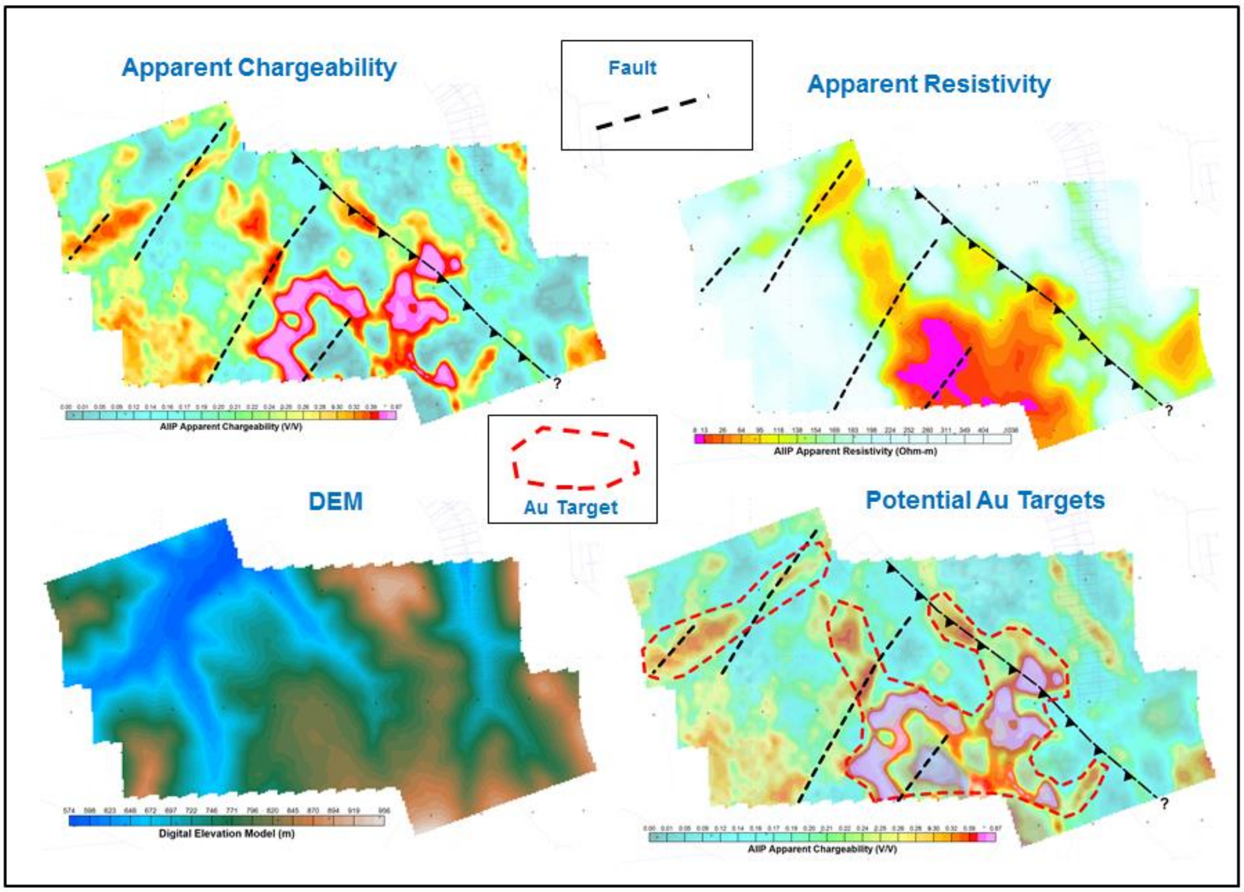

Figure 13: AIIP apparent chargeability, resistivity maps, DEM and potential gold targets, A1 block.

The AIIP apparent chargeability and resistivity maps of A2 block are shown in Figure 14. It appears that the conductive zones follow more or less the drainages. However, the chargeable anomalies in the west of the block don't appear to be related to drainages. These chargeable anomalies could be related to the NE-SW trending inferred faults in the same area. A potential orogenic gold exploration prospect for A2 is identified and shown over the AIIP apparent chargeability.

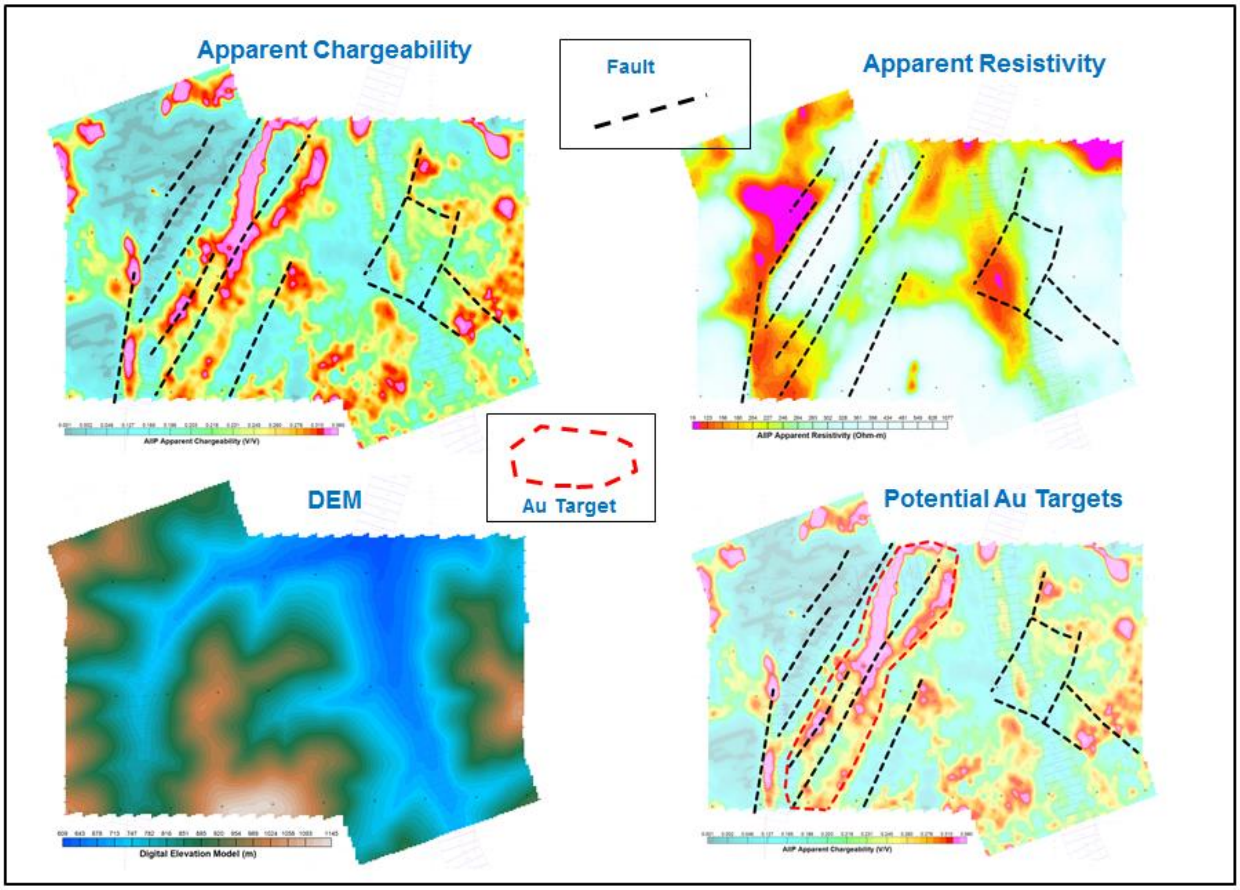

Figure 14: AIIP apparent chargeability, resistivity maps, DEM and potential gold targets, A2 block.

The AIIP apparent chargeability and resistivity maps of A3 block are shown in Figure 15. It appears that the AIIP anomalies do not follow the drainages. The chargeable anomalies are located within resistive terrains, implying that they could be possibly related to sulphide mineralization in quartz veins. A potential gold exploration prospect in the western half of A3 block is outlined and displayed over the AIIP apparent chargeability.

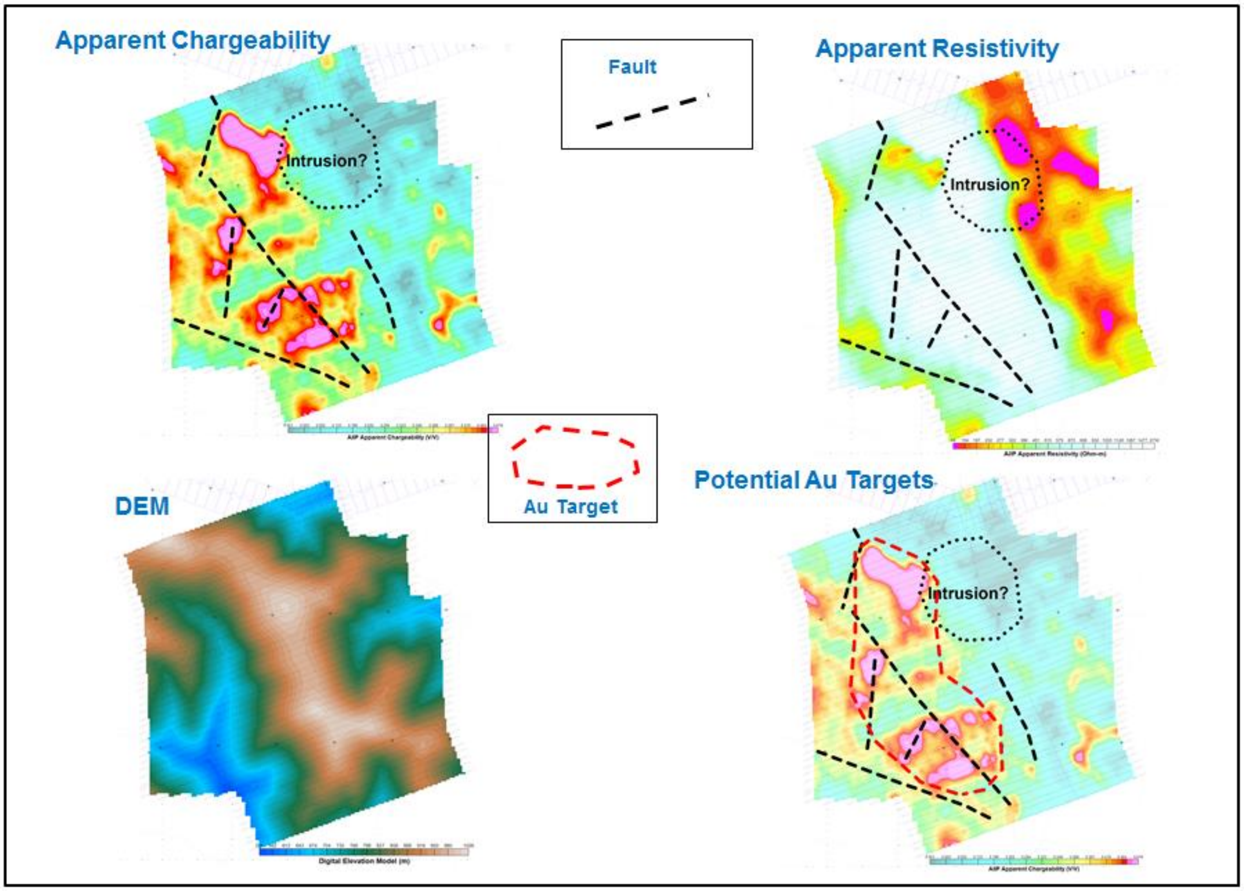

Figure 15: AIIP apparent chargeability, resistivity maps, DEM and potential gold targets, A3 block.

The AIIP apparent chargeability and resistivity maps of A4 block are shown in Figure 16. It appears that the AIIP apparent chargeability anomalies do not follow the drainages, but the AIIP apparent resistivity anomalies appear to follow the drainages closely in the SW portion of A4. The chargeable anomalies are located within resistive terrains in the NE of A4, implying that they could be possibly related to sulphide mineralization in quartz veins. The chargeable anomalies seem to trend parallel to the inferred faults. A potential gold exploration prospect in A4 block is identified and displayed over the AIIP apparent chargeability.

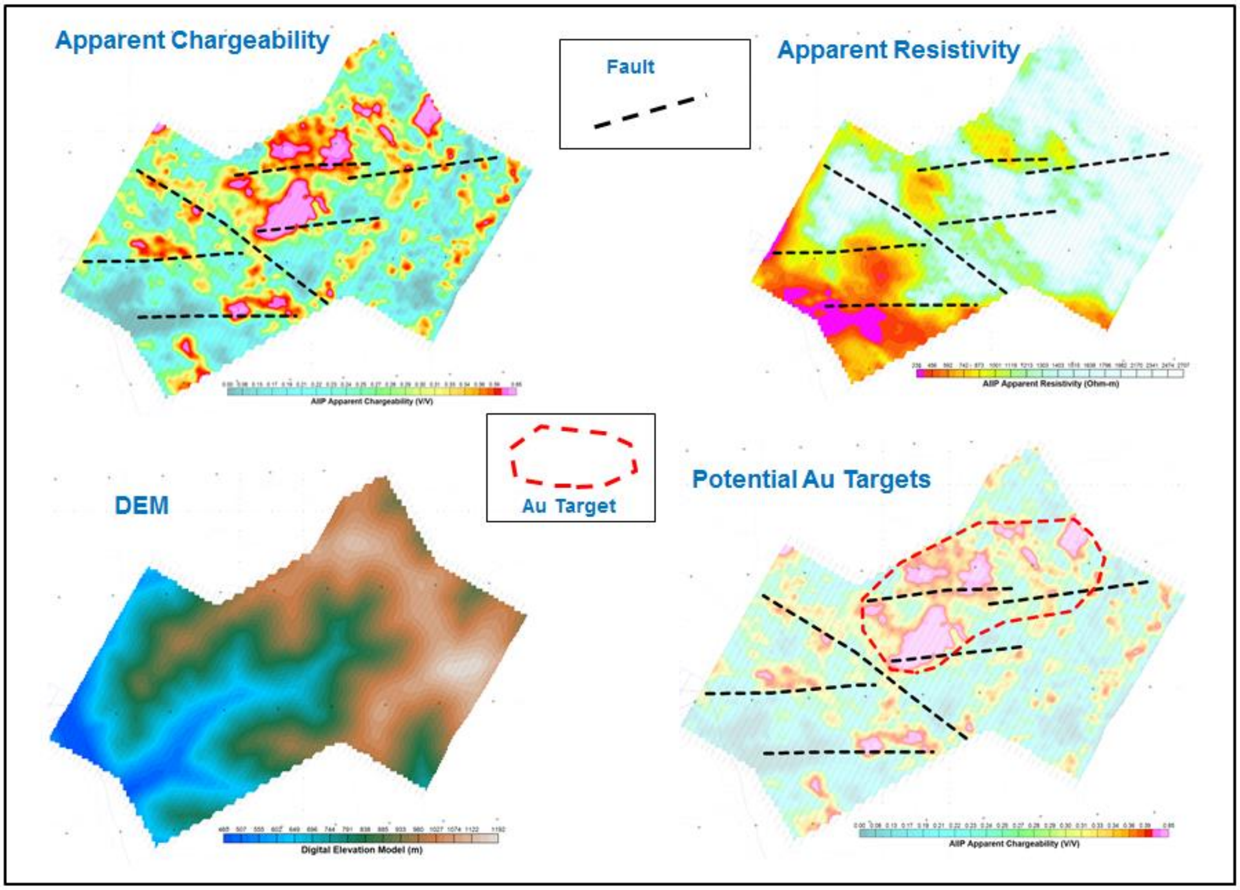

Figure 16: AIIP apparent chargeability, resistivity maps, DEM and potential gold targets, A4 block.

The AIIP apparent chargeability and resistivity maps of A5 block are shown in Figure 17. It appears that the AIIP anomalies don't follow the drainages. The chargeable anomalies in the south of the block are located in resistive terrains and they could be related to sulphides in quartz veins. The chargeable anomalies in the north are located very close to the central conductive zone, which is trending ENE direction and fairly conductive. The central conductive zone could be related to possible massive sulphide mineralization. Potential gold exploration prospects for A5 are identified and shown over the AIIP apparent chargeability.

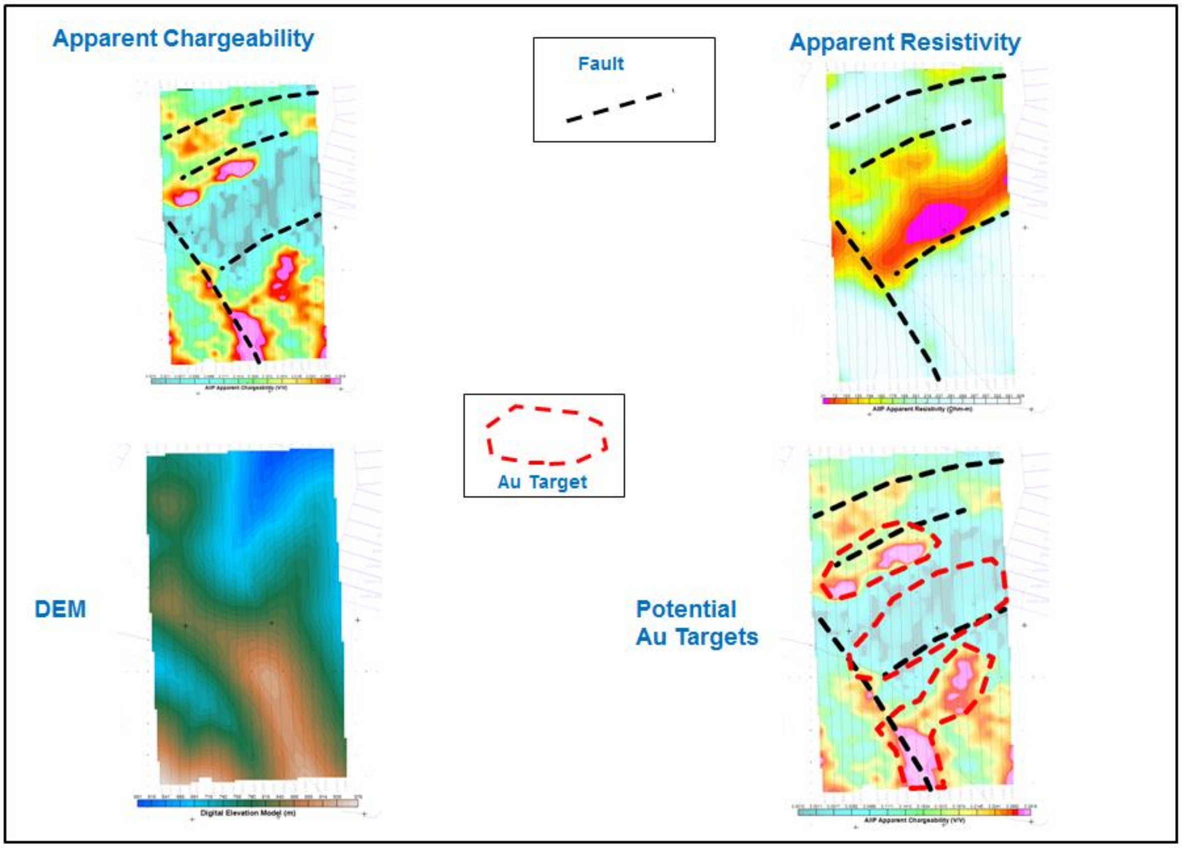

Figure 17: AIIP apparent chargeability, resistivity maps, DEM and potential gold targets, A5 block.

3.4 DISCUSSIONS OF AIIP SOURCES

The following discussions focus on the possible sources of AIIP and implications for the exploration of potential orogenic gold mineralization in the VTEM blocks.

There are three main sources of orogenic gold (Augustin & Gaboury, 2017 and references therein):

1. Intrusion-related sources (e.g. Porphyries);
2. Carbonaceous, pyrite-rich sedimentary rocks (Large *et al*., 2011);
3. Plume-related basaltic rocks (Bierlein & Pisarevsky, 2008);

The first two possible sources of gold could be present in the VTEM blocks.

The majority of orogenic gold deposits formed proximal to regional terrane-boundary structures that acted as vertically extensive hydrothermal plumbing systems, and most deposits are sited in second or third order splays or fault intersections that define domains of low mean stress and correspondingly high fluid fluxes, McCuaig and Kerrich 1998.

The origin of gold in some types of orogenic gold deposits, such as turbidite-hosted, or sediment-hosted gold deposits, is an active research topic. Some of the conventional beliefs and new ideas from Large *et al*., 2011 regarding the carbonaceous pyrite-rich sedimentary source of gold for these deposits are listed below, representing two different theories. In either case, structure, i.e., fault, and hydrothermal activity are two of the most critical factors in the formation of the gold deposits.

Conventional Beliefs	***New Ideas (Large et al., 2011)***
Gold is coming from some deep sources or from crustal granite	Gold is already present in the sedimentary basin
Graphitic sediments are good trap rocks for gold	Graphitic sediments are ideal source rocks for Au & As and other trace elements
Gold is introduced late; i.e., syn-tectonic or post-tectonic	Gold is introduced early; i.e., pre-tectonic and moved around late during tectonism

Some AIIP results have indicated that some hydrothermal alteration products, i.e., hydrothermal pyrite, can generate conductive and chargeable responses in VTEM data. The linear conductive and chargeable trends tend to coincide with or to be locaed in close proximity to fault zones, which acted as conduits for hydrothermal or metamorphic fluids.

The hydrothermal alteration assemblages, i.e., sericitization, carbonatization, sulphidation (pyrite) and etc., are common to many orogenic gold deposits, Bierlein *et al*., 2000, and the recognition of extensive alteration halos around them, especially hydrothermal pyrites, by AIIP mapping represents a potentially powerful tool for gold exploration.

The hydrothermal alteration products in general are fine-grained.

4. CONCLUSIONS AND RECOMMENDATIONS

The AIIP chargeability mapping of VTEM data from the A1-Ophir, A2-Sheba, A3-Hav, A4-Tak, and A5-Etta blocks located within the Coffee Road Property, Yukon, has been carried out.

Potential exploration prospects for orogenic gold mineralization in the blocks are identified and they are recommended for follow-up.

Respectfully submitted,

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September 20, 2017

[2] The designation of P.Geo (Limited) by Association of Professional Geoscientists of Ontario permits the principal interpreter to practice in the field of exploration geophysics only.

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APPENDIX A: AIIP Mapping

INTRODUCTION

Data acquired by airborne in-loop time-domain electromagnetic (EM) systems, such as VTEM™ (Witherly et al., 2004), reflect mainly two physical phenomena in the earth: (1) EM induction, related to ground conductivity, (2) Airborne Inductively Induced Polarization (AIIP), related to the relaxation of polarized charges in the ground (e.g., Kratzer & Macnae 2012 and Kwan *et al*., 2015).

It has been shown by Smith and West (1989) that the in-loop EM system is optimally configured to excite a unique AIIP response, including negative transients in mid to late times over resistive grounds, from bodies of modest chargeability.

Negative transients observed in airborne time domain EM data (e.g. Smith and Klein, 1996 and Boyko et al. 2001) are attributed to airborne inductive induced polarization (AIIP) effects. However, the absence of negative transients does not preclude the presence of AIIP, because of the IP effect takes finite time to build up or the IP effect may be obscured by the conductive ground (Kratzer and Macnae, 2012).

In mineral exploration, near-surface sources of AIIP are clays through membrane polarization (electrical energy stored at boundary layer) and most metallic sulphides and graphite through electrode polarization (electrical charges accumulated through electrochemical diffusion at ionic-electronic conduction interfaces). Some kimberlites in Lac de Gras kimberlite field are known to have AIIP signatures (Boyko *et al*., 2001).

The widely used theory to explain the IP effect is the empirical Cole-Cole relaxation model (Cole and Cole, 1941) for frequency dependent resistivity $\rho(\omega)$,

$$\rho(\omega) = \rho_0 \left[1 - m\left(1 - \frac{1}{1+(i\omega\tau)^c}\right)\right], \quad (1)$$

where ρ_0 is the low frequency asymptotic resistivity, m is the chargeability, τ is the IP relaxation time constant, $w = 2\pi f$, and c is the frequency factor.

The extraction of AIIP chargeability m using the Cole-Cole formulation from VTEM data had been demonstrated by Kratzer and Macnae, 2012 and Kwan *et al*., 2015.

An improved version of AIIP chargeability mapping tool based on CSIRO/AMIRA Airbeo has been developed for VTEM system and tested on VTEM data from Mt Milligan, British Columbia, Canada, and Tullah, Tasmania.

IMPROVED AIIP MAPPING ALGORITHM

Search for *m* and τ using Airbeo forward modeling

The extraction of the four Cole-Cole parameters (ρ_0, m, τ and c) from airborne VTEM data can be a difficult task. The AIIP mapping algorithm originally developed by Kwan *et al*., 2015 suffers lack of precision for the derived apparent chargeability m and resistivity ρ_0, and is computationally very slow. Geotech has recently developed an improved version of AIIP mapping algorithm, based on Airbeo from CSIRO/AMIRA[1] (Chen & Raiche 1998; Raiche 1998) to extract the (ρ_0, m and τ) parameters while keeping the frequency factor c fixed. The new method applies the Nelder-Mead Simplex minimization (Nelder and Mead, 1965) in the two-dimensional (m,τ) plane. At each required test point (m_i, τ_i), the optimal background resistivity ρ_0 is found by one-dimensional Golden Section minimization (Press *et al*., 2002). The algorithm uses only Airbeo's forward modeling kernel, which can generate synthetic VTEM data with high precision. The Nelder-Mead AIIP mapping algorithm generates much more precise (ρ_0, m, τ) parameters.

The Nelder-Mead Simplex Minimization method can be explained in the five (5) moves, reflection, expansion, outside and inside contraction, and shrink, as illustrated in Figure 1.

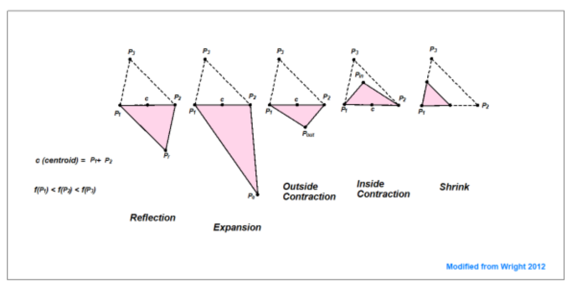

Figure 1: Nelder-Mead Simplex moves (modified from Wright 2012).

The Nelder-Mead Simplex minimization algorithm consists of following steps.

Let $f(\rho_0, \mathrm{m}, \tau)$ be the RMS error function defined as

[1] Commonwealth Scientific and Industrial Research Organization and Amira International;

$$f(\rho_0, \mathrm{m}, \tau) = \frac{1}{N-1} (\sum_{i=0}^{N-1}(\mathrm{f}(\rho_0, \mathrm{m}, \tau, t_i) - v(t_i))^2)^{1/2} . \qquad (2)$$

Step 1 (Sorting)

Sort the vertices such that $f(P_1) < f(P_2) < f(P_3)$. Point P_1 is the best point, P_2 is the next-to-worst point and P_3 is the worst point;

Step 2 (Reflection)

Reflect the worst point P_3, through the centroid of (P_1 and P_2) to obtain the reflected point P_r, and evaluate $f(P_r)$.

If $(f(P_1) < f(P_r) < f(P_2))$, then replace the worst point P_3 with the reflected point P_r, and go to Step 5.

Step 3 (Expansion)

If $(f(P_r) < f(P_1))$, then extend the reflected point P_r, further pass the average of P_1 and P_2, to point P_e, and evaluate $f(P_e)$

(a) If $f(P_e) < f(P_r)$, then replace P_3 with P_e, and go to Step 5
(b) Otherwise, replace the worst point P_3 with the reflected point P_r, and go to Step 5

Step 4 (Contraction or Shrink)

If the inequalities of Step 2 and 3 are not satisfied, then it is certain that the reflected point P_r is worse than the next-to-worst point P_2, $(f(P_r) > f(P_2))$ and, a smaller value of f might be found between P_3 and P_r. So try to contract the worst point P_3, to a point P_c between P_3 and P_r and evaluate $f(P_c)$;

The best distance along the line from P_3 to P_r can be difficult to determine. Typical values of P_c are one-quarter and three-quarter of the way from P_3 to P_r. These are call inside and outside contraction points P_{in} and P_{out};

(a) If $\min(f(P_{in}), f(P_{out})) < f(P_2)$, then replace P_3 with the contraction point P_{in} or P_{out}, and to Step 5.

(b) Otherwise shrink the simplex into the best point, P_1, and go to Step 5.

Step 5 (Convergence Check)

Stop if the standard deviation of f is less than user-specified tolerance *RMSTOL*,

$$\sqrt{\frac{1}{n}\sum_{i=0}^{n-1}(f_i - f_{avg})^2} \leq RMSTOL$$

Perhaps the most important feature in the Nelder-Mead simplex method is Step (4b), the shrink. It allows the shape of the simplex to "adapt itself to the local landscape", Nelder and Mead, 1965. In essence, all the moves in the Nelder-Mead (NM) Simplex method are designed to move away from the worst point.

Han and Neumann 2006 showed that the NM simplex method deteriorates when the number of parameters to be minimized (n) increases. For n=1 or 2, NM convergence is acceptable. As n≥3, NM convergence slows dramatically as N increases. Due to this reason, Geotech applies the NM method only in the 2D (m,τ) plane, to ensure convergence as well as that all the NM moves can be checked visually.

AIIP MAPPING RESULTS

Mt. Milligan, British Columbia, Canada

Mt. Milligan Cu-Au deposit is located within Early Mesozoic Quesnel Terrane that hosts a number of Cu-Au porphyry deposits, Oldenburg et al, 1997. The Mt. Milligan intrusive complex consists dominantly of monzonitic rocks, including the MBX and Southern Star (SS) zones, all which host mineralization at Mt. Milligan (Figure 2). Mineralization in both zones consists of pyrite, chalcopyrite and magnetite with bornite localized along intrusive-volcanic contacts (Terrane Minerals Corp. NI 43-101, 2007). Copper-gold mineralization is primarily associated with potassic alteration with both copper grade and alteration intensity decreasing outwards from the monzonite stocks. Pyrite content increases dramatically outward from the stocks where it occurs in association with propylitic alteration, which forms a halo around the potassic-altered rocks.

Helicopter-borne VTEM surveys, including a small survey over Mt. Milligan, were carried out from July 29th to November 1st, 2007, on behalf of GeoscienceBC as part of the QUEST project in central British Columbia. The data were released to the public by GeoscienceBC and can be downloaded from http://www.geosciencebc.com.

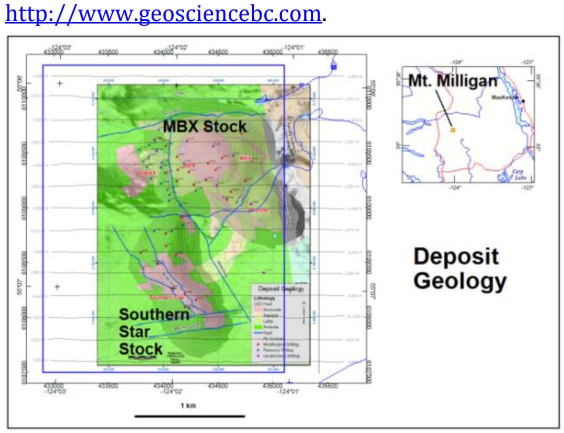

Figure 2: Mt. Milligan geology.

VTEM Z-component data, from 0.091 to 10.126 milliseconds in off-times, were processed to recover the AIP apparent chargeability. Very weak negative transients above noise level are observed in the VTEM data over two locations from survey lines near DWBX and SS. The inverted Cole-Cole chargeabilities are shown in Figure 3. Weak chargeabilities can be seen along the east and west flanks of the MBX stock, especially over DWBX, and in a small area southwest of SS stock. For comparison, the chargeability slice at 40m depth, created by UBC 3D airborne IP inversion of the same VTEM data from Kang *et al*., 2014, is also shown.

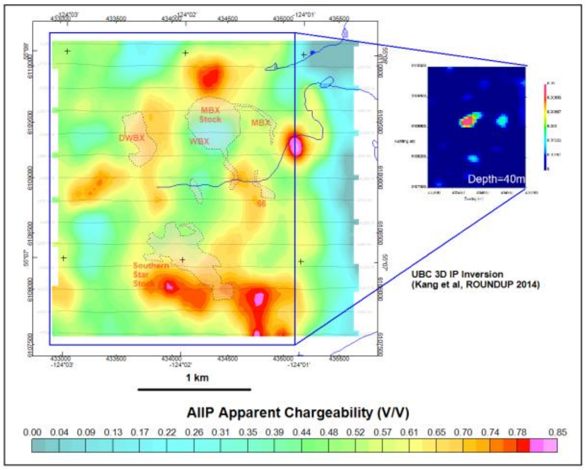

Figure 3: Mt. Milligan AIIP apparent chargeability.

The AIIP apparent resistivity of Mt. Milligan area is shown in Figure 4. A relatively low resistivity halo can be seen surrounding the SS stock.

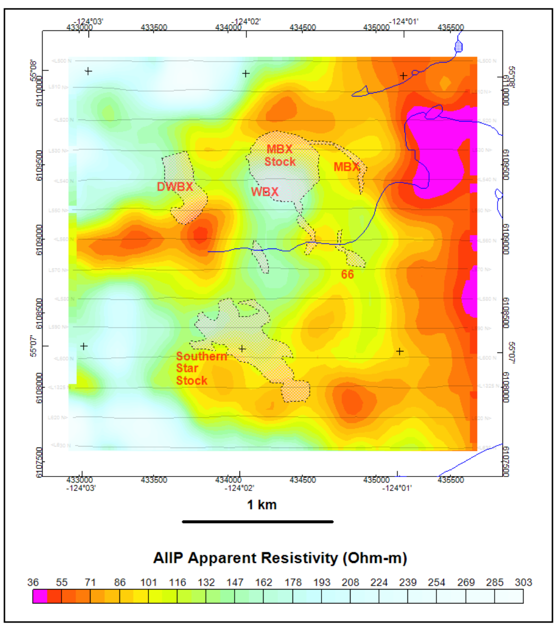

Figure 4: Mt. Milligan AIIP apparent resistivity.

Tullah, Tasmania

The most important metallogenic event in Tasmania occurred in Middle Cambrian as the post collisional proximal submarine volcanism and the deposition of the Mount Read Volcanics (MRV) and associated world-class deposits (Seymour *et al*., 2007).

The study area is located near Tullah, northwest Tasmania. The western half of the study area is covered by Late Cambrian quartz sandstone, Ordovician limestone and Quaternary alluvium and marine sediments (Figure). The eastern half is dominated by the Middle Cambrian volcanics (Corbett, 2002).

The Mount Lyell, located south of the study area, hosts 311 Mt 0.97% Cu and 0.31 g/t Au disseminated chalcopyrite-pyrite ore bodies in alteration assemblages of mainly quartz-sericite or quartz-chlorite-sericite.

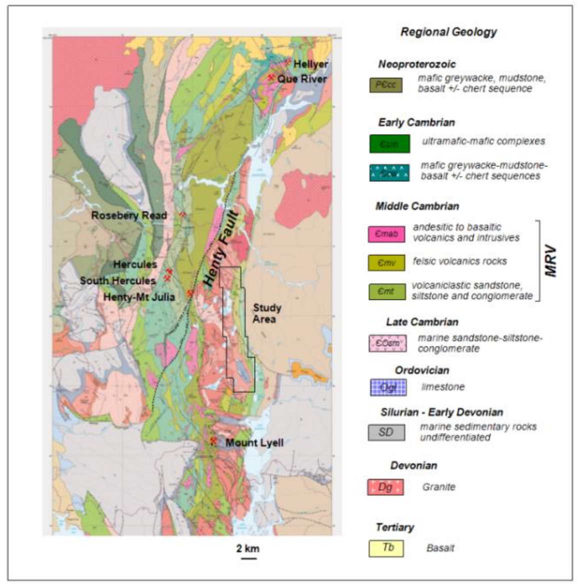

Figure 5: Regional geology of study area, Tullah, Tasmania.

From December 2012 to February 2013, Geotech carried out a helicopter-borne geophysical survey over the study area. Numerous negative transients were observed in the VTEM voltage data (Figure). The Z-component data, from 0.216 to 7.56 milliseconds in off-times, were processed for AIIP apparent chargeability.

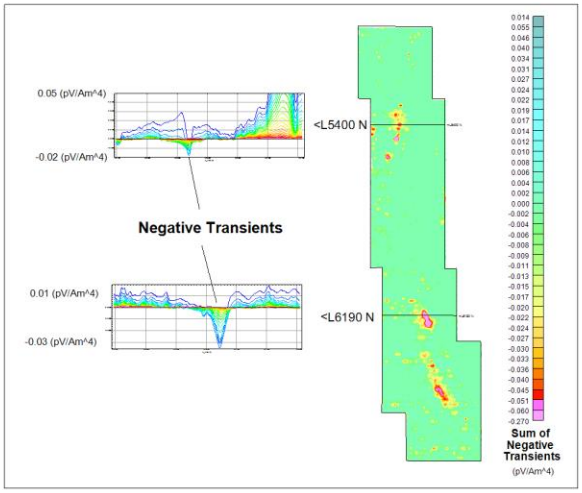

Figure 6: Sum of negative transients and two VTEM profiles, Tullah, Tasmania.

The amplitudes of VTEM data over resistive grounds are relatively now. If the number of decay data in the off-time windows is below a user specified noise threshold, then the decay will be skipped. The calculated AIIP apparent chargeability and resistivity of the study area are shown in Figure . The chargeability map follows the sum of negative transients closely. The sources of the AIIP could be clays or sulphides, or a combination of both.

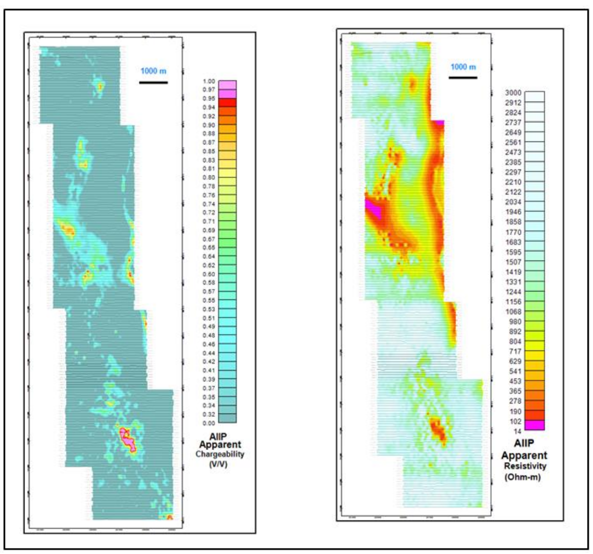

Figure 7: AIIP apparent chargeability and resistivity, Tullah, Tasmania.

DISCUSSION

For real VTEM data contaminated with noise and geology different from uniform half-space, two constraints, a restricted range of inverted apparent resistivity and the use of proper frequency factor, are required in order to for AIIP mapping tool to generate geologically meaningful outputs.

The range of acceptable inverted AIIP apparent resistivity can be estimated by other means and one of them is the Resistivity Depth Imaging (RDI) technique based on the transformation scheme described by Meju (1998).

Extensive discussions on frequency factor are provided in Pelton *et al*. (1978). A reasonable average of frequency factors can be obtained using AIIP forward modeling of VTEM decays of selected locations within a survey area. If the frequency factors are widely distributed, then AIIP mapping should be run using several frequency factors.

CONCLUSION

An improved version of AIIP mapping tool based on Airbeo (CSIRO/AMIRA) has been created for the in-loop VTEM system, which is optimally configured to excite a unique AIIP response, including negative transients in mid to late times over resistive grounds from bodies of modest chargeability. Test results on field VTEM data prove that the new AIIP mapping tool can work, if the inverted resistivity range is restricted and the proper frequency factor is used. The derived AIIP apparent chargeability map provides additional information for the interpretation of VTEM data.

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APPENDIX B: Final Deliverables

B1: Databases

A1_ch25t55_aiip_final.gdb;
A2_ch25t55_aiip_final.gdb;
A3_ch20t55_aiip_final.gdb;
A4_ch20t55_aiip_final.gdb;
A5_ch25t55_aiip_final.gdb;

Database channel descriptions;

A1, A2 and A5 blocks

Channel	Descriptions	Unit
x	UTM Easting (NAD83, UTM zone 7N)	meter
y	UTM Northing (NAD83, UTM zone 7N)	meter
radarb	EM TX-RX height above ground	meter
sfzo	Observed dB/dt Z component array (Ch 25 to 55), 31 chs	pV/Am^4
sfzc	Calculated dB/dt Z component array (Ch 25 to 55), 31 chs	pV/Am^4
chg_final	Final AIIP apparent chargeability	V/V
res_final	Final AIIP apparent resistivity	Ohm-m

A3 and A4 blocks

Channel	Descriptions	Unit
x	UTM Easting (NAD83, UTM zone 7N)	meter
y	UTM Northing (NAD83, UTM zone 7N)	meter
radarb	EM TX-RX height above ground	meter
sfzo	Observed dB/dt Z component array (Ch 20 to 55), 36 chs	pV/Am^4
sfzc	Calculated dB/dt Z component array (Ch 20to 55), 36 chs	pV/Am^4
chg_final	Final AIIP apparent chargeability	V/V
res_final	Final AIIP apparent resistivity	Ohm-m

B2: Grids

A#_chg_finalw.grd: AIIP apparent chargeability grids;
A#_res_final.grd: AIIP apparent chargeability grids;

Appendix V: Statement of Expenditures

2017 Statement of Expenditures

Project Expenditures 2017				
Etta Property				
Expense type	No.	Unit	Cost/unit	Cost
Airborne Survey				
Survey cost	5.2%	total	$ 189,017.96	$ 9,828.93
Fuel	5.2%	total	$ 25,023.00	$ 1,301.20
Support costs	5.2%	total	$ 15,140.00	$ 787.28
			Sub-total	**$ 11,917.41**
Field Program				
Personnel: Project Geologist	1	days	$ 600.00	$ 600.00
Personnel, Jr. Geologist 1	1	days	$ 500.00	$ 500.00
Groceries	2	person days	$ 40.00	$ 80.00
Camp, computer rentals, etc.	1	days	$ 330.00	$ 330.00
Soil sample assaying	48	soils	$ 33.33	$ 1,599.84
Helicopter (pro-rated)	10%	total	$ 23,290.00	$ 2,329.00
			Sub-total	**$ 5,438.84**
Office Work				
Data prep, map production, GIS work:				$ 1,500.00
			Sub-total	**$ 1,500.00**
Total for Etta Property			**Total:**	**$ 18,856.25**
Claims	24	claims		
Total per claim				$ 785.68