



Ministry of Energy, Mines & Petroleum Resources  
Mining & Minerals Division  
BC Geological Survey

Assessment Report  
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geophysical and Prospecting

TOTAL COST: \$137,759.31

AUTHOR(S): Christopher O. Naas

SIGNATURE(S): 

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-13-240

YEAR OF WORK: 2019

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): 5773314

PROPERTY NAME: Cathedral

CLAIM NAME(S) (on which the work was done): 689828, 1025889

COMMODITIES SOUGHT: Cu, Au, Ag

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 094C-135, 094C-010, 094C-071, 094C-072, 094C-133, 094C-016, 094C-123

MINING DIVISION: Omineca

NTS/BCGS: 094C03, 094C04, 094C05, 094C06

LATITUDE: 56 ° 05 '12 " LONGITUDE: 125 ° 26 '40 " (at centre of work)

OWNER(S):

1) Thane Minerals Inc.

2)

MAILING ADDRESS:

PO Box 38099 Morgan Heights PO

Surrey, BC V3Z 6R3

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

1) Thane Minerals Inc.

2)

MAILING ADDRESS:

PO Box 38099 Morgan Heights PO

Surrey, BC V3Z 6R3

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

Property is mainly underlain by early Jurassic Hogem batholith comprised of quartz monzonites, diorites and syenites. The intrusives are in contact with the Upper Triassic Takla Group volcanics, comprised of volcanic flows, breccias and agglomerates.

Copper mineralization is documented in many occurrences over much of the property, typically chalcopyrite along with malachite/azurite staining on rock surfaces. Alteration is mainly propylitic with potassic alteration associated with veining.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: 04599,14192,17742,17743,21419,21425

21426,26530A,29112,32106,33099,33294,33947,34793,35882,36337,37045,37736,38499

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
<b>GEOLOGICAL (scale, area)</b>			
Ground, mapping			
Photo interpretation			
<b>GEOPHYSICAL (line-kilometres)</b>			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization	8.9 km	689828, 1025889	\$101,924.27
Radiometric			
Seismic			
Other			
Airborne			
<b>GEOCHEMICAL (number of samples analysed for...)</b>			
Soil			
Silt			
Rock	5 samples (ICP-MS, Au geochem)	689828	\$259.04
Other			
<b>DRILLING (total metres; number of holes, size)</b>			
Core			
Non-core			
<b>RELATED TECHNICAL</b>			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
<b>PROSPECTING (scale, area)</b>			
0.8 km <sup>2</sup> (1:10,000)		689828	\$2,350.00
<b>PREPARATORY / PHYSICAL</b>			
Line/grid (kilometres)	8.9 km	689828, 1025889	\$33,226.00
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		<b>TOTAL COST:</b>	<b>\$137,759.31</b>

**ASSESSMENT REPORT**  
**GROUND GEOPHYSICS AND GEOCHEMISTRY**  
**at the**  
**Cathedral Area**  
**of the**  
**Cathedral Property**  
(689828, 1025889)  
Omineca Mining Division, British Columbia, Canada

Owner: Thane Minerals Inc.  
Operator: Thane Minerals Inc.

by  
Christopher O. Naas, *P.Geo.*  
May 19, 2020

NTS 094C  
*Latitude: 56°05'12"N*  
*Longitude: 125°26'40"W*

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## **1.0 INTRODUCTION**

The Cathedral property (the “Property”) is centred at latitude 56° 08’ N and longitude 125° 32’ W, approximately 65 kilometres northwest of Germansen Landing (Figure 1). The Property is located in the Omineca Mining Division of north-central British Columbia, Canada.

Field work consisted of induced polarization (IP) surveying, including the grid establishment, at the Cathedral Area. Rock samples were collected during the course of setting out the survey grid.

The objective of the induced polarization survey was to test the depth potential of copper mineralization found in both rock and soil samples. The Cathedral Area was selected, as the survey would complement the structure and alteration study undertaken in 2017. The IP survey parameters were set at a reconnaissance level, which would allow for greater survey coverage.

A list of definitions, abbreviations and conversion factors are presented in Appendix I. Structural orientations or Cartesian directions in this report are referenced with respect to true north.

### **1.1 ACCESS**

Road access to the Property from Prince George is gained by taking Highway 97 north to Highway 39 (Mackenzie turnoff). At 16.2 kilometres along Highway 39, a 300 metre all-weather road exits to the west and connects to the Finlay FSR at the 8.2 km marker. At this junction, northbound travel heads to Mackenzie while southbound travel heads to Williston Lake via the Causeway and on to the Phillips Connection at the 18.6 km marker. At the Phillips Connection, the Mt. Milligan mine site and Fort St. James are accessed via the FSR that exits to the west, while access to the Cathedral property is north via the Finlay FSR. Continuing northward on the Finlay FSR, at the 173 km marker is the junction with the Finlay-Osilinka FSR. The Finlay FSR heads north to several small settlements such as Fort Ware, while the Finlay-Osilinka FSR heads west for 46.5 kilometres to the junction of the Osilinka FSR (46.5 km marker eastbound, 46 km marker westbound). At this junction, road signage designates the Finlay-Osilinka FSR as the Tenakihi Mainline. An abandoned logging camp is located to the northwest of the junction. The Tenakihi Mainline continues approximately 168 kilometres northwest from the junction to the closed Kemess South mine site.

From the Tenakihi Mainline/Osilinka FSR junction access is limited to the southern and eastern fringes of the Property. Access to the southern part of the Property is by the Thane Mountain FSR (62.6 km marker) and the Upper Osilinka Mainline (64 km marker), which is



modified from Hancock *et al*, Open File 2008-1

### LEGEND

- Cathedral property
- Producing mine or under construction
- Proposed mine development
- Major exploration project
- Highway
- Secondary routes
- Railway
- River
- Waterbody



### THANE MINERALS INC.

#### LOCATION MAP Cathedral Property

Cathedral Project  
Omineca M.D., British Columbia, Canada

Project No:	By: CN
Scale: 1:3,000,000	Drawn: CN
Figure: 1	Date: October 2019

gained via the Osilinka FSR. Access to the eastern part of the Property is by the Tenakihi FSR (14.5 km marker), which is gained via the Tenakihi Mainline. Access to the northern part of the Property is unknown, as an unnamed logging road exits to the west of the Tenakihi Mainline at the 23.8 km marker, but topographic maps show this road as being washed out. Alternatively, helicopter charters can be obtained from Smithers, Fort St. James and Mackenzie. An airstrip is located 3.2 kilometres north of the Tenakihi Mainline/Osilinka FSR junction along the Tenakihi Mainline (west side). The condition and capabilities of this airstrip for fixed wing aircraft is unknown.

## 1.2 PHYSIOGRAPHY

The property is located in Osilinka Ranges of the Omineca Mountains. The property is characterized by steep mountainous terrain. Elevations range from 960 metres in the Osilinka River valley along the southwestern boundary of the property to 2,360 metres above sea level at the mountain peaks. Numerous small tarns are found in the many cirques. Drainage is dendritic with a general flow to the southeast.

The Property is located on the eastern side of the Continental Divide and all drainage flows into Williston Lake, a man-made reservoir formed behind the W.A.C. Bennett dam and hydroelectric generating station. Drainage continues on to the Arctic Ocean.

## 1.3 PROPERTY

The 20,658.035 hectare Property consists of 48 MTO cell tenures, which are 100% owned by Thane Minerals Inc. A plan map of the mineral tenures is presented in Figure 2. Mineral tenure details are presented in Table 1.

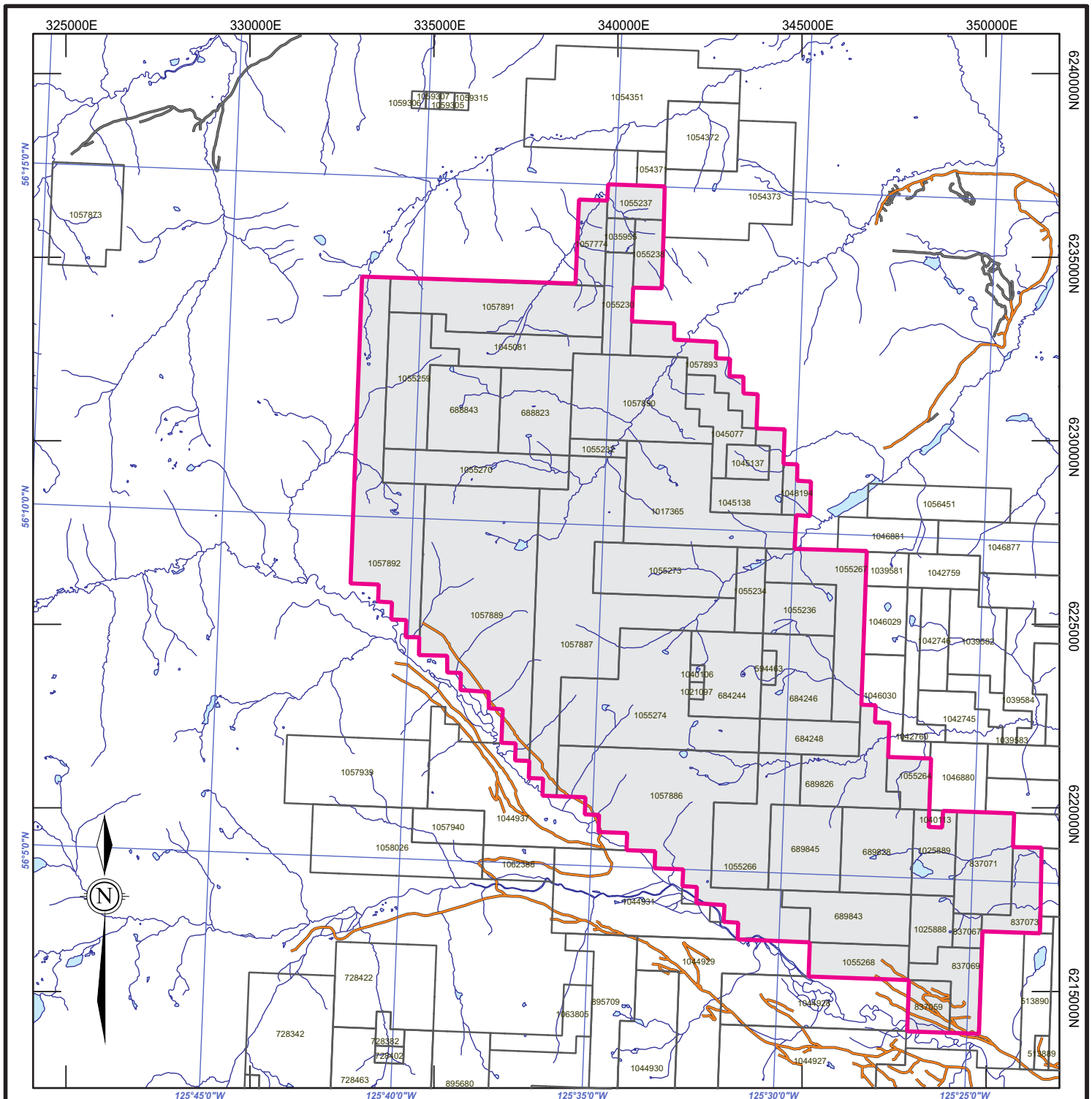
Table 1: List of Mineral Tenures

Tenure Number	Area (ha)	Owner	Tenure Type	Good To Date
594463	36.0654	Thane Minerals Inc.	MTO Cell	2020/SEP/27
684244	414.7706	Thane Minerals Inc.	MTO Cell	2020/SEP/27
684246	414.7606	Thane Minerals Inc.	MTO Cell	2020/SEP/27
684248	252.555	Thane Minerals Inc.	MTO Cell	2020/SEP/27
688823	450.1158	Thane Minerals Inc.	MTO Cell	2020/SEP/27
688843	450.1199	Thane Minerals Inc.	MTO Cell	2020/SEP/27
689826	433.0388	Thane Minerals Inc.	MTO Cell	2020/SEP/27
689828	451.2893	Thane Minerals Inc.	MTO Cell	2020/SEP/27
689843	415.3282	Thane Minerals Inc.	MTO Cell	2020/SEP/27
689845	451.2932	Thane Minerals Inc.	MTO Cell	2020/SEP/27
837059	162.6033	Thane Minerals Inc.	MTO Cell	2020/SEP/27
837067	72.2301	Thane Minerals Inc.	MTO Cell	2020/SEP/27
837069	252.8936	Thane Minerals Inc.	MTO Cell	2020/SEP/27



Table 1: List of Mineral Tenures (*cont'd*)

Tenure Number	Area (ha)	Owner	Tenure Type	Good To Date
837071	433.2248	Thane Minerals Inc.	MTO Cell	2020/SEP/27
837073	216.6435	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1017365	864.7239	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1021097	18.0354	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1025888	198.6395	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1025889	252.7215	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1035955	71.9387	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1040106	18.0336	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1045077	234.071	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1045081	377.9497	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1045137	108.0609	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1045138	252.1758	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1048194	90.0613	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055230	215.9103	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055232	72.0359	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055234	180.2442	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055236	270.3817	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055237	143.8463	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055238	143.8938	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055259	468.037	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055264	144.352	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055266	523.4329	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055267	540.7679	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055268	252.8778	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055270	468.2975	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055273	540.6773	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1055274	1100.2454	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1057774	179.8537	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1057886	1588.3245	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1057887	1748.4763	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1057889	1784.4579	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1057890	774.1504	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1057891	737.7081	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1057892	1080.7358	Thane Minerals Inc.	MTO Cell	2020/SEP/27
1057893	305.9846	Thane Minerals Inc.	MTO Cell	2020/SEP/27



Topographic data © Department of Natural Resources. All rights reserved.

### LEGEND

- Cathedral Property
- Other tenure boundaries (as of November 13, 2018)

### Topography

- Gravel road (not all roads and trails shown)
- Watercourse
- Waterbody

0  5km

NAD83 UTM Zone 10 North  
NTC 094C03,04,05,06

## THANE MINERALS INC.

### MINERAL TENURE MAP Cathedral Property

Cathedral Project  
Omineca M.D., British Columbia, Canada

Project No:	By:	CN	
Scale:	1:150,000	Drawn:	CN
Figure:	2	Date:	October 2019

## 2.0 WORK HISTORY

The Property has been subject to a number of preliminary regional exploration projects with only localized detailed exploration and sampling in specific areas.

Exploration of the Hogem batholith and surrounding area was initiated in the late 1800's with placer gold being discovered in the district in 1868. During the 1930's Consolidated Mining and Smelting Ltd. explored the margins of the Hogem batholith and conducted underground exploration on several properties for gold, silver, lead and mercury. Kennco Explorations Ltd. explored and staked portions of the Hogem batholith near Duckling Creek in the 1940's. In the early 1970's, mineralization on the Lorraine property discovered by Kennco and subsequently held by Granby Mining Company represented the only significant

mineralization found to that date. At the time it was estimated that the Lorraine deposit contained a maximum of 10 million tons grading 0.70% copper.

In the late 1960's and early 1970's the Belgian company, Union Miniere Exploration and Mining Corp. Ltd (UMEX) of Montreal conducted extensive regional exploration in north-central British Columbia, over the Property and surrounding areas. Regional work, carried out by Dolmage

Campbell & Associates Ltd., included aeromagnetic surveying and silt sampling (Kahlert, 2006). The aeromagnetic survey outlined three anomalies along the northeast flank of the Hogem batholith. The silt sampling revealed anomalous copper values at the headwaters of Matetlo Creek. Further investigation found low-grade copper mineralization in fractures and disseminated in both the volcanic and intrusive rocks. In 1970, a soil sample grid was established over what was known as the western half of the Mate 2 claim. An open-ended east-west trending copper anomaly (>100 ppm) measuring 1500 by 750 meters was outlined. Anomalous copper values were found in silts in the headwaters of the south fork of Matetlo Creek.

Stevenson (1991) reports that during the summer of 1971, Amoco Canada conducted a reconnaissance stream sediment sampling-mapping program over the Hogem batholith in search of porphyry copper-molybdenum deposits. A total of 7,376 silts, water, rock and soil samples were collected from an area of approximately 2,400 square kilometers and analyzed for copper and molybdenum. Amoco did not assay for gold in any of these samples. Numerous areas with anomalous copper and/or molybdenum in stream sediments were detected. Four areas were staked and worked by Amoco during 1972 and 1974. These areas were known as the Tyger, Needle, Oy and Hawk properties. Property work consisted of reconnaissance and detailed soil sampling and geological mapping. The latter three properties were restaked by Cyprus in 1990 and named the Steele, Ten and Hawk properties, respectively. It is unclear how much overlap is between the Oy property and the subsequent Ten property. The former, based on limited information appears to have been located east of the Ten area, in and around the current OY occurrence (Minfile 094C 071). Geology and Exploration and Mining (1973) describes this as an area of monzodiorite and diorite, invaded by numerous dykes and apophyses of fine-grained quartz monzonite and monzonite which are in contact with Takla Group rocks. Chalcopyrite occurs as fracture coatings, coarse grains in

quartz veins, and minor disseminations over the whole property. Mineralization includes chalcopyrite and specular hematite. No reports of the results of work undertaken are known.

In 1971, Fortune Island Mines Ltd. located several copper occurrences proximal to the earlier UMEX showings. Chip samples from disseminated and fracture-controlled mineralization in propylitized intrusive assayed up to 0.23% and 0.38% copper over 50 and 30 feet respectively. A chip sample across the core of a six foot wide quartz-vein assayed 2.18% copper over 3.5 feet. A six inch chip sample from a four foot wide quartz-vein returned 3.52% copper and 0.02 oz/ton gold and represents the only gold assay reported. Four aeromagnetic positive anomalies were identified on and adjacent to the Mate property.

In 1972, Noranda Exploration Company, Limited staked the Gail Group claims encompassing a copper-molybdenum prospect located in a small north-facing cirque at the headwaters of Tenakihi Creek. Work on the Gail Group in 1973, included line cutting, soil sampling (40), rock geochemistry (30 talus chips representing a 200 foot section of the contour sampling traverse line), prospecting and mapping at a scale of 1"=400'. Soil and talus samples were analyzed for copper, molybdenum and zinc in Noranda's company laboratory in Vancouver, British Columbia. It was noted that in soils, zinc values were erratic and didn't correlate well with either copper or molybdenum, both of which were considered to be anomalous over the entire grid. The talus chips were noted as having values consistent with observed copper mineralization in the cirque walls to the south and southeast and its noted absence on the walls to the west.

Major General Resources Ltd. (now Commander Resources Ltd.) acquired the extensive UMEX database when UMEX closed its Canadian operations in the early 1980's. With the discovery of the Mt. Milligan deposit and favorable metal prices, interest in copper-gold porphyry deposits resurged in the late 1980's.

In 1990, Cyprus Gold (Canada) Ltd. investigated several properties in the Thane Creek area. These included the Ten claims encompassing the Gail Zone area and the ET claims encompassing the ET Zone, both on the current Property, as well as the OS, Hawk and Steele claim groups located south of the Property. All prospects were explored for potential gold mineralization.

Work done on the Ten and the ET claims included reconnaissance style geological mapping, soil sampling, rock sampling and proton magnetometer surveying. All soil and rock samples were analyzed for gold and copper.

On the Ten property there were no significant gold values returned from the analyses and as such, no further work was recommended for gold exploration. It was noted that the property did host several broad, moderate to strong copper anomalies associated with strongly potassic-altered syenites. Some of these anomalies were traced for greater than 1,400 metres along strike and up to 400 metres in width, with copper values ranging from 300 ppm to 600 ppm and a high noted at 1,200 ppm copper. From these significantly anomalous copper results, it was recommended that the property should be investigated further for its porphyry copper potential.

Soil and rock geochemistry results from the ET property yielded low gold values with a single high gold-in-soil value of 25 ppb and the highest gold value in rocks being 315 ppb. In terms of copper, several rock samples yielded results of >5000 ppm with the highest value being 1.9% copper found in float and 1.1% copper returned from an outcrop. Soil samples generally outline broad anomalous copper zones associated with the anomalous rock sample values. The largest anomalous zone measures 600 metres by 300 metres and has soil values ranging from 300 ppm to 500 ppm copper. Further exploration for gold on the ET property was dissuaded, however, as the property hosts several significant copper soil anomalies, further exploration of the property's porphyry copper potential was recommended.

The TK 1 and TK 2 mineral claims were staked by Electrum Resource Corporation in June of 1990 and subsequently worked on in the 1991 and 1992 field seasons. In 1992, preliminary mapping was done at a scale of 1:15,000 and 19 rock chip samples and 1 heavy mineral stream sediment sample were collected and analyzed. The highest copper value to come out of the 1992 work was 2,907 ppm copper from a piece of intensely calcified Takla volcanic float. The setting indicated that the float is locally derived and that further work was needed in order to define where the sample originated.

In 1991, Major General utilized the UMEX data to select specific porphyry targets within the Hogem batholith. Major General staked and subsequently explored number of properties, including the Mate property encompassed by the current Property.

Also in 1990 and 1991 a program of prospecting and sampling was performed around the Link claims which included rock, silt and soil samples. Disseminated chalcopyrite, magnetite and pyrite were noted in rock samples. Soil samples returned anomalous copper up to 261 ppm copper and a rock sample returned 1,547 ppm copper (Ethier, 1991, BC Minfile 094C 123).

Regional mapping in 1991 by BC Geological Survey crews resulted in the defining of several new occurrences on and around the Mate property, which have been added to the provincial mineral occurrence database (MINFILE). These include 094C 113 (Yak), 114 (Koala), 115 (Intrepid), 116 (Bill), 117 (Yeti) and 118 (Dragon).

During the 1991 and 1992 field season, Major General's Mate property was explored under an option agreement with Swannell Minerals Corporation. Prospecting, silt sampling and geological mapping, followed by grid-controlled soil sampling over the previously identified soil anomaly, were carried out. Mapping noted that Takla volcanics on the property were intruded by a monzonite stock in the central portion of the then current Mate property and by the Hogem batholith in the south. Narrow granodioritic dykes cut Takla volcanics proximal to the monzonite stock. Mineralization occurred as disseminated magnetite and pyrite in monzonite and volcanics; fracture-controlled malachite, azurite with or without minor chalcopyrite, and, magnetite and pyrite in monzonite; magnetite veins up to 15 cm wide with rare chalcopyrite and quartz veins with azurite, malachite and rare bornite. While extensive propylitic or potassic alteration was not found, two areas of significant copper mineralization were identified. Of particular note was malachite-azurite in quartz monzonite traced in talus for 200 metres along the base of a slope.

Lithochemical response from the work on the Mate claims include 7 samples of greater than 1,000 ppm copper with a maximum 3.08% copper and 0.039 oz/ton gold. Gold response was generally <15 ppb with the exception of one other sample that ran 175 ppb gold and 2135 ppm copper and two with 107 and 500 ppb gold, both with copper <65 ppm. A total of 228 soil samples were collected. Copper ranged from 14 to 468 ppm. Gold ranged from 1 to 152 ppb. Material sampled was primarily talus fines and stream sediment. Additional work including detailed mapping and sampling was recommended on the Mate property. However, interest in porphyry targets waned and shortly thereafter a major decline occurred in the provincial mineral sector leading to the inability to raise exploration funds to pursue the targets and the property was allowed to lapse.

Swanell Minerals Corporation was also working on an area designated as the Aten group of claims, partially encompassed by the current northeastern portion of the Property, and enclosing three Minfile showings: Gail, Ten and Tenakihi Creek. In 1991, Swanell contracted Reliance Geological Services Inc. to explore the Aten group of claims for its alkalic porphyry copper-gold potential. During October 1991, a program of rock sampling (11 samples), stream sediment sampling (31 samples) and reconnaissance geological mapping at a scale of 1:10,000 was carried out. Two rock samples returned copper values of 2.82% and 2.83%. Based these values and on anomalous results from stream drainages, three target areas were identified. From there, further work was recommended consisting of grid establishment, detailed geological mapping, soil sampling, and talus fines sampling.

In 1993, Swanell Minerals Corporation worked on the Aten property encompassing the Tenakihi Creek Minfile occurrence. Fieldwork was designed to follow-up the anomalous rock and soil geochemistry identified in earlier exploration. Fieldwork consisted of a surveyed grid laid out over the north-central area of the property, geological mapping on the gridded area at a scale of 1:10,000, collection of 23 rock samples and 88 soil samples both analyzed for copper and gold. Lithochemical results includes 9 samples of >1,000 ppm copper with a maximum of 3.20% copper. Gold response was lower and erratic, with 4 samples greater than 100 ppb gold and a maximum of 205 ppb gold and 3,599 ppm copper. Gold response from the 88 soil samples collected was noted as being below the 5 ppb detection limit, the only exceptions being two high values of 28 and 32 ppb gold. Further work was recommended targeting three specific areas on the property.

During 1994, a regional geochemical survey was carried out by the BCGS sampling drainages throughout the 1:250,000 scale NTS map area, 94C (Mesilinka River). A total of 1068 sites were visited. Anomalous samples collected from the Property area included 302 ppm copper from a creek draining the ET area, 246, 258 and 270 ppm copper from creeks draining the Mate/Mat areas, and 216 ppm, 220 ppm and 246 ppm copper draining areas in the Ten/Gail area. Several strong gold-in-silt anomalies were also noted particularly in the north of the property (154 ppb gold) from a creek draining into Matetlo Creek. In the Ten area a sample yielded 86 ppb gold and associated with copper values greater than 200 ppm.

Phelps Dodge Corporation staked claims in the area in late 1999 after completing a regional silt sampling and prospecting program consisting of collecting 16 rock samples and 8 silt samples.

The following year, Phelps Dodge Corporation conducted preliminary soil, bedrock and silt sampling and geological mapping in the Tenakihi Creek area, located near the eastern part of the property. A total of 83 bedrock and float samples, 15 chip samples and 25 silt samples were collected from the claim area and an additional 36 rock, 8 soil and 29 silt samples collected outside the claim area. Of the grab samples collected, 23 returned greater than 0.5% copper, and 8 samples returned greater than 2% copper (Kulla, 2001). This preliminary evaluation of the Tenakihi claims identified widespread disseminated chalcopyrite, chalcopyrite-bornite-malachite-magnetite veins and chalcopyrite-bearing quartz-carbonate veins. Numerous anomalous copper zones appear to be hosted in monzonitic intrusions of the Hogem batholith and are locally associated with prominent but discontinuous east-west trending faults and shear zones within the intrusions. Results from the work of Phelps Dodge were deemed favourable, warranting a follow-up program of detailed mapping, soil sampling and trenching as well as additional prospecting outside the claim boundaries.

In 2005, renewed interest in porphyry copper-molybdenum occurrences, inspired by increased metal prices, prompted Commander Resources to review their in-house data and former projects of the entire area. The Mate property, the Aten property, and four other prospective areas were acquired. In August 2005, a short prospecting program was completed on the Mate with 31 soil samples and 2 rock samples taken. From this cursory program further recommendations were made. These were that a detailed soil and induced polarization survey be completed, that all showings were to be re-sampled and assayed for gold and that drilling be done on any IP chargeability highs outlined in the follow-up.

On the Aten property, Commander Resources conducted a limited soil surveying and prospecting in August 2005. A total of 11 soil samples and 17 rock samples were collected while prospecting the property. This short program was successful in discovering a new high-grade copper prospect called the CJL Zone, located in the southern part of the property. The CJL Zone is hosted in highly altered, foliated syenite, not previously noted on the Aten property. Float samples were noted with values ranging as high as 12.4% copper. A program of detailed geological mapping, prospecting, gridding and magnetics surveying was recommended for follow-up, as well as diamond drilling on the CJL Zone should it warrant further work.

Also during 2005, Geoscience BC sponsored a program of increasing the ASTER imagery dataset for the BC Ministry of Mines, Energy and Petroleum Resources. Four alteration images for each scene were prepared using combinations of the standard ASTER bands. The images are designed to map the relative abundances of siliceous rocks, iron oxides, sericite and illite, and alunite and/or kaolinite (Kilby and Kilby, 2006). This work includes coverage over the current Property.

In 2006, Geoinformatics Exploration Canada Ltd (Geoinformatics) acquired a large tract of land totaling 126,664 hectares in the Mesilinka area of the Hogem batholith through staking

and option agreements with Commander Resources and Norwest Enterprises. Commander conducted a regional exploration and data compilation on the ground, focusing on porphyry copper and copper-gold skarn potential within central to northern Quesnel Terrane. The fieldwork followed an extensive phase of digital data capture, integration and interpretation, and subsequent regional target generation. The data captured and compiled included 3,168 stream sediment samples, 4,491 rock samples (and rock chip samples), and 1,455 soil samples. Of the stream samples, 226 of the were collected over the southern portion of their project area during the 2006 field season due to insufficient data available in the public domain on that particular area. In addition to the stream sediment sample collection, a two hole diamond drill campaign totaling 751.5 metres on the previously drilled Kliyul copper-gold skarn located north of the Property, aimed to further evaluate the skarn potential.

From the work done on the Mesilinka project in the 2006 season, the regional stream sediment sample program identified a number of strongly anomalous catchments to focus the 2007 field program and validate copper-gold targets identified through the data compilation process. This both confirmed the significance of known copper-gold prospects and Minfile occurrences, and identified new target areas.

Follow-up work in 2007 by Geoinformatics involved geological mapping and diamond drilling on several prospects derived from the data gathered in the previous year's work. Within the greater area of their project, four main areas were investigated through detailed geological mapping and subsequent diamond drilling. These prospects were Norwest, Abe, Aten and Pal prospects with the Aten and Pal prospects closest to the current Property area. Two (2) diamond drill holes totaling 885.4 metres were drilled on Aten and three (3) diamond drill holes totaling 510.9 metres were drilled on Pal. Results at the Aten and Pal prospects were deemed insignificant and no further work was recommended.

Also during 2007, Geoscience BC commissioned airborne geophysical surveys including magnetics and gravity surveys as part of the QUEST Project. The surveys covered ground of the Quesnel Terrane from Williams Lake to Mackenzie, BC. The Property lies at the extreme northwestern edge of the survey coverage. Processed gravity data is available as images that cover the entire Property. Magnetic surveying did not completely cover the Property area so complete gridded coverage is not available.

During 2010, CME Consultants Inc. carried out a comprehensive compilation program of the Property and the surrounding area using data from assessment reports as well as public domain sources of geochemical, geophysical and geological data. This compilation led to identify four areas of interest. Three of the four areas of interest were visited over four days in August and September 2010. Exploration consisted of prospecting, rock sampling (69 samples) and stream sediment sampling (10 samples). In Area 1, rock sampling identified numerous anomalous samples (>0.1%) with copper and/or gold mineralization of up to 13.9% copper, and 23.6 g/t gold (also 27.6 g/t Ag). Other highlights included 1.23% copper and 0.65% copper. In Area 2, rock sampling also identified numerous samples of anomalous copper and/or gold mineralization including 2.85% copper and 265 ppb gold and 1.08% copper and 435 ppb gold. Significant results in Area 3 included 0.84% copper and 195 ppb gold and 0.54% copper and 45 ppb gold (Naas, 2011).



Follow-up exploration by CME during 2011 focused on the Cathedral Zone and the Link Zone in the southern portion of the Property. The Cathedral Zone has been previously referred to as Area 1 (Naas, 2011). The Link Zone is in the area of the BC Minfile showing 094C 123 (Link). Geochemical sampling consisted of rock, silt and soil sampling. Numerous high-grade rock samples of over 1% copper and 1 g/t gold were collected from a variety of locations in the explored area. Sampling at the Cathedral Zone in the vicinity of a high-grade copper-gold sample collected the previous year (13.9% copper, 23.6 g/t gold) returned another high-grade rock samples grading 3.29% copper and 20.1 g/t gold. Silt samples yielded strongly anomalous copper values of up to 419 ppm copper in the northwest portion of the Cathedral Zone, an area which remains relatively unexplored. Silt samples from a creek draining the eastern portion of the Cathedral Zone yielded anomalous gold values of up to 80 ppb gold. Soil sample analysis by a hand-held XRF unit returned anomalous copper values in the area of the Link Zone and suggest several parallel to sub-parallel zones of greater than 100 ppm copper striking in a north-north west direction with lengths of up to 500 metres and widths of up to 150 metres.

In 2012, Thane Minerals acquired the Property and undertook geological mapping, rock sampling, and soil sampling within the Cathedral, Gail, Cirque and Lake Areas. Detailed silt sampling was undertaken in the Lake Area. Results returned up to 13.9%Cu from the Cathedral Showing, up to 13.0 g/t Au from the Pinnacle Showing and 4.56% Cu from the Lake Area. Silt samples from the drainage of the Lake Area returned up to 627 ppm Cu (Naas 2013).

In 2013, Thane Minerals undertook a prospecting program at the Pinnacle Showing and at the Lake Area (Naas, 2014). A total of 54 rock samples were collected at the Pinnacle Showing, while 23 rock samples were collected at the Lake Area. Additionally, a 2.275 line-km survey grid was established at the Lake Area from which 96 soil samples were collected.

At the Pinnacle Showing, a 60 metre wide fault zone was mapped, which contained a minimum of seven faults striking 150° to 170° and dipping 50° to 60° W. Sampling from the two westernmost and two easternmost faults of the fault returned the most significant gold results (up to 3.60 g/t Au and 7.78 g/t Au respectively), though anomalous gold is also present within the central structures of the 60 wide fault zone. Significant gold samples were found to have anomalous arsenic values, although the converse did not necessarily hold.

Of the 54 rock samples collected from the Pinnacle Showing (and its strike extensions), 16 returned greater than 0.1 g/t Au and 7 returned greater than 1.0 g/t. Additionally 8 samples returned greater than 0.1% Cu with a maximum of 2.91% Cu.

In 2015, an airborne geophysical survey was undertaken on all mineral tenures of the Cathedral Property and four days of prospecting at the Mat and Pinnacle Showings and the ET and Lake Areas (Naas, 2016a). The work program consisted of:

- 974 line-km of helicopter-borne magnetic and radiometric surveying;
- 22 rock samples and 7 sediment samples for geochemical analysis.

The results from the prospecting program confirmed the presence of historically reported copper mineralization at the ET Showing and silver at the Mat Showing. Stream sediment sampling at the ET Showing failed to duplicate historical tin values.

Copper mineralization was discovered in a new area within the Lake Area, north of current known mineralization.

In 2016, prospecting was undertaken on select areas of the Property (Naas, 2016b). . A total of 56 rock samples and 79 soil samples were collected at the newly acquired CJL Showing. A total of 6 stream sediment samples, 49 soil samples and 24 rock samples were collected to test a historical sediment sample of anomalous gold values from the northern portion of the property, west of the Mat Showing (RS Creek). At the OY Showing, a total of 22 stream sediment samples and were collected.

At the CJL Showing, a total of 31 of the 56 samples returned greater than 0.10% Cu, with 10 samples returning greater than 1.0% Cu. The style of mineralization at the CJL Showing was observed to be a copper-rich magnetite/specular hematite breccia

At RS Creek, although the anomalous historical gold-in-silt sample was confirmed with a sample that returned 0.582 ppm Au, this sample was considered to be the result by glacial till contamination and not from bedrock sources.

At the OY Showing, the historical gold-in-silt sample was confirmed, but no other anomalous samples were returned from the creek.

In 2017, a structural and alteration study was undertaken at the Cathedral Area. Mineralization was considered to be the result of a structurally controlled alkalic porphyry system. Due to the moderate dip of the mineralization, the system was speculated to be tilted post-emplacement about a north-south to northwest-southeast axis of approximately 45 degrees, similar to Mount Milligan (Gordon *et al.*, 2018).

In 2018, a total of 959 soil samples were collected from 24.075 km of survey lines established in three areas within the south and southeastern portions of the Property. Four areas of anomalous soils were returned from the program (Naas, 2018).

In early 2019, the creation of a geological library was started. A total of 27 rock samples, representing different styles of mineralization and geological rock types found at the Cathedral Area, were submitted for petrographic study. Twenty eight samples from different geological rock units from various locations throughout the property were selected for whole rock analysis. In July, a one week prospecting program was undertaken in the northern region of the Cathedral Area. Rock sampling returned up to 1.33% Cu and 0.85 g/t Au from narrow quartz veins and along fracture planes (Naas, 2019).

## 3.0 GEOLOGY

### 3.1 REGIONAL GEOLOGY

The Property is situated within the Quesnel Terrane, on the eastern flank of the northern end of the Hogem batholith (Figure 3). The Quesnel Terrane is an accreted Mesozoic volcanic arc terrane that forms a north-south trending linear belt of rocks approximately 1,600 kilometre long along the eastern margin of the Canadian Cordillera. The terrane is dominantly Upper Triassic to Lower Jurassic volcano-sedimentary sequences that include the Takla, Nicola and Stuhini groups. Coeval and post-accretionary Cretaceous intrusions are scattered throughout this terrane. The Cretaceous Hogem multi-phase batholith is the largest of these intrusions, forming the spine of this island arc allochthonous, intermontane superterrane. The northwest-

trending elongate Hogem batholith extends for approximately 120 kilometres from Chuchi Lake at the southernmost limits, to the Mesilinka River at the northern limit. It is bound on the west by the Pinchi Fault and on the east by the Upper Triassic to Lower Jurassic Takla volcanics. The Hogem batholith is composed of a peripheral zone of dioritic plutons, such as the Thane and Detni intrusives, surrounding a central granodioritic (Hogem granodiorite) and syenitic (Duckling Creek Complex) core. The Hogem batholith is intruded and crosscut by early to mid-Cretaceous granitic plutons, such as the Mesilinka Intrusive and the Osilinka Intrusive.

### 3.2 PROPERTY GEOLOGY

The Property is predominantly underlain by intrusive rocks of the Hogem Plutonic Suite (HPS). Intermediate volcanic rocks of the Takla Group are in contact with the HPS intrusives at the northeastern portion of the Property (Figure 4). Numerous dykes, sills and small stocks are noted in both the main geological units. These small intrusions are generally related to the Hogem intrusive. The areas of current exploration are located wholly within the HPS rocks. Descriptions of the various rock types over the whole property can be found in Naas (2013).

#### **Hogem Plutonic Suite**

From historical work done on and around the Property, there are numerous phases of the Hogem Plutonic Suite (HPS) including: granite; granodiorite; hornblende granodiorite; quartz diorite; microdiorite; diorite; monzodiorite; quartz monzonite; monzonite; and, syenite. The dominant intrusives types reported based on field mapping are monzonites, monzodiorites, diorites and syenites. Granites, granodiorites and other intrusives mapped tend to be smaller dyke-like units within the main intrusive types.

#### **Quartz Monzonite**

Quartz monzonite is identified in most areas of the Property, consistent with the regional BCGS mapping that identifies the Hogem Plutonic Suite as primarily quartz monzonitic. Quartz monzonite is the primary intrusive phase at the Cathedral Area, hosting the Pinnacle Showing, as well as noted in the Lake Area.

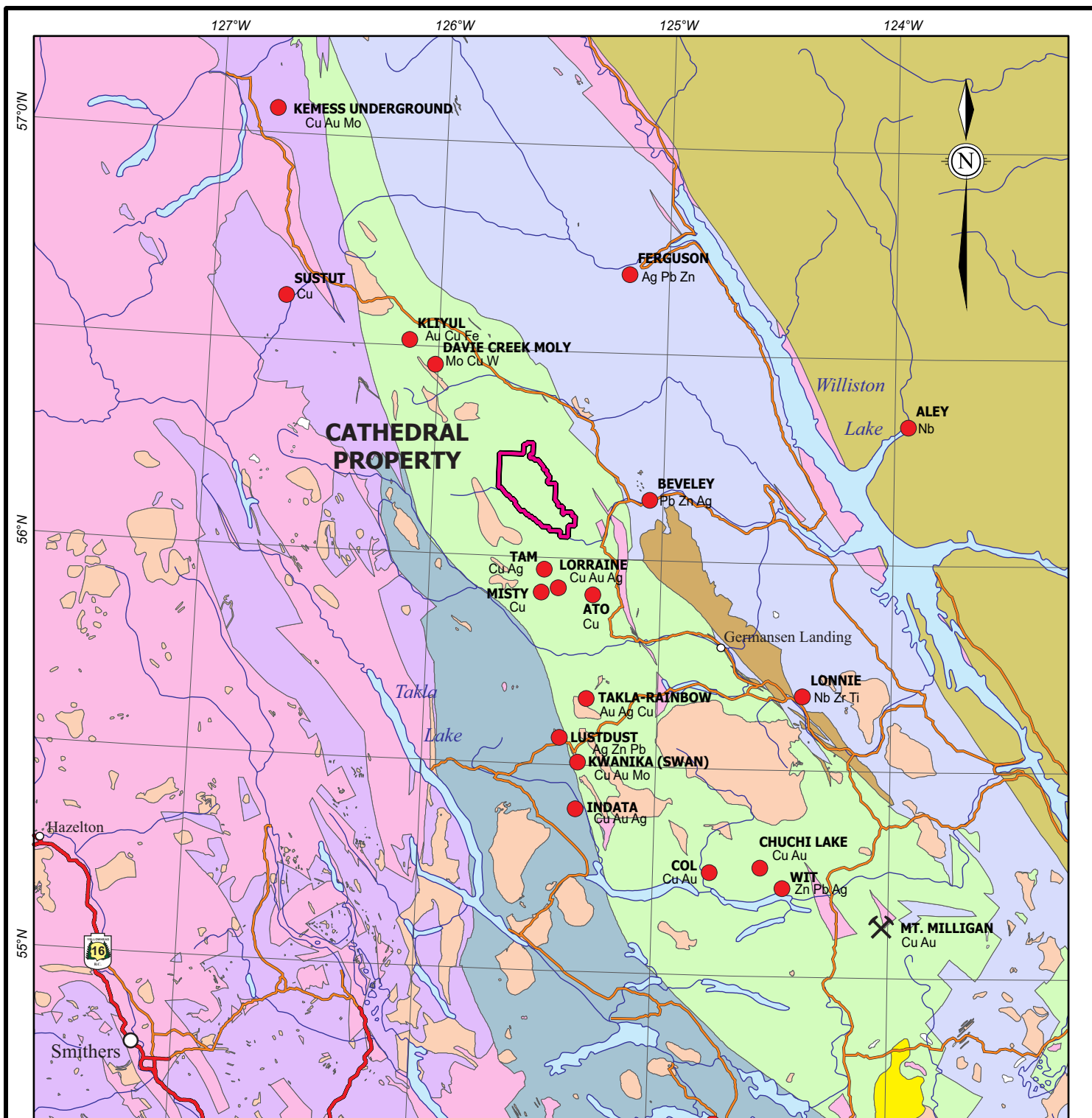
Quartz monzonite of the HPS can be a range of colours, from grey to salmon pink, or gossanous due to variable alteration. Typically, fresh surfaces show black, white and pink crystals. Texturally, the unit may range from fine to very coarse-grained and equigranular. Plagioclase and potassium feldspars make up 60 to 80% of the rock (50-75% plagioclase and 25-50% potassic feldspar). Quartz ranges from 5 to 15% and mafic minerals (amphiboles and biotite) comprise 10 to 25%. Magnetite is variable, with generally higher concentrations noted in the Link and Lake area occurrences (3-5%, locally up to 15%). Potassic alteration is pervasive and the most common alteration observed in the Cathedral Area. Intensity ranges from subtle to strong, giving the quartz monzonite the characteristic salmon pink colour. Potassic alteration appears to be stronger in the northern half of the mapped area which weakly coincides with increased presence of copper mineralization.

Calcite is also consistently observed interstitially as well as along fracture surfaces and in veins. Chloritization is sporadic and may be present as veinlets or altering mafic minerals. Epidote is present as veins or selvage to quartz veinlets. In the western portion of the Cathedral Area, epidote veins (1mm, up to 10cm) are more common and are found as selvage to quartz veins. Quartz-calcite veinlets (<3mm wide) are observed throughout the Cathedral Area, comprised of quartz+/-calcite and may host sulphides. Malachite staining is prevalent throughout the area. Epidote alteration in the Link Area appears largely selective to selvages of calcite and/or quartz veinlets (<1-3mm wide) and veins (<1.5cm) but is also observed altering feldspar.

Sulphide mineralization is abundant in the quartz monzonite in the Cathedral Area. Chalcopyrite is the dominant copper-bearing mineral, commonly associated with malachite and azurite that may be present as large (1 by 1 metre) stains on the side of cliff faces. Chalcopyrite ranges from <1 to 1% in abundance and is most notably located in the western portion of the mapped area. Chalcopyrite was observed to occur as: fine grained disseminations; larger blebs; fracture-filling; within quartz-calcite veins; hairline stringers; and, massive lenses. Specularite was identified in the eastern area of the Cathedral Area, appearing as veins or massive lenses. Malachite, and less commonly azurite, was noted as stains on cliff faces but also at the smaller scale, interstitially within gossanous samples. Arsenopyrite was identified at the Pinnacle Showing. It was observed as blebs located along fracture surfaces (3-5%). Arsenopyrite also occurs as veinlets. Pyrite was observed as disseminated, fracture-fill, blebs, in veins, stringers, and massive. Comparable mineralization is noted in the units of the Gail and Lake Area. The Link Area quartz monzonite show much more limited chalcopyrite mineralization as evidenced by rock sampling results from the area (Naas, 2013).

### Granodiorite

Granodiorite is noted in the Lake Area. These rocks can range from light grey to medium grey to almost beige, with a medium to very coarse-grained equigranular texture. Compositionally, these granodiorites consist of 20 to 40% quartz, 30 to 60% feldspar and 5 to 30% biotite with minor amphibole. Magnetite disseminations range from 1 to 5%. Alteration is subtle and with potassic and epidote locally observed. Exposed surfaces of granodiorite weather to a dark grey colour. Mineralization is present in the Lake Area granodiorites (pyrite, chalcopyrite, and malachite).



**LEGEND**  
**GEOLOGY**

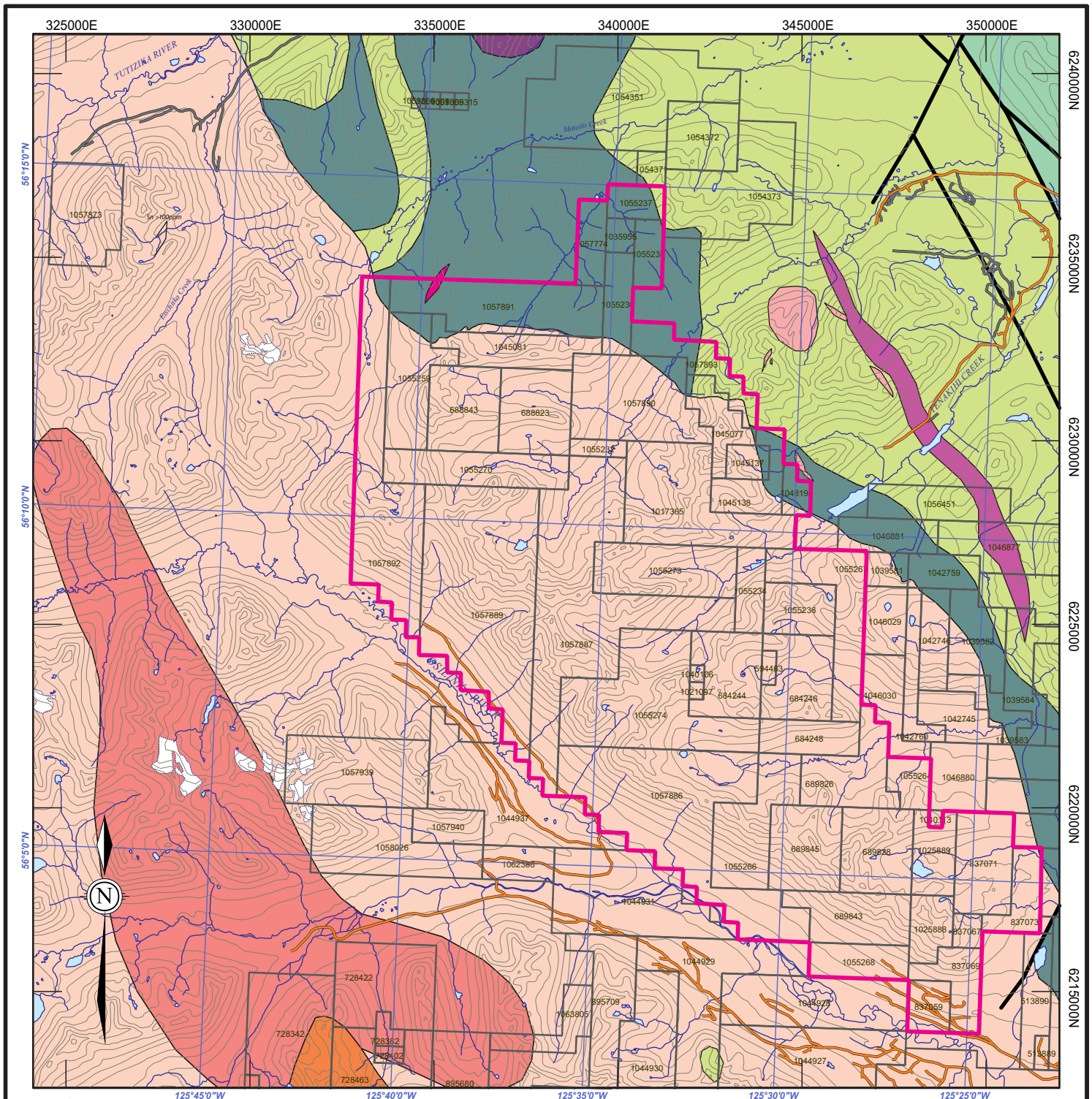
- Younger volcanics
- Post Accretionary
- Cache Creek Terrane
- Cariboo/Cassiar Terrane
- Quesnel Terrane
- Slide Mountain Terrane
- Stikine Terrane
- Overlap Assemblage
- North America

**SYMBOLS**

- Cathedral property
- Producing mine or under construction
- Selected developed prospect (BC Minfile)
- Highway
- Secondary routes
- Railway
- River
- Waterbody



<b>THANE MINERALS INC.</b>	
<b>REGIONAL GEOLOGY AND ECONOMIC SETTING</b>	
<b>Cathedral Property</b>	
Cathedral Project Omineca M.D., British Columbia, Canada	
Project No:	By: CN
Scale: 1:1,500,000	Drawn: CN
Figure: 3	Date: October 2019



**LEGEND**  
**GEOLOGY**

- Takla Group - sediments; volcanics
- Lay Range Assemblage - volcanics
- Hogen Plutonic suite
  - Quartz monzonites
  - Granite
  - Duckling Creek syenite
  - Unnamed - quartz monzonitic intrusive rocks (associated with Cu-porphyry systems such as Mt. Milligan, BP-Chuchi, and Tas)
  - Tenakihi Intrusive Complex - diorite intrusive rocks
  - Aiken Lake Intrusive Complex - gabbro-diorite

**SYMBOLS**

- Cathedral property boundary
- Tenure boundary and number (e.g., 689866)
- Gravel road (not all roads and trails shown)
- Contour (100 metre interval)
- Watercourse
- Waterbody



NAD83 UTM Zone 10 North  
NTC 094C03,04,05,06

Topographic data © Department of Natural Resources. All rights reserved.

**THANE MINERALS INC.**

**GEOLOGY PLAN MAP**  
**Cathedral Property**

Cathedral Project  
Omineca M.D., British Columbia, Canada

Project No:	By: CN
Scale: 1:150,000	Drawn: CN
Figure: 4	Date: October 2019

### Diorite

In the Lake Area, the diorite is dark green to black in colour and medium to coarse grained. Typical composition is 60 to 70% mafics (biotite and amphibole), 30 to 40% feldspar (mostly plagioclase). No quartz is noted. Alteration in the diorite is relatively weak. Chlorite and magnetite alteration affect the mafics, and calcite is occasionally present in the matrix. Magnetite pervasive (5-7%) and is almost semi-massive (15-50%) in several samples. Malachite and disseminated chalcopyrite mineralization is noted in almost all dioritic rocks in this area, usually ranging from trace amounts up to 1%. In sample 1830, chalcopyrite is 1-3%.

Alteration includes calcite and epidote. Calcite is generally weak and is observed within quartz veins as well as in the groundmass. Epidote alteration is moderate, locally altering the feldspars (Naas, 2013).

### Monzonite

At the Lake Area, monzonitic rocks exhibit a slightly gossanous weathering whereas fresh exposure is pale grey to black to pink and has a medium- to coarse-grained texture. Compositionally, the mafics are highly variable, anywhere from 5% to 50%. Feldspar is strong where mafics are weak therefore also quite variable, from 20 to 90%. Quartz content is low, generally less than 5%. Alteration is dominated by potassic, epidote and chlorite. Potassic alteration varies greatly from subtle to intense. Epidote is less common, but when present is subtle to moderate and often seen in veinlets (<2mm). Chlorite alteration is infrequent and alters the mafic minerals. Magnetite is very inconsistent, ranging from trace to 15% (Naas, 2013).

### Dykes

#### Feldspar porphyry

Feldspar porphyritic dykes have been noted in several areas of the Property underlain by the HPS. In the Cathedral Area these dykes are observed, but not in the area of the Pinnacle Showing. In the Lake Area, phenocrysts make up to 50% of the rock. Chlorite alteration of the groundmass is strong and calcite veinlets may be present.

#### Andesite

Andesite dykes have been noted in the Lake Area. These are described as feldspar-phyric with an aphanitic matrix. Feldspars are white to pale green, 1 to 2 mm in size, and comprise from 5 to 30% of the unit. The matrix ranges from greyish green to black in colour. Black crystals (amphibole?) are less than 1 mm in size. The dykes are typically 1 to 2 metres thick but can be as narrow as 10 cm. Magnetite is strong within the majority of samples from these dykes, ranging from 15 to 30%.

Alteration consists mainly of weak epidote and locally potassic altered feldspar. Calcite is noted within the matrix and as stringers.

### **3.3 PROPERTY MINERALIZATION**

The principal areas of copper mineralization on the Property are the Cathedral (Cathedral, Cathedral South, Gully and Pinnacle Showings), Gail, Cirque, Mat, Lake and CJL.

Copper mineralization consists predominantly of chalcopyrite with rare occurrences of bornite. In the Cathedral Area, areas of massive mineralization have been identified including pyrite, chalcopyrite, specularite and magnetite. Throughout the Property malachite+/-azurite staining is common on exposed rock faces. Molybdenite, galena and sphalerite are seen as occasional accessory sulphides. Arsenopyrite is noted at the Pinnacle Showing of the Cathedral Area, and appears to be an indicator for significant gold mineralization.

At the CJL Showing, copper mineralization occurs within magnetic breccia hosted in quartz feldspar porphyritic dykes.

Field relations and preliminary petrographic work indicate that the sulphide mineralization is related to the lithologically complex Hogem batholith. A rare earth element (REE) geochemistry study done on several samples taken from the Property indicates that most of the intrusive phases have common parent magma (Naas, 2011).

Based on the sample suite collected, mineralization observed at the Property is similar to other well-studied alkalic porphyry copper systems in BC. Similarities include the variability and chemistry of the host intrusive complex and the style and grade of mineralization. Look-alike deposits include the deposits of the Iron Mask camp (Afton, Rainbow, DM), Galore Creek and Lorraine (Naas, 2011).

## **4.0 WORK PROGRAM**

### **4.1 INTRODUCTION**

The induced polarization survey was undertaken between September 8 and 18 by Peter E. Walcott & Associates Limited. The establishment of the survey grid commenced on September 7. Rock sampling was undertaken during the course of setting out the survey grid.

Access to the property was gained by helicopter utilized a Bell 206 Long Ranger from Valley Helicopters of Hope, BC. The helicopter was based out of the Osilinka Logging Camp, located approximately 15 km to the north of the survey area.



## 4.2 INDUCED POLARIZATION SURVEYING

A total of 8.9 km of grid was established over five lines at the Cathedral Area. Lines were oriented at 080 Az. with stations set at 100 metres. GPS readings were collected at each station using a GLONASS equipped Garmin C66 handheld GPS receiver (Figure 5).

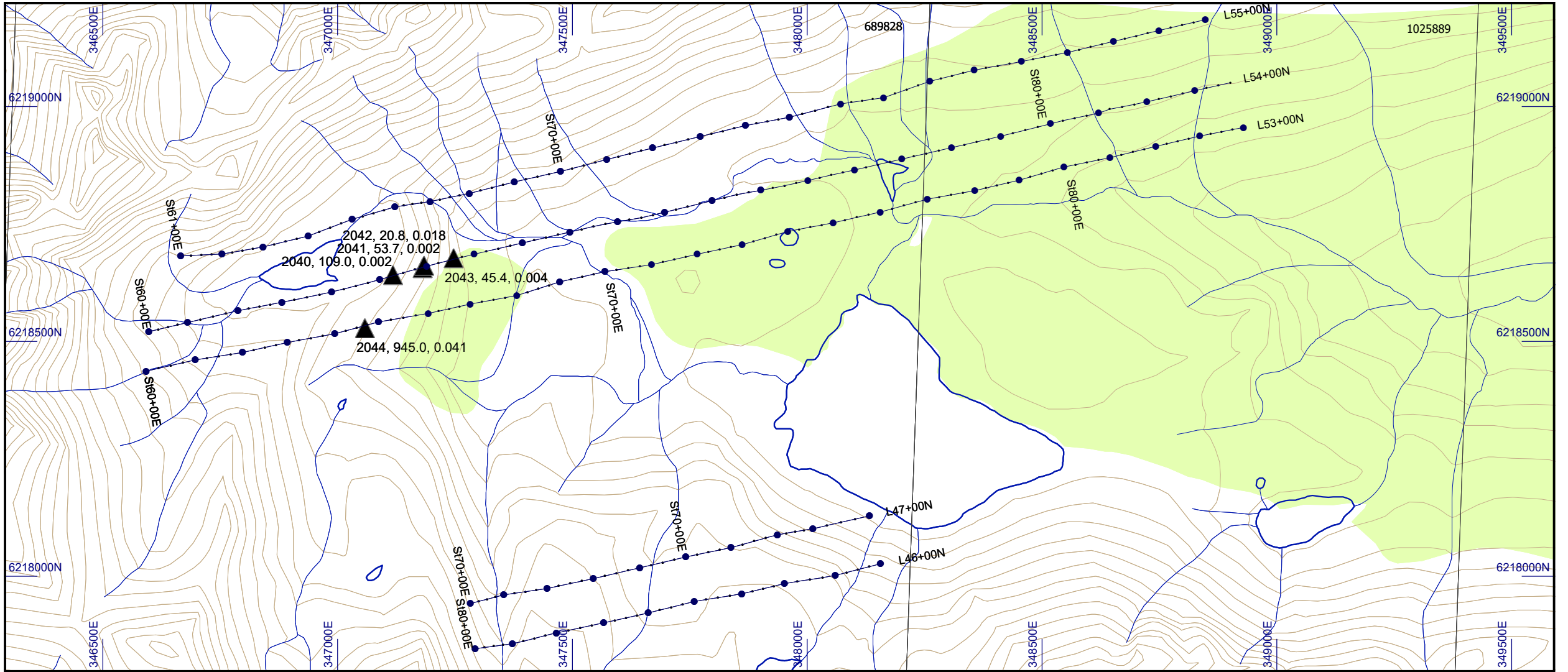
The induced polarization (IP) survey was conducted over the entire 8.9 km grid by using a pulse type system, the principal components of which were manufactured by Walcer Geophysics Ltd. of Enniskillen, Ontario, and by Instrumentation GDD of St. Foy, Quebec.

The system consists of three units, a receiver (GDD), transmitter (Walcer) and a motor generator (Honda). The transmitter, which provides a maximum of 9.0 kw dc to the ground, obtains its power from a 20 kw 60 cps alternator driven by a Honda 24 hp gasoline engine. The cycling rate of the transmitter is 2 seconds “current-on” and 2 seconds “current-off” with the pulses reversing continuously in polarity. The data recorded in the field consists of careful measurements of the current (I) in amperes flowing through the current electrodes C1 and C2, the primary voltages (V) appearing between any two potential electrodes, P1 through P7, during the “current-on” part of the cycle, and the apparent chargeability, (Ma) presented as a direct readout in millivolts per volt using a 200 millisecond delay and a 1000 millisecond sample window by the receiver, a digital receiver controlled by a micro-processor. The sample window is the total of twenty individual windows of 50 millisecond widths.

The apparent resistivity in ohm metres is proportional to the ratio of the primary voltage and the measured current, the proportionality factor depending on the geometry of the array used. The chargeability and resistivity are called apparent as they are values which that portion of the earth sampled would have if it were homogeneous. As the earth sampled is usually inhomogeneous the calculated apparent chargeability and resistivity are functions of the actual chargeability and resistivity of the rocks.

The survey was carried out using the “pole-dipole” method of surveying. In this method the current electrode, C1, and the potential electrodes, P1 through Pn+1, are moved in unison along the survey lines at a spacing of “a” (the dipole) apart, while the second current electrode, C2, is kept constant at “infinity”. The distance, “na” between C1 and the nearest potential electrode generally controls the depth to be explored by the particular separation, “n”, traverse.

For the survey at the Cathedral Area, a 100 metre dipole was employed and first to sixth separations readings were obtained.



**LEGEND**

**SURVEYING**

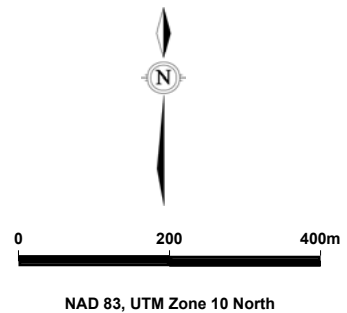
- Gravel road
- Contour (20m interval)
- Watercourse
- Waterbody
- Property outline
- Mineral tenure with number

**SURVEY GRID**

- Survey Grid Line
- Station (25 m spacing)

**GEOCHEMISTRY**

- Rock Samples
- 2044, 945.0, 0.041 Sample Number, Cu (ppm), Au (ppm)



<b>THANE MINERALS INC.</b>	
<b>GRID AND ROCK GEOCHEMISTRY</b> Cathedral Area	
Cathedral Property Omineca M.D., British Columbia, Canada	
Project No.: C122	By: CN
Scale: 1:10000	Drawn: CN
Figure: 8	Date: May 2020

## Results

Data is presented as individual pseudo section plots of apparent resistivity and apparent chargeability at a scale of 1:10,000 generated using Geosoft Oasis Montaj (Appendix II). In addition, data was subjected to 2D inversion and presented as model sections at a scale of 1:10,000. Figure 6 presents a 3D view of 2D chargeability inversions looking northwest.

Anomaly cHA, is on the western ends of lines 46+00N and 47+00N. These high chargeability features are associated with moderate resistivities and remain open to the west. Elevated copper geochemistry can also be observed proximal to these features. The feature appears to start near surface and extend to depth. As the anomaly remains open, the inversion is likely somewhat skewed.

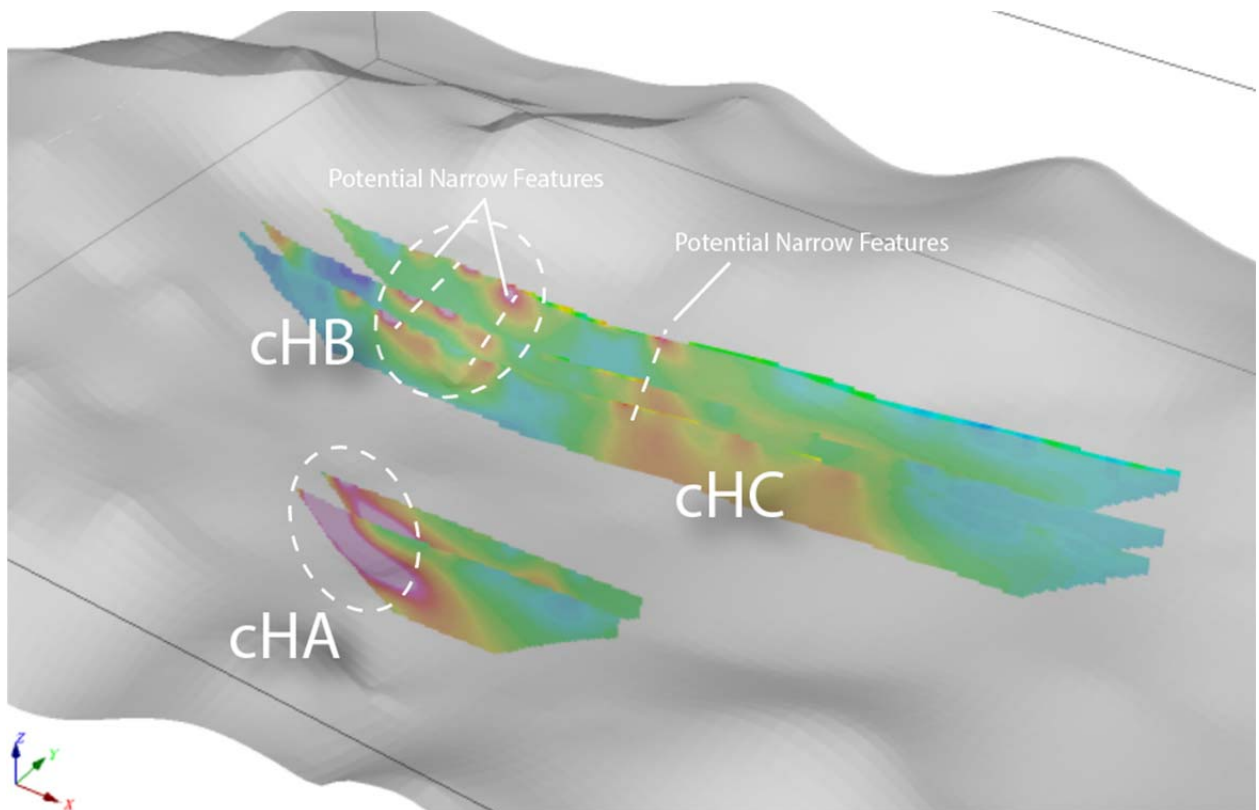


Figure 6: 3D View of 2D Chargeability Inversions

Anomaly cHB is situated on the western end of lines 53+00N, 54+00N, and 55+00N circa 6600E. A modelled pseudo section of Line 53+00N is presented in Figure 7.

This anomaly is represented as a series on shallow near surface features associated with a zone of elevated resistivity. These small disrupted features are likely associated with narrow features which are unable to be fully resolved utilizing the broad 100 m a-spacing. Detailing utilizing a 25 m or 50 m array would be advantageous should narrow mineralize zones be observed proximal to this area.

Anomaly cHC is located within the central portion of the survey lines 53+00N, 54+00N, and 55+00N. This broad moderate anomaly is associated with elevated chargeability. The anomaly appears to deepen to the north as observed within the 2D inversions. Alternatively, the deepening effect maybe a function of edge effect, with the causative source of the anomaly located southward, beneath line 53+00N, between stations 70+50E and 76+50E which is more likely the case. The broad anomaly observed within the data also likely included both a narrow shallow anomaly, and deeper larger anomaly (Walcott 2020).

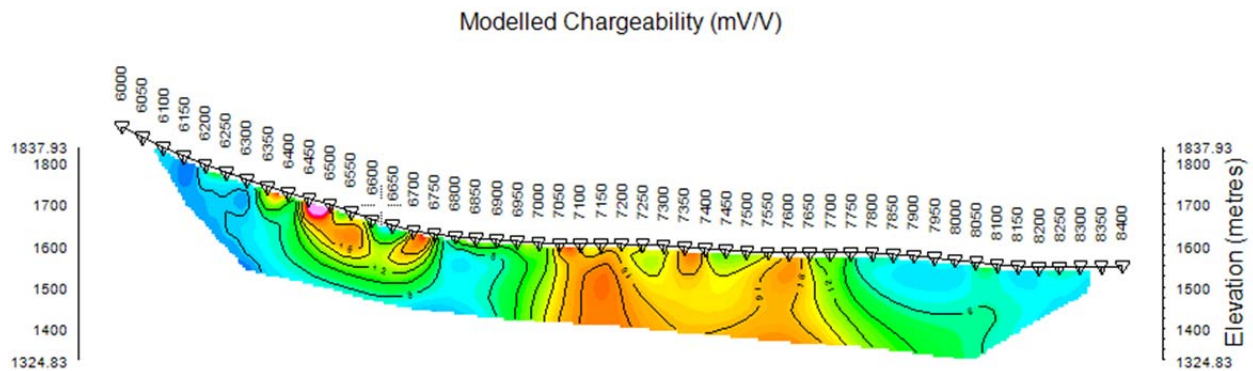


Figure 7: 2D Modelled Chargeability (mV/V) – Line 53+00N

### 4.3 ROCK SAMPLING

During the establishment of the survey grid, rock samples were collected at areas where the survey line encountered outcrop. A total of 5 rock samples were collected from two survey lines, all of which were located along the side of a north-south trending ridge.

All samples were grab and collected from outcrop sources. Samples were placed in thick polyethylene sample bags, labeled and sealed by flagging tape. All samples were cut by rock saw at Thane’s field office in Vavenby, BC, with one half delivered to ALS Minerals (ALS) of Kamloops, BC for sample preparation and analysis. Analysis consisted of multi-element by ICP-MS and gold by fire assay.

### Results

Rock descriptions are provided in Appendix III with certificate of analysis provided in Appendix IV. Sample details are provided in Table 2 with locations and selected results presented in Figure 5.

Table 2: Rock Sample Results, Cathedral Area

Sample	UTM		Sample Type	Results			
	Northing	Easting		Ag (ppm)	As (ppm)	Cu (ppm)	Au (ppm)
2040	6218641	347118	Grab	0.10	1.0	109.0	0.002
2041	6218656	347181	Grab	0.05	7.1	53.7	0.002
2042	6218661	347184	Grab	0.27	15.4	20.8	0.018
2043	6218677	347247	Grab	0.08	11.4	45.4	0.004
2044	6218528	347058	Grab	0.27	11.3	945.0	0.041

All five rocks were light brown in colour, strongly potassic altered monzonites with trace (<2%) pyrite. Trace chalcopyrite was observed in sample 2044.

Only sample (2044) returned anomalous copper (945 ppm Cu) and gold (0.041 ppm Au). The sample is located near station 64+65E on Line 53+00N.

## 5.0 CONCLUSIONS

The survey identified three areas of interest, representing potential narrow structures at surface at the Gully and Cathedral Showings, as well as a broad, approximately 600-meter wide anomaly extending to depth.

Current rock sampling only returned a single sample containing anomalous copper of 945 ppm Cu. However, this sample is located approximately 65 meters east from the identified IP anomalies in an area of low to moderate chargeability.

Rock samples previously collected by Thane Minerals from the area of the narrow near surface IP anomalies have exhibited significant copper and gold mineralization, with values of up to 0.42 g/t Au and 3.13% Cu at the Gully Showing, and values of up to 0.32 g/t Au and 0.67% Cu at the Cathedral Showing. Located approximately 175 meters north along the inferred strike of the near surface anomaly, historical sampling by Thane Minerals has returned up to 1.71 g/t Au and 3.70% Cu (Naas, 2013a).

Respectfully Submitted,



Christopher O. Naas, *P. Geo.*

## 6.0 REFERENCES

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Walcott, A

2020. 2019 Cathedral Property Induced Polarization Survey, unpublished report for Thane Minerals Inc. by Peter E. Walcott & Associates Limited, April 2020.

## 7.0 CERTIFICATE

I, Christopher O. Naas, *P.Geo.*, do hereby certify that:

1. I am a graduate in geology of Dalhousie University (*B.Sc.*, 1984); and have practiced in my profession continuously since 1987;
2. Since 1987, I have been involved in mineral exploration for precious and/or base metals in Canada, United States of America, Chile, Venezuela, Ghana, Mali, Nigeria, and Democratic Republic of the Congo (Zaire); for diamonds in Venezuela; and for rare metals in Nigeria. I have also been involved in the determination of base metal and gold resources for properties in Canada and Ghana, respectively, and the valuation of properties in Canada and Equatorial Guinea.
3. I am a member in good standing of the Association of Professional Engineers and Geoscientists of British Columbia (Registration Number 20082);
4. I am presently a Consulting Geologist and have been so since November 1987;

Dated at Surrey, British Columbia, this 19<sup>th</sup> day of May, 2020.

A handwritten signature in blue ink, appearing to read 'C. Naas', with a horizontal line underneath.

Christopher O. Naas, *P.Geo.*



## 8.0 STATEMENT OF COSTS

### Project Preparation & Shutdown

<u>Personnel</u>	<i>Unit</i>	<i>Rate</i>		
C. Naas (Sept 2-3, 2019)	1.75	1,000.00	<u>1,750.00</u>	1,750.00
<u>Equipment</u>				
Truck	1.75	175	<u>306.25</u>	306.25
<u>Room &amp; Board</u>				
Board	1.75	175	<u>306.25</u>	306.25
				<u>306.25</u>
<b>Subtotal</b>				<u>2,362.50</u>

### Field

<u>Personnel</u>	<i>Unit</i>	<i>Rate</i>		
C. Naas (Sept 5-19, 2019)	15	1,000	<u>15,000.00</u>	15,000.00
<u>Equipment</u>				
Truck 1	15	175	2,625.00	
Comptuer (incl software)	10	50	500.00	
GPS	2	100	<u>200.00</u>	
				3,325.00
<u>Room &amp; Board</u>				
Room & Board	15	175	<u>2,625.00</u>	2,625.00
<u>Disbursements</u>				
Geophysical Surveying (Walcott)			67,143.77	
Helicopter			45,502.18	
Printing			118.85	
Fuel (truck)			275.33	
Analysis			259.04	
Courier			48.28	
Field Supplies			<u>49.37</u>	
				<u>113,396.81</u>
<b>Subtotal</b>				<u>134,346.81</u>

**Office (Report Preparation)**

Personnel

C. Naas

*Unit*

*Rate*

1

1,000.00

1,000.00

1,000.00

Equipment

Comptuer (incl software)

1

50

50.00

50.00

**Subtotal**

1,050.00

**Total**

**\$137,759.31**

## **9.0 LIST OF SOFTWARE USED**

In the preparation of this report the following software was used:

Microsoft	Word 2010
	Excel 2010
Corel	CorelDraw 2018
Adobe	Acrobat version 10
Micromine	Micromine version 13

**APPENDIX I**  
**ABBREVIATIONS AND CONVERSION FACTORS**

## ABBREVIATIONS

<b>Elements</b>		<b>Abbreviations</b>	
Ag	Silver	Az	azimuth
As	Arsenic	CDN\$	Canadian dollars
Au	Gold	ppm	parts per million
Ba	Barium	ppb	parts per billion
Cd	Cadmium	g/t	grams per metric tonne
Cu	Copper	oz/T	troy ounces per ton
Mo	Molybdenum	tpd	metric tonnes per day
Pb	Lead	Eq. Au	Gold equivalent
Sb	Antimony	UTM	Universal Transverse Mercator
Ti	Titanium	NAD83	North American Datum 1983
Zn	Zinc	° / ' / "	degree/minute/second of arc

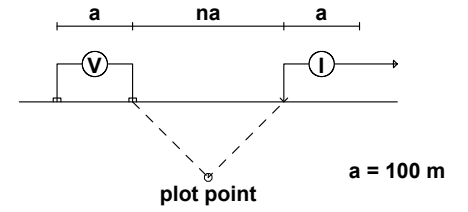
## CONVERSION FACTORS

<b>Length</b>			
1 millimetre (mm)	0.03937 inches (in)	1 inch (in)	25.40 millimetre (mm)
1 centimetre (cm)	0.394 inches(in)	1 inch (in)	2.540 centimetres (cm)
1 metre (m)	3.281 feet (ft)	1 foot (ft)	0.3048 metres (m)
1 kilometre (km)	0.6214 mile (mi)	1 mile (mi)	1.609 kilometres (km)
<b>Area</b>			
1 sq. centimeter (cm <sup>2</sup> )	0.1550 sq. inches (in <sup>2</sup> )	1 sq inch (in <sup>2</sup> )	6.452 sq. centimetres (cm <sup>2</sup> )
1 sq. metre (m <sup>2</sup> )	10.76 feet (ft <sup>2</sup> )	1 foot (ft)	0.0929 sq. metres (m <sup>2</sup> )
1 hectare (ha) (10,000 m <sup>2</sup> )	2.471 acres	1 acre	0.4047 hectare (ha)
1 hectare (ha)	0.003861 sq. miles (m <sup>2</sup> )	1 sq. mile (m <sup>2</sup> )	640 acres
1 hectare (ha)	0.01 sq. kilometre (km <sup>2</sup> )	1 sq. mile (m <sup>2</sup> )	259.0 hectare (ha)
1 sq. kilometre (km <sup>2</sup> )	0.3861 sq. miles (mi <sup>2</sup> )	1 sq. mile (m <sup>2</sup> )	2.590 sq. kilometres (km <sup>2</sup> )
<b>Volume</b>			
1 cu. centimetre (cc)	0.06102 cu. inches (in <sup>3</sup> )	1 cu. inch (in <sup>3</sup> )	16.39 cu. centimetres (cm <sup>3</sup> )
1 cu. metre (m <sup>3</sup> )	1.308 cu. yards (yd <sup>3</sup> )	1 cu. yard (yd <sup>3</sup> )	0.7646 cu. metres (m <sup>3</sup> )
1 cu. metre (m <sup>3</sup> )	35.310 cu. feet (ft <sup>3</sup> )	1 cu. foot (ft <sup>3</sup> )	0.02832 cu. metres (m <sup>3</sup> )
1 litre (l)	0.2642 gallons (U.S.)	1 gallon (U.S.)	3.785 litres (l)
1 litre (l)	0.2200 gallons (U.K.)	1 gallon (U.K.)	4.546 litres (l)
<b>Weights</b>			
1 gram (g)	0.03215 troy ounce (20dwt)	1 troy ounce (oz)	31.1034 grams (g)
1 gram (g)	0.6430 pennyweight (dwt)	1 pennyweight (dwt)	1.555 grams (g)
1 gram (g)	0.03527 oz avoirdupois	1 oz avoirdupois	28.35 grams (g)
1 kilogram (g)	2.205 lb avoirdupois	1 lb avoirdupois	0.4535 kilograms (kg)
1 tonne (t) (metric)	1.102 tons (T) (short ton)	1 ton (T) (short ton) (2000 lb)	0.9072 tonnes (t)
1 tonne (t)	0.9842 long ton	1 long ton (2240 lb)	1.016 tonnes (t)
<b>Miscellaneous</b>			
1 cm/second	0.01968 ft/min	1 ft/min	50.81 cm/second
1 cu. m/second	22.82 million gal/day	1 million gal/day	0.04382 m <sup>3</sup> /second
1 cu. m/minute	264.2 gal/min	1 gal/min	0.003785 m <sup>3</sup> /minute
1 g/cu. m	62.43 lb/ cu. ft	1 lb/cu. ft <sup>3</sup>	0.01602 g/m <sup>3</sup>
1 g/cu. m	0.02458 oz/cu. yd	1 oz/cu. yd	40.6817 g/m <sup>3</sup>
1 Pascal (Pa)	0.000145 psi	1 psi	6985 Pascal
1 gram/tonne (g/t)	0.029216 troy ounce/ short ton (oz/T)	1 troy ounce/short ton (oz/T)	34.2857 grams/tonne (g/t)
1 g/t	0.583 dwt/short ton	1 dwt/short ton	1.714 g/t
1 g/t	0.653 dwt/long ton	1 dwt/long ton	1.531 g/t
1 g/t	0.0001 %		
1 g/t	1 part per million (ppm)		
1 %	10,000 part per million (ppm)		
1 part per million (ppm)	1,000 part per billion (ppb)		
1 part per billion (ppb)	0.001 part per million (ppm)		

**APPENDIX II**  
**PSEUDO SECTIONS**

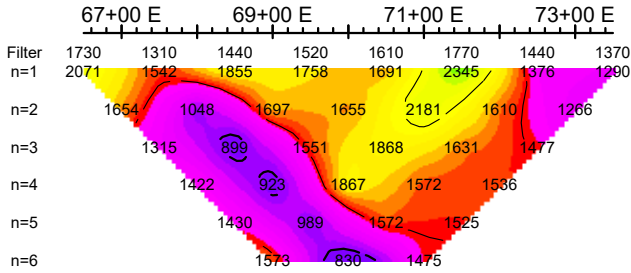
46+00 N

Dipole-Pole Array



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Calculated Resistivity  
Ohm\*m



Calculated Resistivity  
Ohm\*m

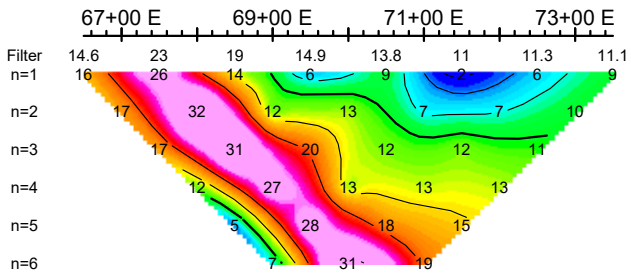
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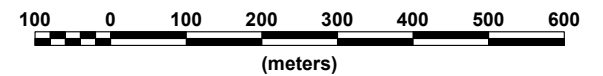
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mV/V



Average IP  
mV/V

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THANE MINERALS INC.

INDUCED POLARIZATION SURVEY  
CATHEDRAL PROJECT

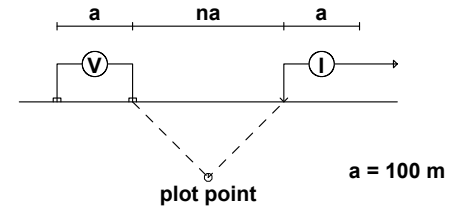
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PETER E. WALCOTT & ASSOCIATES LIMITED



47+00 N

Dipole-Pole Array

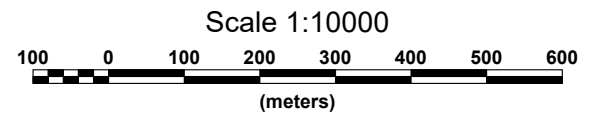


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Logarithmic  
Contours: 1, 1.5, 2, 3, 5, 7.5, 10,...



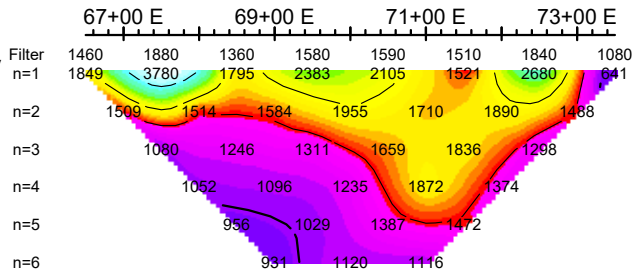
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CATHEDRAL PROJECT

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Interpretation:

PETER E. WALCOTT & ASSOCIATES LIMITED

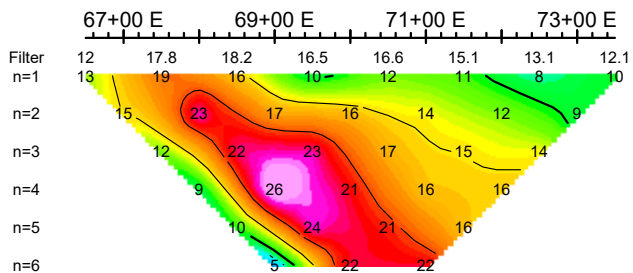
Calculated Resistivity  
Ohm\*m



Calculated Resistivity  
Ohm\*m

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Average IP  
mV/V

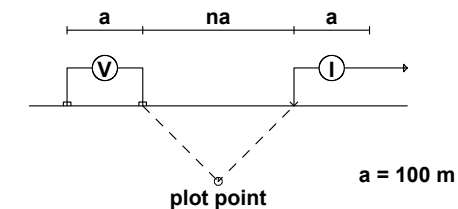


Average IP  
mV/V

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53+00 N

Dipole-Pole Array



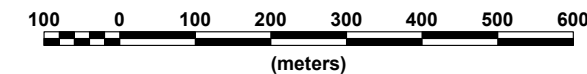
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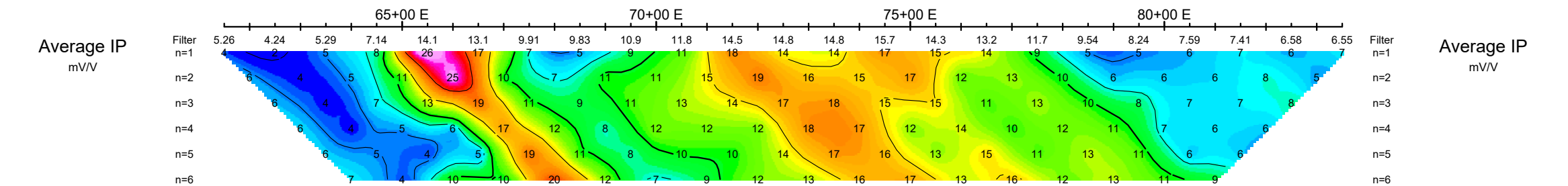
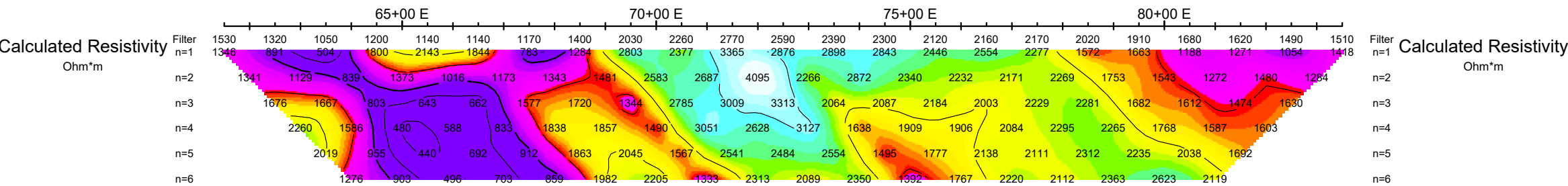


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CATHEDRAL PROJECT

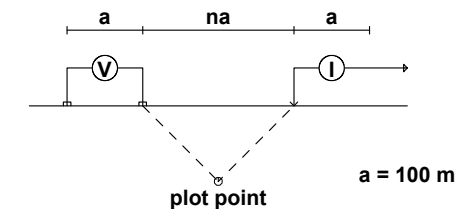
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54+00 N

Dipole-Pole Array



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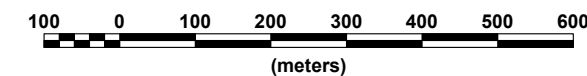
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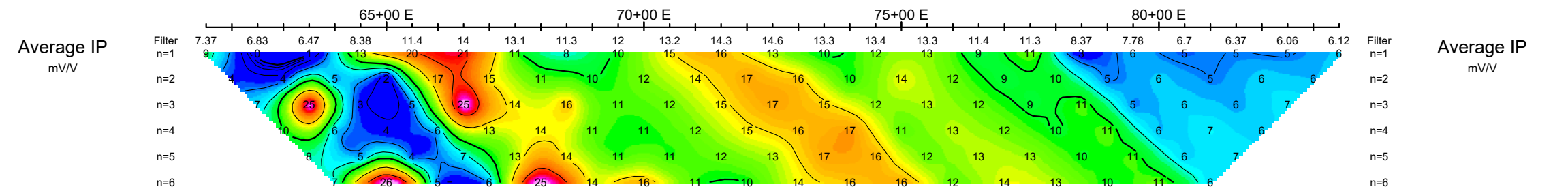
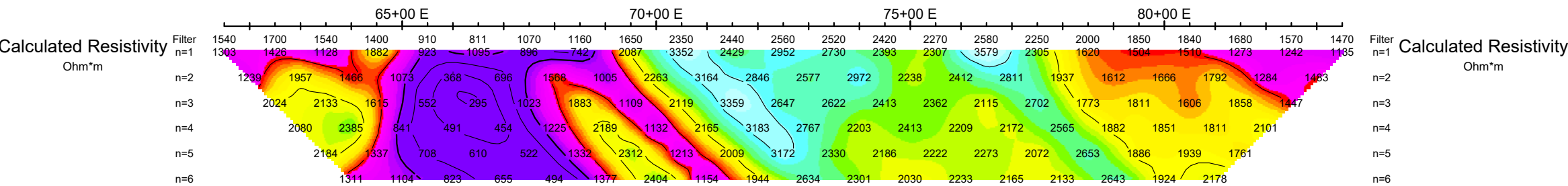


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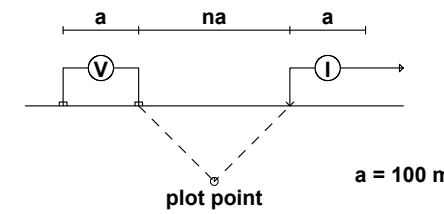
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PETER E. WALCOTT & ASSOCIATES LIMITED



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Dipole-Pole Array



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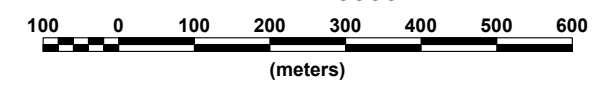
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Operators: M.M. , N.L.

Logarithmic  
Contours 1, 1.5, 2, 3, 5, 7.5, 10,...

Scale 1:10000



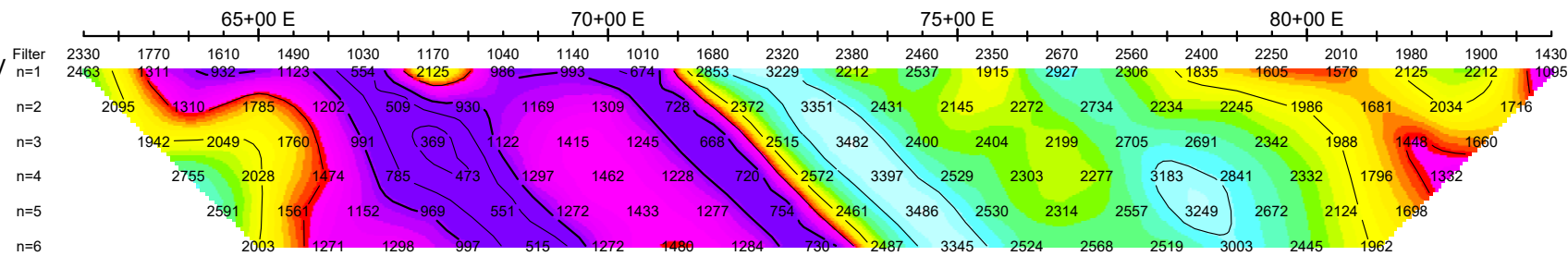
THANE MINERALS INC.

INDUCED POLARIZATION SURVEY  
CATHEDRAL PROJECT

Date: SEPTEMBER 2019  
Interpretation:

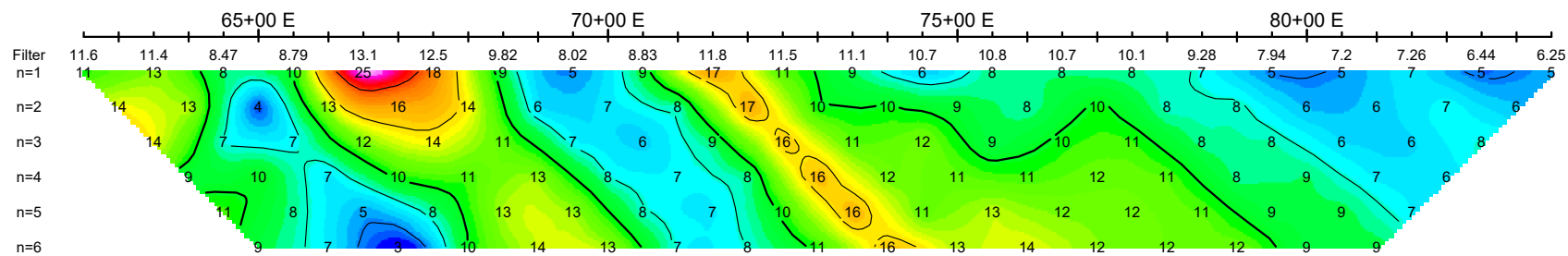
PETER E. WALCOTT & ASSOCIATES LIMITED

Calculated Resistivity  
Ohm\*m



Calculated Resistivity  
Ohm\*m

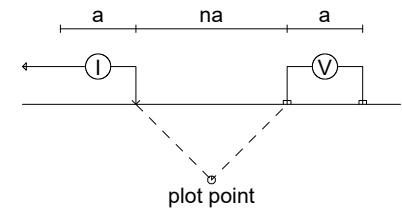
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mV/V



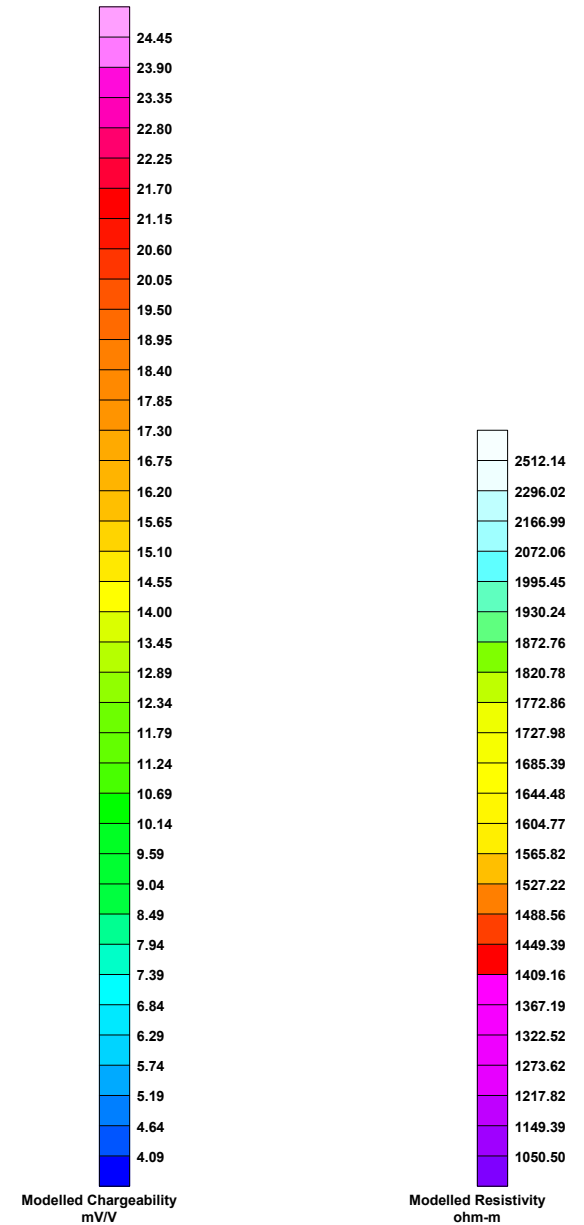
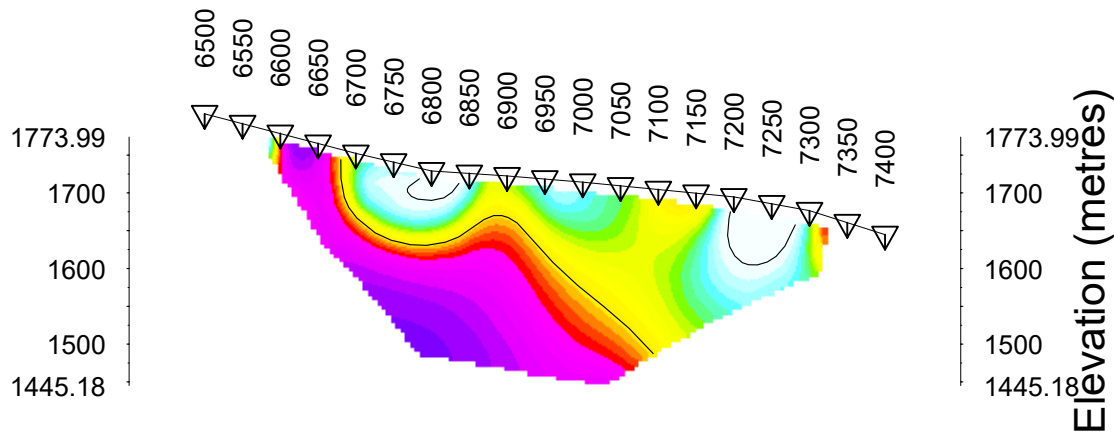
Average IP  
mV/V

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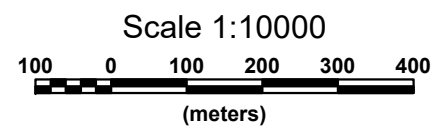
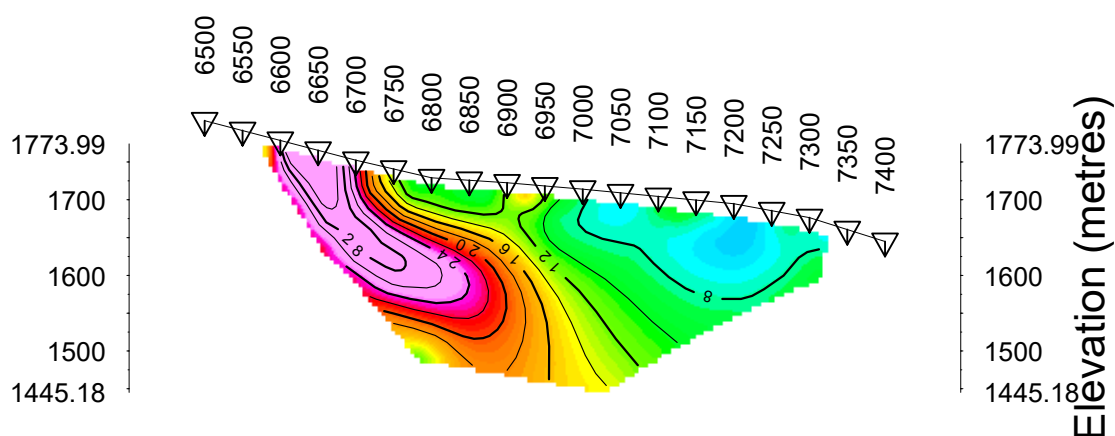
Pole-Dipole Array



Modelled Resistivity (Ohm-m)



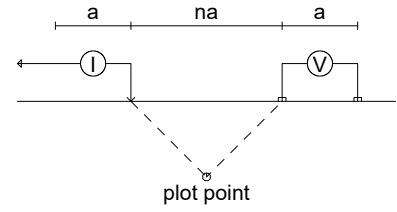
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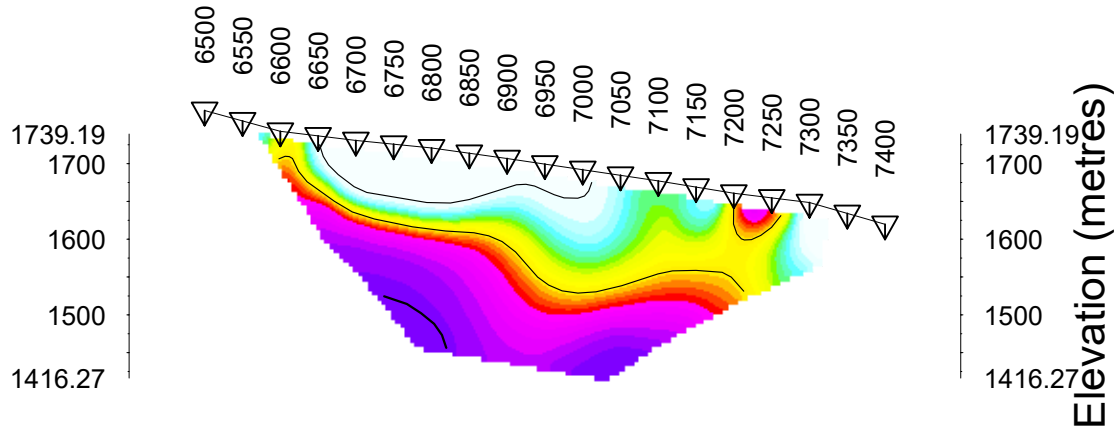
**THANE MINERALS INC..**  
INDUCED POLARIZATION SURVEY  
CATHEDRAL PROJECT  
SEPTEMBER 2019  
RES2DINV  
Inversion By: PETER E. WALCOTT & ASSOCIATES LIMITED

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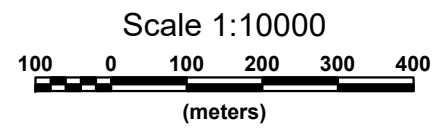
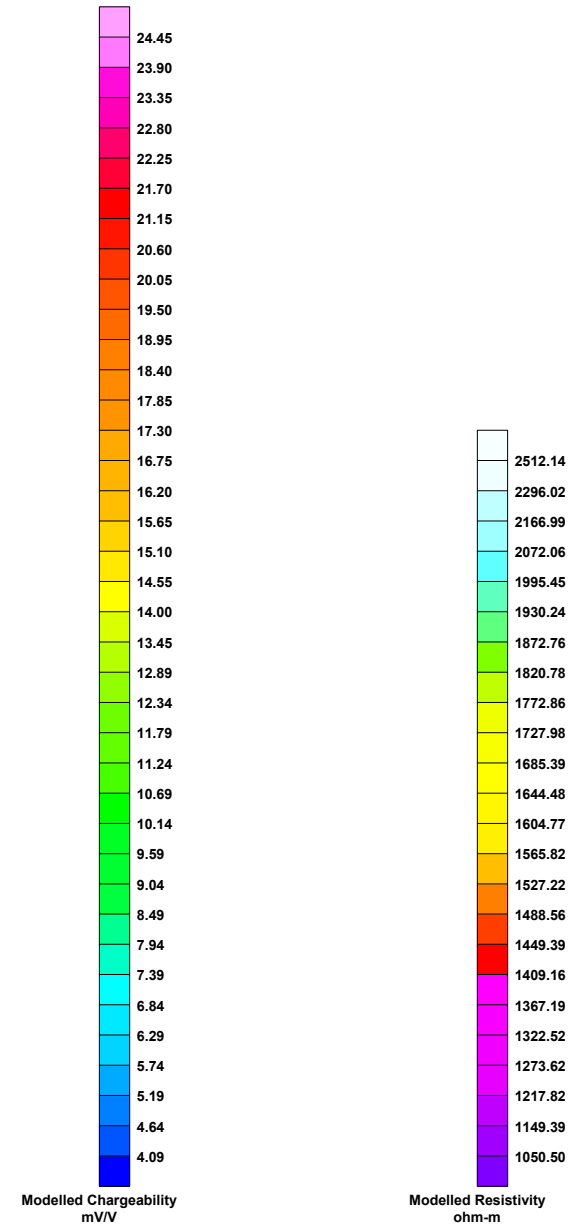
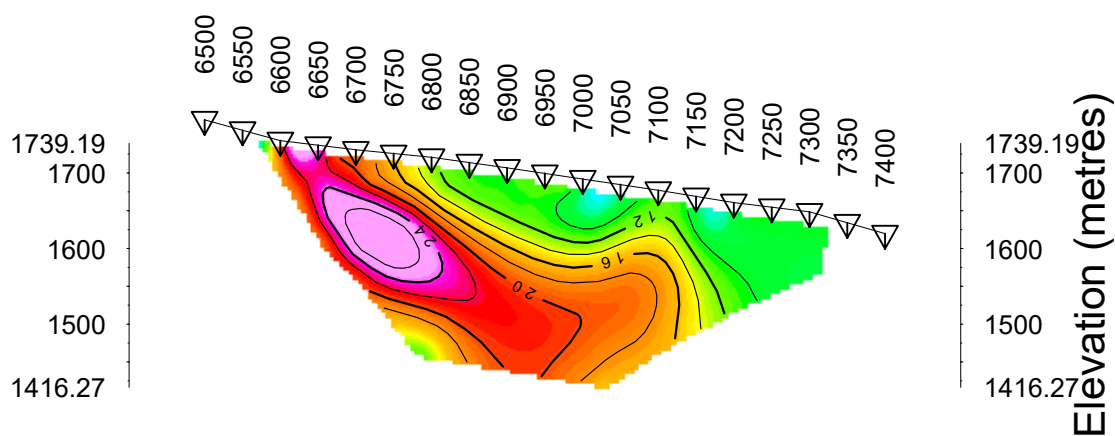
Pole-Dipole Array



Modelled Resistivity (Ohm-m)



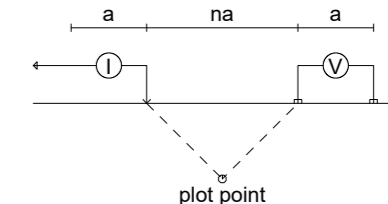
Modelled Chargeability (mV/V)



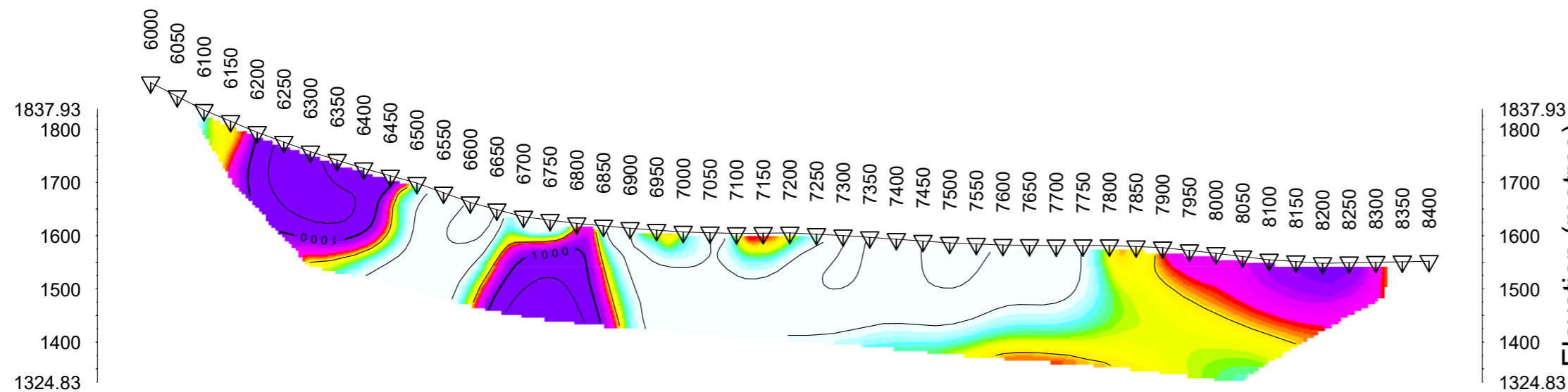
**THANE MINERALS INC..**  
INDUCED POLARIZATION SURVEY  
CATHEDRAL PROJECT  
SEPTEMBER 2019  
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Inversion By: PETER E. WALCOTT & ASSOCIATES LIMITED

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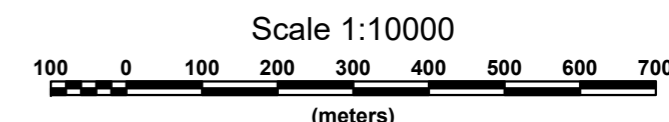
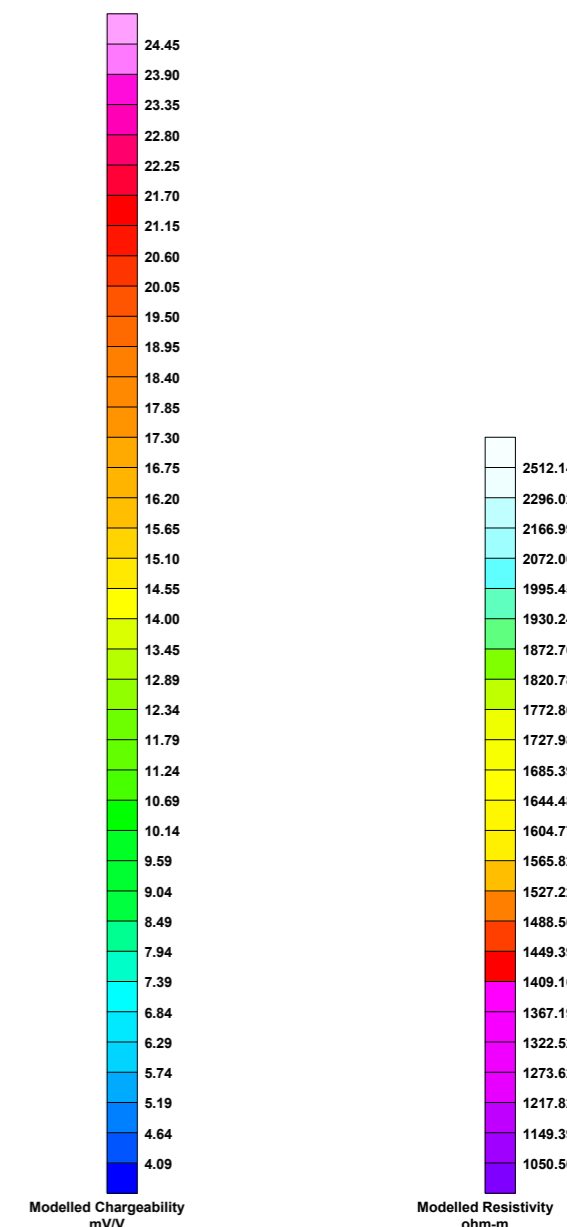
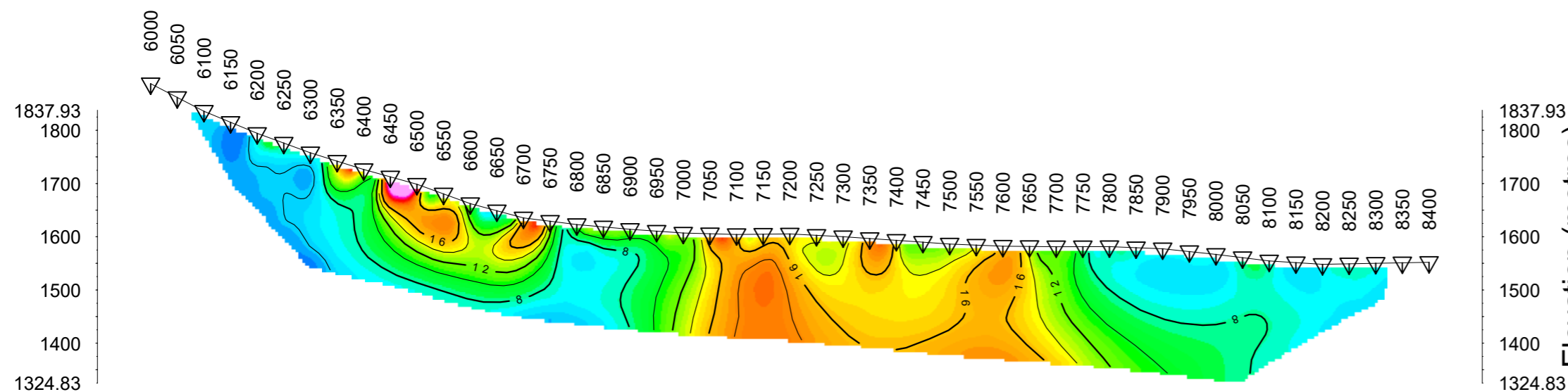
Pole-Dipole Array



Modelled Resistivity (Ohm-m)



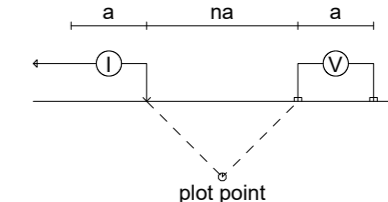
Modelled Chargeability (mV/V)



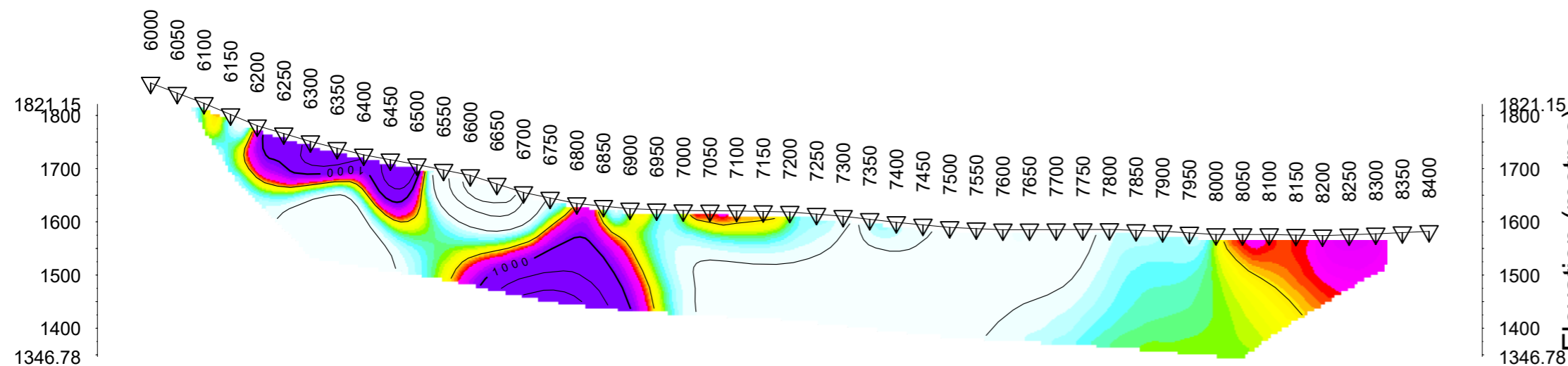
**THANE MINERALS INC..**  
INDUCED POLARIZATION SURVEY  
CATHEDRAL PROJECT  
SEPTEMBER 2019  
RES2DINV  
Inversion By: PETER E. WALCOTT & ASSOCIATES LIMITED

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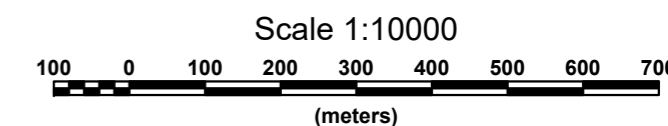
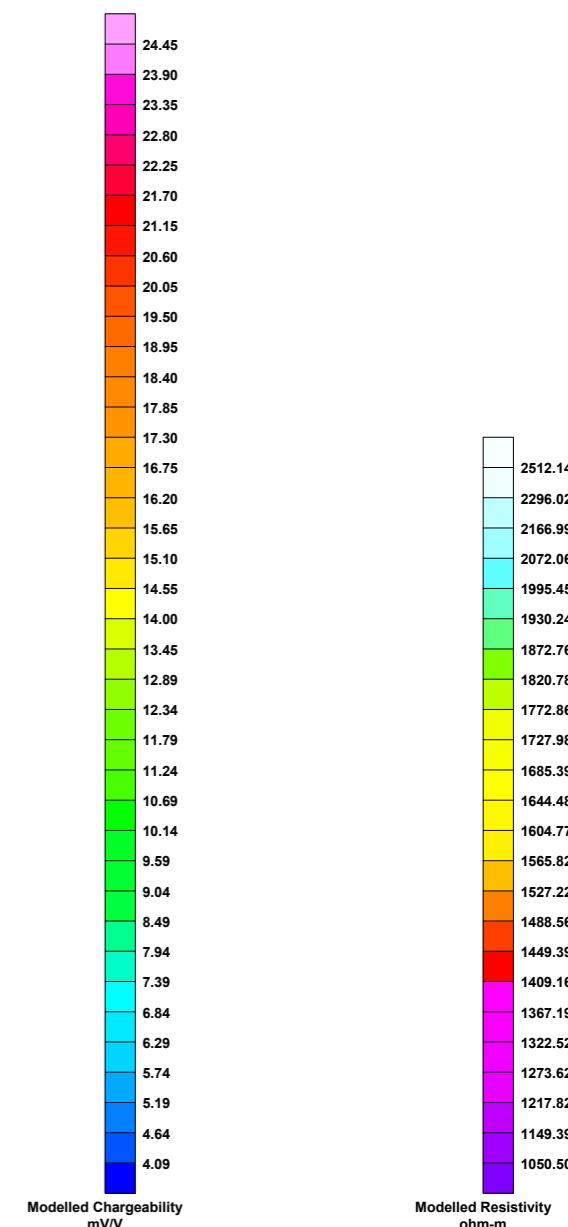
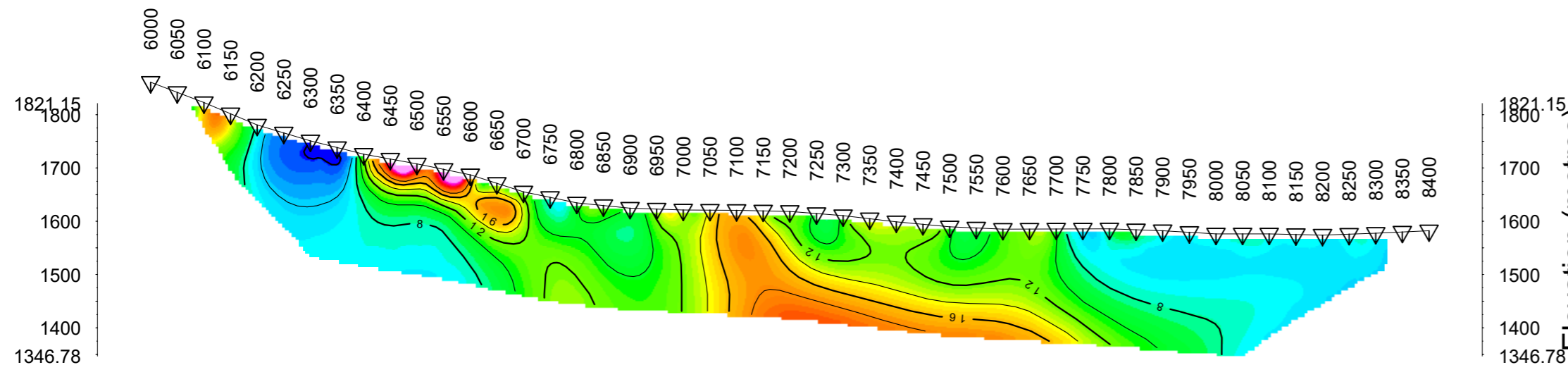
Pole-Dipole Array



Modelled Resistivity (Ohm-m)



Modelled Chargeability (mV/V)

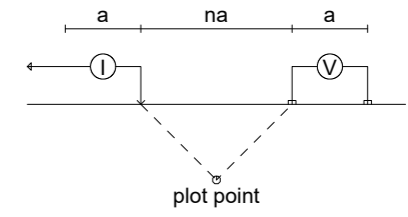


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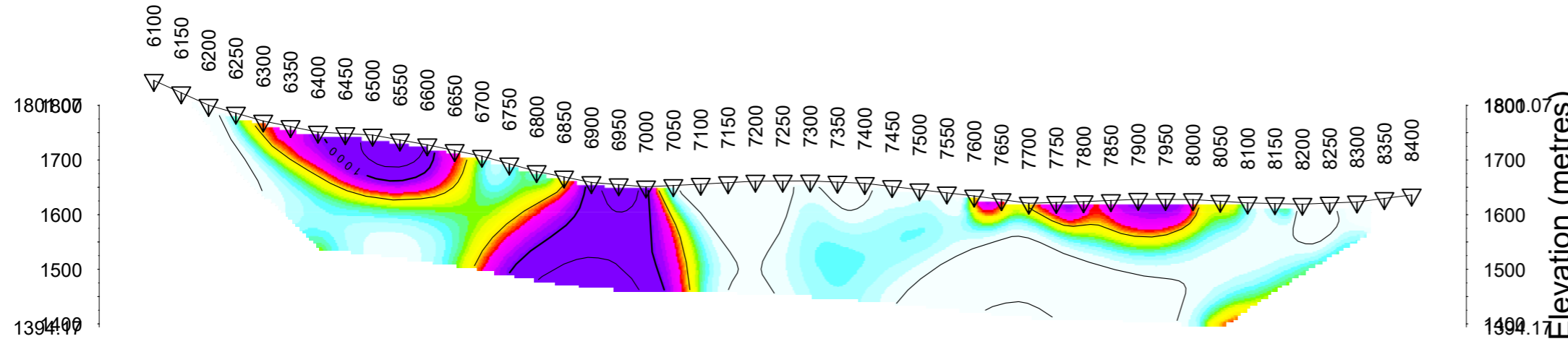


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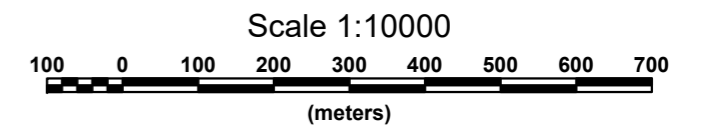
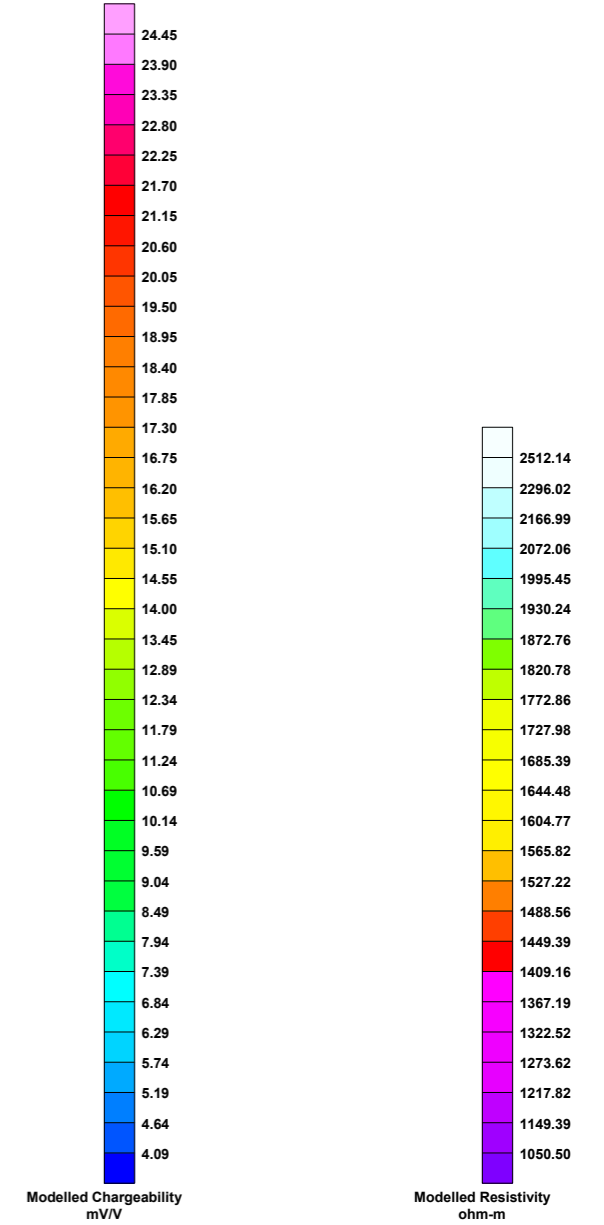
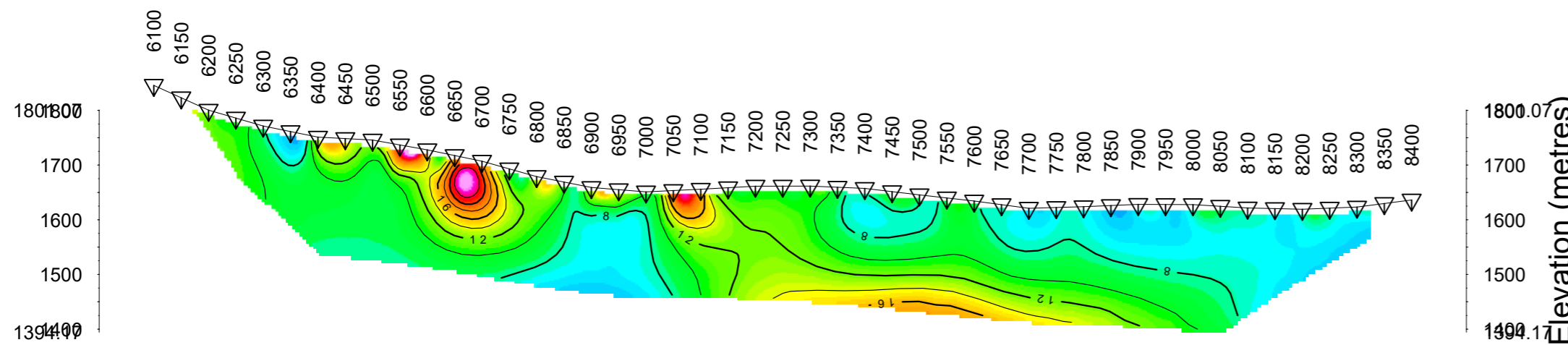
Pole-Dipole Array



Modelled Resistivity (Ohm-m)



Modelled Chargeability (mV/V)



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**APPENDIX III**  
**SAMPLE DESCRIPTIONS**

Cathedral Property  
Rock Sample Descriptions

Location (UTM Zone 10 North NAD 83)					Sample No.	Sample Type	Lithology	Alteration	Sulphides (%)	Mineralization Style	Description	ICP-MS			Fire Assay
Easting	Northing	Map	Area	Tenure								Field Sample Descriptions	Ag ppm	As ppm	Cu ppm
6218641	347118	M03	Cathedral	689828	2040	Grab	Monzonite	FeOxid 1, Pot 2	Py (tr)	Disseminated	Coarse-grained equigranular monzonite, strongly potassic alteration and weakly magnetic. Composition: 70-80% feldspar (a lot of alteration, can't tell between plagioclase and potassium feldspar), 5% mafics (including biotite?), and ~5-10% quartz. Only trace Pyrite observed	0.10	1.0	109.0	0.002
6218656	347181	M03	Cathedral	689828	2041	Grab	Monzonite	FeOxid 1, Pot 2	Py (tr)	Disseminated	Coarse-grained equigranular monzonite, strongly potassic alteration and weakly magnetic. Composition: 70-80% feldspar (a lot of alteration, can't tell between plagioclase and potassium feldspar), 5% mafics (including biotite?), and ~5-10% quartz. Only trace Pyrite observed	0.05	7.1	53.7	0.002
6218661	347184	M03	Cathedral	689828	2042	Grab	Monzonite	FeOxid 1, Pot 2	Py (tr)	Disseminated	Coarse-grained equigranular monzonite, strongly potassic alteration and weakly magnetic. Composition: 70-80% feldspar (a lot of alteration, can't tell between plagioclase and potassium feldspar), 5% mafics (including biotite?), and ~5-10% quartz. Only trace Pyrite observed	0.27	15.4	20.8	0.018
6218677	347247	M03	Cathedral	689828	2043	Grab	Monzonite	FeOxid 1, Pot 2	Py (tr)	Disseminated	Coarse-grained equigranular monzonite, strongly potassic alteration and weakly magnetic. Composition: 70-80% feldspar (a lot of alteration, can't tell between plagioclase and potassium feldspar), 5% mafics (including biotite?), and ~5-10% quartz. Only trace Pyrite observed	0.08	11.4	45.4	0.004
6218528	347058	M03	Cathedral	689828	2044	Grab	Monzonite	FeOxid 3, Pot 4	Py (tr), Cpy (tr)	Disseminated	Coarse-grained equigranular monzonite, strongly potassic alteration and weakly magnetic. Composition: 70-80% feldspar (a lot of alteration, can't tell between plagioclase and potassium feldspar), 5% mafics (including biotite?), and ~5-10% quartz. Trace disseminated chalcopyrite	0.27	11.3	945.0	0.041

**APPENDIX IV**  
**CERTIFICATES OF ANALYSIS**



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 www.alsglobal.com/geochemistry

To: **THANE MINERALS INC.**  
**PO BOX 38099 MORGAN HEIGHTS PO**  
**SURREY BC V3Z 6R3**

Page: 1  
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 Plus Appendix Pages  
 Finalized Date: 5-OCT-2019  
 Account: RESTHA

**CERTIFICATE KL19236157**

Project: Cathedral

This report is for ████ Rock samples submitted to our lab in Kamloops, BC, Canada on 20-SEP-2019.

The following have access to data associated with this certificate:

CHRIS NAAS

**SAMPLE PREPARATION**

ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-21	Sample logging - ClientBarCode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

**ANALYTICAL PROCEDURES**

ALS CODE	DESCRIPTION	INSTRUMENT
ME-OG46	Ore Grade Elements - AquaRegia	ICP-AES
Cu-OG46	Ore Grade Cu - Aqua Regia	
Au-ICP21	Au 30g FA ICP-AES Finish	ICP-AES
ME-MS41	Ultra Trace Aqua Regia ICP-MS	

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

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

**Signature:**   
 Saa Traxler, General Manager, North Vancouver



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 Account: RESTHA

Project: Cathedral

**CERTIFICATE OF ANALYSIS KL19236157**

Sample Description	Method Analyte Units LOD	WEI-21 Recvd Wt. kg	ME-MS41 Ag ppm	ME-MS41 Al %	ME-MS41 As ppm	ME-MS41 Au ppm	ME-MS41 B ppm	ME-MS41 Ba ppm	ME-MS41 Be ppm	ME-MS41 Bi ppm	ME-MS41 Ca %	ME-MS41 Cd ppm	ME-MS41 Ce ppm	ME-MS41 Co ppm	ME-MS41 Cr ppm	ME-MS41 Cs ppm
		0.02	0.01	0.01	0.1	0.02	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1	0.05
2040		0.63	0.10	0.64	1.0	<0.02	<10	50	0.39	0.09	0.41	0.02	28.6	4.3	3	0.38
2041		0.20	0.05	0.50	7.1	<0.02	<10	110	0.30	0.30	0.18	0.01	19.10	5.9	2	0.70
2042		0.37	0.27	0.14	15.4	0.02	<10	350	0.07	1.69	0.01	<0.01	14.80	5.6	2	0.11
2043		0.41	0.08	0.33	11.4	<0.02	<10	100	0.43	0.19	0.13	0.01	12.10	5.8	2	0.18
2044		0.52	0.27	0.86	11.3	0.04	<10	80	0.41	0.12	0.59	0.06	14.80	39.6	2	0.12



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Project: Cathedral

**CERTIFICATE OF ANALYSIS KL19236157**

Sample Description	Method Analyte Units LOD	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	
		Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
		ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
		0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
2040		109.0	3.82	4.61	0.08	0.18	<0.01	0.007	0.11	14.8	6.5	0.38	261	1.45	0.03	0.42
2041		53.7	4.60	4.05	0.06	0.11	0.01	0.010	0.22	9.5	2.6	0.21	314	2.55	0.03	0.48
2042		20.8	2.67	0.85	0.05	0.17	0.03	<0.005	0.26	10.0	0.1	<0.01	26	1.25	0.05	0.33
2043		45.4	7.63	3.79	0.09	0.12	<0.01	0.010	0.12	5.9	2.8	0.13	129	6.24	0.05	0.79
2044		945	4.70	4.92	0.16	0.23	0.01	0.029	0.13	6.3	6.1	0.75	326	9.86	0.02	0.28



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 Account: RESTHA

Project: Cathedral

**CERTIFICATE OF ANALYSIS KL19236157**

Sample Description	Method Analyte Units LOD	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	
		Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
		ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
		0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
2040		1.0	1030	3.6	6.4	0.001	0.01	0.11	3.8	<0.2	0.5	9.2	<0.01	<0.01	8.0	0.068
2041		0.6	730	3.4	6.9	0.001	0.26	0.12	2.4	<0.2	0.5	16.7	<0.01	0.12	5.3	0.047
2042		0.4	630	4.5	5.5	<0.001	0.48	0.14	1.0	<0.2	0.9	19.7	<0.01	0.34	5.6	0.042
2043		0.8	550	3.1	4.4	0.001	0.16	0.13	2.3	<0.2	0.6	9.4	<0.01	0.10	6.2	0.062
2044		2.2	1110	4.1	3.4	0.001	0.74	0.11	3.1	<0.2	0.9	18.9	<0.01	0.09	4.5	0.069





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**CERTIFICATE OF ANALYSIS KL19236157**

Sample Description	Method Analyte Units LOD	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	Cu-OG46	Au-ICP21
		Tl ppm 0.02	U ppm 0.05	V ppm 1	W ppm 0.05	Y ppm 0.05	Zn ppm 2	Zr ppm 0.5	Cu % 0.001	Au ppm 0.001
2040		<0.02	1.76	32	0.30	15.20	19	2.8		0.002
2041		0.02	1.01	16	0.83	7.84	24	1.9		0.002
2042		0.02	0.88	28	0.22	3.24	<2	4.0		0.018
2043		<0.02	1.27	41	0.49	8.37	10	1.7		0.004
2044		<0.02	1.69	60	0.39	15.00	17	4.0		0.041



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**CERTIFICATE OF ANALYSIS KL19236157**

### CERTIFICATE COMMENTS

#### ANALYTICAL COMMENTS

Applies to Method: Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g).  
ME-MS41

#### LABORATORY ADDRESSES

Applies to Method:	Processed at ALS Kamloops located at 2953 Shuswap Drive, Kamloops, BC, Canada.			
	CRU-31	CRU-QC	LOG-21	PUL-31
	PUL-QC	SPL-21	WEI-21	
Applies to Method:	Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.			
	Au-ICP21	Cu-OG46	ME-MS41	ME-OG46