

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)]: Geological, Geochemical

TOTAL COST: \$118,945.95

AUTHOR(S): Christopher O. Naas

SIGNATURE(S): 

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S):

YEAR OF WORK: 2017

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): Event 5659829 / 2017-08-10; Event 5667108 / 2017-09-30

PROPERTY NAME: Cathedral

CLAIM NAME(S) (on which the work was done): 689828, 689843

COMMODITIES SOUGHT: Cu, Au

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 094C181, 094C187

MINING DIVISION: Omineca

NTS/BCGS: 094C03

LATITUDE: 56 ° 05 '09 " LONGITUDE: 125 ° 27 '30 " (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

TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping	1:500, 3 sq. km	688983, 688843	\$105,315.74
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil			
Silt			
Rock	71 samples: Au ICP-ES, multi-element ICP-MS	688983, 688843	\$13,630.21
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Metallurgic			
PROSPECTING (scale, area)			
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/trail			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	\$118,945.95

ASSESSMENT REPORT
GEOLOGICAL STUDY
of the
Cathedral Area

Cathedral Property

(689828, 689843)

Omineca Mining Division, British Columbia, Canada

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

by
Christopher O. Naas, *P.Geo.*

CME Consultants Inc.

December 8, 2017

NTS 094C03

Latitude: 56°05'09"N

Longitude: 125°27'30"W

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1.0 INTRODUCTION

The Cathedral property (the “Property”) is centred at latitude 56° 08’ N and longitude 125° 30’ 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.

This report summarizes the work completed during the 2017 field season at the Cathedral Area.

The objective of the work program was to improve the understanding of the structural and alteration setting of the copper-gold mineralization at the Cathedral Area. Work involved detailed geological mapping and structural evaluation with emphasis on the relationship structure has with copper-gold mineralization.

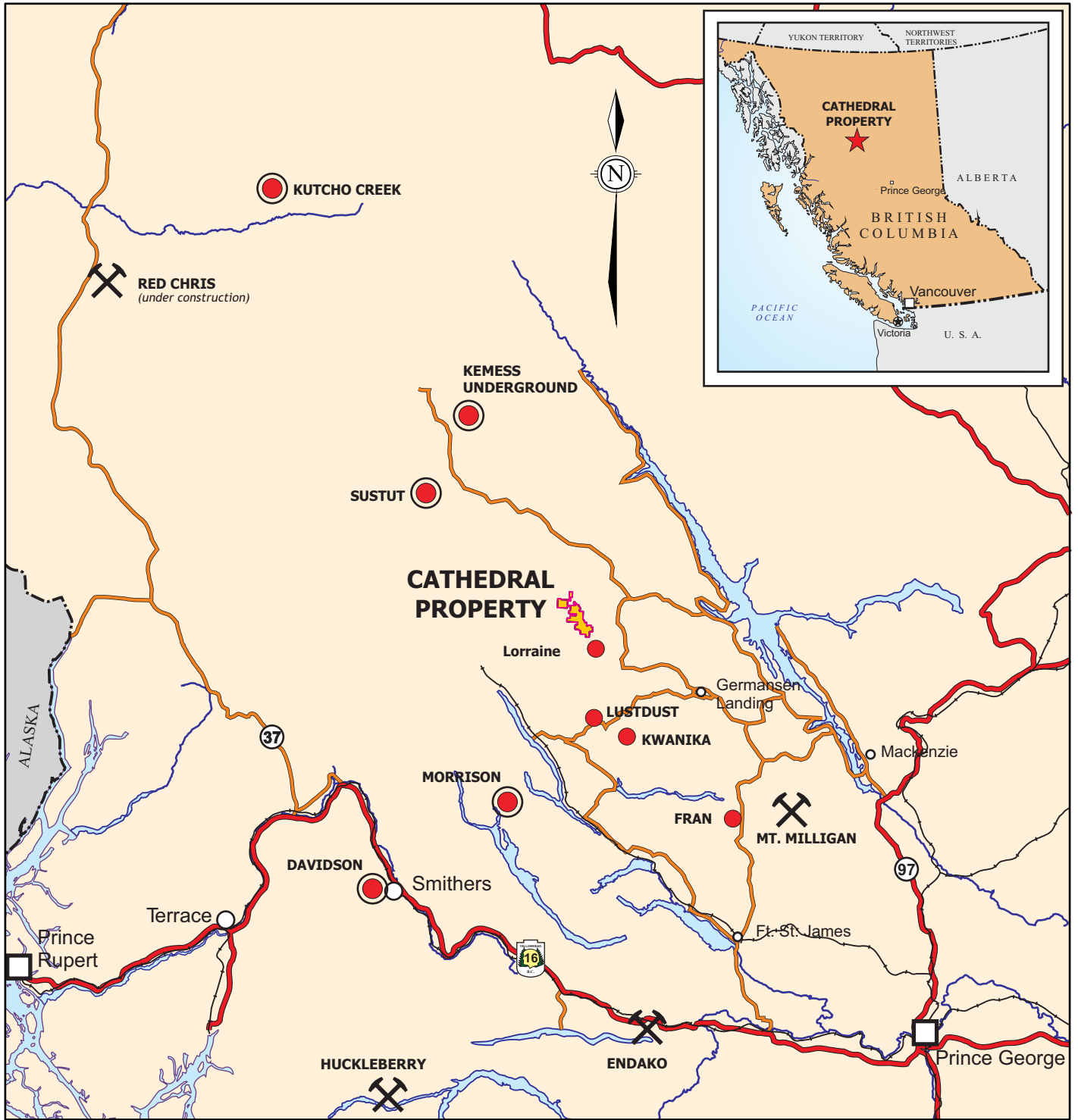
The study area covered approximately 3 sq km, centered at latitude 56° 05’09” N and longitude 125° 27’ 30” W . A total of 71 rock samples were collected in support of geological mapping.

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.

PROPERTY LOCATION

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

Project No:	C122	By:	CN
Scale:	1:3,000,000	Drawn:	CN
Figure:	1	Date:	December 2017



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 12,494.332 hectare Property consists of 42 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	2018/AUG/18
684244	414.7706	Thane Minerals Inc.	MTO Cell	2018/AUG/18
684246	414.7606	Thane Minerals Inc.	MTO Cell	2018/AUG/18
684248	252.5550	Thane Minerals Inc.	MTO Cell	2018/AUG/18
688823	450.1158	Thane Minerals Inc.	MTO Cell	2018/AUG/18
688843	450.1199	Thane Minerals Inc.	MTO Cell	2018/AUG/18
689826	433.0388	Thane Minerals Inc.	MTO Cell	2018/AUG/18
689828	451.2893	Thane Minerals Inc.	MTO Cell	2018/AUG/18
689843	415.3282	Thane Minerals Inc.	MTO Cell	2018/AUG/18
689845	451.2932	Thane Minerals Inc.	MTO Cell	2018/AUG/18
837059	162.6033	Thane Minerals Inc.	MTO Cell	2018/AUG/18
837067	72.2301	Thane Minerals Inc.	MTO Cell	2018/AUG/18
837069	252.8936	Thane Minerals Inc.	MTO Cell	2018/AUG/18

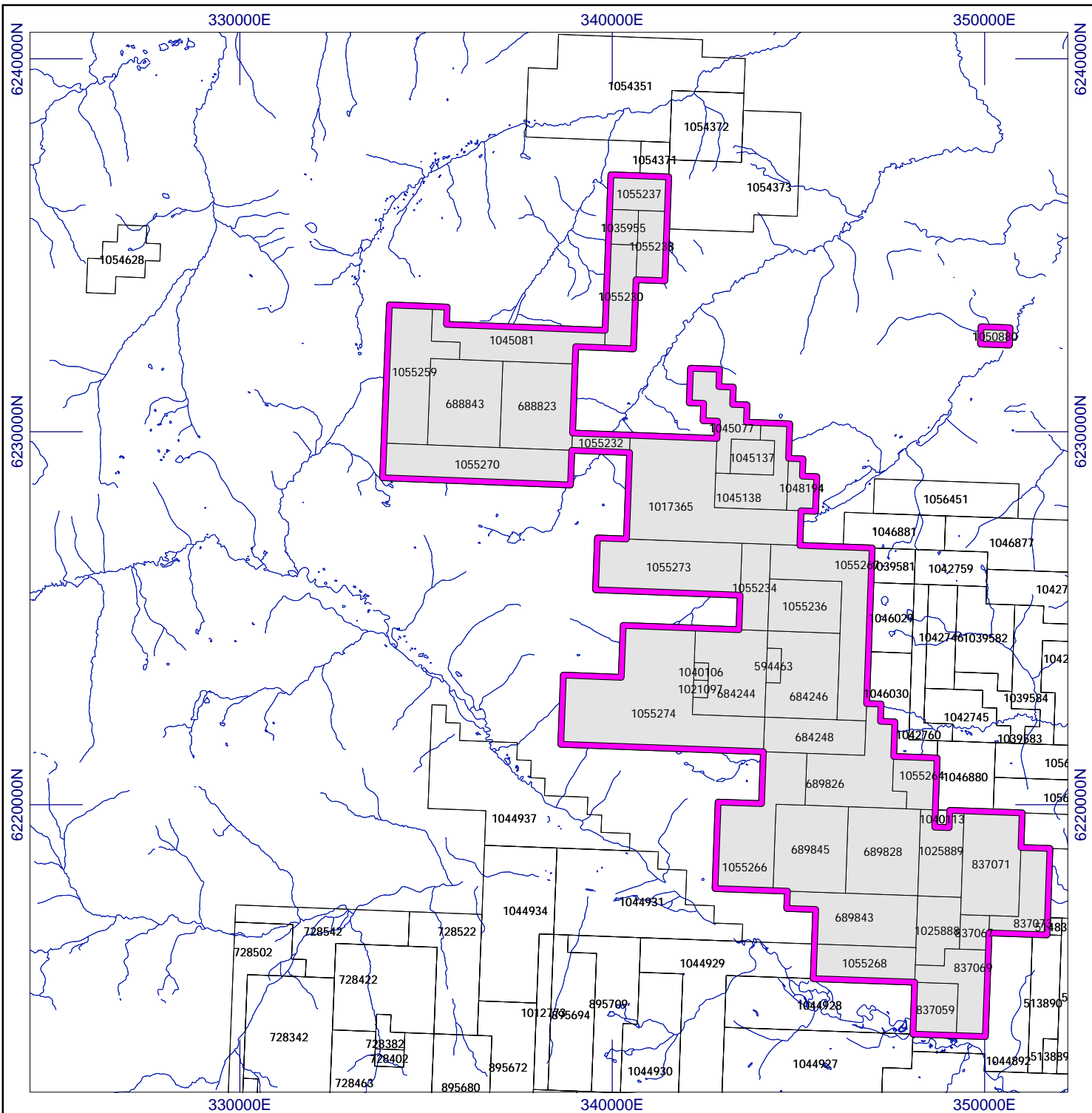
Table 1: List of Mineral Tenures (*cont'd*)

Tenure Number	Area (ha)	Owner	Tenure Type	Good To Date
837071	433.2248	Thane Minerals Inc.	MTO Cell	2018/AUG/18
837073	216.6435	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1017365	864.7239	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1021097	18.0354	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1025888	198.6395	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1025889	252.7215	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1035955	71.9387	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1040106	18.0336	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1045077	234.0710	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1045081	377.9497	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1045137	108.0609	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1045138	252.1758	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1048194	90.0613	Thane Minerals Inc.	MTO Cell	2018/DEC/01
1050880	35.9886	Thane Minerals Inc.	MTO Cell	2018/MAR/20
1055230	215.9103	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1055232	72.0359	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1055234	180.2442	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1055236	270.3817	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1055237	143.8463	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1055238	143.8938	Thane Minerals Inc.	MTO Cell	2018/AUG/18
1055259	468.0370	Thane Minerals Inc.	MTO Cell	2018/OCT/01
1055264	144.3520	Thane Minerals Inc.	MTO Cell	2018/OCT/01
1055266	523.4329	Thane Minerals Inc.	MTO Cell	2018/OCT/01
1055267	540.7679	Thane Minerals Inc.	MTO Cell	2018/OCT/01
1055268	252.8778	Thane Minerals Inc.	MTO Cell	2018/OCT/01
1055270	468.2975	Thane Minerals Inc.	MTO Cell	2018/OCT/01
1055273	540.6773	Thane Minerals Inc.	MTO Cell	2018/OCT/01
1055274	1,100.2454	Thane Minerals Inc.	MTO Cell	2018/OCT/01





2.0 WORK HISTORY

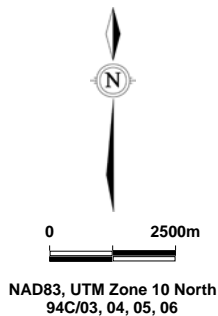
The Property has been subject to a number of preliminary regional exploration projects with only localized detailed exploration and sampling in specific areas.

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



LEGEND

-  Watercourse
-  Waterbody
-  Property outline
-  Mineral tenure (as of Dec 7, 2017)



THANE MINERALS INC.

MINERAL TENURE MAP

Cathedral Property
Omineca M.D. BC Canada

Project No.: C112	By: CN
Scale: 1:150000	Drawn: CN
Figure: 2	Date: December, 2017



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.

Lithogeochemical 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.

Swannell 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, Swannell 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, Swannell 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. Litho-geochemistry 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. Significant rock samples are presented in Table 2. Silt samples from the drainage of the Lake Area returned up to 627 ppm Cu (Naas 2013).

Table 2: Significant rock sample results, 2012 exploration

Area	Showing	Results	
		Cu (%)	Au (g/t)
Cathedral	Pinnacle	0.03	13.00
		0.12	3.41
		0.01	0.86
	Cathedral	13.90	6.85
		0.66	0.76
	Cathedral South	1.74	0.05
		0.58	0.90
	Gully	1.07	0.32
	Gail		4.78
		7.69	1.26
		4.27	1.35
Cirque		0.35	0.51
Lake		4.56	3.81
		2.55	3.07
		3.37	1.39
		2.54	0.99

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

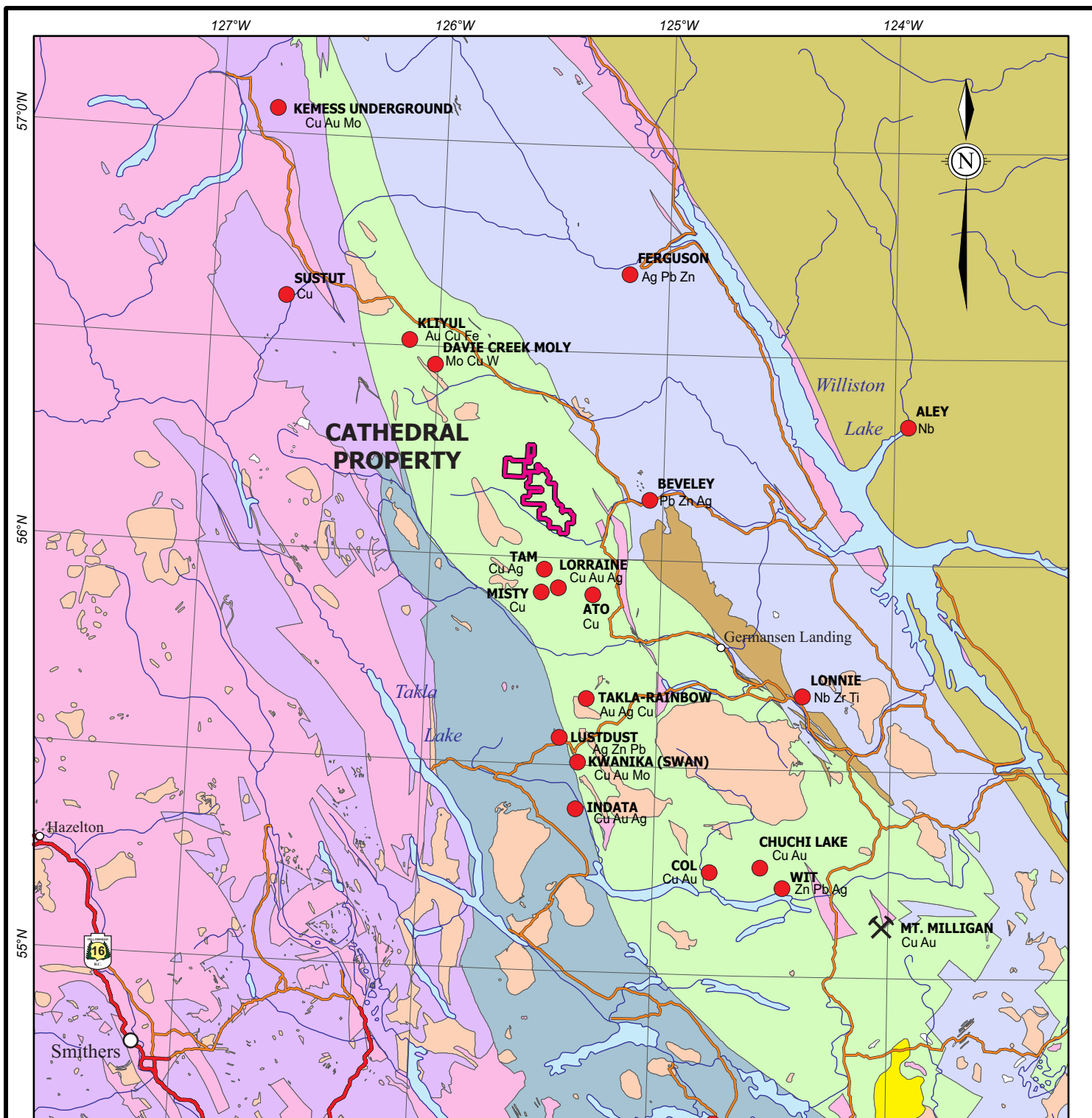
At RS Creek, although the anomalous historical gold-in-silt sample was confirmed with a sample that returned 0.582 ppm Au, this sample was considered to be the result by glacial till contamination and not from bedrock sources.

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

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 Hogen 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 Hogen multi-phase batholith is the largest of these intrusions, forming the spine of this island arc allochthonous, intermontane superterrane. The northwest-



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



THANE MINERALS INC.

REGIONAL GEOLOGY AND ECONOMIC SETTING

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

Project No:	C122	By:	CN
Scale:	1:1,500,000	Drawn:	CN
Figure:	3	Date:	December 2017



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

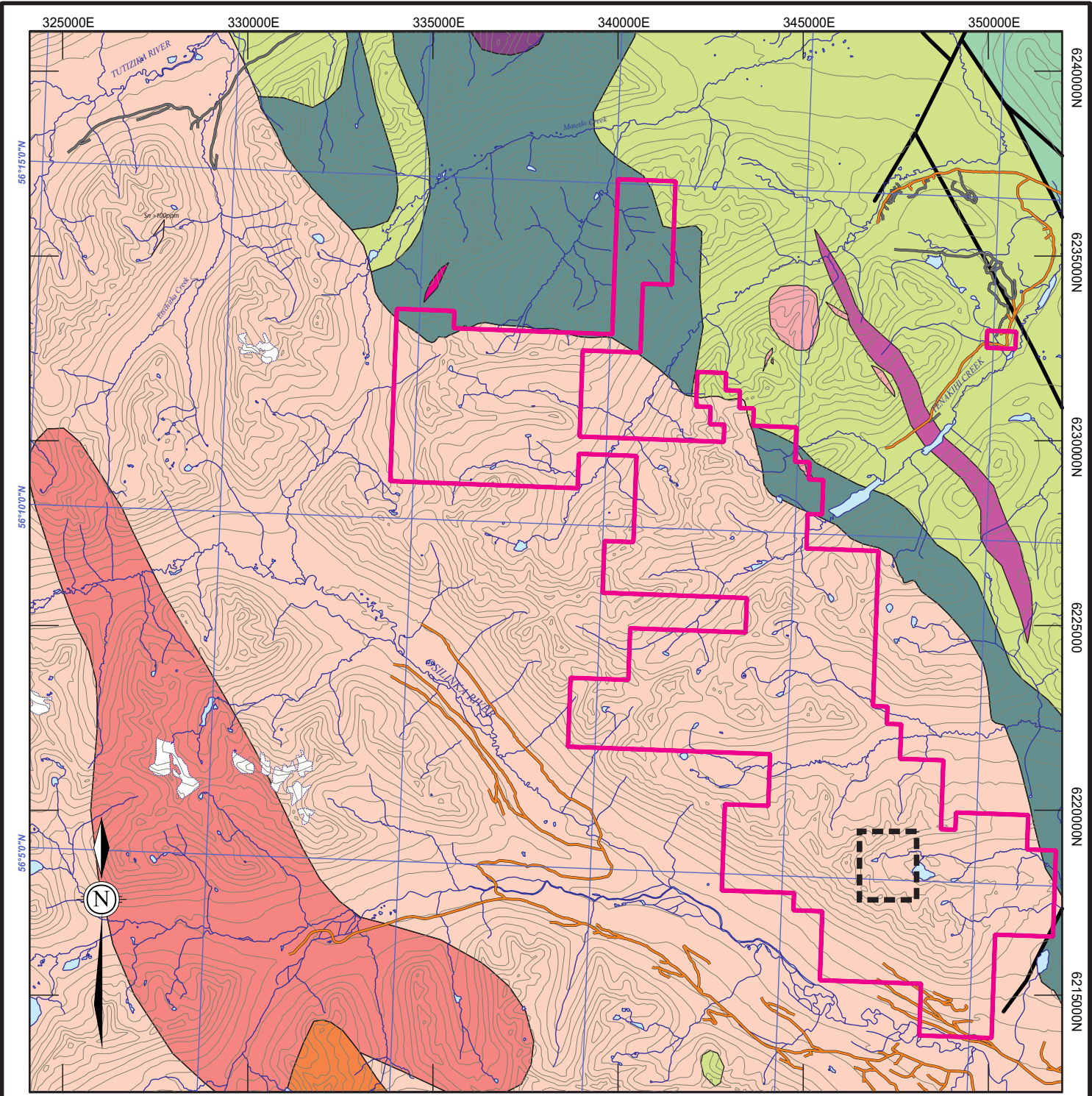
From historical work done on and around the Property, there are numerous phases of the Hogem Plutonic Suite (HPS) including: granite; granodiorite; hornblende granodiorite; quartz diorite; microdiorite; diorite; monzodiorite; quartz monzonite; monzonite; and, syenite. The dominant intrusives types reported 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.



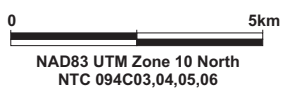
LEGEND

GEOLOGY

- Takla Group - sediments; volcanics
- Lay Range Assemblage - volcanics
- Hogem 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
- Gravel road (not all roads and trails shown)
- Contour (100 metre interval)
- Watercourse
- Waterbody
- Study Area



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

THANE MINERALS INC.

PROPERTY GEOLOGY

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

Project No:	C122	By:	CN
Scale:	1:150,000	Drawn:	CN
Figure:	4	Date:	December 2017



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).

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 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

Fieldwork was carried out from August 10 to August 22, 2017 at the Cathedral Area. A helicopter-supported base camp was setup within the study area. Access to each sampling area from camp was by foot. Access to the base camp was provided by Canadian Helicopters Ltd. of Smithers, BC using a Long Ranger.

The objective of the work program was to improve the understanding of the structural and alteration setting of the copper-gold mineralization at the Cathedral Area. Work involved detailed geological mapping and structural evaluation with emphasis on the relationship structure has with copper-gold mineralization.

The study area covered approximately 3 sq km, centered at latitude 56° 05'09" N and longitude 125° 27' 30" W (Figure 4). A total of 71 rock samples were collected in support of geological mapping.

Sections 4.3 and 5 were taken from Febbo, *et al*, 2017.

4.2 ROCK SAMPLING

A total of 71 rock samples were collected within the Study Area. Samples were collected from outcrop (62), suboutcrop (5) and float (4). Samples were placed in thick polyethylene sample bags, labeled and sealed by flagging tape. All samples were submitted to ALS Laboratories of Kamloops, BC for sample preparation. Geochemical analysis was performed by ALS of North Vancouver, BC. Samples were analyzed for gold by ICP-AES and multi-element by ICP-MS. Samples returning greater than detection limit were assayed.

Samples returning greater than 0.1 % Cu are presented in Table 3. Certificate of analysis for the rock samples is presented in Appendix II. Sample details including sample description, location coordinates and selected analytical results are presented in Appendix III. Plan Map showing sample locations with selected analytical results is presented in Figure 5. Discussion of the results of the sampling is presented in Section 4.3.

Table 3: Geochemical Results, Rock Samples > 0.1% Cu

Sample	Cu %	Au Ppm	Ag Ppm	As ppm	Mo ppm
2005	0.292	0.110	1.29	3.0	1.62
2006	0.137	0.026	0.29	4.3	1.78
2007	11.100	2.770	29.20	93.6	61.00
2008	0.163	0.069	0.45	5.7	3.61
2010	0.443	0.085	1.34	3.1	1.18
2011	0.536	0.034	1.43	2.6	2.55
2012	0.315	0.046	0.83	3.3	0.43
2013	0.336	0.016	0.56	2.6	0.97
2015	0.124	0.050	0.37	8.2	3.60
2017	1.955	0.117	3.63	2.3	1.84
2020	1.225	0.473	8.29	46.4	1.06
2021	0.238	0.134	1.44	3.7	0.88
2024	0.115	0.003	0.42	11.5	0.54
2026	0.290	0.196	0.60	2.5	1.07
2027	2.520	1.355	4.34	22.8	0.64
2028	0.227	0.149	2.17	128.0	4.63
2030	0.935	0.037	2.20	4.0	18.30
2031	0.795	0.307	1.85	15.0	2.44
2034	0.164	0.137	2.93	8.6	4.38
2035	0.074	0.133	0.33	8.3	2.29
2036	0.419	0.042	1.01	4.7	1.72
2037	0.537	0.400	2.74	14.4	4.73
2102	8.590	1.215	14.15	111.0	218.00
2103	4.560	1.100	10.40	8.0	198.00
2106	0.974	0.024	2.50	5.1	1.12
2110	0.103	0.001	0.27	3.5	1.15
2111	1.985	0.083	2.61	10.8	7.93
2112	1.640	0.184	1.70	20.2	46.40
2114	0.735	0.089	1.51	106.5	9.86
2119	0.153	0.004	0.61	5.9	0.24
2123	0.189	0.007	0.38	0.7	1.35
2125	0.519	0.051	1.91	131.0	11.65
2126	0.166	0.013	0.87	25.0	7.09
2132	0.355	0.154	0.79	3.8	1.82
2133	0.276	0.025	1.70	23.4	3.08
2134	0.363	0.224	1.18	12.9	1.07

4.3 GEOLOGICAL MAPPING

4.3.1 GEOLOGY

The entire study area is underlain by texturally monotonous quartz monzonite (Phase I; Early Jurassic) that is cut by syenite dike swarms (Phase II; Early – Middle Jurassic) and a fresh small plug of K-feldspar megacrystic porphyry tentatively (Phase III; Cretaceous) that are all part of the Hogem batholith (Garnet, 1978).

Phase I quartz monzonite

The first phase of plutonism (Phase I) encompasses the entire study area (Fig. 6 and 19) as a texturally and compositionally monotonous quartz monzonite. The intrusion is equigranular, light pink-grey coloured, and is medium- to coarse-grained (Fig. 7A). K-feldspar is commonly 3-6 mm in diameter, equant-shaped to slightly elongate, comprises 25-35% of the rock, has interlocking textures with other crystals and is orange-pink. Plagioclase is buff white, 2-5 mm in diameter, comprises 25-40% of the rock and is typically equant and interlocking with other grains. Primary quartz crystals are equant in shape, grow interstitial to feldspars, measure 0.5-2 mm in diameter and occur in 5-10% abundance. Primary magnetite is heterogeneously distributed in the quartz monzonite likely due to magnetite destructive alteration overprint. Primary magnetite is black, magnetic, interstitial disseminations with mafic minerals and measures up to 2 mm in diameter and ranges from 0-5% abundance. Primary mafic grains in the rock are intensely altered to secondary minerals, are black, equant, have amphibole cleavage where less altered, comprise 5-10% of the rock and are interpreted as predominately hornblende. The quartz monzonite cuts Takla Group volcano-sedimentary strata to the northeast (Garnet, 1978) although this relationship is not observed in this study. The quartz monzonite is cut by syenite dikes, porphyry alteration, late quartz-sulphide veins and a K-feldspar megacrystic monzonite to syenite plug.

Phase II syenite

Syenite intrusion bodies (Phase II) range from unmappable cm-scale dike swarms to mappable bodies more than 100 m across. Narrow syenite dikes are more common in the western study area and are situated in the hanging wall of the Cathedral thrust fault (Cathedral panel). Larger syenite plugs and dikes outcrop in the hanging wall of the Gully thrust (Gully panel) and in the footwall of the Gully thrust. The syenite dikes strike southwest, west and northwest and have moderate southerly dips (Fig. 7E). Syenite contacts are marked and in some locations very sharp (Fig. 7A). Near dike contacts the quartz monzonite is altered to K-feldspar, actinolite, albite, chlorite and epidote with minor pyrite and chalcopyrite in some examples. Syenite dikes are pink, equigranular to aplitic, fine to medium grained, are composed of 70-90% K-feldspar, 10-15% plagioclase, 5% quartz, 5-15% amphibole, 0-5% biotite and 0-5% magnetite.

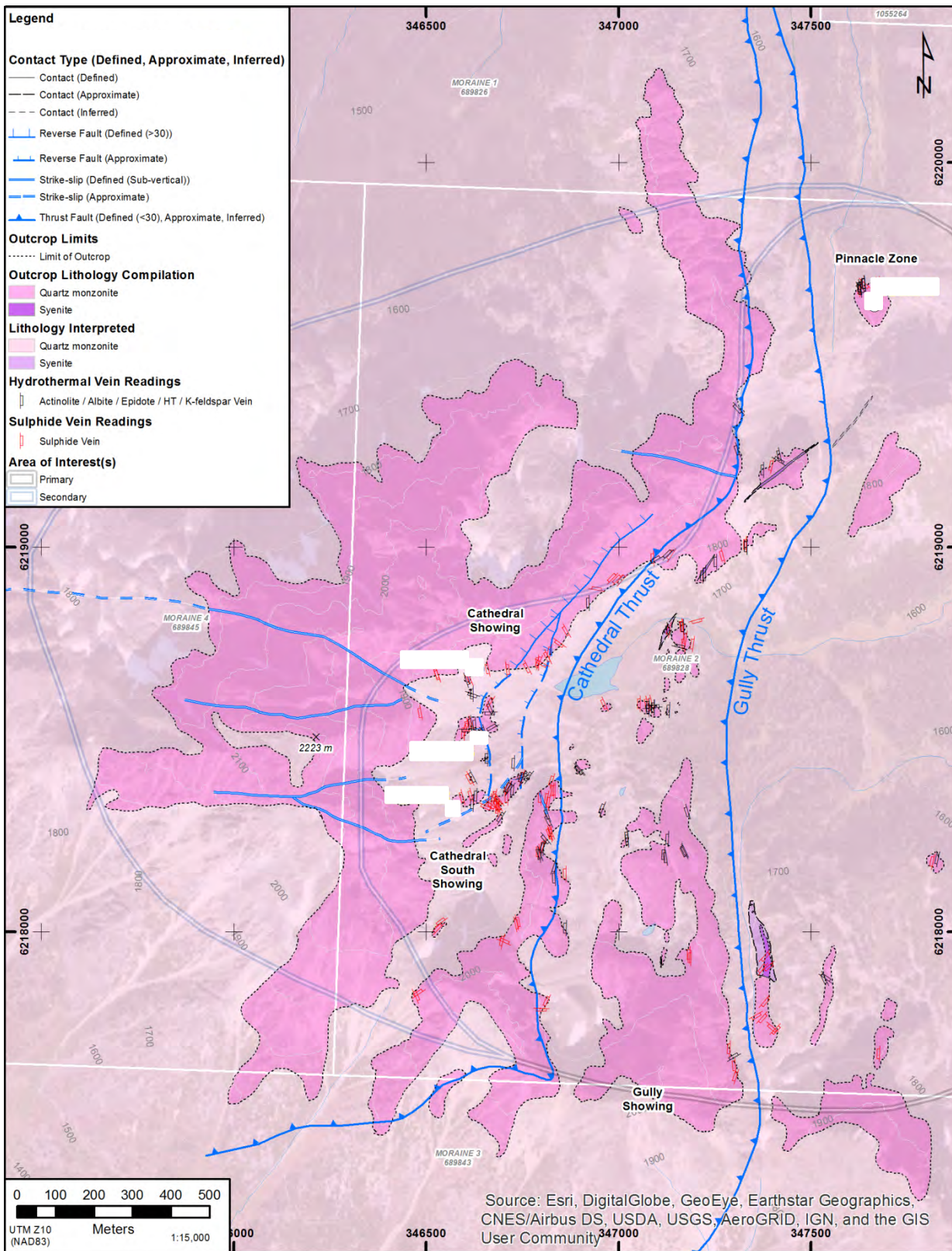


Figure 6: Geology Plan Map, Cathedral Area (1:15,000)

Three phases of syenite intrusions are distinguished here based on their relative timing with respect to mineralization: Phase II-A pre-mineral, Phase II-B syn-mineral and Phase II-C post-mineral. Phase II-A (Fig. 7A) cuts the quartz monzonite and is cut by albite-actinolite-chalcopyrite. Phase II-B (Fig. 7B) syn-mineral syenite is observed in the immediate Cathedral thrust hanging wall as < 1 m dike swarms that contain chalcopyrite-K-feldspar-actinolite disseminated in the contact halo that is cut by actinolite-chlorite-albite-chalcopyrite stockwork. The youngest syenite intrusions Phase II-C (Fig. 7D) are most abundant east of the Cathedral

thrust fault and also outcrop south of the Cathedral showings. These post-mineral syenite intrusions are spatially associated with barren alteration types (e.g. albite, propylitic and Fe-carbonate). The patchy nature of mineralization east of the Cathedral thrust makes the relative timing with respect to mineralization difficult to determine, however all of these intrusions have a strong spatial relationship with intense Fe-carbonate alteration and are considered to be temporally related. An easterly trending albite alteration aligns with one of these younger syenite intrusions and is interpreted to be temporally related (Fig. 7). The syenite intrusive suite is interpreted to be analogous to the Duckling Creek syenite complex from the Lorraine deposit (Bath et. al., 2014). Similar to the Lorraine deposit, the syenite is interpreted to be the progenitor to the porphyry system due to both spatial proximity to and temporal overlap between emplacement and copper mineralization.

Phase III K-feldspar mega-crystic porphyry

One outcrop of unaltered megacrystic K-feldspar porphyry is analogous to descriptions of the third, Cretaceous phase of the Hogem batholith (Nelson and Bellefontaine, 1996). The plug outcrops east of the Gully thrust and where it was observed it was not mappable at this scale. The intrusion contains K-feldspar phenocrysts up to 8 cm (Fig. 6C) that are lath-shaped, orange-pink and rimmed by epidote. Plagioclase is 2-4 mm white coloured with patchy replacements to epidote. Groundmass to the intrusion is pink, aphanitic and fine mafic minerals that may reflect hornblende or biotite. The composition of the phenocrysts implies the intrusion is monzonite to syenite. Due to the lack of alteration in the intrusion and similarities between it and regional descriptions of Cretaceous phases, it is tentatively classified as Phase III.

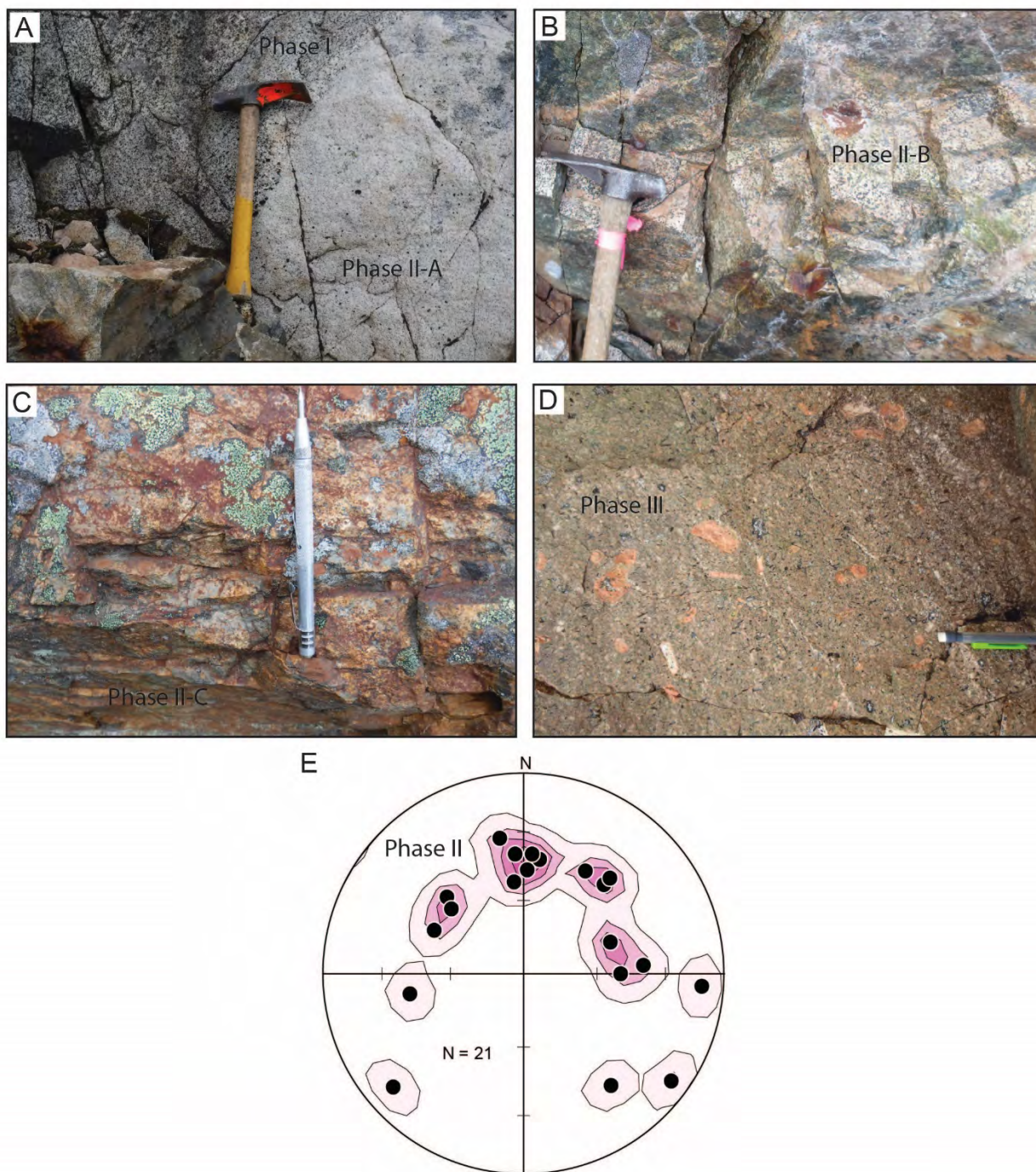


Figure 7:

Field photographs and stereographic projections of plutonic rocks in the Cathedral property. A) Equigranular textured quartz monzonite (Phase I) is cut by early syenite dike (Phase II-A). B) Syenite dike swarm (< 5 cm width; pink in photo) cuts quartz monzonite and contains chalcopyrite-K-feldspar altered margins, the dikes and the margin are cut by green coloured actinolite-chalcopyrite veins; Phase II-B. C) Equigranular syenite is overprinted by intense, fracture-controlled Fe-carbonate alteration; Phase II-C. D) Unaltered K-feldspar megacrystic porphyry south of the Gully zone; Phase III. E) Stereographic projection of poles to Phase II syenite dikes.

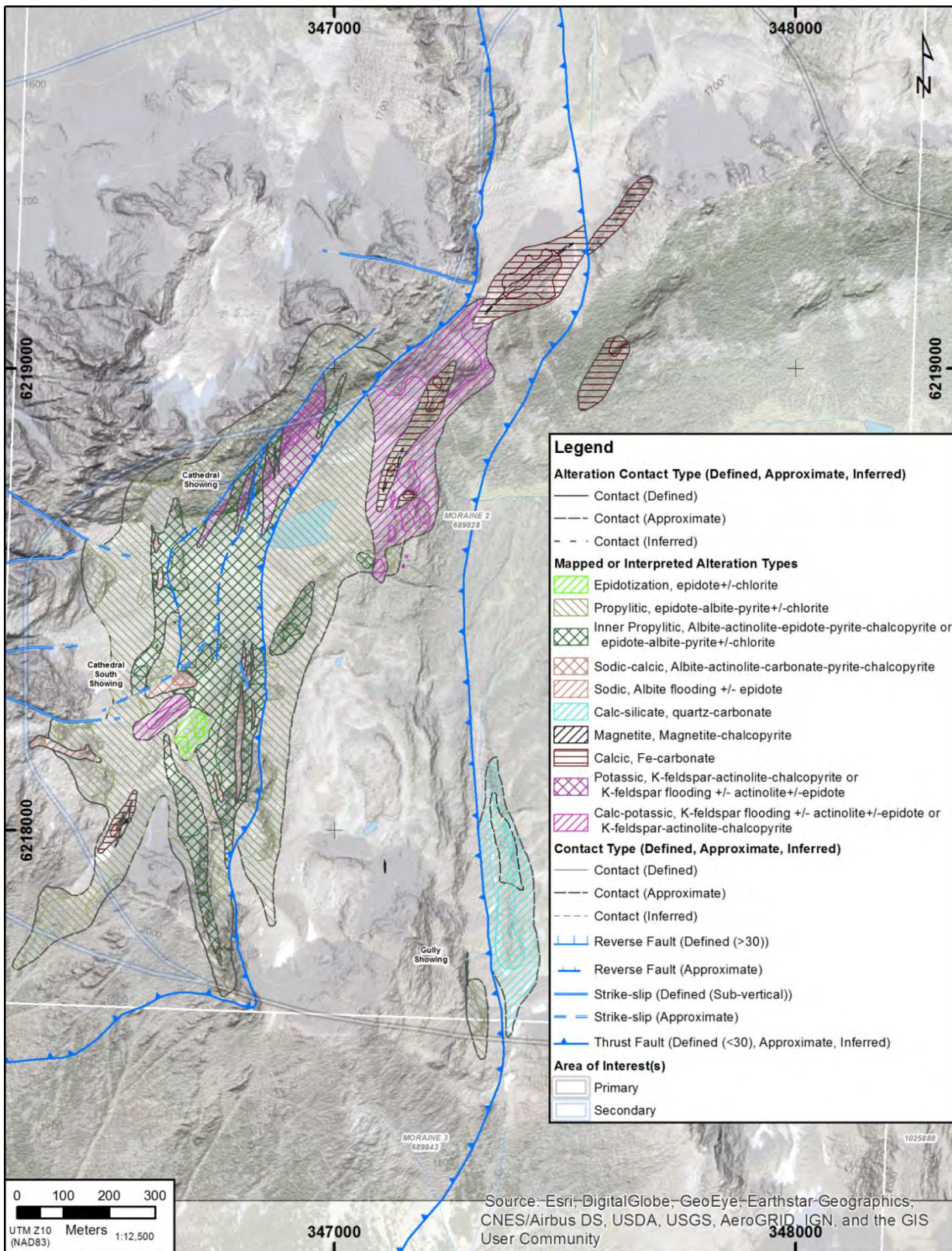


Figure 8: Alteration Plan Map, Cathedral Area (1:12,500)

4.3.2 ALTERATION

The alteration assemblages described herein are based on phaneritic minerals and field cross-cutting relationships only. The designation of alteration assemblages is considered a temporary field-based interpretation and full classification is pending the completion of petrographic descriptions. In many cases it is difficult to distinguish biotite from actinolite and in general accurately identifying secondary albite and K-feldspar is not possible. Further, the pervasive alteration to albite appears to include other beige minerals that are not yet identified. Three general divisions of alteration types are made here: 1) early stage alteration precedes porphyry-type mineralization, 2) main stage alteration includes all porphyry-related assemblages and 3) late stage alteration types post-date porphyry-type mineralization and overlap with high-level vein mineralization.

Early stage alteration

Early epidotization overprints the quartz monzonite in all areas mapped and is interpreted to be a regionally extensive feature. The alteration type is not mapped as it is not considered to relate to the mineralizing system. Epidote comprises 1-3% of the rock as disseminations in plagioclase and fracture filling. Accompanying the epidote in much lower abundances are quartz, chlorite, albite and a beige clinozoisite (?). The epidotization is cut by all main stage porphyry-related stockwork (e.g., Fig 10A;) as well as late stage alteration types.

Main stage potassic

Potassic alteration overprints quartz monzonite in all thrust panels in the Cathedral area near syenite intrusions as a contact alteration. The alteration ranges from apparently monomineralic K-feldspar flooding to K-feldspar-epidote in contact zones to mineralized K-feldspar-actinolite-albite-chalcopryrite assemblages in the Cathedral showing (Fig. 6). The majority of the K-feldspar alteration is interpreted to be intrusion-related, contact-type alteration and mineralization as opposed to porphyry-type stockwork alteration. The majority of the barren K-feldspar alteration is in the footwall of the Cathedral thrust where magnetite occasionally accompanies K-feldspar. Potassic alteration is cut by actinolite-chalcopryrite veins and it also overprints early stage pervasive albite alteration (Fig. 9A, B). The timing of the potassic alteration is analogous to the timing of syenite intrusion that ranges from pre-, syn- and post-mineral.

Main stage propylitic, inner propylitic and sodic-calcic

Propylitic alteration is distributed as a north-south trending, elongate halo about the inner propylitic and sodic-calcic alteration types of the Cathedral and Cathedral South showings (Fig. 8 and 20). The mineral assemblage is distinguished from regional epidotization by the appearance of either pyrite or chalcopryrite and the absence of quartz. The mineralogy includes epidote, albite, chlorite, pyrite and chalcopryrite. Even in the outer propylitic halo, chalcopryrite is generally more abundant than pyrite. As the propylitic alteration is gradational with other porphyry-related alteration types, cross-cutting relationships were unclear.

The inner propylitic alteration is inboard of the propylitic alteration as a north-south trending alteration body. The alteration assemblage is distinguished from the propylitic by the presence of actinolite that is phaneritic as vein fill and may be disseminated throughout host rock also.

The mineralogy of the assemblage is actinolite, albite, epidote, pyrite, chalcopyrite and chlorite. Albite in the assemblage can range from vein filling to meter-scale pervasive replacement about veins. The abundance of sulphide minerals is highly variable and appears to correlate with stockwork intensity. Green-black stockwork is common to this assemblage where actinolite-chlorite characterize much of the vein fill (Fig. 10A). Many of the actinolite-bearing stockwork zones are magnetite destructive. In some areas, magnetite is also observed in veins with actinolite-albite-chlorite-chalcopyrite (Fig. 10B) and may reflect a transitional, higher temperature assemblage within the inner propylitic or be related to another hydrothermal event. Porphyry-type chalcopyrite mineralization is strongly correlated with actinolite veins (Fig. 10C), however many actinolite veins are barren of grade. Inner propylitic alteration is interpreted to be gradational with the propylitic alteration and it is observed to cut Early Stage epidotization (Fig. 10A).

Narrow lenses of sodic-calcic stockwork and alteration outcrop within the inner propylitic regions define north-south trending bodies that dip moderately west. The alteration is distinguished from the inner propylitic by the presence of carbonate and the destruction of magnetite. Sodic-calcic altered rocks are bleached white, effervesce with hydrochloric acid and host higher grade porphyry style chalcopyrite. Copper grade is broadly proportional to stockwork intensity in these areas. It is not yet determined whether the sodic-calcic alteration is continuous and transitional with the inner propylitic alteration or whether it is a cross cutting event.

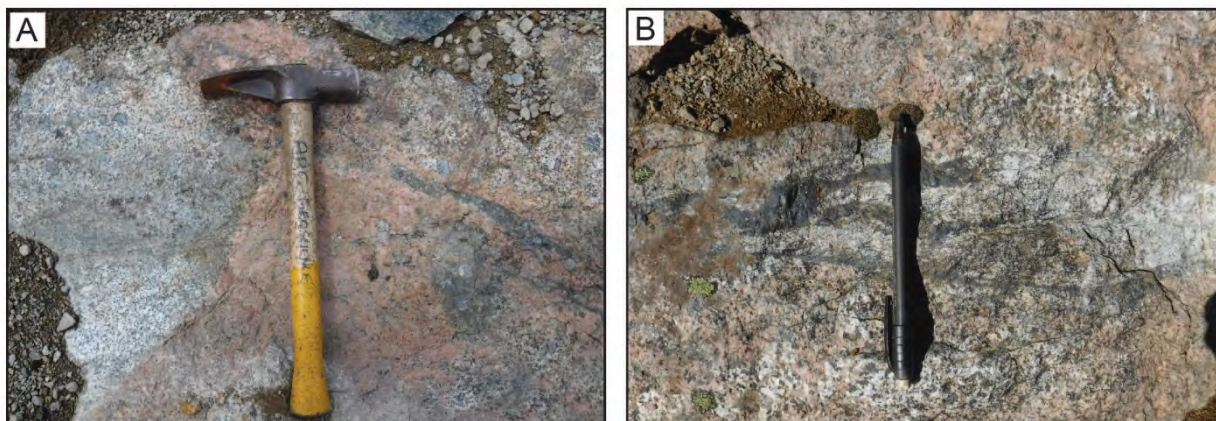


Figure 9:

Early and main stage potassic alterations. A) Patchy K-feldspar alteration overprints albite, . B) Magnetite vein with albite selvage cuts patchy K-feldspar flooding.

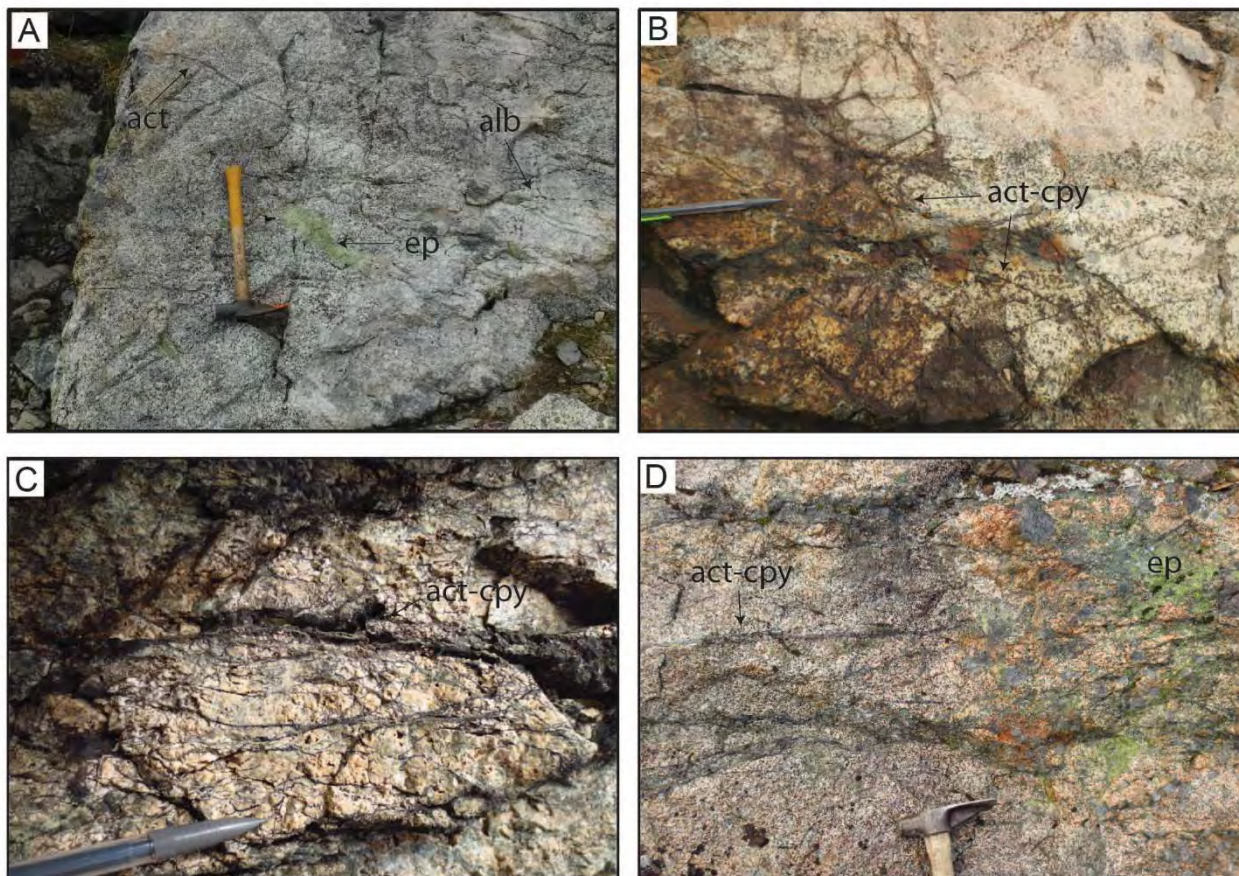


Figure 10:

Field photographs of main stage alteration. A) Actinolite (act)-cpy-chlorite vein with albite (alb) halo cuts early quartz-epidote vein and mottled epidote (ep) replacement domain; view: northeast,. B) Actinolite, albite, magnetite, pyrite and chalcopyrite stockwork; view: west,.C) Actinolite-pyrite-chalcopyrite stockwork with albite altered halo; view west,. D) Sheeted veins of actinolite-magnetite-chlorite with albite alteration halos are overprinted by mottled epidote; view west.

Late stage albitization

Late stage albitization outcrops west of the Cathedral South showing and defines an easterly trending body (Fig. 8; 11A). Albitization is characterized by bleached white colour, the complete replacement of K-feldspar (Fig. 11B) to albite, the destruction of magnetite and the absence of mafic minerals. Albite is introduced along fracture planes with vein filling that may be tremolite or clinozoisite (Fig. 11C). Albite-bearing veins cut propylitic alteration and pervasive albite alteration is cut by at least one phase of K-feldspar alteration (Fig. 9A).

Late stage Fe-carbonate and calc-silicate alteration

Alteration to Fe-carbonate is restricted to syenite intrusions and the immediate quartz monzonite in the contact area (Fig. 8). The alteration assemblage is rusty orange-red and results in intense colour anomalies (Fig. 11D). The assemblage is associated with Phase IIC syenite.

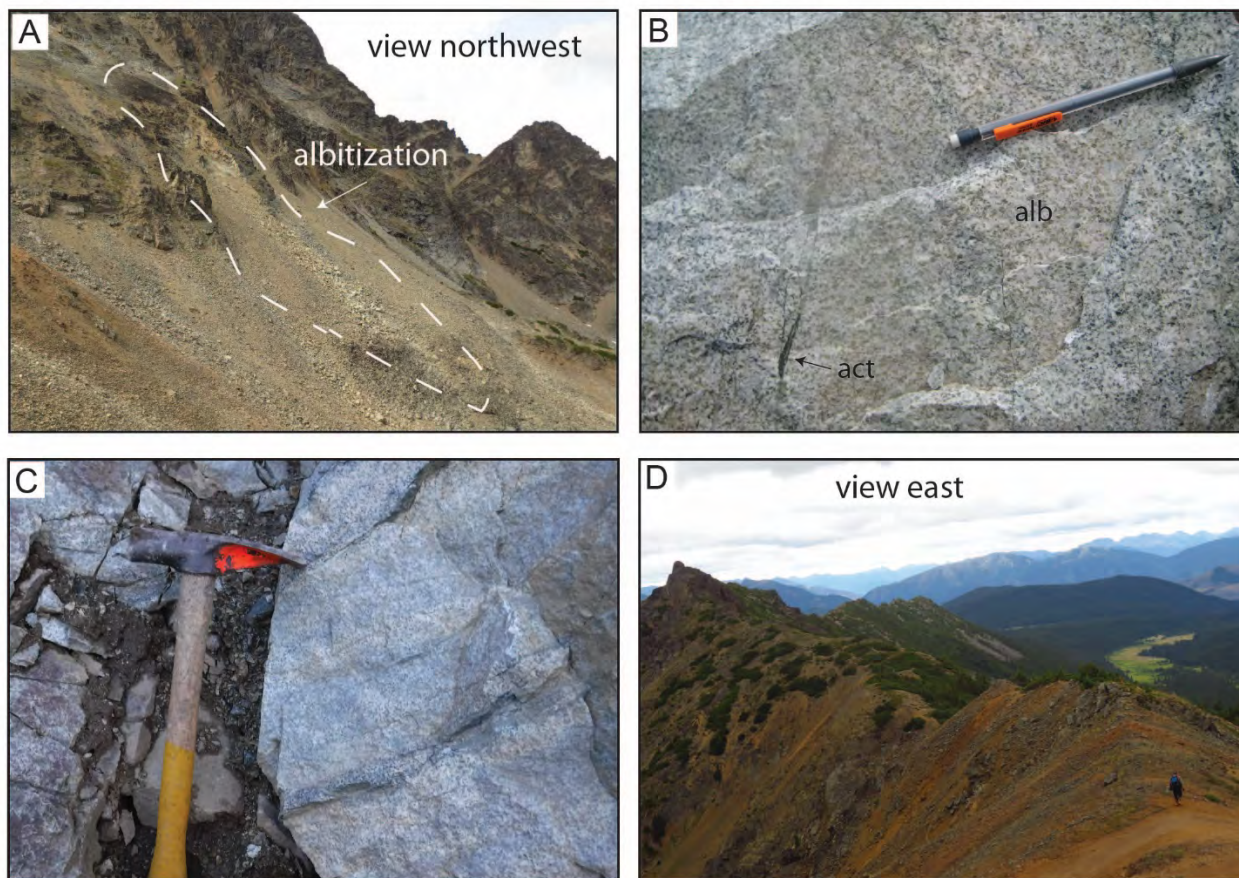


Figure 11:

Field photographs of late stage alteration types. A) Bleached white rocks in outcrop and scree are intensely albitate altered, located uphill and west of Cathedral showings. B) Intense albitization (alb) in quartz monzonite replaces K-feldspar complete and partially replaces actinolite vein (act), C) Patchy albitate alteration halos to fine albitate stringers overprint quartz monzonite, C) On ridge south of the Pinnacle zone, widespread iron carbonate alteration weathers orange-red.

Calc-silicate alteration outcrops in the footwall of the Gully thrust fault (Fig. 8) as vein-controlled and pervasive replacements. The mineralogy of the assemblage is composed of carbonate, sericite, trace clays (?), chlorite and sparse pyrite and chalcopyrite. The alteration assemblage may be transitional with Fe-carbonate or it may precede it.

Late stage magnetite-chalcopyrite veins

Late stage magnetite-chalcopyrite veins outcrop in the Cathedral showing and in a new showing to the south of Cathedral South (Fig. 12A). The veins general measure between 20-50 cm wide and have southerly strikes with moderate to steep westerly dips. The veins are massive textured, deep green-black coloured and lack an alteration halo. The veins contain magnetite, chalcopyrite and chlorite in approximate ratios of 2:1:1 respectively. On fracture surfaces copper oxide mineralization is common (Fig. 12A) and trace covellite is also identified in veins. Many of the higher-grade copper samples from the Cathedral showings are related to these veins with chalcopyrite abundance typically between 5-30%. The magnetite-chalcopyrite veins cut all porphyry alteration and mineralization. These veins may reflect

deeper expressions that lie westwards, down-dip and deeper, of late, shallow level quartz veins.

Late stage quartz-chalcopyrite veins

Late stage quartz veins are best developed in the Pinnacle zone although one quartz-chalcopyrite vein outcrops in the Gully zone. Most veins in the Pinnacle zone range from 2 mm to 5 cm wide and have very sharp vein boundaries with no discernable alteration halo. In decreasing order, the veins are composed of quartz, carbonate, chlorite, pyrite, chalcopyrite and in one vein arsenopyrite. Many veins display open space growth with radiating columns of quartz in cores of veins. Many veins are also banded where black amorphous? tourmaline defines pulses of precipitation. Copper grades of these samples can be in excess of 1% and many samples exceed 1 g/t gold. The veins cut early, diffuse albite veins and patchy K-feldspar flooded quartz monzonite.

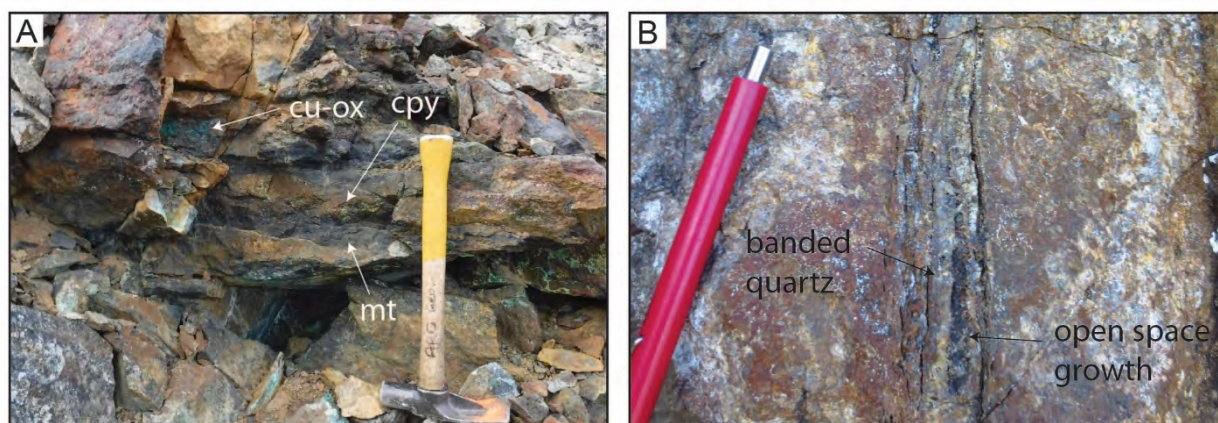


Figure 12:

Field photographs of late stage veins. A) Shallow west-dipping vein measures 50 cm and contains massive magnetite (mt) and chalcopyrite (cpy) with copper oxide on fracture planes. B) In the Pinnacle zone, banded quartz and open space quartz-carbonate.

4.3.3 STRUCTURE

Hydrothermal vein geometry

Veins in the Gully and Cathedral thrust panels are moderately west-dipping (Fig. 13A, B) and are predominately south-striking. Veins in the Gully thrust panel have two preferred geometries that cluster around 47 towards 268 and 46 towards 181 (Fig. 13A). The broader spread of vein geometries from south-dipping to east-dipping in the Cathedral panel is interpreted to reflect a greater number of vein readings from stockwork regions (Fig. 13B). The Pinnacle zone veins have a strong cluster that dips 41 toward 170 and a secondary cluster of 80 toward 147 that does not contain sulphide minerals (Fig. 13C). Sparse vein readings from the Gully zone (footwall of the Gully thrust) indicate that they are southwest striking and dip moderately to the southeast (Fig. 13D).

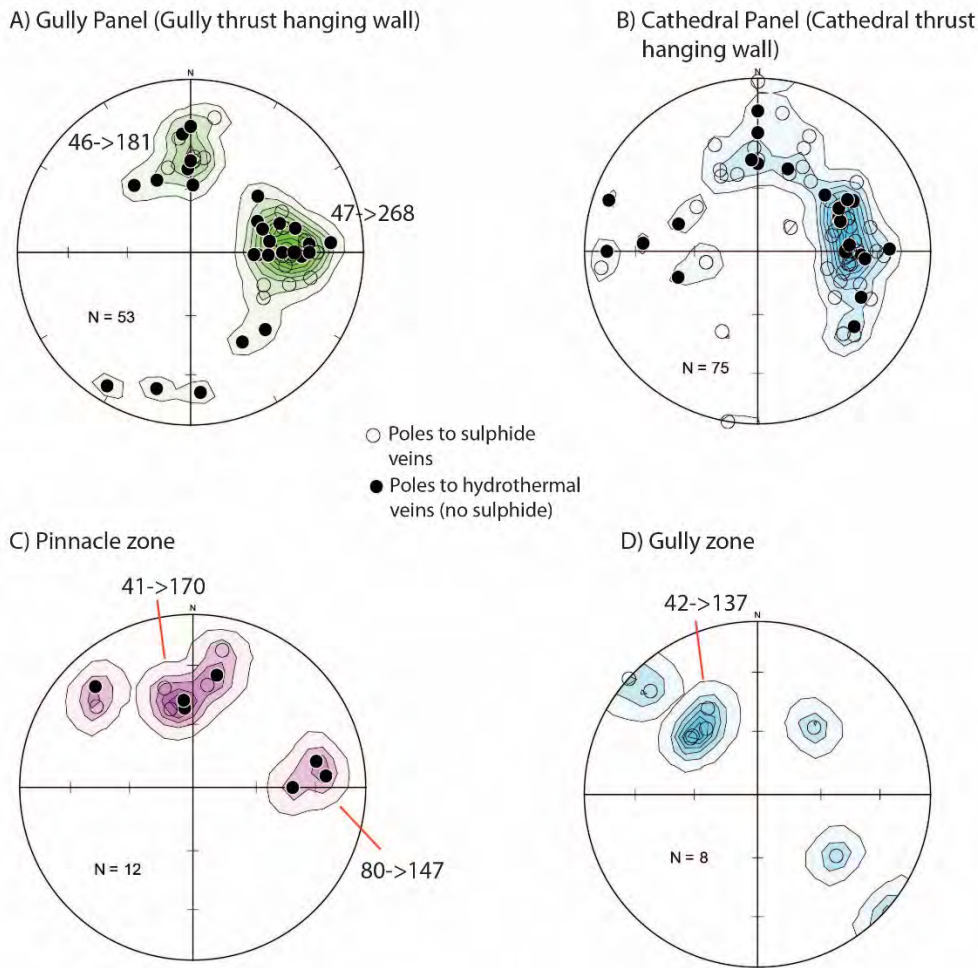


Figure 13:

Stereographic projections of poles to hydrothermal veins in the Cathedral area with equal area lower hemisphere stereographic projections with orientations expressed in degrees. A) In the central Gully thrust panel (hanging wall of Gully thrust) hydrothermal veins have a prominent geometry with a dip of 47 toward 268 and a subordinate geometry of 46 toward 181. B) In the western Cathedral panel (hanging wall of Cathedral thrust fault), most veins are north-south to southeast striking and moderately west-dipping. C) Sulphide veins in the Pinnacle zone are all east-striking with moderate southerly dips and a second geometry that is devoid of sulphide minerals strikes south and dips steeply to the west. D) A subtle cluster of southwest striking, moderate south-east dipping sulphide veins in the Gully zone.

Faults

In the study area, two regionally significant faults were identified that are named here the Gully thrust and the Cathedral thrust (Fig. 6, 14A). The Gully thrust traces immediately west of both the Gully zone and the Pinnacle zone. The Cathedral thrust truncates significant porphyry mineralization in the hanging wall (i.e., Cathedral and Cathedral south zones; Fig 6). Both thrusts strike southerly and dip shallowly to the west. Both thrusts appear to have local flats and ramps where steeper dips of up to 45 degrees are observed (Fig. 16C, 16C). The fault rock ranges

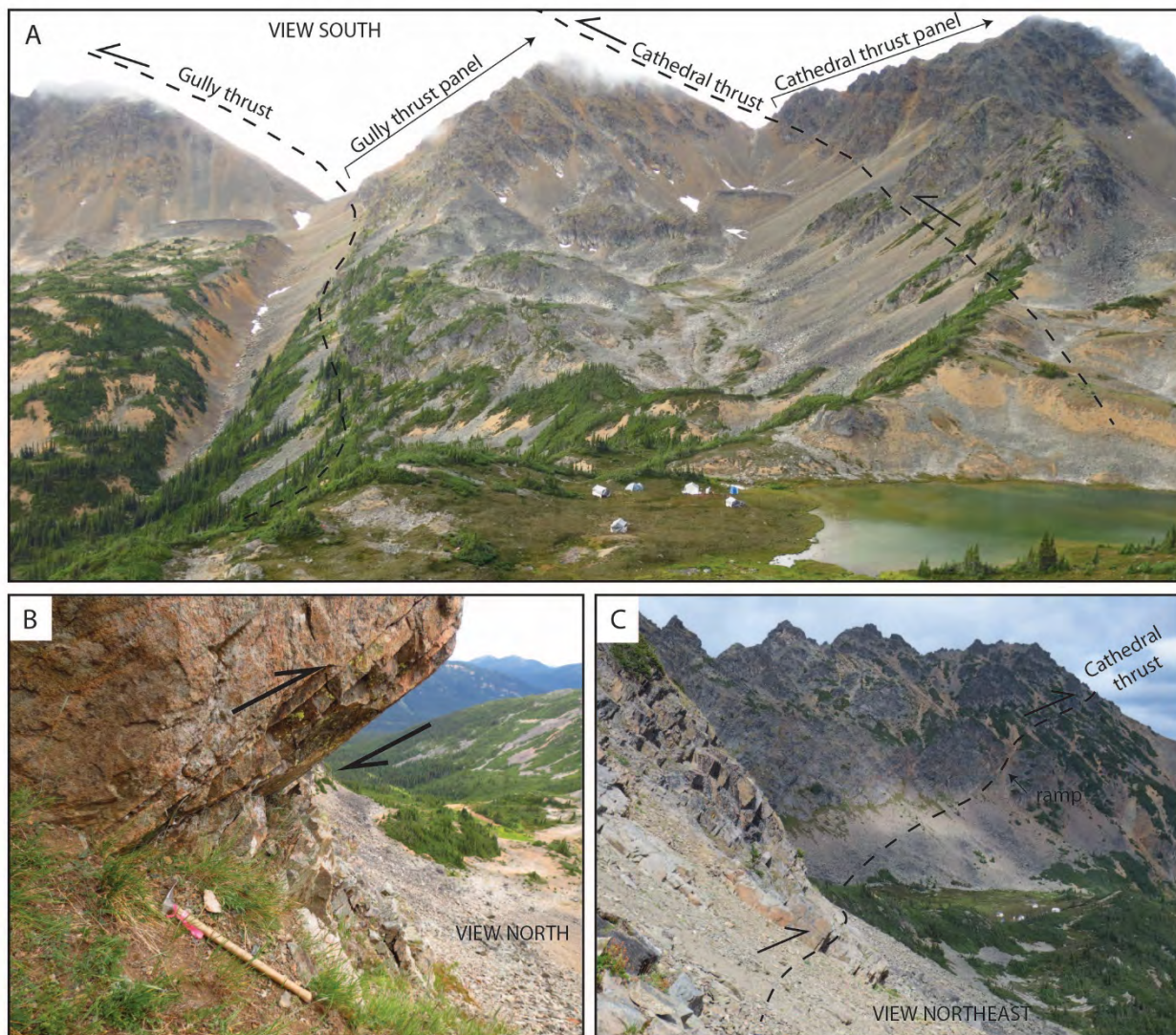


Figure 14:

Field photographs of thrust faults of the Cathedral property. A) Approximate location of the subparallel Cathedral and Gully thrusts; view south. B) An outcrop of the Cathedral thrust at its northern extent. C) Approximate location of the Cathedral thrust, view north.

from 1 cm to 20 cm and is cataclastic (Fig. 14B). Thrust fault parallel fracture cleavage is centimeter to meter spaced and extends several hundred meters from the thrust planes. Structure contours were used to identify the fault trace in areas without outcrop. Based on known thrust fault outcrop readings (Fig. 16C), the contours were constructed with an average dip of 40 degrees that approximates the flats and ramps. The dip-slip of this plane is observed to be reverse and the majority of strike-slip readings indicate a dextral oblique component. The thrust faults cut all mineralization and are considered to be Eocene in timing.

Several reverse faults outcrop in a structural domain between the Cathedral thrust and the strike-slip faults to the west (Fig. 6; Fig. 15A) and minor reverse faults are identified between

the Cathedral and Gully thrusts. The reverse faults are characterized by 2 cm to 50 cm cataclastic deformation zone with reverse dip-slip kinematics and dextral strike-slip (Fig. 14B, C). The faults strike south to south-east and dip moderately west (Fig. 16A, B). Of the faults mapped, only two anomalous readings of sinistral strike-slip and normal dip-slip were identified (Fig. 16A, B). The reverse-dextral faults cut all mineralization and are considered to be Eocene in timing similar to the thrust faults.

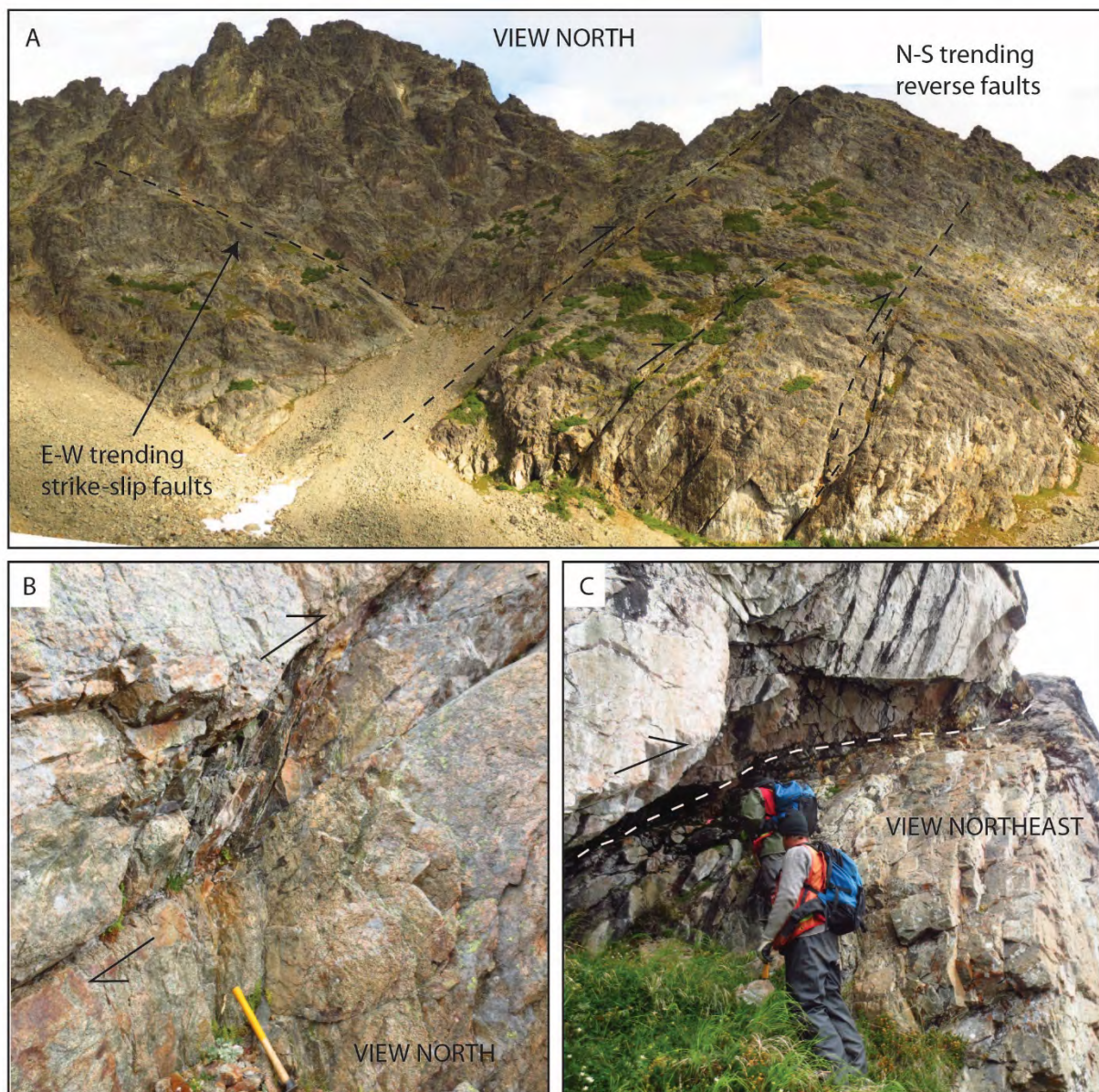


Figure 15:

Field photographs of reverse and strike-slip faults in the Cathedral property. A) Several reverse faults outcrop on the cliff walls in the hanging wall of the Cathedral thrust; west of these reverse faults is a sub-vertical, strike-slip fault, view North. B) Photograph of fault with a compressional jog that indicates top-up kinematics; view north. C) Trace of reverse fault is curvilinear and fault rock is ~30 cm wide; view northeast.

The hanging wall of the Cathedral thrust fault contains numerous sub-vertical faults that do not continue past the Cathedral thrust fault (Fig. 6). The faults are characterized by more than a 2 m brittle deformation zones and field observations of their kinematics were not possible. Fracture cleavage defines brittle deformation that extends several meters from the fault zone. The faults cut all porphyry alteration types and are inferred to be dextral strike-slip faults related to the Eocene. It is unclear whether the faults are younger than the reverse and thrust faults or if they are contemporaneous.

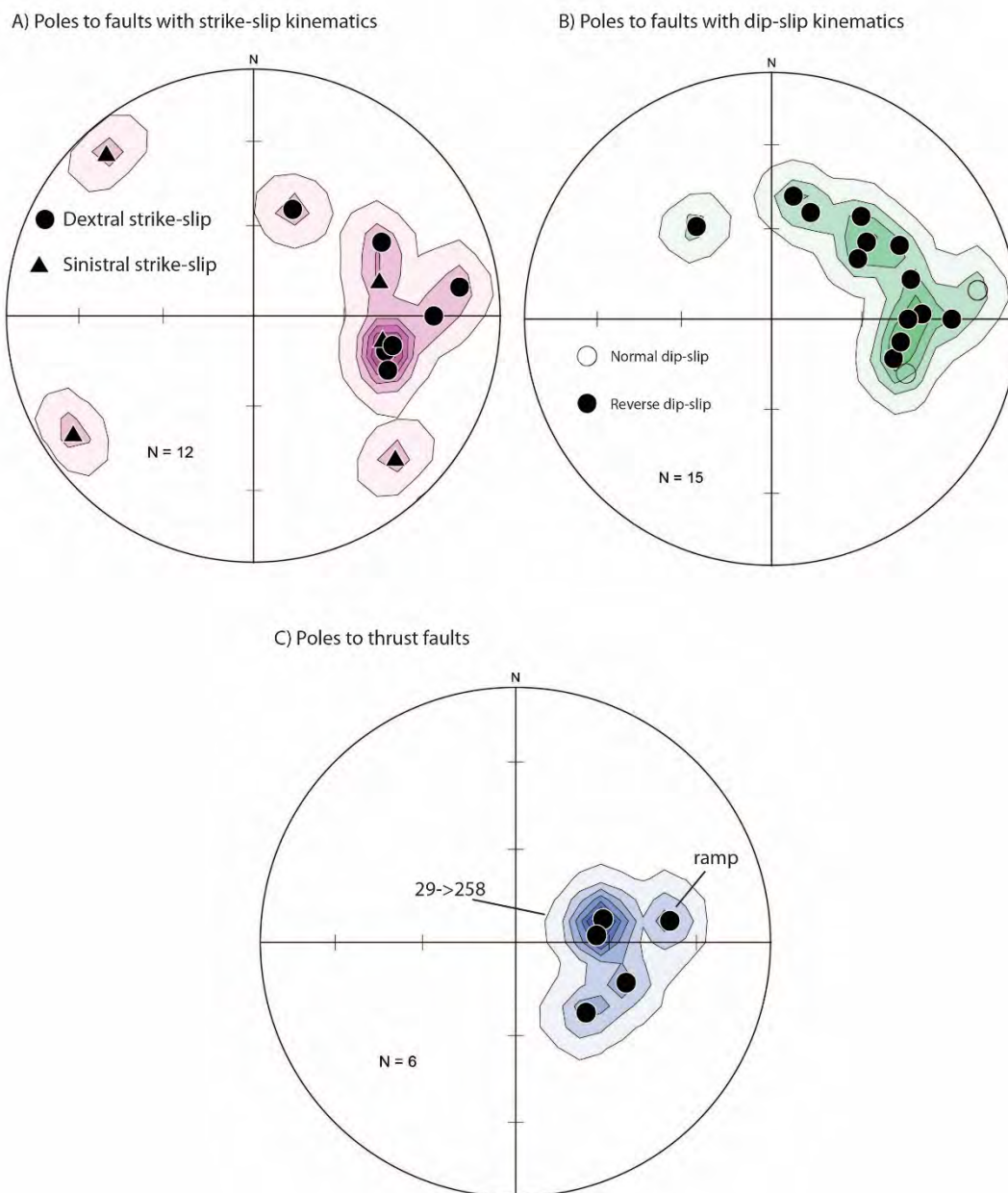


Figure 16:

Stereographic projections of poles to faults with equal area lower hemisphere stereographic projections with orientations expressed in degrees. A) All faults with recorded strike-slip movement. B) All faults with recorded dip-slip kinematics. C) Thrust faults.

5.0 CONCLUSIONS

Structural setting

The Cathedral and Cathedral South showings are considered to be structurally controlled due to the following: 1) highly elongate geometries to porphyry alteration zones (very high aspect ratios), 2) prevalence of sheeted porphyry veins with strong clusters of poles to veins and 3) sheeted vein geometry of shallow level veins in the Pinnacle. This sheeted vein geometry implies directed stress during emplacement. In the Cathedral panel, two strong vein geometries exist and the poles to planes are separated by 60 degrees. If these two geometries reflect conjugate brittle fracture systems, the orientation of sigma 1 (i.e. directed stress during emplacement) is the bisector of the poles to these planes (38->042; Fig. 17A). In this model, these two vein groups (Fig. 17A, B) represent sinistral and dextral fracture sets that form 30 degrees from sigma 1. The predominant vein geometry then (south-striking, moderate west-dipping) is a result of a subparallel strike-slip sinistral fault systems. Faults that are south striking have mostly dextral strike-slip kinematics that are attributed to Eocene strike-slip faulting, however some of these faults also record sinistral strike-slip (Fig. 16A). Similarly, moderate west-dipping faults are largely compressional yet two normal kinematic readings are also identified (Fig. 16B). These anomalous kinematic indications may reflect Early to Mid-Jurassic pluton and hydrothermal control faults that are sinistral-normal strike-slip faults that have been reactivated as dextral-reverse oblique faults in the Eocene.

Throughout the study area, hydrothermal veins have an average dip of 45 degrees. The speculated fault control for the system is also south-striking and moderately west-dipping. The interpreted geometry of sigma 1 is also inclined at a dip of 38 (Fig. 16A). This moderate dip is unusual for a porphyry system and is speculated to be the result of a post-emplacement tilting about a north-south to northwest-southeast axis of approximately 45 degrees, similar to Mount Milligan (Jago, 2008).

The structural features of the Cathedral property are interpreted to be a local expression of province-scale, dextral strike-slip faulting in the Eocene. The property lies within a step-over domain from the north-northwest striking Ingenika fault to the Pinchi fault (Fig. 17A). The anticipated structure within such a setting would be northwest-verging reverse faults in the northern extent of the domain and southeast-verging in the southern domain (Fig. 18B). The moderate west-dipping dextral-reverse faults of the Cathedral property are considered to be a second order structure that is oblique and synthetic to the first order Pinchi fault. As the geometry of these faults coincides with the geometry of the speculated sinistral-normal Jurassic faults, many may reflect Eocene reactivations.

Deposit classification

Characteristics that are consistent with descriptions of alkalic porphyry systems include (Bissig *et al.*, 2014):

- 1) chalcopyrite:pyrite ratios typically greater than 1,
- 2) alkaline progenitor pluton to the system,

- 3) economically significant gold values,
- 4) low or no silica in the porphyry-related veins and
- 5) actinolite-albite based mineralized stockwork and
- 6) volumetrically significant potassic alteration including pre-mineral and syn-mineral.

Based on field observations alone, the mineralizing system is best classified as alkalic. The lack of silica within the porphyry system and calc-alkalic characteristics or alteration types (e.g. argillic or phyllic) indicate that the system plots in the alkalic end member of the alkalic-calc-alkalic spectrum. The epithermal system is the only part of the porphyry that contains quartz (e.g., calc-silicate assemblage). The epithermal systems were not the focus of the work and there is too little information to appropriately classify them.

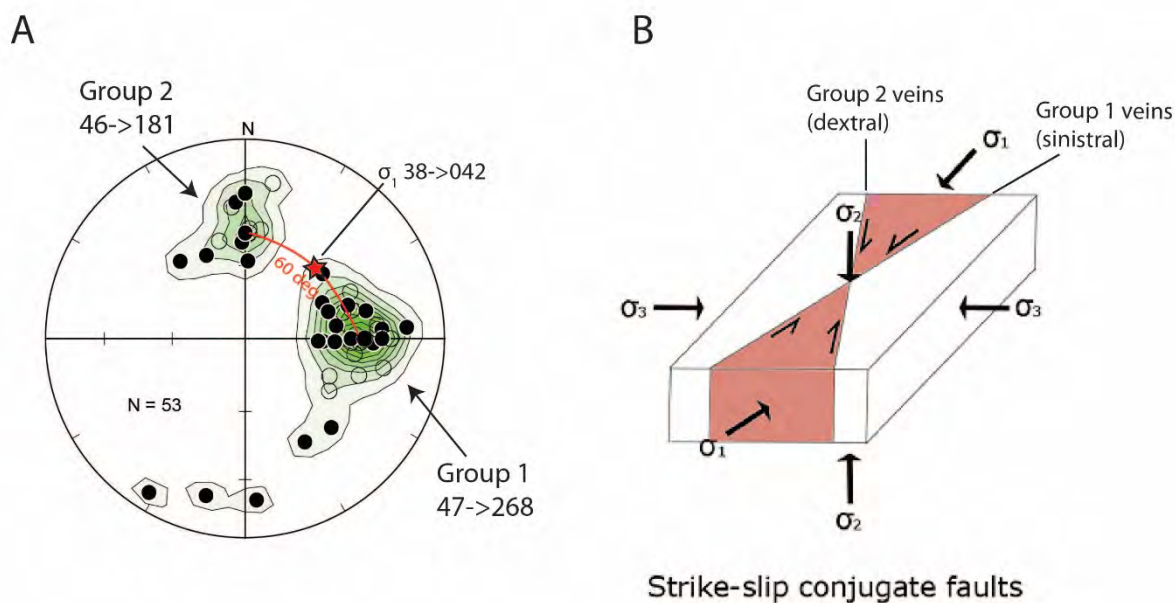


Figure 17:

Structural setting in Jurassic time. A) Poles to hydrothermal veins in the Gully panel modelled as two groups of conjugate fractures result in calculation of sigma 1 of 38->042 with equal area lower hemisphere stereographic projections with orientations expressed in degrees. B) Generalized model for the formation of conjugate fracture sets resulting in a dextral and sinistral pair.

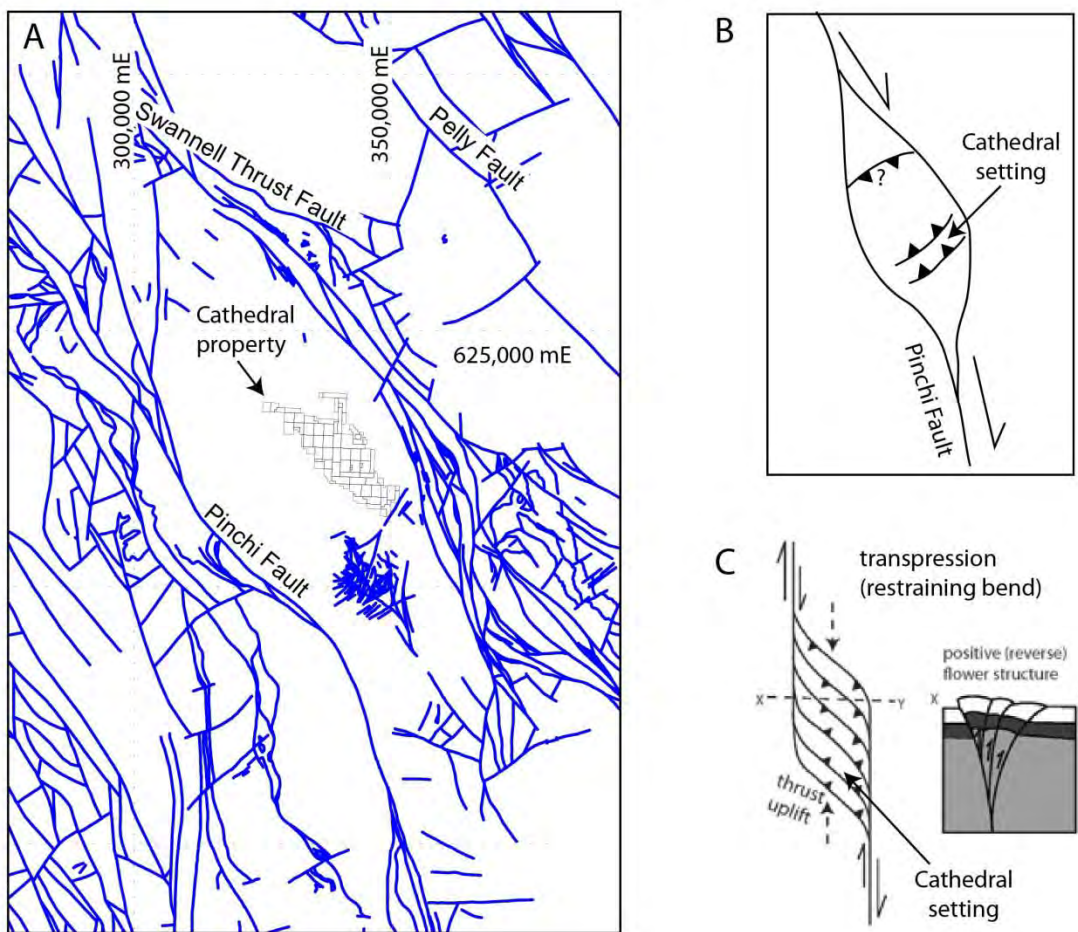


Figure 18:

One possible model for Eocene structural setting and source of reverse faults. A) Regional structural setting of the Cathedral property adjacent to fault jog from Ingenika to the Pinchi fault. B) Conceptual model for geometry of anticipated faults within the step-over; paired reverse faults would have north to north-easterly strikes and dip toward the core of the step-over. C) Generalized model of a dextral step-over resulting in positive flower structure.

Respectfully Submitted,



Christopher O. Naas, *P. Geo.*

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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 8th day of December, 2017.



Christopher O. Naas, *P.Geo.*

8.0 STATEMENT OF COSTS

Project Preparation

	<u>Personnel</u>	<i>Unit</i>	<i>Rate</i>	
C. Naas (Aug 5-8)		4	1,000.00	4,000.00
P. Gordon (various days in Jun-Aug)		4.25	800.00	3,400.00
W. Hay (various days in Jun-Aug)		3.5	600.00	<u>2,100.00</u>
				<u>9,500.00</u>
	<u>Equipment</u>			
Trucks		4	150.00	600.00
				<u>600.00</u>
	<u>Room & Board</u>			
Board only		4	30.00	120.00
				<u>120.00</u>
Subtotal				<u>10,200.00</u>

Field

	<u>Personnel</u>	<i>Unit</i>	<i>Rate</i>	
C. Naas (FW: Aug 10-22,24-27 ; Mob:Aug 9-10; Demob:Aug 22-23)		19	1,000.00	19,000.00
P. Gordon (FW: Aug 10-22; Mob:Aug 9-10; Demob:Aug 22)		14	800.00	11,200.00
G. Febbo (FW: Aug 10-22; Mob:Aug 10; Demob:Aug 22)		13	800.00	10,400.00
A. Anstey (FW: Aug 10-22; Mob:Aug 10; Demob:Aug 22)		13	600.00	7,800.00
A. Dupuis (FW: Aug 10-22; Mob:Aug 10; Demob:Aug 22)		13	600.00	7,800.00
S. Naas (FW: Aug 10-22; Mob:Aug 10; Demob:Aug 22)		13	400.00	<u>5,200.00</u>
				<u>61,400.00</u>
	<u>Equipment</u>			
Truck		19	150.00	2,850.00
Mag Sus (quantity 2)		22	20.00	440.00
				<u>3,290.00</u>
	<u>Room & Board</u>			
Room & Board		78	100.00	7,800.00
				<u>7,800.00</u>

Disbursements

Accommodation and Food	636.51	
Analysis	3,630.21	
Camp Supplies	2,090.44	
Helicopter	13,404.92	
Shipping	195.43	
Field Supplies	766.10	
Fuel (camp)	467.83	
Fuel (truck)	557.13	
Fuel (helicopter)	777.98	
Propane	117.13	
Printing	215.65	
Communications	339.24	
Travel	3,837.38	
	<u>27,035.95</u>	
Subtotal		99,525.95

Office (*Report Preparation and Map Drafting*)

Personnel

	<i>Unit</i>	<i>Rate</i>	
C. Naas	2	1,000.00	2,000.00
P. Gordon	3	800.00	2,400.00
G. Febbo	6	800.00	<u>4,800.00</u>
			<u>9,200.00</u>
Subtotal			<u>9,200.00</u>
		Total	\$118,945.95

9.0 LIST OF SOFTWARE USED

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

Microsoft	Word 2010
	Excel 2010
Corel	CorelDraw x6
Adobe	Acrobat version 10
Micromine	Micromine version 13
ESRI	ArcGIS

APPENDIX I
ABBREVIATIONS AND CONVERSION FACTORS

ABBREVIATIONS

Elements		Abbreviations	
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

Length			
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)
Area			
1 sq. centimeter (cm ²)	0.1550 sq. inches (in ²)	1 sq inch (in ²)	6.452 sq. centimetres (cm ²)
1 sq. metre (m ²)	10.76 feet (ft ²)	1 foot (ft)	0.0929 sq. metres (m ²)
1 hectare (ha) (10,000 m ²)	2.471 acres	1 acre	0.4047 hectare (ha)
1 hectare (ha)	0.003861 sq. miles (m ²)	1 sq. mile (m ²)	640 acres
1 hectare (ha)	0.01 sq. kilometre (km ²)	1 sq. mile (m ²)	259.0 hectare (ha)
1 sq. kilometre (km ²)	0.3861 sq. miles (mi ²)	1 sq. mile (m ²)	2.590 sq. kilometres (km ²)
Volume			
1 cu. centimetre (cc)	0.06102 cu. inches (in ³)	1 cu. inch (in ³)	16.39 cu. centimetres (cm ³)
1 cu. metre (m ³)	1.308 cu. yards (yd ³)	1 cu. yard (yd ³)	0.7646 cu. metres (m ³)
1 cu. metre (m ³)	35.310 cu. feet (ft ³)	1 cu. foot (ft ³)	0.02832 cu. metres (m ³)
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)
Weights			
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)
Miscellaneous			
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 ³ /second
1 cu. m/minute	264.2 gal/min	1 gal/min	0.003785 m ³ /minute
1 g/cu. m	62.43 lb/ cu. ft	1 lb/cu. ft ³	0.01602 g/m ³
1 g/cu. m	0.02458 oz/cu. yd	1 oz/cu. yd	40.6817 g/m ³
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
CERTIFICATES OF ANALYSIS



ALS Canada Ltd.
 2103 Dollarton Hwy
 North Vancouver BC V7H 0A7
 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
 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: 30-OCT-2017
 This copy reported on
 9-NOV-2017
 Account: RESTHA

CERTIFICATE KL17222106

Project: Cathedral

This report is for 73 Rock samples submitted to our lab in Kamloops, BC, Canada on 13-OCT-2017.

The following have access to data associated with this certificate:

CHRIS NAAS		
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SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI-21	Received Sample Weight
LOG-22	Sample login - Rcd w/o BarCode
LOG-23	Pulp Login - Rcvd with Barcode
CRU-QC	Crushing QC Test
PUL-QC	Pulverizing QC Test
CRU-31	Fine crushing - 70% <2mm
SPL-21	Split sample - riffle splitter
PUL-31	Pulverize split to 85% <75 um

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

To: **THANE MINERALS INC.**
ATTN: ALS GEOCHEMISTRY

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

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

Signature: 
 Colin Ramshaw, Vancouver Laboratory Manager



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Project: Cathedral

CERTIFICATE OF ANALYSIS KL17222106

Sample Description	Method	WEI-21	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
	Analyte	Recvd Wt.	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
Units		kg	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
LOR		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
2001		0.84	0.14	2.40	33.3	<0.02	<10	20	0.58	0.20	1.49	0.05	85.2	25.0	5	0.14
2002		0.90	0.14	0.94	14.0	0.06	<10	80	0.24	0.11	1.32	0.06	73.2	63.5	3	0.45
2003		0.67	0.15	0.89	19.4	<0.02	<10	50	0.17	0.07	0.78	0.13	14.70	15.5	3	0.07
2004		0.85	0.07	1.18	33.3	0.02	<10	60	0.48	0.10	2.06	0.05	26.2	13.4	3	0.20
2005		0.65	1.29	1.81	3.0	0.06	<10	440	0.55	0.05	1.21	0.15	18.50	19.4	4	0.73
2006		0.67	0.29	0.95	4.3	0.02	10	80	0.43	0.03	1.05	0.12	24.2	9.9	4	0.62
2007		0.62	29.2	1.42	93.6	5.24	<10	40	0.99	11.15	0.11	0.18	36.0	133.0	<1	0.40
2008		0.32	0.45	1.90	5.7	0.07	<10	170	0.49	0.14	3.41	0.10	32.1	15.7	2	0.73
2009		0.51	0.60	1.58	1.9	0.02	<10	150	0.21	0.07	1.42	0.01	8.02	4.9	2	0.78
2010		0.81	1.34	1.73	3.1	0.13	<10	460	0.45	0.24	2.29	0.24	23.7	11.6	3	0.98
2011		0.64	1.43	0.77	2.6	<0.02	<10	30	0.15	0.15	2.26	0.17	17.05	6.2	2	0.07
2012		0.72	0.83	1.91	3.3	0.06	<10	150	0.24	0.14	4.93	0.04	19.00	20.7	2	0.35
2013		0.91	0.56	1.51	2.6	0.02	<10	60	0.43	0.12	2.76	0.03	27.6	19.7	2	0.27
2014		0.63	0.05	1.19	1.8	<0.02	<10	430	0.35	0.04	2.28	0.05	58.2	11.1	2	0.48
2015		0.85	0.37	1.48	8.2	0.04	<10	340	0.40	0.13	3.33	0.07	31.8	46.5	2	0.53
2016		0.65	0.18	1.52	18.9	<0.02	<10	140	0.22	0.30	0.37	0.03	20.0	17.9	1	0.20
2017		1.05	3.63	0.79	2.3	0.30	<10	60	0.24	0.81	0.72	0.42	11.25	3.5	2	0.13
2018		1.01	0.03	1.36	0.8	<0.02	<10	50	0.85	0.04	1.29	0.01	24.6	9.8	1	0.11
2019		0.89	0.12	1.12	42.8	<0.02	<10	60	0.27	0.28	0.22	0.02	13.60	27.4	3	0.28
2020		0.78	8.29	2.59	46.4	0.44	<10	70	0.27	0.58	1.78	0.64	19.80	19.9	2	0.17
2021		0.65	1.44	1.18	3.7	0.11	<10	50	0.24	0.07	1.14	0.22	19.25	5.0	3	0.40
2022		1.12	0.11	1.18	34.9	<0.02	<10	30	0.24	0.13	0.97	0.08	20.3	10.6	2	0.22
2023		1.03	0.56	1.87	636	0.03	<10	50	0.32	0.65	0.77	0.08	70.1	62.0	3	0.17
2024		0.74	0.42	0.96	11.5	<0.02	<10	50	0.11	0.04	1.64	0.18	17.40	11.7	3	0.11
2025		0.75	0.21	1.16	9.5	0.02	<10	130	0.29	0.23	0.73	0.04	17.60	73.8	2	0.36
2026		0.84	0.60	1.43	2.5	0.33	<10	210	0.46	0.04	1.89	0.11	38.6	9.2	2	0.77
2027		1.02	4.34	1.95	22.8	1.27	<10	80	0.30	0.73	1.20	0.60	95.1	25.3	3	0.18
2028		1.09	2.17	4.44	128.0	0.15	<10	80	0.75	0.31	4.29	0.17	17.55	83.1	3	0.17
2029		0.94	0.18	1.60	2.0	0.03	<10	90	0.36	0.04	2.35	0.07	25.3	6.4	3	0.85
2030		0.63	2.20	4.16	4.0	0.02	<10	240	0.85	0.47	2.93	0.65	24.2	73.4	2	3.12
2031		1.23	1.85	1.55	15.0	0.36	<10	60	0.33	0.25	2.30	0.37	43.3	37.4	4	0.11
2032		0.82	0.13	1.69	9.7	<0.02	<10	30	0.55	0.10	1.50	0.07	117.0	17.8	3	0.48
2033		0.81	0.05	0.69	27.9	0.02	<10	170	0.38	1.21	1.24	0.01	4.97	337	4	0.14
2034		0.79	2.93	0.75	8.6	0.32	<10	120	0.17	0.10	0.68	0.05	13.25	6.8	2	0.33
2035		0.62	0.33	1.38	8.3	0.07	<10	210	0.27	0.10	1.12	0.11	51.8	10.7	3	0.49
2036		0.73	1.01	1.06	4.7	0.05	<10	190	0.27	0.06	0.92	0.08	29.1	15.5	2	0.36
2037		0.98	2.74	1.78	14.4	0.23	<10	120	1.20	0.22	0.17	0.13	21.0	60.9	1	0.22
2038		0.07	1.02	1.57	14.5	0.77	10	250	0.27	0.55	0.92	0.38	221	10.9	35	0.44
2101		0.45	0.16	1.65	29.0	<0.02	<10	190	0.18	0.13	0.75	0.07	17.50	48.8	3	0.77
2102		0.33	14.15	3.37	111.0	0.97	<10	40	0.67	5.32	0.44	0.68	65.9	61.4	1	0.81



ALS Canada Ltd.
 2103 Dollarton Hwy
 North Vancouver BC V7H 0A7
 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
 www.alsglobal.com/geochemistry

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 PO BOX 38099 MORGAN HEIGHTS PO
 SURREY BC V3Z 6R3

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Project: Cathedral

CERTIFICATE OF ANALYSIS KL17222106

Sample Description	Method	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	ME-MS41
	Analyte	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
Units		ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
LOR		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
2001		455	6.20	7.14	0.22	0.16	0.04	0.030	0.01	59.0	30.4	1.42	464	0.20	0.05	0.29
2002		172.0	2.42	4.92	0.08	0.20	0.03	0.017	0.10	55.1	9.4	0.47	242	0.28	0.10	0.40
2003		278	1.70	4.78	0.05	0.22	0.01	0.012	0.06	6.4	10.4	0.49	273	1.13	0.11	0.81
2004		137.0	1.29	6.14	0.14	0.22	0.01	0.011	0.05	13.7	4.5	0.22	207	0.34	0.09	0.48
2005		2920	4.62	8.29	0.06	0.17	0.01	0.052	0.13	8.7	20.1	1.82	512	1.62	0.07	0.15
2006		1365	3.45	4.64	0.08	0.12	0.01	0.018	0.18	11.2	8.6	0.49	284	1.78	0.10	0.39
2007		>10000	40.0	8.61	0.36	0.03	0.05	1.630	0.12	28.5	9.8	0.47	376	61.0	0.01	<0.05
2008		1625	4.74	8.91	0.05	0.11	0.01	0.084	0.13	17.5	19.1	1.58	616	3.61	0.08	<0.05
2009		349	5.27	5.92	<0.05	0.06	<0.01	0.009	0.18	3.9	13.5	0.92	853	1.11	0.07	<0.05
2010		4430	4.62	6.53	<0.05	0.17	0.01	0.062	0.18	11.2	14.9	1.23	654	1.18	0.07	0.10
2011		5360	2.03	4.24	0.05	0.16	0.02	0.028	0.02	7.7	8.0	0.45	420	2.55	0.13	0.41
2012		3150	4.22	9.23	0.06	0.16	0.01	0.036	0.05	9.7	17.1	1.65	1000	0.43	0.07	<0.05
2013		3360	4.41	7.31	0.06	0.10	0.01	0.040	0.05	16.3	15.7	0.93	545	0.97	0.10	<0.05
2014		335	2.53	4.72	0.05	0.05	0.01	0.014	0.15	37.1	12.0	0.55	469	0.26	0.09	<0.05
2015		1235	4.60	5.50	<0.05	0.04	0.01	0.026	0.14	20.4	15.8	0.86	511	3.60	0.07	<0.05
2016		144.0	6.97	8.72	0.06	0.09	0.01	0.008	0.10	9.0	18.0	0.85	271	2.60	0.08	0.05
2017		>10000	4.18	3.65	0.06	0.24	0.02	0.100	0.05	4.0	5.1	0.35	121	1.84	0.12	0.72
2018		48.8	15.20	8.86	0.10	0.14	<0.01	0.012	0.01	11.2	18.0	0.39	698	0.48	0.12	0.07
2019		166.0	4.78	4.93	<0.05	0.24	0.01	0.011	0.04	7.4	14.7	0.31	209	0.33	0.12	<0.05
2020		>10000	8.93	11.80	0.09	0.19	0.03	0.339	0.06	9.8	40.6	1.28	921	1.06	0.06	0.06
2021		2380	5.10	5.65	0.06	0.23	0.01	0.047	0.07	8.4	13.5	0.56	319	0.88	0.10	0.32
2022		280	3.56	5.86	0.05	0.20	<0.01	0.013	0.04	8.6	12.4	0.51	290	0.61	0.12	0.31
2023		572	7.79	9.46	0.07	0.11	0.15	0.052	0.02	49.1	21.6	0.82	308	29.4	0.10	<0.05
2024		1150	2.89	6.03	0.05	0.15	<0.01	0.022	0.04	7.3	11.9	0.36	253	0.54	0.14	0.25
2025		616	7.42	6.39	0.08	0.25	0.01	0.046	0.14	6.9	14.3	0.23	173	2.52	0.07	0.42
2026		2900	5.24	7.55	0.06	0.11	0.01	0.151	0.13	20.2	14.3	0.82	381	1.07	0.08	<0.05
2027		>10000	10.25	8.59	0.13	0.21	0.02	0.849	0.02	66.6	10.9	1.27	680	0.64	0.08	0.28
2028		2270	15.70	12.80	0.17	0.11	0.04	0.096	0.05	7.8	53.3	1.41	945	4.63	0.04	<0.05
2029		477	4.56	8.51	0.05	0.19	<0.01	0.026	0.13	11.8	15.5	1.17	606	1.21	0.08	0.08
2030		9350	9.83	13.30	0.08	0.15	<0.01	0.123	0.39	12.9	49.6	2.25	1330	18.30	0.02	0.06
2031		7950	7.82	7.43	0.11	0.25	0.02	0.065	0.04	29.3	12.6	1.05	435	2.44	0.07	0.37
2032		315	4.59	7.59	0.10	0.15	0.01	0.048	0.05	87.7	21.5	0.96	500	0.24	0.10	0.10
2033		22.4	10.40	4.64	<0.05	0.07	0.01	0.006	0.05	2.4	6.4	0.32	510	25.7	0.07	<0.05
2034		1640	6.74	5.30	0.07	0.18	0.01	0.122	0.18	6.5	4.5	0.24	112	4.38	0.05	0.79
2035		737	3.99	5.95	0.10	0.22	0.01	0.083	0.19	30.7	17.7	0.97	427	2.29	0.03	0.27
2036		4190	5.39	5.71	0.06	0.10	<0.01	0.150	0.15	14.5	9.1	0.73	491	1.72	0.05	<0.05
2037		5370	15.15	11.70	0.14	0.14	0.01	0.062	0.12	10.5	19.3	0.62	587	4.73	0.03	<0.05
2038		5890	3.70	5.84	0.15	0.28	0.08	0.072	0.14	144.0	10.6	0.74	677	471	0.11	0.33
2101		341	5.28	8.58	0.06	0.17	0.01	0.012	0.19	7.3	21.2	0.84	254	3.65	0.07	0.29
2102		>10000	20.6	13.05	0.24	0.05	0.01	1.095	0.12	59.2	33.2	1.47	1240	218	0.01	<0.05



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Project: Cathedral

CERTIFICATE OF ANALYSIS KL17222106

Sample Description	Method Analyte Units LOR	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	0.2	0.01	0.01	0.2	0.005
2001		145.5	2180	3.0	0.5	<0.001	1.98	0.54	5.6	2.6	2.5	174.5	<0.01	0.15	3.9	0.177	
2002		3.6	1930	2.5	5.0	<0.001	0.41	0.19	4.0	0.4	3.2	47.8	<0.01	0.12	5.4	0.184	
2003		8.3	1270	4.0	2.1	<0.001	0.03	0.24	2.6	<0.2	2.1	21.9	<0.01	0.03	5.1	0.234	
2004		5.1	1610	3.1	2.1	<0.001	0.41	0.50	2.1	0.3	1.7	66.6	<0.01	0.07	6.6	0.210	
2005		8.2	1660	2.9	6.0	<0.001	0.11	0.20	12.1	0.3	0.8	88.4	<0.01	0.06	3.8	0.157	
2006		4.3	1600	6.3	8.7	0.001	0.03	0.25	2.5	<0.2	0.8	41.8	<0.01	0.05	4.8	0.167	
2007		37.3	420	7.3	4.1	0.001	8.66	0.36	1.4	4.8	1.0	7.7	<0.01	5.17	2.6	0.007	
2008		5.9	1610	2.5	5.5	<0.001	0.34	0.20	14.8	0.4	1.3	74.8	<0.01	0.04	3.7	0.014	
2009		3.1	1400	0.4	6.9	<0.001	0.08	0.09	1.8	<0.2	0.3	32.0	<0.01	0.01	1.7	0.006	
2010		4.3	1850	5.3	7.0	<0.001	0.32	0.21	11.7	0.6	0.5	62.4	<0.01	0.13	2.4	0.057	
2011		2.6	1330	3.3	0.9	<0.001	0.39	0.17	4.5	0.7	1.1	37.0	<0.01	0.06	4.3	0.082	
2012		8.6	1640	1.5	2.5	<0.001	0.48	0.15	16.8	0.4	0.4	66.1	<0.01	0.08	6.9	0.012	
2013		13.9	1310	1.6	2.4	<0.001	0.54	0.11	8.9	0.5	0.3	41.8	<0.01	0.08	1.9	0.006	
2014		3.4	1330	1.1	6.5	<0.001	0.08	0.08	4.8	<0.2	0.3	43.1	<0.01	0.01	3.9	<0.005	
2015		5.4	1470	2.1	6.4	<0.001	0.79	0.12	8.9	0.2	0.4	63.6	<0.01	0.09	2.5	<0.005	
2016		7.6	1960	18.3	4.3	<0.001	0.96	0.14	6.6	0.4	0.3	25.3	<0.01	0.22	4.8	0.010	
2017		7.5	1790	1.8	2.4	<0.001	1.67	0.19	1.8	1.3	2.6	68.5	<0.01	0.51	1.4	0.183	
2018		2.3	710	1.3	0.5	<0.001	0.04	0.15	4.3	0.2	0.2	26.1	<0.01	0.01	11.7	0.012	
2019		2.6	590	1.8	2.6	<0.001	1.66	0.21	2.8	0.2	<0.2	8.3	<0.01	0.06	6.1	0.005	
2020		14.3	1650	6.8	2.3	<0.001	1.36	0.32	10.8	0.9	1.4	43.5	<0.01	0.32	2.5	0.042	
2021		3.9	1660	2.4	3.7	<0.001	0.14	0.28	3.0	0.5	1.6	88.7	<0.01	0.07	3.2	0.153	
2022		26.0	1740	3.2	1.7	<0.001	0.77	0.28	3.1	0.7	1.5	44.1	<0.01	0.05	2.7	0.155	
2023		1.6	1890	6.1	1.1	<0.001	2.98	3.68	7.0	0.7	1.0	14.5	<0.01	0.13	4.2	0.011	
2024		5.9	1970	2.0	1.3	<0.001	0.29	0.16	3.3	0.5	0.8	22.7	<0.01	0.03	5.0	0.106	
2025		6.4	1680	4.5	3.9	<0.001	1.83	0.35	3.2	0.6	1.0	27.4	<0.01	0.15	7.0	0.151	
2026		2.8	1900	3.3	4.4	<0.001	0.26	0.32	12.1	0.3	1.0	47.0	<0.01	0.03	3.6	0.013	
2027		6.7	2090	3.7	1.0	<0.001	3.17	0.46	9.8	2.1	3.1	60.4	<0.01	0.90	6.5	0.161	
2028		10.1	1230	24.1	1.9	<0.001	2.42	0.35	4.3	1.0	0.5	88.8	<0.01	0.16	2.8	0.008	
2029		3.5	1960	4.6	6.6	<0.001	0.04	0.14	7.5	0.4	0.8	47.7	<0.01	0.01	3.8	0.048	
2030		9.5	1520	12.2	13.6	0.003	0.90	0.20	10.9	0.6	1.0	222	<0.01	0.14	2.8	0.062	
2031		6.8	1670	1.6	1.7	0.001	1.04	0.39	7.8	1.0	2.2	131.5	<0.01	0.23	4.9	0.171	
2032		16.3	1960	3.6	1.9	<0.001	0.48	0.28	9.4	0.6	1.6	60.8	<0.01	0.06	7.7	0.067	
2033		10.5	760	2.5	2.0	0.002	1.53	0.27	4.3	0.7	0.2	21.7	<0.01	0.57	2.1	0.007	
2034		1.5	1490	2.4	6.2	<0.001	0.23	0.39	2.6	0.5	1.6	73.2	<0.01	0.06	3.5	0.162	
2035		2.9	1740	3.2	5.3	<0.001	0.29	0.18	12.0	0.2	0.9	35.5	<0.01	0.06	4.5	0.090	
2036		2.2	950	2.7	4.1	<0.001	0.28	0.17	6.4	0.3	0.5	21.5	<0.01	0.05	6.2	0.006	
2037		3.1	620	4.3	3.1	<0.001	1.05	0.20	4.1	0.3	0.6	9.0	<0.01	0.15	4.5	0.008	
2038		33.6	560	47.5	5.1	0.243	0.85	2.62	5.1	0.9	1.4	50.4	<0.01	0.16	4.9	0.143	
2101		3.9	2060	3.3	9.5	<0.001	1.00	0.17	3.1	0.5	0.6	33.4	<0.01	0.08	3.9	0.260	
2102		17.2	900	8.5	4.7	0.002	6.41	0.33	2.8	3.9	0.8	97.4	<0.01	3.18	4.0	0.007	



ALS Canada Ltd.
 2103 Dollarton Hwy
 North Vancouver BC V7H 0A7
 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
 www.alsglobal.com/geochemistry

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 PO BOX 38099 MORGAN HEIGHTS PO
 SURREY BC V3Z 6R3

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Sample Description	Method Analyte Units LOR	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	Cu-OG46	Au-ICP21
		Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Cu %	Au ppm
2001		<0.02	1.27	67	0.51	12.75	31	2.5		0.009
2002		<0.02	1.48	81	0.38	14.00	25	3.9		0.021
2003		<0.02	1.62	63	0.82	12.75	29	4.8		0.001
2004		<0.02	1.39	55	0.57	13.30	11	3.8		0.013
2005		<0.02	2.22	160	0.33	13.50	52	3.4		0.110
2006		<0.02	1.62	133	0.55	11.20	31	2.4		0.026
2007		0.02	2.12	162	0.28	1.45	55	0.8	11.10	2.77
2008		<0.02	0.68	116	0.07	13.25	41	2.4		0.069
2009		0.02	0.37	45	0.07	9.23	70	1.6		0.032
2010		0.02	1.00	135	0.21	15.45	33	3.5		0.085
2011		<0.02	2.11	37	0.45	17.80	22	2.7		0.034
2012		<0.02	1.77	85	0.09	13.35	78	4.7		0.046
2013		<0.02	0.50	70	0.05	13.00	48	2.4		0.016
2014		0.02	0.45	29	0.08	14.70	36	1.5		0.007
2015		0.02	0.40	55	0.07	12.95	33	1.1		0.050
2016		<0.02	1.54	89	0.11	8.74	29	1.9		0.006
2017		<0.02	2.25	49	0.48	11.75	17	4.1	1.955	0.117
2018		<0.02	1.58	88	0.18	21.5	25	2.6		0.017
2019		<0.02	1.52	32	1.51	6.11	11	4.8		0.003
2020		<0.02	1.03	124	0.24	16.20	86	3.7	1.225	0.473
2021		<0.02	1.13	89	0.47	11.65	37	4.2		0.134
2022		<0.02	1.17	46	0.39	11.95	24	3.2		0.008
2023		0.30	0.84	63	0.10	17.70	19	2.6		0.018
2024		<0.02	1.31	87	0.28	13.80	14	2.5		0.003
2025		<0.02	1.91	178	0.67	13.70	17	5.1		0.018
2026		<0.02	0.88	127	0.13	18.20	38	2.0		0.196
2027		<0.02	1.38	182	0.49	15.60	97	3.6	2.52	1.355
2028		<0.02	1.42	167	0.11	17.85	58	2.6		0.149
2029		<0.02	1.24	128	0.19	16.60	51	3.9		0.020
2030		0.04	1.10	131	0.36	16.45	129	3.9		0.037
2031		<0.02	1.46	126	0.55	12.25	37	4.7		0.307
2032		<0.02	1.16	91	0.22	15.45	28	3.2		0.005
2033		<0.02	0.92	81	0.23	6.82	55	2.1		0.019
2034		<0.02	1.62	113	0.93	8.02	10	4.0		0.137
2035		0.04	2.22	143	0.37	17.10	27	4.1		0.133
2036		<0.02	1.28	38	0.17	13.95	26	2.5		0.042
2037		<0.02	3.65	102	1.63	13.40	47	2.8		0.400
2038		0.16	0.99	62	6.39	9.11	105	8.1		0.556
2101		0.03	1.25	144	0.45	12.15	27	3.3		0.015
2102		<0.02	1.34	92	0.13	3.53	117	1.8	8.59	1.215



ALS Canada Ltd.
 2103 Dollarton Hwy
 North Vancouver BC V7H 0A7
 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
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CERTIFICATE OF ANALYSIS KL17222106

Sample Description	Method	WEI-21	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
	Analyte	Recvd Wt.	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
	Units	kg	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
	LOR															
2103		0.79	10.40	1.44	8.0	0.85	<10	50	1.31	1.40	0.10	0.09	119.5	37.3	<1	0.85
2104		1.00	0.07	1.52	1.8	<0.02	<10	130	0.33	0.04	2.16	0.02	19.75	10.2	4	0.81
2105		0.68	0.07	0.81	13.6	<0.02	<10	130	0.21	0.05	0.66	0.03	12.10	21.6	2	0.19
2106		0.46	2.50	2.05	5.1	0.03	<10	350	0.70	0.26	0.83	0.10	15.05	6.9	2	0.18
2107		0.70	0.04	1.10	2.5	<0.02	10	80	0.47	0.02	1.21	0.05	22.7	7.9	4	0.46
2108		0.53	0.05	1.80	3.1	<0.02	10	70	0.85	0.03	2.11	0.05	24.5	17.9	3	1.24
2109		0.95	0.18	1.62	15.0	<0.02	<10	10	0.77	0.41	0.25	0.02	4.41	212	1	0.14
2110		0.58	0.27	2.09	3.5	<0.02	10	140	0.37	0.03	2.36	0.03	29.8	13.0	2	0.34
2111		1.18	2.61	3.63	10.8	0.05	10	150	3.99	0.45	0.80	0.14	7.80	29.4	<1	0.41
2112		0.45	1.70	2.04	20.2	0.31	<10	110	0.36	1.53	0.85	0.08	7.50	11.2	2	2.66
2113		0.48	0.27	1.94	6.7	0.03	<10	310	0.35	0.58	1.68	0.09	20.4	9.4	2	2.08
2114		0.87	1.51	3.98	106.5	0.09	<10	70	0.17	6.98	0.17	0.02	13.65	124.5	5	0.21
2115		0.62	0.07	5.66	30.6	<0.02	<10	130	0.45	0.47	0.27	0.09	19.05	158.0	8	0.56
2116		0.66	0.12	2.58	4.4	<0.02	10	170	0.58	0.15	1.85	0.03	21.0	13.1	5	0.49
2117		0.60	0.90	2.11	46.6	<0.02	<10	10	0.45	1.13	0.02	0.05	1.37	45.9	<1	0.40
2118		0.86	0.03	0.85	3.6	<0.02	10	130	0.24	0.04	0.97	0.04	18.15	4.9	3	0.39
2119		0.52	0.61	1.11	5.9	<0.02	<10	70	0.17	0.09	3.34	0.09	19.30	16.8	3	0.34
2120		0.55	0.10	0.84	1.7	<0.02	10	90	0.34	0.05	0.76	0.03	18.40	5.8	4	0.46
2121		0.27	0.29	1.75	2.1	<0.02	10	220	0.40	0.03	2.09	0.04	23.1	13.1	4	0.77
2122		0.45	0.02	0.69	3.0	<0.02	<10	40	0.34	0.02	1.20	0.04	18.70	0.5	3	0.20
2123		0.88	0.38	0.93	0.7	<0.02	<10	50	0.45	0.03	1.22	0.04	19.40	3.5	5	0.14
2124		0.90	0.03	1.11	2.6	<0.02	10	110	0.66	0.01	0.93	0.08	29.0	8.9	4	0.65
2125		0.49	1.91	2.02	131.0	0.13	<10	140	0.35	0.26	4.95	0.12	16.10	40.2	3	0.42
2126		0.76	0.87	1.12	25.0	0.02	<10	80	0.19	0.20	2.23	0.11	30.0	10.6	6	0.35
2127		0.94	0.07	0.87	1.1	<0.02	<10	350	0.51	0.03	0.70	0.03	37.9	5.0	6	0.79
2128		0.99	0.08	1.21	2.6	<0.02	<10	130	0.39	0.02	1.42	0.05	26.4	5.8	4	0.52
2129		0.12	0.04	1.03	2.2	<0.02	10	80	0.56	0.02	0.46	0.02	25.5	6.2	4	0.48
2130		0.47	0.05	0.37	2.1	<0.02	<10	70	0.59	0.03	0.14	0.03	52.0	3.8	3	0.62
2131		0.56	0.03	1.22	3.1	<0.02	<10	110	1.04	0.03	1.93	0.05	32.3	8.7	10	0.33
2132		1.35	0.79	1.96	3.8	0.06	<10	300	0.79	0.11	0.65	0.02	25.4	25.0	5	0.71
2133		0.55	1.70	2.21	23.4	0.03	<10	160	0.38	0.34	0.78	0.23	17.20	57.9	5	0.39
2134		0.79	1.18	0.85	12.9	0.11	<10	100	0.16	0.16	2.53	0.10	13.00	22.0	6	0.34
2135		0.07	0.99	1.60	13.6	0.44	10	270	0.30	0.55	0.93	0.40	220	10.8	36	0.45



ALS Canada Ltd.
 2103 Dollarton Hwy
 North Vancouver BC V7H 0A7
 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
 www.alsglobal.com/geochemistry

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 SURREY BC V3Z 6R3

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Sample Description	Method	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	
	Analyte	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
Units		ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
LOR		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
2103		>10000	40.1	11.25	0.18	0.05	0.02	0.802	0.19	92.2	10.0	0.51	141	198.0	0.01	<0.05
2104		255	4.29	6.03	0.07	0.12	<0.01	0.017	0.18	9.8	15.6	1.04	830	1.37	0.07	0.11
2105		152.0	12.50	6.17	0.07	0.15	<0.01	0.006	0.10	5.8	4.3	0.37	150	0.94	0.09	0.27
2106		9740	12.15	8.53	0.14	0.09	0.01	0.098	0.02	8.2	23.1	1.06	554	1.12	0.11	<0.05
2107		157.0	3.41	5.32	0.07	0.13	<0.01	0.012	0.17	11.4	6.5	0.52	314	1.11	0.10	0.27
2108		179.5	3.98	7.90	0.10	0.15	<0.01	0.040	0.12	13.2	17.3	1.22	627	1.08	0.08	0.13
2109		43.4	10.45	6.94	0.06	0.18	0.01	0.013	0.02	2.2	18.2	0.77	809	1.96	0.10	<0.05
2110		1030	4.85	11.85	0.08	0.09	0.01	0.027	0.13	15.2	22.0	1.54	482	1.15	0.06	<0.05
2111		>10000	21.6	13.20	0.15	0.15	0.01	0.164	0.27	3.9	38.8	0.79	2440	7.93	0.02	<0.05
2112		>10000	11.80	16.30	0.07	0.21	0.06	0.463	0.21	3.4	16.9	0.94	1380	46.4	0.02	<0.05
2113		840	7.84	19.80	0.08	0.25	0.09	0.036	0.29	10.0	14.3	1.47	1040	4.02	0.02	<0.05
2114		7350	15.20	14.10	0.15	0.08	0.37	0.119	0.01	6.2	33.1	1.00	2510	9.86	0.01	<0.05
2115		38.2	16.65	21.3	0.11	0.26	0.02	0.043	0.24	9.9	58.5	1.85	2790	3.13	0.01	<0.05
2116		357	6.53	9.80	0.09	0.29	0.02	0.026	0.30	11.0	33.1	1.51	818	1.07	0.08	0.08
2117		882	9.88	6.33	<0.05	0.38	0.02	0.048	0.10	0.6	29.2	0.38	277	1.98	0.07	<0.05
2118		35.8	3.66	4.25	0.06	0.31	0.01	0.007	0.16	9.9	4.8	0.38	225	0.31	0.11	0.47
2119		1530	2.32	4.91	<0.05	0.06	0.01	0.025	0.09	11.9	19.0	0.58	573	0.24	0.09	<0.05
2120		205	2.59	4.12	0.06	0.10	0.01	0.015	0.20	9.4	4.2	0.35	327	1.18	0.09	0.35
2121		121.0	4.87	6.78	0.08	0.17	0.01	0.029	0.25	11.8	15.6	1.14	579	1.85	0.12	0.17
2122		6.9	0.39	2.35	0.07	0.18	<0.01	<0.005	0.04	8.0	2.5	0.11	99	0.18	0.15	0.80
2123		1890	3.23	5.06	0.06	0.16	0.01	0.024	0.12	10.1	8.6	0.42	553	1.35	0.09	0.05
2124		87.7	3.50	5.54	0.08	0.24	0.01	0.020	0.18	14.6	6.3	0.73	464	1.33	0.10	0.24
2125		5190	5.89	9.76	0.05	0.22	0.01	0.113	0.23	8.0	20.2	1.03	1310	11.65	0.03	<0.05
2126		1655	3.10	5.21	0.05	0.17	0.01	0.116	0.14	16.2	9.2	0.33	636	7.09	0.06	<0.05
2127		127.0	3.22	4.13	0.07	0.12	0.01	0.026	0.24	19.2	7.5	0.31	414	1.30	0.06	0.07
2128		179.5	4.99	7.17	0.10	0.26	<0.01	0.032	0.20	13.4	13.6	0.90	484	0.96	0.07	0.14
2129		108.5	3.15	5.67	0.08	0.31	<0.01	0.014	0.33	13.0	7.2	0.40	602	1.71	0.10	0.95
2130		203	3.01	2.09	0.06	0.11	<0.01	0.036	0.17	14.7	1.6	0.03	492	4.00	0.05	0.09
2131		28.1	3.74	7.46	0.12	0.37	<0.01	0.035	0.26	17.6	12.6	0.73	1060	0.24	0.13	0.28
2132		3550	10.50	8.71	0.07	0.17	<0.01	0.121	0.33	13.0	19.6	1.13	539	1.82	0.07	<0.05
2133		2760	8.46	10.60	0.09	0.28	0.01	0.067	0.28	8.7	23.1	1.06	701	3.08	0.08	0.18
2134		3630	2.41	2.76	<0.05	0.14	<0.01	0.077	0.22	5.7	11.4	0.25	973	1.07	0.02	<0.05
2135		6120	3.73	6.45	0.22	0.28	0.08	0.073	0.14	148.0	11.2	0.74	713	472	0.11	0.35



ALS Canada Ltd.
 2103 Dollarton Hwy
 North Vancouver BC V7H 0A7
 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
 www.alsglobal.com/geochemistry

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

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Sample Description	Method Analyte Units LOR	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
2103		8.1	630	6.2	6.8	0.002	4.07	0.41	2.8	1.7	0.6	15.6	<0.01	1.33	6.2	0.006
2104		5.0	1790	2.3	7.7	<0.001	0.03	0.22	7.0	<0.2	0.4	77.7	<0.01	0.01	3.4	0.117
2105		4.8	1000	1.4	3.6	0.001	0.72	0.35	3.5	0.2	0.6	84.3	<0.01	0.03	2.7	0.120
2106		4.6	3970	1.5	0.9	<0.001	0.60	0.21	4.8	0.5	0.4	20.0	<0.01	0.07	0.9	0.009
2107		3.2	1820	4.0	8.2	<0.001	0.02	0.22	2.9	<0.2	0.5	59.2	<0.01	<0.01	3.0	0.140
2108		4.9	1880	1.6	7.4	<0.001	0.08	0.34	11.9	<0.2	1.2	136.5	<0.01	0.01	4.2	0.092
2109		12.8	840	24.4	1.1	<0.001	4.69	0.05	6.9	1.0	<0.2	4.3	<0.01	0.19	18.4	0.005
2110		5.3	1780	1.0	6.0	<0.001	0.18	0.07	7.4	<0.2	<0.2	51.8	<0.01	0.01	10.3	0.007
2111		3.4	1580	1.4	14.7	<0.001	1.68	0.25	4.4	0.4	0.3	15.5	<0.01	0.11	3.2	0.011
2112		2.2	1530	1.4	10.2	0.001	2.32	0.26	8.6	0.4	0.2	20.2	<0.01	0.87	3.1	0.005
2113		2.8	1900	1.5	15.3	<0.001	0.29	0.22	10.0	<0.2	0.3	60.9	<0.01	0.43	5.3	0.017
2114		6.2	490	0.8	0.8	0.001	3.88	0.14	10.2	0.2	0.2	4.0	<0.01	4.90	1.4	0.010
2115		8.4	2230	3.4	10.7	<0.001	0.85	0.11	20.0	<0.2	0.4	5.6	<0.01	0.05	5.3	0.022
2116		6.3	1770	3.3	15.8	<0.001	0.10	0.19	13.4	<0.2	0.7	70.9	<0.01	0.07	3.1	0.113
2117		4.9	60	5.7	4.0	<0.001	4.20	0.23	1.4	0.2	<0.2	16.8	<0.01	0.42	20.8	<0.005
2118		2.2	1510	2.3	5.2	<0.001	0.02	0.29	2.0	<0.2	0.4	59.4	<0.01	0.02	2.7	0.190
2119		4.4	2020	1.2	4.3	<0.001	0.23	0.07	4.6	<0.2	0.4	84.6	<0.01	0.02	3.4	0.008
2120		1.2	1050	5.4	6.4	<0.001	0.01	0.17	4.0	<0.2	0.6	50.6	<0.01	<0.01	3.2	0.128
2121		5.4	1670	3.1	9.4	0.001	0.04	0.15	10.7	0.2	0.8	71.6	<0.01	0.01	5.4	0.130
2122		0.6	1670	2.5	1.3	<0.001	0.01	0.27	1.0	0.2	3.3	51.8	<0.01	<0.01	2.9	0.208
2123		0.9	970	2.1	4.6	<0.001	0.14	0.08	5.6	<0.2	0.3	23.4	<0.01	<0.01	6.6	0.010
2124		2.7	1730	5.0	9.3	<0.001	0.01	0.22	5.8	<0.2	0.9	50.3	<0.01	<0.01	4.6	0.140
2125		3.7	1410	18.5	10.4	<0.001	1.72	0.08	10.3	0.2	0.2	69.0	<0.01	0.17	2.2	0.005
2126		0.7	760	5.1	4.9	<0.001	0.22	0.23	4.5	0.3	0.2	42.0	<0.01	0.04	6.3	<0.005
2127		0.9	1130	5.3	11.4	0.001	0.02	0.15	4.7	<0.2	0.4	23.5	<0.01	<0.01	8.8	0.020
2128		3.3	2150	4.0	8.8	<0.001	0.03	0.17	7.8	0.2	0.7	41.9	<0.01	0.01	2.5	0.160
2129		1.3	1040	4.9	15.8	<0.001	0.01	0.22	4.2	<0.2	1.0	22.7	<0.01	<0.01	10.7	0.158
2130		0.7	660	3.6	9.3	<0.001	0.01	0.14	4.3	<0.2	0.5	6.7	<0.01	<0.01	13.4	0.008
2131		4.4	1090	3.7	9.3	<0.001	0.01	0.26	6.3	0.2	0.8	210	<0.01	<0.01	2.8	0.115
2132		5.6	1530	2.0	18.7	<0.001	0.30	0.27	6.8	0.2	0.7	25.8	<0.01	0.05	5.1	0.015
2133		5.4	1580	6.1	14.2	<0.001	0.58	0.17	8.2	0.3	2.2	58.1	<0.01	0.25	4.5	0.144
2134		2.5	930	3.5	7.8	0.001	0.34	0.09	3.4	<0.2	<0.2	32.7	<0.01	0.09	5.5	0.005
2135		35.6	590	47.9	5.3	0.242	0.87	2.69	5.5	0.8	1.4	54.1	<0.01	0.15	5.0	0.148



ALS Canada Ltd.
 2103 Dollarton Hwy
 North Vancouver BC V7H 0A7
 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
 www.alsglobal.com/geochemistry

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 PO BOX 38099 MORGAN HEIGHTS PO
 SURREY BC V3Z 6R3

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Sample Description	Method Analyte Units LOR	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	ME-MS41	Cu-OG46	Au-ICP21
		Tl ppm	U ppm	V ppm	W ppm	Y ppm	Zn ppm	Zr ppm	Cu %	Au ppm
		0.02	0.05	1	0.05	0.05	2	0.5	0.001	0.001
2103		0.02	3.82	209	0.11	2.97	25	1.6	4.56	1.100
2104		0.02	1.12	140	0.37	14.15	31	2.6		0.002
2105		<0.02	1.00	131	0.77	8.79	13	2.9		0.002
2106		<0.02	1.22	100	0.09	15.40	30	2.1		0.024
2107		<0.02	1.07	144	0.44	13.45	24	2.8		0.008
2108		0.02	1.72	122	0.29	18.75	39	3.2		0.001
2109		<0.02	1.98	50	0.08	14.95	72	3.2		0.004
2110		<0.02	1.24	94	0.07	16.50	25	1.5		0.001
2111		0.04	1.71	96	2.83	15.50	71	4.2	1.985	0.083
2112		0.03	1.89	98	0.70	7.54	58	5.1	1.640	0.184
2113		0.03	2.80	148	0.16	12.70	40	5.3		0.028
2114		<0.02	0.67	90	1.61	4.18	93	2.0		0.089
2115		0.04	2.31	268	0.56	12.75	120	5.9		0.004
2116		0.04	0.87	154	0.54	16.85	50	7.6		0.003
2117		0.02	1.74	41	0.19	4.66	43	9.3		0.010
2118		<0.02	0.86	115	1.07	11.05	21	6.8		<0.001
2119		<0.02	0.57	55	0.07	14.80	36	1.4		0.004
2120		<0.02	0.92	45	0.35	11.00	31	1.6		<0.001
2121		0.02	1.88	147	0.49	17.45	36	3.1		0.003
2122		<0.02	0.74	44	0.23	14.25	12	3.1		<0.001
2123		<0.02	1.87	39	0.14	18.90	25	3.0		0.007
2124		<0.02	1.55	111	0.69	16.05	35	4.4		0.003
2125		0.02	1.72	105	0.27	24.5	67	4.8		0.051
2126		<0.02	1.68	22	0.12	13.70	29	3.2		0.013
2127		0.02	2.81	22	0.23	16.45	33	2.1		<0.001
2128		0.02	1.26	148	0.64	16.55	22	5.7		0.007
2129		0.02	2.40	46	0.90	16.40	36	5.7		<0.001
2130		<0.02	2.31	15	0.32	17.25	29	2.1		<0.001
2131		0.02	1.06	138	0.05	14.10	58	19.6		<0.001
2132		0.04	1.66	129	0.95	12.10	24	4.7		0.154
2133		0.03	1.42	154	2.50	11.35	35	5.8		0.025
2134		0.02	2.34	19	99.2	16.75	34	2.6		0.224
2135		0.15	1.03	65	6.53	10.05	110	7.9		0.609



ALS Canada Ltd.
 2103 Dollarton Hwy
 North Vancouver BC V7H 0A7
 Phone: +1 (604) 984 0221 Fax: +1 (604) 984 0218
 www.alsglobal.com/geochemistry

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

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	CERTIFICATE COMMENTS								
Applies to Method:	<p style="text-align: center;">ANALYTICAL COMMENTS</p> <p>Gold determinations by this method are semi-quantitative due to the small sample weight used (0.5g). ME-MS41</p>								
Applies to Method:	<p style="text-align: center;">LABORATORY ADDRESSES</p> <p>Processed at ALS Kamloops located at 2953 Shuswap Drive, Kamloops, BC, Canada.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">CRU-31</td> <td style="width: 33%;">CRU-QC</td> <td style="width: 33%;">LOG-22</td> <td style="width: 17%;">LOG-23</td> </tr> <tr> <td>PUL-31</td> <td>PUL-QC</td> <td>SPL-21</td> <td>WEI-21</td> </tr> </table>	CRU-31	CRU-QC	LOG-22	LOG-23	PUL-31	PUL-QC	SPL-21	WEI-21
CRU-31	CRU-QC	LOG-22	LOG-23						
PUL-31	PUL-QC	SPL-21	WEI-21						
Applies to Method:	<p>Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 33%;">Au-ICP21</td> <td style="width: 33%;">Cu-OG46</td> <td style="width: 33%;">ME-MS41</td> <td style="width: 17%;">ME-OG46</td> </tr> </table>	Au-ICP21	Cu-OG46	ME-MS41	ME-OG46				
Au-ICP21	Cu-OG46	ME-MS41	ME-OG46						

APPENDIX III
SAMPLE DESCRIPTIONS

**2017 Rock Sample Details
Cathedral Property**

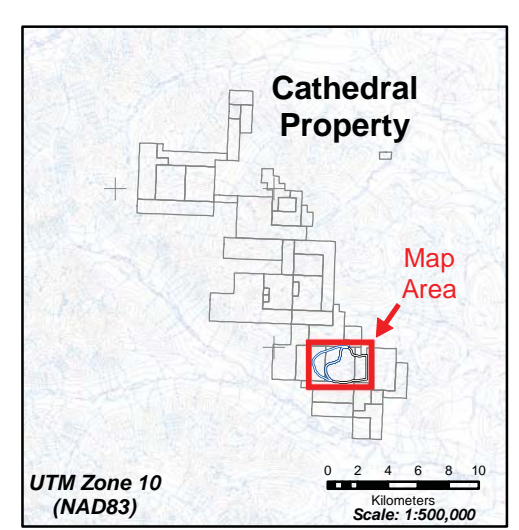
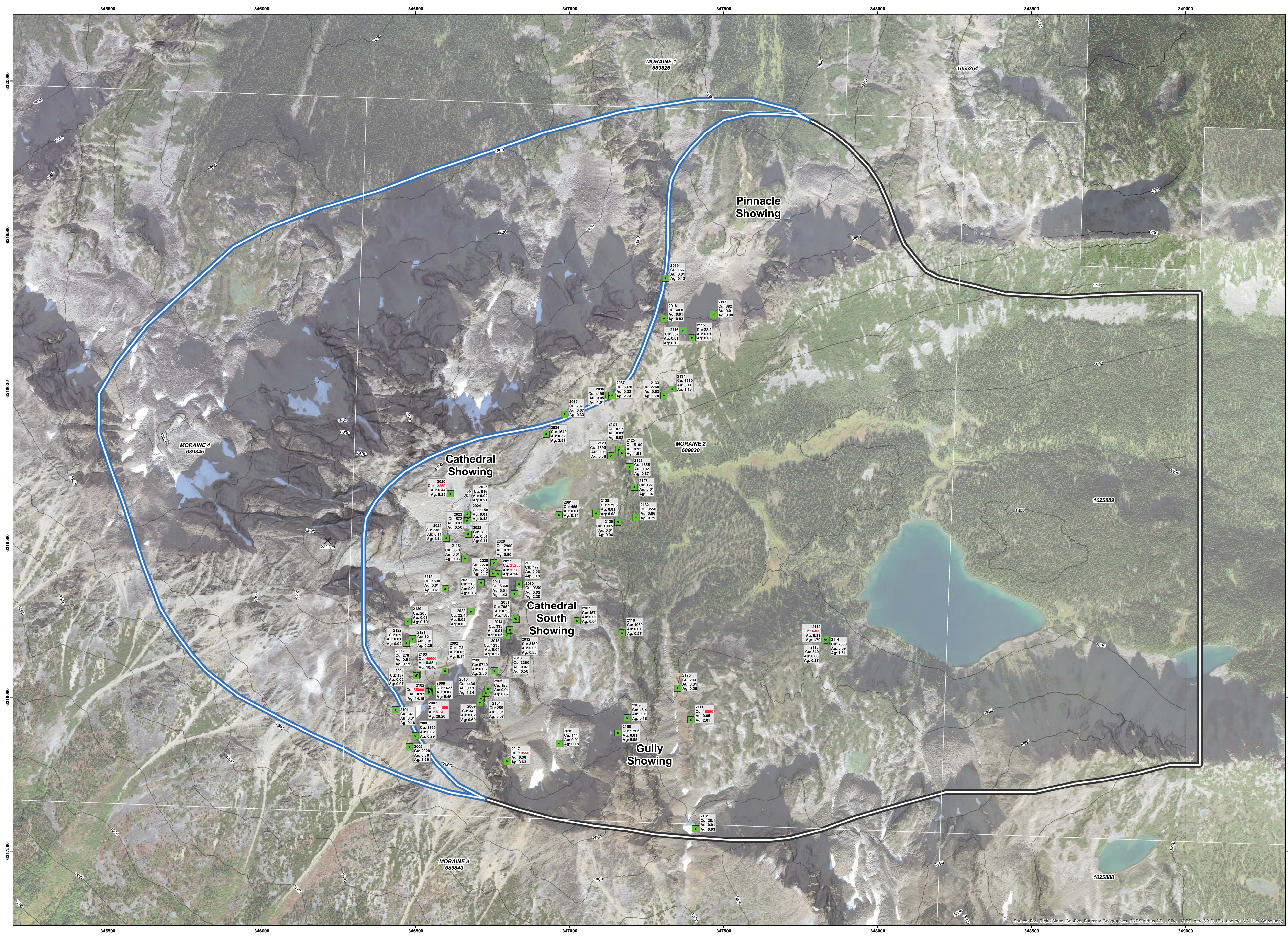
SampleID	Project	Prospect	UTM Zone 10 (NAD83)			Tenure ID	Sample Type	Alteration (Scale 1-5)	Description	Mineralization (%)	Field Sample Description	Structure (Strike/Dip)	Cu (%)	Au (ppm)	Ag (ppm)	As (ppm)
			Eastings	Northings	Elev. m											
2001	Cathedral	South Cathedral	346965	6218591	1758	689828	Subcrop	Epidote 1, Carbonate 1	Pyrite 0.01	monz x-cut by pegmatitic qtz. syenite all pre-mineral.	Vn 156 / 48	0.0455	0.01	0.14	33.30	
2002	Cathedral	South Cathedral	346595	6218084	1921	689828	Outcrop	Albite 4	Pyrite 0.1, Chalcopyrite 0.2	sample 2002 - equigranular qtz monz vein and cpy 0.2% and py .1%.hnb1 to chl. kspar partially replCEDto alb. cpy repl hnb1		0.0172	0.06	0.14	14.00	
2003	Cathedral	South Cathedral	346504	6218073	1915	689828	Outcrop	Albite 4, Chlorite 3, Epidote 3	Pyrite 0.2, Chalcopyrite 0.5	sample 2003- qtz monz equigranular. poddedform,diss cpy.hnb1 repl to chl, mag act? cpy in hbkd sites, mod perv alb, pat ep/zoi? represents 5m area diss cpy		0.0278	0.01	0.15	19.40	
2004	Cathedral	South Cathedral	346501	6218069	1918	689828	Outcrop	Albite 3, Chlorite 3	Pyrite 2, Chalcopyrite 0.3	no si veins. py, cpy diss in hnb1 sites.		0.0137	0.02	0.07	33.30	
2005	Cathedral	South Cathedral	346479	6217838	1959	689828	Outcrop	Biotite 3, Chlorite 2, Epidote 1	Chalcopyrite 0.5, Malachite 1	wk-mod patchy k-spar and bt altrn noted throughout appears related to bt (altrd to chl) fractures	Vn 236 / 83	0.2920	0.06	1.29	3.00	
2006	Cathedral	South Cathedral	346498	6217874	1973	689828	Float	Chlorite 3, Albite 2, Epidote 2	Chalcopyrite 0.1, Malachite 0.5	mal stained, 3m from outcrop.		0.1365	0.02	0.29	4.30	
2007	Cathedral	South Cathedral	346552	6218020	1916	689828	Outcrop	Chlorite 4	Chalcopyrite 30, Malachite 10, Pyrite 20, Covellite 0.5	Virtually all textures destroyed and or replaced w/n 0.5m discontinuous mineralized zone, alt selvage on hanging wall. course clotty semi-massive to massive mt, cpy, py and possibly minor covellite?		11.1000	5.24	29.20	93.60	
2008	Cathedral	South Cathedral	346552	6218023	1911	689828	Outcrop	Chlorite 2, Epidote 1	Chalcopyrite 0.1, Pyrite 0.1	patchy fine disseminated sulphide(cpy). end of mineralized system but prob reletzd (wall rock).		0.1625	0.07	0.45	5.70	
2009	Cathedral	South Cathedral	346709	6217982	1932	689828	Outcrop	Albite 3, Chlorite 2, Carbonate 3	Chalcopyrite 0.1, Pyrite 0.01	stockwork veins, mineralized in alb alt.		0.0349	0.02	0.60	1.90	
2010	Cathedral	South Cathedral	346727	6218013	1929	689828	Outcrop	Chlorite 3, Epidote 2	Chalcopyrite 1, Malachite 1.5, Pyrite 2,	disseminated py/cpy and in veins		0.4430	0.13	1.34	3.10	
2011	Cathedral	South Cathedral	346820	6218335	1826	689828	Outcrop	Albite 4, Carbonate 3	Chalcopyrite 2, Malachite 0.3, Chalcocite 0.5,	stockwork mm scale cpy/chalcocite, bornite/covellite? trace moly diss. mag dest. no act. core sodic/calcic?	Vn 188 / 44	0.5360	0.01	1.43	2.60	
2012	Cathedral	South Cathedral	346805	6218217	1850	689828	Outcrop	Albite 4, Chlorite 2	Chalcopyrite 0.6, Malachite 0.1, Pyrite 0.1,	blebby clotted cpy. veins sodic amph/chl/alb? weaker carb. second hem. cu ox. 2m wide stockwork zone. mag dest.	Vn 200 / 42	0.3150	0.06	0.83	3.30	
2013	Cathedral	South Cathedral	346805	6218218	1846	689828	Outcrop	Albite 5, Carbonate 2, Feldspar Potassium 1	Chalcopyrite 0.4, Pyrite 0.2, Malachite 0.2,	Pervasive locally texturally destructive albite altrd host intrusive x-cut by amphibole+cpy+py+-mt veins and fractures. Localized K-spr+clite veining also noted.	Vn 184 / 52	0.3360	0.02	0.56	2.60	
2014	Cathedral	South Cathedral	346797	6218203	1849	689828	Outcrop	Albite 4, Amphibole 3, Carbonate 2	Chalcopyrite 0.2, Pyrite 0.3, Malachite 0.1,	blebby orange/red w albite, possible kspar?	Vn 160 / 42	0.0335	0.01	0.05	1.80	
2015	Cathedral	South Cathedral	346797	6218200	1849	689828	Outcrop	Albite 4, Amphibole 2, Carbonate 3	Chalcopyrite 0.2, Pyrite 0.2	mag dest.	Vn 180 / 42	0.1235	0.04	0.37	8.20	
2016	Cathedral	South Cathedral	346966	6217849	1839	689828	Outcrop	Chlorite 2, Epidote 2	Pyrite 1, Malachite 0.1	patchy prop minz with weak copper		0.0144	0.01	0.18	18.90	
2017	Cathedral	South Cathedral	346795	6217791	1889	689828	Float	Feldspar Potassium 4, Biotite 2	Chalcopyrite 5, Pyrite 0.5, Malachite 5,	float sample significantly representing min trend on cliff. felted bt? mag.represents pot core zone on cliff.		1.9550	0.30	3.63	2.30	
2018	Cathedral	Pinnacle	347305	6219229	1827	689828	Outcrop	Carbonate 4, Hematite 2	Magnetite 15, Pyrite 0.1	sample from hanging wall	FitMaj 200 / 38	0.0049	0.01	0.03	0.80	
2019	Cathedral	Pinnacle	347311	6219360	1797	689828	Outcrop	Chlorite 3, Albite 4, Carbonate 3	Pyrite 0.5, Magnetite 2	py mineralization in porph? system. sample taken from hanging wall.	Vn 138 / 52	0.0166	0.01	0.12	42.80	
2020	Cathedral	South Cathedral	346612	6218659	1812	689828	Outcrop	Albite 3, Epidote 3, Chlorite 3	Chalcopyrite 2, Pyrite 5, Magnetite 10,	appears ep/alb cuts early pervasive and texturally destructive mag+chl+py/act vein sampled. Appears chl may overprt early bt also?	Vn 155 / 43	1.2250	0.44	8.29	46.40	
2021	Cathedral	South Cathedral	346599	6218516	1800	689828	Outcrop	Actinolite 3, Epidote 3, Carbonate 2	Magnetite 1, Chalcopyrite 0.2	sample of cu min on trend inner prop?	Vn 182 / 62	0.2380	0.11	1.44	3.70	
2022	Cathedral	South Cathedral	346670	6218529	1775	689828	Outcrop	Actinolite 3, Epidote 3, Carbonate 3	Chalcopyrite 0.3, Pyrite 1	unknown rel btwn carb/act/cpy veins and act/mag veins	Vn 240 / 54	0.0280	0.01	0.11	34.90	
2023	Cathedral	South Cathedral	346666	6218572	1771	689828	Outcrop	Albite 5, Actinolite 3	Pyrite 0.5, Chalcopyrite 0.1	py-cpy	Vn 90 / 42	0.0572	0.03	0.56	636.00	
2024	Cathedral	South Cathedral	346669	6218580	1769	689828	Outcrop	Albite 5, Amphibole 3	Pyrite 0.5, Chalcopyrite 0.1, Magnetite 0.5,	py-cpy, outer porph system prop?	Vn 157 / 42	0.1150	0.01	0.42	11.50	
2025	Cathedral	South Cathedral	346667	6218594	1769	689828	Outcrop	Albite 5, Actinolite 3	Pyrite 2, Chalcopyrite 0.2	high py/act appears mag dest	Vn 211 / 43	0.0616	0.02	0.21	9.50	
2026	Cathedral	South Cathedral	346753	6218436	1793	689828	Outcrop	Albite 2, Actinolite 3, Carbonate 3	Chalcopyrite 0.3, Pyrite 0.1	cpy minz in amph stckwk		0.2900	0.33	0.60	2.50	
2027	Cathedral	South Cathedral	346767	6218400	1814	689828	Outcrop	Albite 3, Actinolite 3, Epidote 2	Chalcopyrite 5, Pyrite 10, Malachite 2,	mag/carb/cpy/act/chl vein/massive, texturally destructive replacement likely same trend as structure meas	Vn 215 / 66	2.5200	1.27	4.34	22.80	
2028	Cathedral	South Cathedral	346750	6218402	1806	689828	Outcrop	Actinolite 3, Silica 2, Carbonate 4	Chalcopyrite 0.03, Pyrite 1	blck corridor act/blck carb? chl, late fecarb,feox	Vn 252 / 62	0.2270	0.15	2.17	128.00	
2029	Cathedral	South Cathedral	346835	6218367	1817	689828	Outcrop	Albite 4, Carbonate 3, Actinolite 3	Chalcopyrite 0.1, Pyrite 0.1	reps trans alb	Vn 180 / 44	0.0477	0.03	0.18	2.00	
2030	Cathedral	South Cathedral	346826	6218253	1818	689828	Outcrop	Albite 4, Carbonate 3, Actinolite 3	Chalcopyrite 1, Pyrite 1	most easterly stckwk provides min thickness for zone. hang wall thrust fault.	Vn 178 / 50	0.9350	0.02	2.20	4.00	
2031	Cathedral	South Cathedral	346823	6218255	1814	689828	Outcrop	Albite 4, Actinolite 3, Epidote 3	Chalcopyrite 0.5, Pyrite 1	same zone as 2030, abundant stckwk textures noted containing sulphides the latter also as disseminations replacing mafics.	Vn 160 / 46	0.7950	0.36	1.85	15.00	
2032	Cathedral	South Cathedral	346712	6218371	1835	689828	Outcrop	Albite 3, Carbonate 2, Epidote 2	Pyrite 0.5, Chalcopyrite 0.01	strg alb altrd qz monzo w/ stockwrk act-mt-epi-py-cpy. thin section to define altrn and act w/n host and veins. polished for au associations w/ sulphides.	Vn 204 / 55	0.0315	0.01	0.13	9.70	
2033	Cathedral	South Cathedral	346679	6218277	1849	689828	Outcrop	Silica 2, Feldspar Potassium 3, Sericite 3	Pyrite 0.01	kspr alt? carb mag vein uncertain relat to act/alb and barren kspr. possibly cuts all	Dyke 211 / 50	0.0022	0.02	0.05	27.90	
2034	Cathedral	South Cathedral	346923	6218854	1815	689828	Outcrop	Actinolite 3, Albite 2, Feldspar Potassium 2	Chalcopyrite 0.1, Pyrite 1	Pervasive to patchy, locally texturally destructive k-spar altrn. No biotit altrn noted	Vn 179 / 65	0.1640	0.32	2.93	8.60	
2035	Cathedral	South Cathedral	346983	6218918	1798	689828	Outcrop	Actinolite 3, Albite 4, Chlorite 3	Chalcopyrite 0.15, Pyrite 0.5	Pervasive often patchy Alb+chl/Act altrn noted frequently w/ increased sericite altrn of plag in areas where alb/act altrn weak.	Vn 224 / 58	0.0737	0.07	0.33	8.30	
2036	Cathedral	South Cathedral	347127	6218978	1797	689828	Outcrop	Feldspar Potassium 4	Chalcopyrite 0.05, Pyrite 0.01, Magnetite 1,	carb/cu/mystery mineral	Vn 226 / 52	0.4190	0.05	1.01	4.70	
2037	Cathedral	South Cathedral	347136	6218979	1798	689828	Outcrop	Feldspar Potassium 4, Biotite 2	Magnetite 4, Chalcopyrite 0.4, Pyrite 0.8,	potassic cu minz discontinuous local stckwk. doesnot appear to grade into other alts. presens of qtz similar to gully veins	Vn 212 / 41	0.5370	0.23	2.74	14.40	
2101	Cathedral	South Cathedral	346434	6217958	1981	689828	Float	Chlorite 3	Pyrite 7	All mafics strongly chl+/-py altrd. Localized pyritic veins noted, abundant fe-stain of fldspar.		0.0341	0.01	0.16	29.00	
2102	Cathedral	South Cathedral	346543	6218017	1910	689828	Outcrop	Iron oxide 3, Chlorite 5	Chalcopyrite 35, Pyrite 35	0.5m mineralized zone high fe oxide alt w/ semi-massive, coarse blebby cpy and py w/n pervasive texturally destructive chlorite altrd host.		8.5900	0.97	14.15	111.00	

**2017 Rock Sample Details
Cathedral Property**

SampleID	Project	Prospect	UTM Zone 10 (NAD83)			Tenure ID	Sample Type	Alteration (Scale 1-5)	Description		Structure (Strike/Dip)	Cu (%)	Au (ppm)	Ag (ppm)	As (ppm)
			Easting	Northing	Elev_m				Mineralization (%)	Field Sample Description					
2103	Cathedral	South Cathedral	346549	6218024	1918	689828	Outcrop	Chlorite 5, Albite 2	Chalcopyrite 20, Pyrite 20			4.5600	0.85	10.40	8.00
2104	Cathedral	South Cathedral	346712	6217996	1934	689828	Subcrop	Chlorite 2, Epidote 2	Chalcopyrite 0.01			0.0255	0.01	0.07	1.80
2105	Cathedral	South Cathedral	346734	6218026	1926	689828	Outcrop	Epidote 3, Chlorite 2	Chalcopyrite 0.1, Pyrite 2		Vn 348 / 25	0.0152	0.01	0.07	13.60
2106	Cathedral	South Cathedral	346755	6218085	1925	689828	Subcrop	Albite 4, Chlorite 3	Chalcopyrite 1, Pyrite 2			0.9740	0.03	2.50	5.10
2107	Cathedral	South Cathedral	347024	6218247	1759	689828	Outcrop	Albite 2, Chlorite 2, Sericite 1	Chalcopyrite 0.5, Pyrite 0.1		Vn 176 / 58	0.0157	0.01	0.04	2.50
2108	Cathedral	South Cathedral	347156	6217883	1858	689828	Outcrop	Chlorite 4	Chalcopyrite 0.1, Pyrite 0.5			0.0180	0.01	0.05	3.10
2109	Cathedral	South Cathedral	347187	6217932	1815	689828	Subcrop	Clay 1, Chlorite 2			Vn 182 / 44	0.0043	0.01	0.18	15.00
2110	Cathedral	South Cathedral	347170	6218208	1746	689828	Outcrop	Carbonate 2	Malachite 0.01		Vn 155 / 38	0.1030	0.01	0.27	3.50
2111	Cathedral	Gully	347393	6217926	1749	689828	Outcrop	Silica 4, Chlorite 3, Carbonate 3	Chalcopyrite 5, Pyrite 2			1.9850	0.05	2.61	10.80
2112	Cathedral	South Cathedral	347830	6218187	1674	689828	Outcrop	Chlorite 2, Clay 2, Feldspar Potassium 1	Pyrite 10, Chalcopyrite 7		Vn 192 / 44	1.6400	0.31	1.70	20.20
2113	Cathedral	South Cathedral	347830	6218187	1674	689828	Outcrop	Chlorite 3, Carbonate 1	Pyrite 10, Chalcopyrite 1			0.0840	0.03	0.27	6.70
2114	Cathedral	Gully	347833	6218185	1671	689828	Outcrop	Chlorite 5, Clay 2	Chalcopyrite 1, Pyrite 7		F 163 / 46	0.7350	0.09	1.51	106.50
2115	Cathedral	Pinnacle	347397	6219166	1848	689828	Subcrop	Chlorite 5, Carbonate 2	Pyrite 10, Chalcopyrite 0.3			0.0038	0.01	0.07	30.60
2116	Cathedral	Pinnacle	347369	6219191	1827	689828	Outcrop	Carbonate 4, Chlorite 2, Epidote 1	Pyrite 0.001			0.0357	0.01	0.12	4.40
2117	Cathedral	Pinnacle	347467	6219241	1788	689828	Outcrop	Chlorite 4, Carbonate 4	Pyrite 15, Chalcopyrite 0.3			0.0882	0.01	0.90	46.60
2118	Cathedral	South Cathedral	346659	6218450	1806	689828	Outcrop	Epidote 3, Feldspar Potassium 1	Pyrite 0.01		Cnt 274 / 78	0.0036	0.01	0.03	3.60
2119	Cathedral	South Cathedral	346595	6218351	1859	689828	Outcrop	Carbonate 4, Albite 3, Actinolite 3	Chalcopyrite 2, Pyrite 0.2		Vn 165 / 38	0.1530	0.01	0.61	5.90
2120	Cathedral	South Cathedral	346475	6218245	1935	689828	Outcrop	Silica 2, Sericite 2, Chlorite 2			Cnt 160 / 38	0.0205	0.01	0.10	1.70
2121	Cathedral	South Cathedral	346489	6218189	1928	689828	Outcrop	Chlorite 1	Pyrite 0.01			0.0121	0.01	0.29	2.10
2122	Cathedral	South Cathedral	346469	6218175	1934	689828	Outcrop	Albite 4				0.0007	0.01	0.02	3.00
2123	Cathedral	South Cathedral	347133	6218783	1733	689828	Outcrop	Carbonate 3, Actinolite 2	Chalcopyrite 10, Pyrite 2		Vn 190 / 68	0.1890	0.01	0.38	0.70
2124	Cathedral	South Cathedral	347159	6218803	1716	689828	Outcrop	Feldspar Potassium 3, Chlorite 2, Epidote 1	Pyrite 0.5			0.0088	0.01	0.03	2.60
2125	Cathedral	South Cathedral	347169	6218792	1718	689828	Outcrop	Carbonate 4, Iron oxide 3, Chlorite 3	Chalcopyrite 1, Pyrite 2		Vn 174 / 56	0.5190	0.13	1.91	131.00
2126	Cathedral	South Cathedral	347194	6218747	1714	689828	Outcrop	Carbonate 3	Chalcopyrite 0.5, Pyrite 0.1		Vn 188 / 46	0.1655	0.02	0.87	25.00
2127	Cathedral	South Cathedral	347210	6218681	1687	689828	Outcrop	Feldspar Potassium 5, Sericite 2	Chalcopyrite 0.1			0.0127	0.01	0.07	1.10
2128	Cathedral	South Cathedral	347085	6218596	1730	689828	Outcrop	Carbonate 4, Epidote 2	Chalcopyrite 0.1		Vn 165 / 42	0.0180	0.01	0.08	2.60
2129	Cathedral	South Cathedral	347156	6218568	1700	689828	Outcrop	Hematite 4, Biotite 2				0.0109	0.01	0.04	2.20

**2017 Rock Sample Details
Cathedral Property**

SampleID	Project	Prospect	UTM Zone 10 (NAD83)			Tenure ID	Sample Type	Description			Structure (Strike/Dip)	Cu (%)	Au (ppm)	Ag (ppm)	As (ppm)
			Easting	Northing	Elev_m			Alteration (Scale 1-5)	Mineralization (%)	Field Sample Description					
2130	Cathedral	South Cathedral	347350	6218029	1706	689828	Outcrop	Ankerite 5, Clay 3, Smectite 2				0.0203	0.01	0.05	2.10
2131	Cathedral	South Cathedral	347409	6217572	1826	689843	Outcrop	Epidote 2		white fspr orthoclase, no mineralization sample to accompany thin section.		0.0028	0.01	0.03	3.10
2132	Cathedral	South Cathedral	347214	6218583	1725	689828	Outcrop	Carbonate 4, Feldspar Potassium 3, Chlorite 3	Chalcopyrite 0.5, Pyrite 0.01	highly fractured and fe carb altrd qtz monzo. mag veins altrd to hem noted however difficult to measure. act veins and fractures also noted containing blebby cpy. mal on weathered surface.		0.3550	0.06	0.79	3.80
2133	Cathedral	Cathedral	347306	6218979	1755	689828	Float	Amphibole 2, Iron oxide 4	Pyrite 5, Chalcopyrite 2	sample taken from a moderate sized gossanous sub-angular float boulder. host is a qtz monzonite w/ noted act-py-cpy vein that is yuggy w/ gosson. vfg-fg dissem cpy and py dissem w/n mafic sites proximal to vein.		0.2760	0.03	1.70	23.40
2134	Cathedral	Cathedral	347333	6219000	1760	689828	Outcrop	Feldspar Potassium 4, Carbonate 4, Epidote 2	Chalcopyrite 10	stronly kspar alt qtz monz. actinolite sulfide breccia veining and large milky qtz calcite veins. cpy, py mal	Vn 180 / 62	0.3630	0.11	1.18	12.90



Legend

2017 Rock Sample Location
 Label: SampleID
 Cu (ppm) ≥ 10000 ppm
 Au (ppm) ≥ 1.00 ppm
 Ag (ppm)

Area of Interest(s)
 Primary
 Secondary

Mineral Tenure (as of Nov 11, 2017)
 Label: Tenure Name and ID
 X Elevation Point
 Elevation Contour - 100m Interval (Metres a.s.l.)
 Watercourse
 Waterbody

Figure 5

Date: 2017/11/24	Cathedral Property
Revision: -	
Version: 1.0	
Figure: A3	
Author: WSH	
Office: Vancouver	2017 Field Program Rock Sample Results
Scale: 1:5,000	Cu (ppm), Au (ppm), Ag (ppm)
	August 11-22, 2017
Filename: 20171124_2017_Rock_Sample_Results_Cu_Au_Ag.mxd	
Location: NTS 093C03.04.05, Omineca Mining Division	
Projection: UTM Zone 10 (NAD83)	
0 50 100 150 200 250 Meters	

Legend

Contact Type (Defined, Approximate, Inferred)

- Contact (Defined)
- Contact (Approximate)
- Contact (Inferred)
- Reverse Fault (Defined (>30))
- Reverse Fault (Approximate)
- Strike-slip (Defined (Sub-vertical))
- Strike-slip (Approximate)
- Thrust Fault (Defined (<30), Approximate, Inferred)

Outcrop Limits

- Limit of Outcrop

Outcrop Lithology Compilation

- Quartz monzonite

Lithology Interpreted

- Quartz monzonite
- Syenite

Hydrothermal Vein Readings

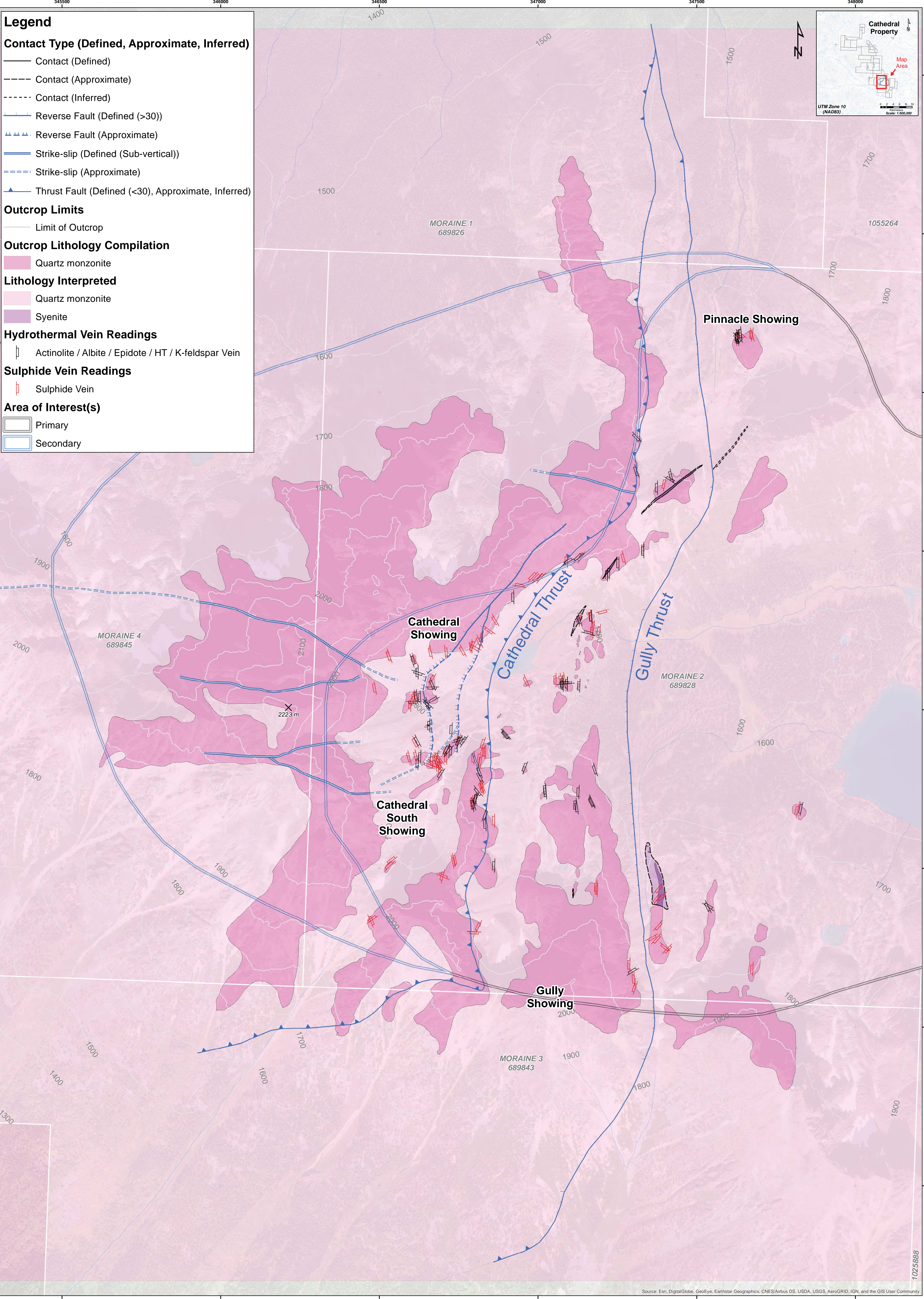
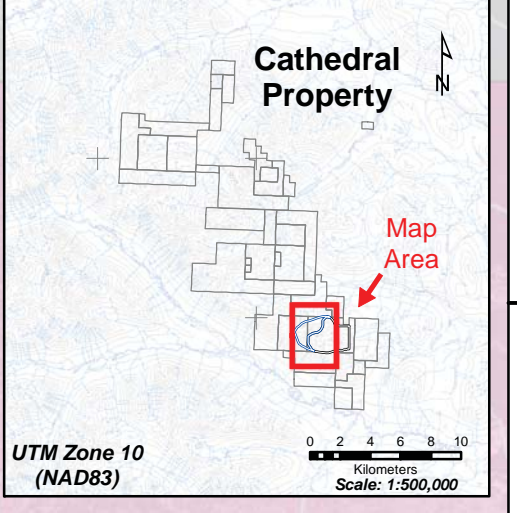
- Actinolite / Albite / Epidote / HT / K-feldspar Vein

Sulphide Vein Readings

- Sulphide Vein

Area of Interest(s)

- Primary
- Secondary



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 19

Date: 2017/12/08	Cathedral Property
Rev: --	
Version: 1.0	2017
Figure: --	Field Program
Author: WSH	Geology
Office: Vancouver	with
Scale: 1:5,000	Structure
Filename: 20171208_Figure 19_Geology_with_Structure_Symbols_v3_SX.mxd	August 11-22, 2017
Location: NTS 093C03.04.05, Omineca Mining Division	
Projection: UTM Zone 10 (NAD83)	

Legend

- Contact (Defined)
- Contact (Approximate)
- Contact (Inferred)

Mapped or Interpreted Alteration Types

- Epidotization, epidote+/-chlorite
- Propylitic, epidote-albite-pyrite+/-chlorite
- Inner Propylitic, Albite-actinolite-epidote-pyrite-chalcopryrite or epidote-albite-pyrite+/-chlorite
- Sodic-calcic, Albite-actinolite-carbonate-pyrite-chalcopryrite
- Sodic, Albite flooding +/- epidote
- Calc-silicate, quartz-carbonate
- Magnetite, Magnetite-chalcopryrite
- Calcic, Fe-carbonate
- Potassic, K-feldspar-actinolite-chalcopryrite or K-feldspar flooding +/- actinolite+/-epidote
- Calc-potassic, K-feldspar flooding +/- actinolite+/-epidote or K-feldspar-actinolite-chalcopryrite

Contact Type (Defined, Approximate, Inferred)

- Contact (Defined)
- Contact (Approximate)
- Contact (Inferred)
- Reverse Fault (Defined (>30))
- Reverse Fault (Approximate)
- Strike-slip (Defined (Sub-vertical))
- Strike-slip (Approximate)
- Thrust Fault (Defined (<30), Approximate, Inferred)

Area of Interest(s)

- Primary
- Secondary

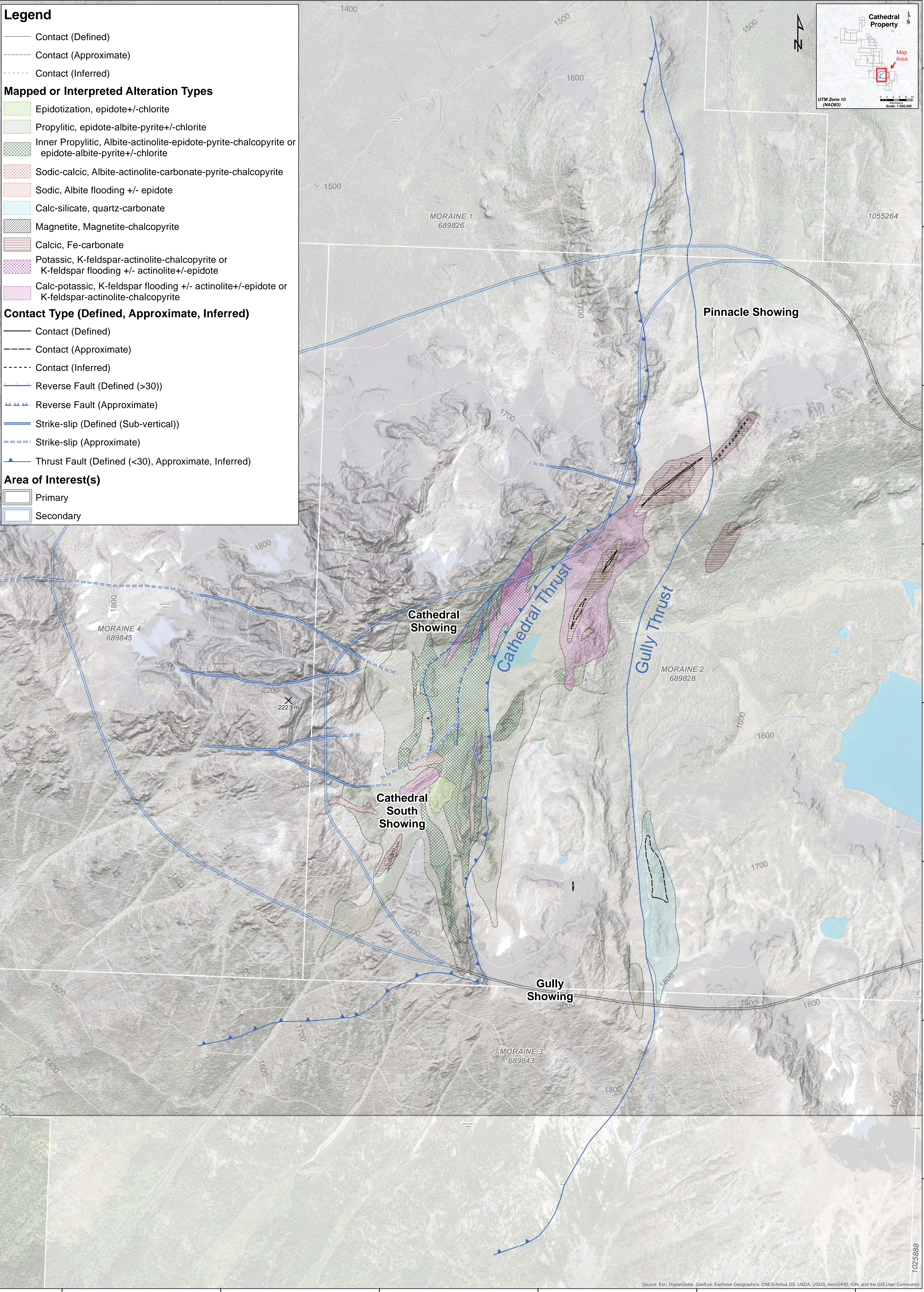
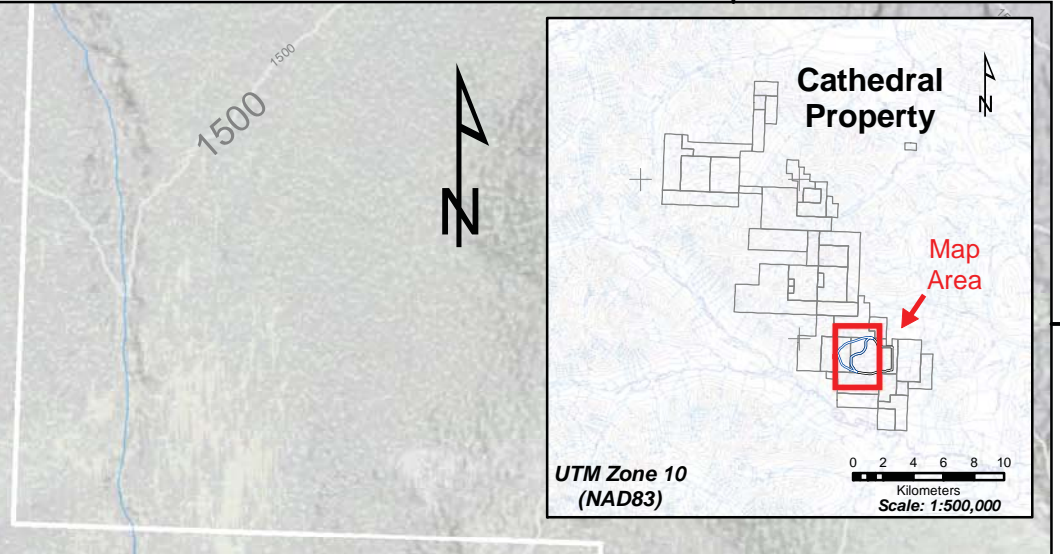


Figure 20

Date: 2017/12/08	Cathedral Property 2017 Field Program Mapped & Interpreted Alteration
Rev: --	
Version: 1.0	
Figure: --	
Author: WSH	
Office: Vancouver	
Scale: 1:5,000	August 11-22, 2017
Filename: 20171208_Figure 20 Alteration with Hydrothermal_Veins_Portal_55.mxd	
Location: NTS 093C03.04.05, Omineca Mining Division	
Projection: UTM Zone 10 (NAD83)	