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Ministry of Energy and Mines
BC Geological Survey

Assessment Report
Title Page and Summary

TYPE OF REPORT [type of survey(s)]: Geochemical

TOTAL COST: $48,481.77

AUTHOR(S): Christopher O. Naas **SIGNATURE(S):** [signature]

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): MX-13-240 **YEAR OF WORK:** 2013

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S): Event 5490034 / 2014-02-14

PROPERTY NAME: Cathedral

CLAIM NAME(S) (on which the work was done): 688823, 688843, 688863, 689826, 689828

COMMODITIES SOUGHT: Cu, Au, Ag

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

MINING DIVISION: Omineca **NTS/BCGS:** 094C03, 094C04, 094C05

LATITUDE: 56 ° 07 ' 57 " **LONGITUDE:** 125 ° 32 ' 05 " **(at centre of work)**

OWNER(S):
1) Thane Minerals Inc.
2)

MAILING ADDRESS:
2130-21331 Gordon Way
Richmond BC V6W 1J9

OPERATOR(S) [who paid for the work]:
1) Thane Minerals Inc.
2)

MAILING ADDRESS:
2130-21331 Gordon Way
Richmond BC V6W 1J9

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

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TYPE OF WORK IN THIS REPORT	EXTENT OF WORK (IN METRIC UNITS)	ON WHICH CLAIMS	PROJECT COSTS APPORTIONED (incl. support)
GEOLOGICAL (scale, area)			
Ground, mapping			
Photo interpretation			
GEOPHYSICAL (line-kilometres)			
Ground			
Magnetic			
Electromagnetic			
Induced Polarization			
Radiometric			
Seismic			
Other			
Airborne			
GEOCHEMICAL (number of samples analysed for...)			
Soil	90 (XRF)	688843	24,840.43
Silt			
Rock	80 (AR-ICP, Fire Assay, Copper Assay)	688823, 688843, 688863, 689826, 68	23,631.35
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:	$48,481.77

ASSESSMENT REPORT
ROCK AND SOIL GEOCHEMISTRY
of the
Cathedral Mineral Claims
(688823, 688843, 688863, 689826, 689828)
Omineca Mining Division, British Columbia, Canada

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

by
Christopher O. Naas, *P.Geo.*
CME Consultants Inc.
February 12, 2014

NTS 094C03, 094C04, 094C05, 094C06
Latitude: 56°09'30"N
Longitude: 125°36'37"W

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1.0 INTRODUCTION

The Cathedral property (the “Property”) is centred at latitude 56° 10’ N and longitude 125° 38’ 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. (The Property has been previously referred to as the ‘Thane’ or ‘Thane Creek’ property.)

This report summarizes the work completed during the 2013 field visit conducted by CME Consultants Inc. (CME) on the Cathedral Property at the request of Thane Minerals Inc. (Thane Minerals). Exploration was localized to the Pinnacle Showing of the Cathedral Area (mineral tenures 689826, 689828) and the Lake Area (mineral tenures 688823, 688843, 688863). Fieldwork was carried out from July 19, 2013 to July 31, 2013. The work program consisted of geochemical sampling and included:

- rock sampling (Pinnacle Showing and Lake Area): 77 samples; and,
- gridded soil sampling (Lake Area): 2.875 line-km, 4 lines, 96 station, 90 samples.

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.

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

0 — 100km

THANE MINERALS INC.

PROPERTY LOCATION MAP
Cathedral Project

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

Project No:	C122	By:	TV
Scale:	1:3,000,000	Drawn:	TV
Figure:	1	Date:	January 2014

CME

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 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 30,915 hectare Property consists of 81 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	Worked On
684223	432.3316	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684224	432.5979	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684225	450.6116	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684227	450.6105	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684229	450.5886	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684230	432.862	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684243	450.8407	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684244	414.7706	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684246	414.7606	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684247	360.8007	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684248	252.555	Thane Minerals Inc.	MTO Cell	2015/dec/13	

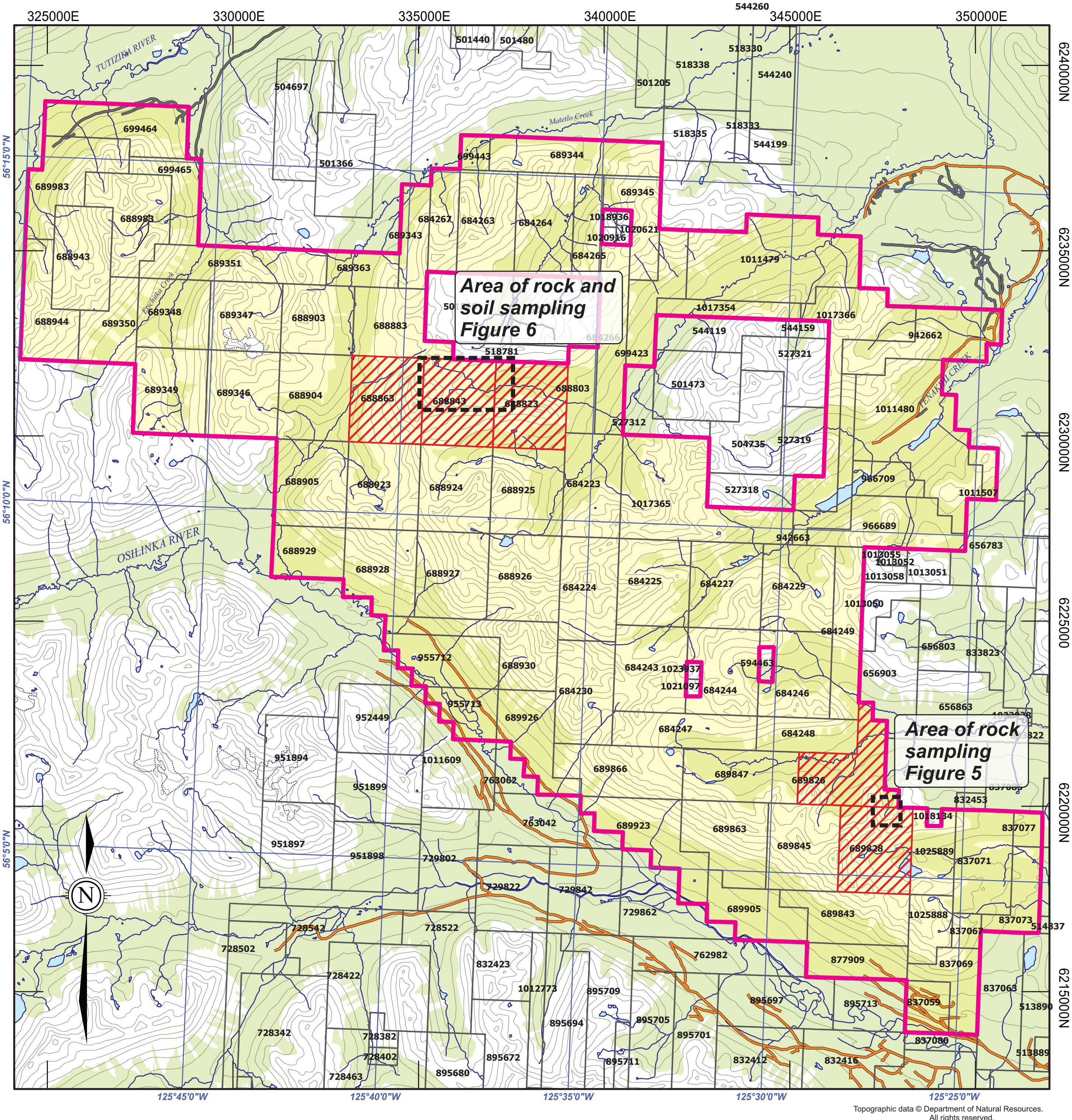
Table 1: List of Mineral Tenures *(cont'd)*

Tenure Number	Area (ha)	Owner	Tenure Type	Good To Date	Worked On
684249	360.5609	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684263	431.6254	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684264	431.6224	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684265	215.8128	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684266	395.9435	Thane Minerals Inc.	MTO Cell	2015/dec/13	
684267	215.8139	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688803	180.0289	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688823	450.1158	Thane Minerals Inc.	MTO Cell	2015/dec/13	YES
688843	450.1199	Thane Minerals Inc.	MTO Cell	2015/dec/13	YES
688863	450.1089	Thane Minerals Inc.	MTO Cell	2015/dec/13	YES
688883	395.9113	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688903	359.9095	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688904	450.1039	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688905	450.3414	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688923	450.3466	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688924	450.3581	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688925	450.3554	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688926	450.5812	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688927	450.5786	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688928	414.5194	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688929	270.3141	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688930	432.7332	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688943	431.7776	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688944	359.9417	Thane Minerals Inc.	MTO Cell	2015/dec/13	
688983	449.6325	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689343	215.8346	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689344	431.4197	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689345	287.7401	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689346	450.1055	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689347	359.9105	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689348	359.9369	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689349	450.1547	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689350	287.9798	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689351	449.752	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689363	179.897	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689826	433.0388	Thane Minerals Inc.	MTO Cell	2015/dec/13	YES
689828	451.2893	Thane Minerals Inc.	MTO Cell	2015/dec/13	YES
689843	415.3282	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689845	451.2932	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689847	433.0691	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689863	451.2791	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689866	451.1081	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689905	325.0417	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689923	451.2822	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689926	360.8033	Thane Minerals Inc.	MTO Cell	2015/dec/13	
689983	431.5325	Thane Minerals Inc.	MTO Cell	2015/dec/13	
699423	323.8649	Thane Minerals Inc.	MTO Cell	2015/dec/13	

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

Tenure Number	Area (ha)	Owner	Tenure Type	Good To Date	Worked On
699443	71.9028	Thane Minerals Inc.	MTO Cell	2015/dec/13	
699464	431.3494	Thane Minerals Inc.	MTO Cell	2015/dec/13	
699465	233.7708	Thane Minerals Inc.	MTO Cell	2015/dec/13	
837059	162.6033	Thane Minerals Inc.	MTO Cell	2015/dec/13	
837067	72.2301	Thane Minerals Inc.	MTO Cell	2015/dec/13	
837069	252.8936	Thane Minerals Inc.	MTO Cell	2015/dec/13	
837071	433.2248	Thane Minerals Inc.	MTO Cell	2015/dec/13	
837073	216.6435	Thane Minerals Inc.	MTO Cell	2015/dec/13	
837077	72.1912	Thane Minerals Inc.	MTO Cell	2015/dec/13	
877909	252.8778	Thane Minerals Inc.	MTO Cell	2015/dec/13	
942662	449.8854	Thane Minerals Inc.	MTO Cell	2015/dec/13	
942663	234.138	Thane Minerals Inc.	MTO Cell	2015/dec/13	
955712	378.6751	Thane Minerals Inc.	MTO Cell	2015/dec/13	
955713	216.4505	Thane Minerals Inc.	MTO Cell	2015/dec/13	
966689	432.3865	Thane Minerals Inc.	MTO Cell	2015/dec/13	
966709	162.1004	Thane Minerals Inc.	MTO Cell	2015/dec/13	
1011479	899.3825	Thane Minerals Inc.	MTO Cell	2015/dec/13	
1011480	936.3021	Thane Minerals Inc.	MTO Cell	2015/dec/13	
1011507	72.0364	Thane Minerals Inc.	MTO Cell	2015/dec/13	
1017354	179.9343	Thane Minerals Inc.	MTO Cell	2014/mar/01	
1017365	864.7239	Thane Minerals Inc.	MTO Cell	2014/mar/01	
1017366	593.9681	Thane Minerals Inc.	MTO Cell	2014/mar/01	
1025888	198.6395	Thane Minerals Inc.	MTO Cell	2015/dec/13	
1025889	252.7215	Thane Minerals Inc.	MTO Cell	2015/dec/13	

The Lorraine deposit is the closest to the Property, located approximately 16 kilometres south of the southern boundary of the Property (Figure 3). The deposit is hosted within rocks assigned to the Middle Jurassic Duckling Creek Syenite Complex, part of the Hogem intrusive suite. The most recent resource estimate included only the Upper Main and Bishop Zones. The Upper Main zone resource was estimated at 11.89 Mt grading 0.71% copper and 0.26 g/t gold of measured and indicated and 3.96 Mt grading 0.70% copper and 0.25 g/t gold inferred. The Bishop zone resource was estimated at 7.72 Mt grading 0.64% copper and 0.07 g/t gold measured and indicated and 2.87 Mt grading 0.62 % copper and 0.05 g/t gold inferred (Garratt and Lindinger, 2009).



LEGEND

Cathedral Property

Work claims

728342 Other tenure boundaries (as of February 12, 2014)

Topography

Gravel road (not all roads and trails shown)

Contour (100 metre interval)

Watercourse

Waterbody

Vegetated area

0 5km

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

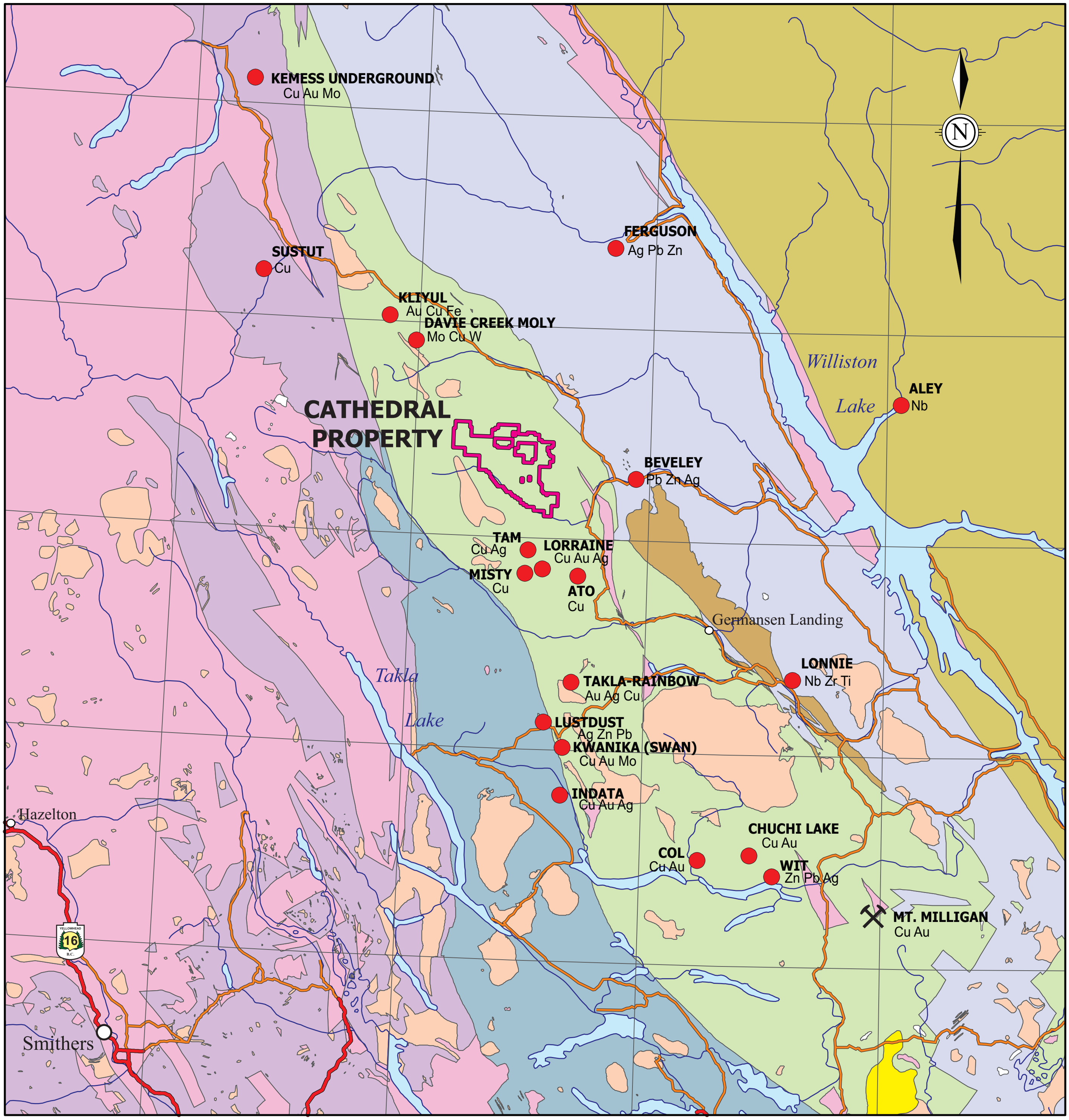
THANE MINERALS INC.

MINERAL TENURE MAP
Cathedral Property

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

Project No:	C122	By:	TV
Scale:	1:150,000	Drawn:	TV
Figure:	2	Date:	February 2014

CME



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

0 50km

THANE MINERALS INC.

REGIONAL GEOLOGY AND ECONOMIC SETTING
Cathedral Property
Cathedral Project
Omineca M.D., British Columbia, Canada

Project No:	C122	By:	TV
Scale:	1:1,500,000	Drawn:	TV
Figure:	3	Date:	February 2014

CME

2.0 WORK HISTORY

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

Exploration of the Hogem batholith and surrounding area was initiated in the late 1800's with placer gold being discovered in the district in 1868. During the 1930's Consolidated Mining and Smelting Ltd. explored the margins of the Hogem batholith and conducted underground exploration on several properties for gold, silver, lead and mercury. Kennco Explorations Ltd. explored and staked portions of the Hogem batholith near Duckling Creek in the 1940's. In the early 1970's, mineralization on the Lorraine property discovered by Kennco and subsequently held by Granby Mining Company represented the only significant mineralization found to that date. At the time it was estimated that the Lorraine deposit contained a maximum of 10 million tons grading 0.70% copper.

In the late 1960's and early 1970's the Belgian company, Union Miniere Exploration and Mining Corp. Ltd (UMEX) of Montreal conducted extensive regional exploration in north-central British Columbia, over the Property and surrounding areas. Regional work, carried out by Dolmage Campbell & Associates Ltd., included aeromagnetic surveying and silt sampling (Kalhert, 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 (>l00 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 and1991 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 (Ferri, 1991) 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, Swanell contracted Reliance Geological Services Inc. to explore the Aten group of claims for its alkalic porphyry copper-gold potential. During October 1991, a program of rock sampling (11 samples), stream sediment sampling (31 samples) and reconnaissance geological mapping at a scale of 1:10,000 was carried out. Two rock samples returned copper values of 2.82% and 2.83%. Based these values and on anomalous results from stream drainages, three target areas were identified. From there, further work was recommended consisting of grid establishment, detailed geological mapping, soil sampling, and talus fines sampling.

In 1993, Swanell Minerals Corporation worked on the Aten property encompassing the Tenakihi Creek Minfile occurrence. Fieldwork was designed to follow-up the anomalous rock and soil geochemistry identified in earlier exploration. Fieldwork consisted of a surveyed grid laid out over the north-central area of the property, geological mapping on the gridded area at a scale of 1:10,000, collection of 23 rock samples and 88 soil samples both analyzed for copper and gold. Lithogeochemistry 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 (Kula, 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	2.01
		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

3.0 GEOLOGY

3.1 REGIONAL GEOLOGY

The Property is situated within the Quesnel Terrane, on the eastern flank of the northern end of the Hogem batholith (Figure 3). The Quesnel Terrane is an accreted Mesozoic volcanic arc terrane that forms a north-south trending linear belt of rocks approximately 1,600 kilometre long along the eastern margin of the Canadian Cordillera. The terrane is dominantly Upper Triassic to Lower Jurassic volcano-sedimentary sequences that include the Takla, Nicola and Stuhini groups. Coeval and post-accretionary Cretaceous intrusions are scattered throughout this terrane. The Cretaceous Hogem multi-phase batholith is the largest of these intrusions, forming the spine of this island arc allochthonous, intermontane superterrane. The northwest-trending elongate Hogem batholith extends for approximately 120 kilometres from Chuchi Lake at the southernmost limits, to the Mesilinka River at the northern limit. It is bound on the west by the Pinchi Fault and on the east by the Upper Triassic to Lower Jurassic Takla volcanics. The Hogem batholith is composed of a peripheral zone of dioritic plutons, such as the Thane and Detni intrusives, surrounding a central granodioritic (Hogem granodiorite) and syenitic (Duckling Creek Complex) core. The Hogem batholith is intruded and crosscut by early to mid-Cretaceous granitic plutons, such as the Mesilinka Intrusive and the Osilinka Intrusive.

3.2 PROPERTY GEOLOGY

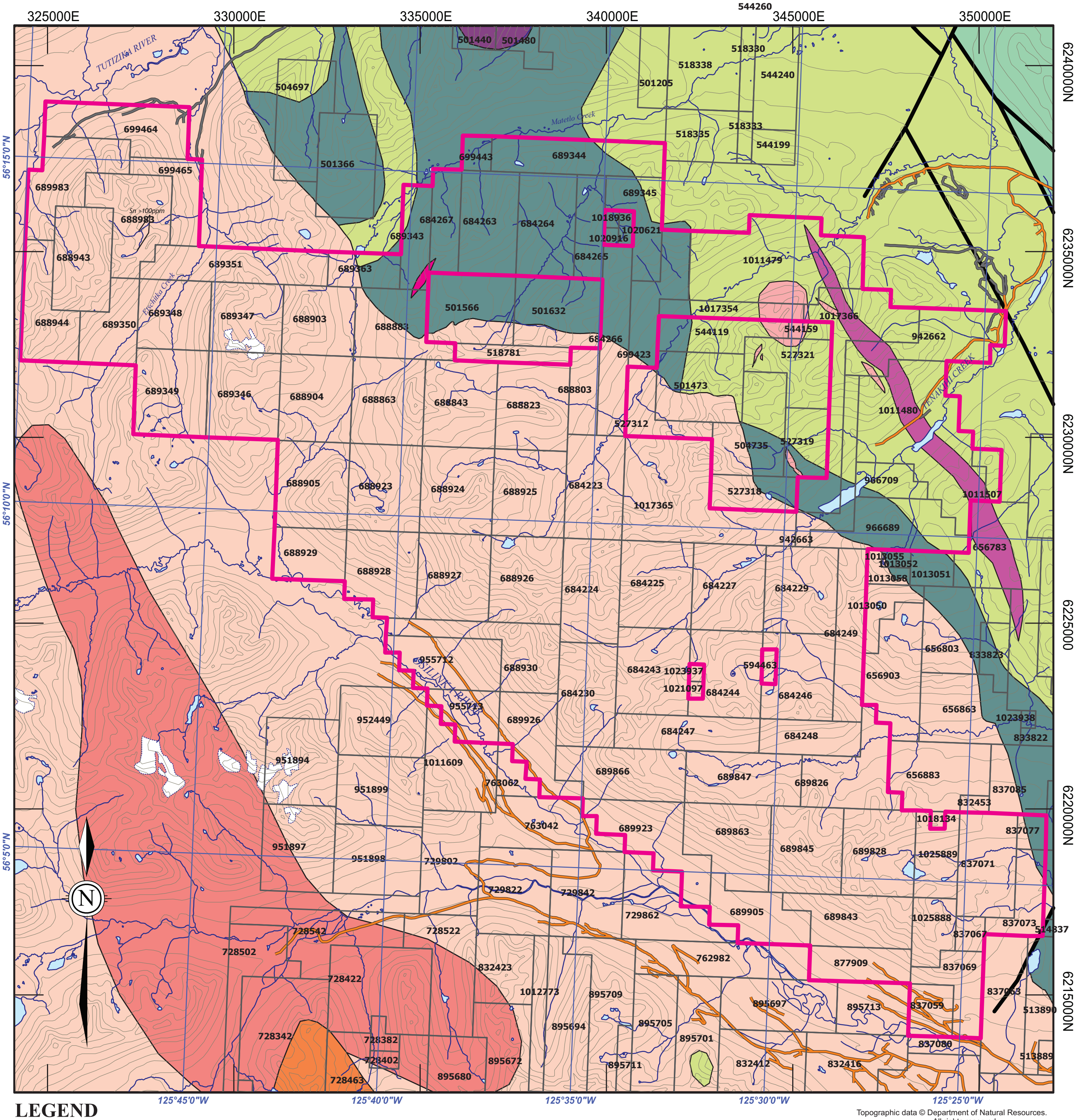
The Property is predominantly underlain by intrusive rocks of the Hogem Plutonic Suite (HPS). Intermediate volcanic rocks of the Takla Group are in contact with the HPS intrusives at the northeastern portion of the Property (Figure 4). Numerous dykes, sills and small stocks are noted in both the main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

Hogem Plutonic Suite

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

Quartz Monzonite

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



LEGEND

GEOLOGY

- Takla Group - sediments; volcanics
- Lay Range Assemblage - volcaniclastics

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
- 689866 Tenure boundary and number
- Gravel road (not all roads and trails shown)
- Contour (100 metre interval)
- Watercourse
- Waterbody

0 5km

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

THANE MINERALS INC.

GEOLOGY PLAN MAP
Cathedral Property

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

Project No:	C122	By:	TV
Scale:	1:150,000	Drawn:	TV
Figure:	4	Date:	February 2014

CME

Quartz monzonite of the HPS can be a range of colours, from grey to salmon pink, or gossanous due to variable alteration. Typically, fresh surfaces show black, white and pink crystals. Texturally, the unit may range from fine to very coarse-grained and equigranular. Plagioclase and potassium feldspars make up 60 to 80% of the rock (50-75% plagioclase and 25-50% potassic feldspar). Quartz ranges from 5 to 15% and mafic minerals (amphiboles and biotite) comprise 10 to 25%. Magnetite is variable, with generally higher concentrations noted in the Link and Lake area occurrences (3-5%, locally up to 15%).

Potassic alteration is pervasive and the most common alteration observed in the Cathedral Area. Intensity ranges from subtle to strong, giving the quartz monzonite the characteristic salmon pink colour. Potassic alteration appears to be stronger in the northern half of the mapped area which weakly coincides with increased presence of copper mineralization. Calcite is also consistently observed interstitially as well as along fracture surfaces and in veins. Chloritization is sporadic and may be present as veinlets or altering mafic minerals. Epidote is present as veins or selvage to quartz veinlets. In the western portion of the Cathedral Area, epidote veins (1mm, up to 10cm) are more common and are found as selvage to quartz veins. Quartz-calcite veinlets (<3mm wide) are observed throughout the Cathedral Area, comprised of quartz+/-calcite and may host sulphides. Malachite staining is prevalent throughout the area. Epidote alteration in the Link Area appears largely selective to selvages of calcite and/or quartz veinlets (<1-3mm wide) and veins (<1.5cm) but is also observed altering feldspar.

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

Granodiorite

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

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, Lake and ET Areas.

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.

Controls on mineralization are not yet well-defined. General observations thus far indicates that mineralization in the southern portion of the Property (Cathedral Area) is principally structurally controlled while the northern portions of the Property (Lake Area) show a more disseminated character of mineralization.

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 EXPLORATION

4.1 INTRODUCTION

Fieldwork was carried out from July 19 to July 31, 2013 at the Pinnacle Showing of the Cathedral Area and the Lake Area. A helicopter-supported base camp was setup at in both areas. Access to each sampling area from camp was by foot. Access and camp support was provided by Canadian Helicopters Ltd. of Smithers, BC using a Eurocopter B2 AStar. Demobilization utilized a Bell 206 Long Ranger.

Fieldwork conducted in each area included:

- Pinnacle Showing
  - Rock sampling: 54 samples.
- Lake Area
  - Rock sampling: 23 samples.
  - Grid establishment: 2.875 line-km (2.275 line-km cross-line, 0.600 line-km base-line, 96 sample stations); and,
  - Gridded soil sampling: 90 samples.

4.1 ROCK SAMPLING

A total of 77 rock samples, excluding control samples, were collected from the visited areas. Fifty-four (54) samples were collected from the Pinnacle Showing and 23 samples were collected from the Lake Area.

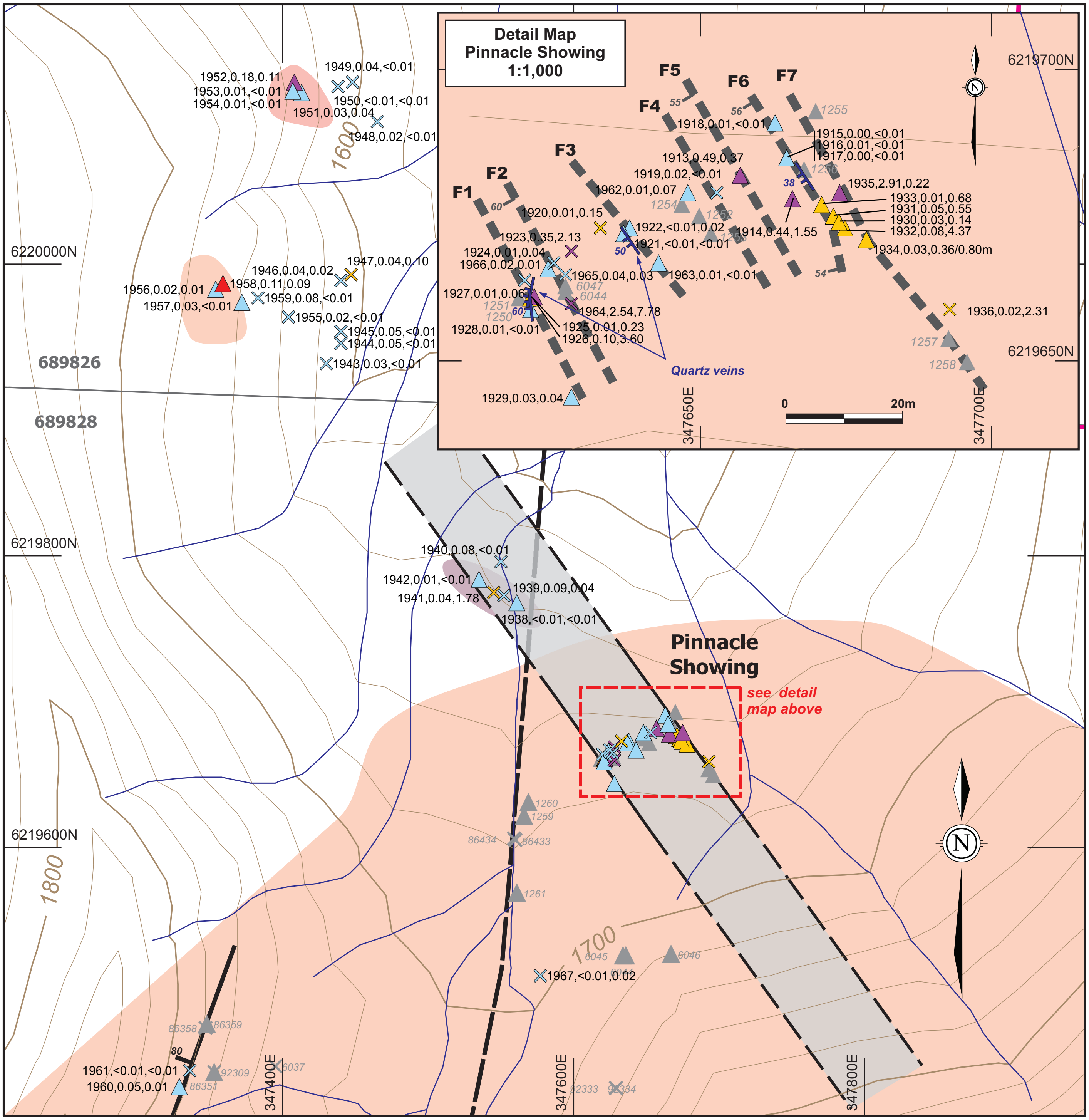
Rock samples were collected from outcrop and float sources. Samples were placed in thick polyethylene sample bags, labeled and sealed by flagging tape. All samples were delivered to Activation Labs (Actlabs) of Kamloops, BC for sample preparation and analysis for multi-elements and gold. Copper and gold assays were performed on all over limits. Sample details including location coordinates, descriptions and selected analytical results are presented in Appendix IIa. Methodology of sample preparation and analysis is presented in sections 10.1 and 10.2, respectively. Certificates of analysis are presented in Appendix III.

Rock sample location and geochemistry plan maps are presented in Figure 5 (Pinnacle Showing), and Figure 6 (Lake Area). Analytical results for copper and gold are presented on the respective geochemistry plan maps.

4.1.1 Pinnacle Showing, Cathedral Area

Rock samples were collected in the area of the Pinnacle Showing as well as further north along the projected extension of the inferred NNW-SSE trending fault zone. Three samples were also collected south and southwest of the showing. Selected anomalous rock samples are presented in Table 3.

The Pinnacle Showing consists of a 60 metre wide zone of parallel faults. Seven faults were identified during the current visit. These seven faults (designated F1 to F7) strike between 150° to 170° and dip 50° to 60° to the west (Figure 5). Plate 1 is a photograph of the Pinnacle Showing and also demonstrates the location of the faults. To date, rock samples collected from the two westernmost (F1, F2) and two easternmost (F6, F7) faults have returned the most significant gold results, though anomalous arsenic and gold have been encountered in the other structures as well. Significant gold samples invariably have anomalous arsenic values, although the converse does not necessarily hold. .



LEGEND

GEOLOGY

Dykes

- Rhyolite dyke
- Aplite dyke

Intrusives

- Quartz monzonite
- Granodiorite, granite
- Quartz diorite, diorite
- Monzonite

Structure

- Fault Zone
- Inferred fault

GEOCHEMISTRY

▲ ✕ Rock sample site: outcrop, float

1989,0.70,0.01 — 2013 samples, Cu %, Au g/t

92309 — 2010-2012 samples

Sample Colour Key **(2013 samples only)**

- Anomalous Cu: ≥0.1% Cu
- Anomalous Au: ≥0.1g/t Au
- Anomalous Cu and Au
- Not anomalous

TOPOGRAPHY

- Contour
- Watercourse
- Waterbody
- Property boundary
- 558588 Mineral tenure and ID

0 — 100m

NAD83 UTM Zone 10 North
NTS: 094C03,TRIM: 094C003

THANE MINERALS INC.

ROCK GEOCHEMISTRY PLAN MAP
2013 SAMPLING
Pinnacle Area

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

Project No: C122		By:	CN, TV
Scale:	1:4,000	Drawn:	TV
Figure:	5	Date:	February 2014

CME

Table 3: Selected rock sample results, Pinnacle Showing

Sample	Sample Type	Fault	Results			
			Au (ppb) [1]	Ag (ppm)	Cu (ppm) [1]	As (ppm)
1913	Outcrop	F5	371	2.7	4920	952
1914	Outcrop	F6	1550	4.7	4430	8860
1923	Float	F2 (?)	2130	9.6	3510	8130
1925	Outcrop	F1	233	0.8	69	646
1926	Outcrop	F1	**3.60 g/t**	2.8	1010	>10000
1930	Outcrop	F6	143	0.6	305	2370
1931	Outcrop	F6	548	0.6	493	9410
1932	Outcrop	F6	**4.37 g/t**	1.7	813	>10000
1933	Outcrop	F6	684	1.1	110	>10000
1934	Outcrop (0.80m chip)	F7	362	1.1	266	>10000
1935	Outcrop	F7	223	8.7	**2.91%**	1480
1936	Float	F7	2310	4.3	236	>10000
1964	Float	F2	**7.78 g/t**	12.3	**2.54%**	3670

[1] except where noted

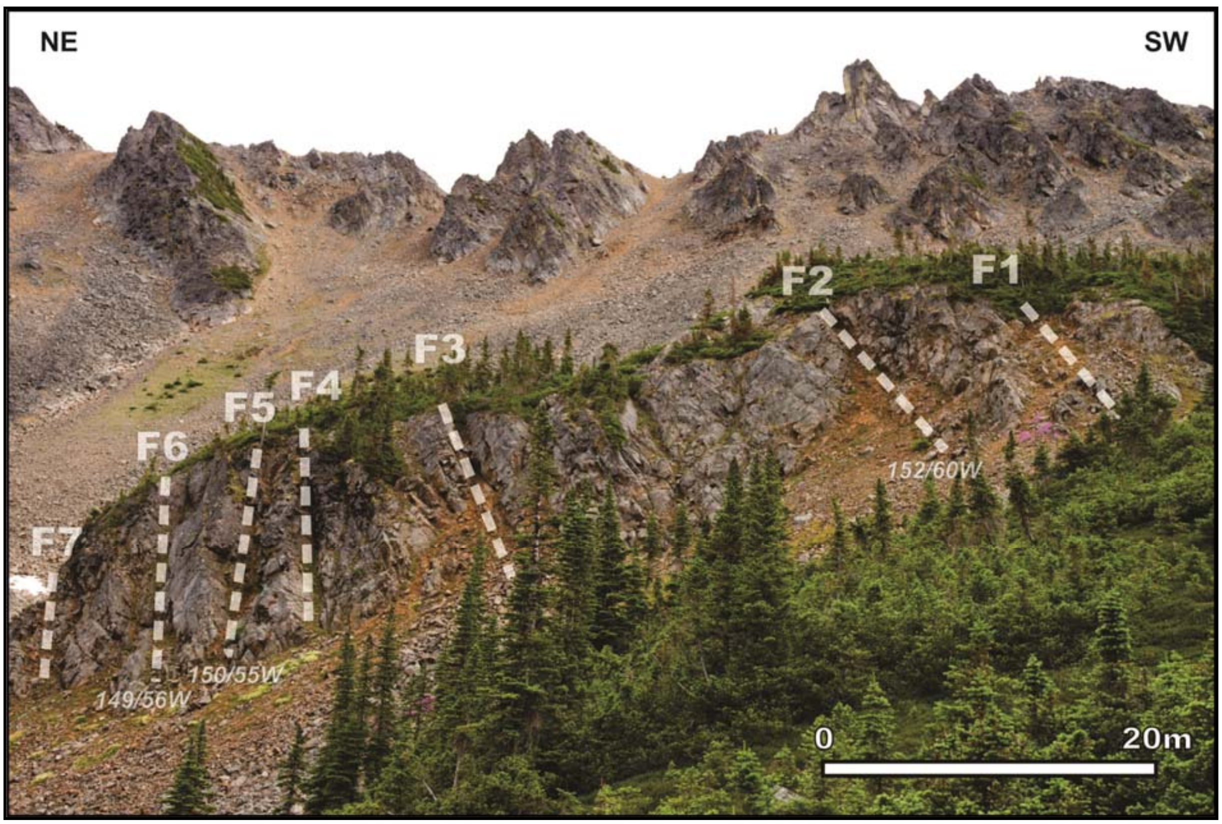


Plate 1: Photograph of the Pinnacle Showing, looking southeast, demonstrating the series of faults, F1 to F7.

Samples 1925 and 1926 were collected from the westernmost fault, F1, and returned 0.23 g/t Au and 3.60 g/t Au, respectively. Fault F2 is the source of samples 6044 and 6047 (collected in 2011) which returned 2.61 g/t Au and 1.94 % Cu and 20.10 g/t Au and 3.29% Cu, respectively. Sampling of this fault during the current program included sample 1964 which returned 7.78 g/t Au, 12.3 g/t Ag and 2.54% Cu from a brecciated dark green andesitic(?) rock with quartz vein filling. Large clots of chalcopyrite and pyrite occur in the veins, with arsenopyrite disseminated in the groundmass. Plate 2 illustrates the breccia style of the two samples from two different faults, more than 40 metres apart.

Sample 1913 returned 0.37 g/t Au from fault F5, while sampling of faults F6 and F7 yielded multiple samples of anomalous gold and arsenic +/- copper. Examples from fault F6 include 4.37 g/t Au and greater than 10,000 ppm As (sample 1932) and 1.55 g/t Au and 8,860 ppm As (sample 1914). Sample 1932 consisted mainly of quartz vein material with chlorite and minor carbonate and sulphides of pyrite, arsenopyrite and chalcopyrite. Sample 1914 consisted of quartz stockwork veining and a fine fracture network with red-brown alteration and associated chalcopyrite, pyrite and arsenopyrite.

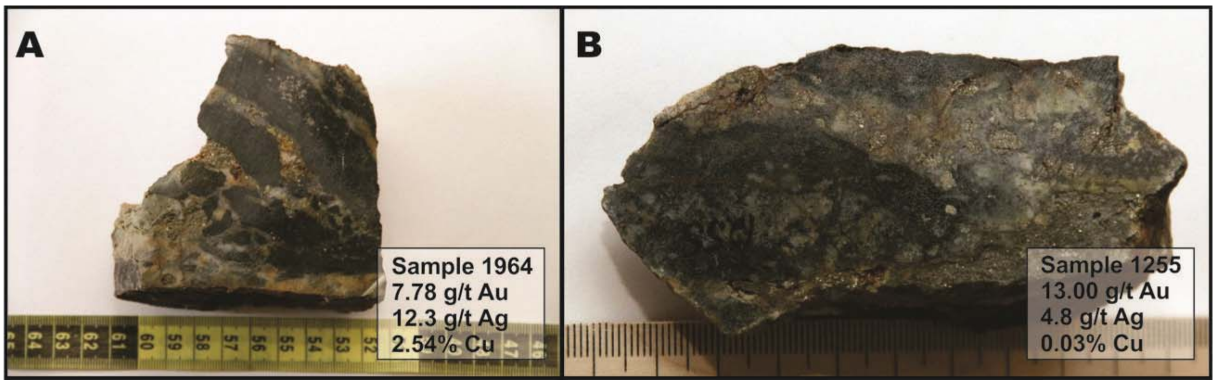


Plate 2: Photographs of examples of quartz vein breccias from the Pinnacle Showing. (A) Sample 1964 from fault F2 and (B) Sample 1255 from fault F7.

Samples from fault F7 include 1934, a 0.80 metre chip sample across a quartz vein, returning 0.36 g/t Au and greater than 10,000 ppm As. Sample 1935 returned 0.22 g/t Au and 1,480 ppm As, as well as 2.91% Cu. Along strike to the northwest, sample 1255, collected in 2012, returned 13.00 g/t Au. Along strike southeast sample 1257, collected in 2012, returned 2.31 g/t Au. A float sample of chlorite and silica-altered quartz monzonite with semi-massive arsenopyrite (10-15%) and minor pyrite (sample 1936) was collected near sample 1257 during the current program which returned 3.41 g/t Au. Samples 1255, 1257 and 1936 all returned greater than 10,000 ppm As.

Approximately 150 metres NNW along strike of the faults of the Pinnacle Showing, a series of samples were collected in the area interpreted as the intersection of the NNW-trending fault zone and a N-trending fault. Sample 1941, collected from a highly fractured to brecciated quartz vein material and mineralized with up to 2% pyrite, returned 1.78 g/t Au and 9.7 g/t Ag, but little copper (372 ppm).

Two other sampled areas, 400 metres and 520 metres NNW along strike of the faults of the Pinnacle Showing, identified anomalous copper. Sample 1958 returned 0.11 g/t Cu and 0.09 g/t Au (along with 44.4 ppm Cd, 207 ppm Sb, 2,390 ppm Zn) and sample 1952 returned 0.18% Cu and 0.02 g/t Au. Sample 1947 returned anomalous gold results of 0.10 g/t Au. A variety of intrusive types are noted in these two areas, from diorite to granite. The anomalous samples are associated with the dioritic phases or quartz veining.

No anomalous results were returned from sampling to the south and southeast of the Pinnacle Showing.

4.1.2 Lake Area

Rock samples were collected over a wide range of the Lake Area, spanning the main area of sampling in 2012 (Figure 6). Selected anomalous rock samples are presented in Table 4. The main lithologies encountered are diorite (e.g. 1975, 1978, 1981) to quartz monzonite (e.g. 1970, 1986). Several quartz veins (e.g. 1973), pegmatites (e.g. 1980) and aplite dykes (e.g. 1972) were also noted and sampled.

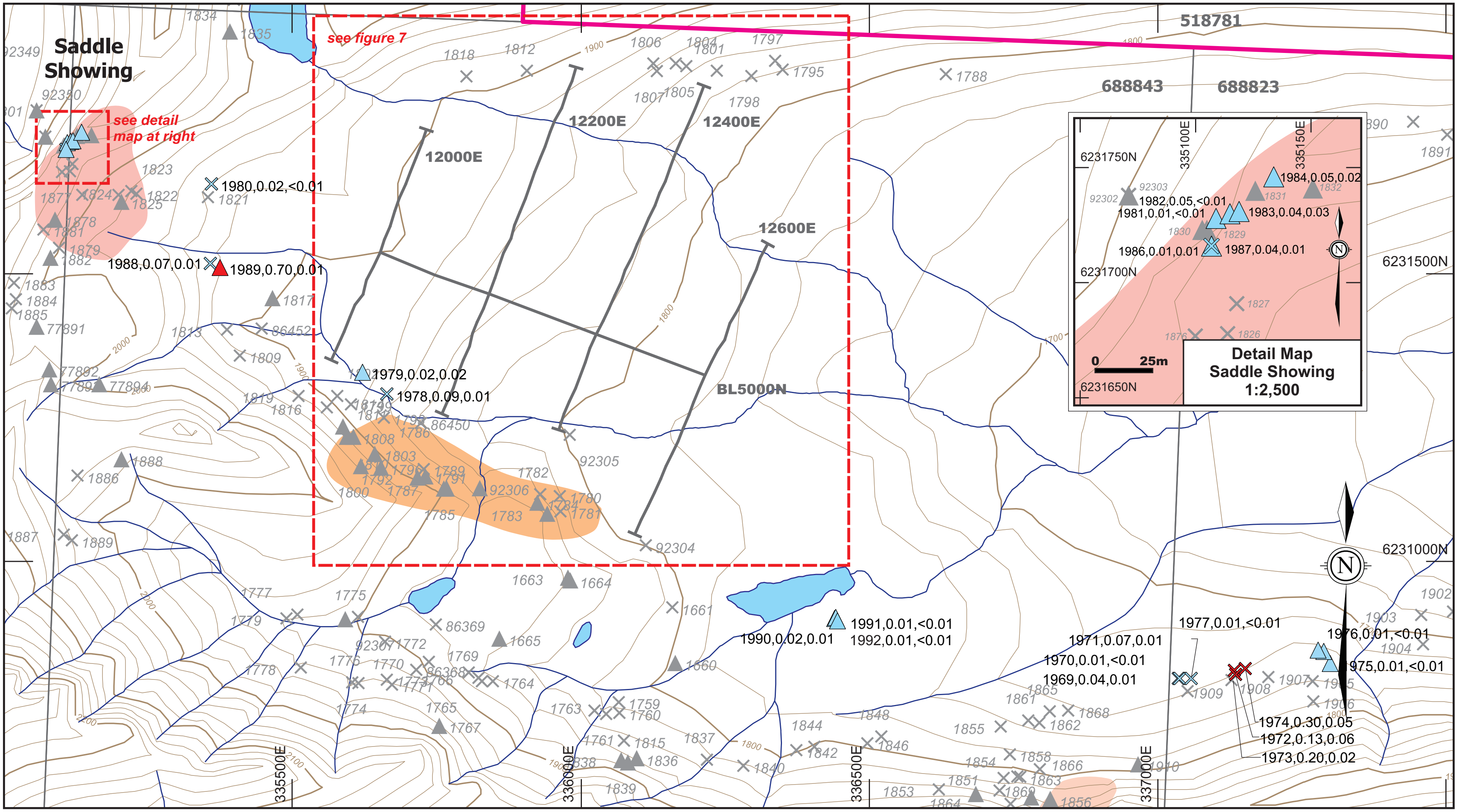
Six samples were collected from the Saddle Showing (Figure 6) in the vicinity of the anomalous samples located in 2012, including 1.52% Cu and 1.13% Cu (samples 1829 and 1830). None of the current samples returned any significant copper or gold values with the highest returning 469 ppm Cu and 17 ppb Au.

Downslope to the east, approximately 120 metres vertical in elevation, sample 1989 returned 0.70% Cu from dark green chloritic hornblende porphyritic volcanic, tentatively identified as a basalt. Disseminated chalcopyrite and surface coating of malachite are observed.

Further east, along the base of the north-facing cliffs, three float samples (1972, 1973, 1974) collected within a 20 metre area contained anomalous copper concentrations, ranging from 0.13% Cu to 0.30% Cu. Two of the samples, 1973 and 1974, also demonstrated anomalous concentrations of molybdenum of 279 ppm and 776 ppm Mo, respectively. Both these samples were of quartz veins. These samples are located around historical samples 1907 and 1908 which returned 0.44% Cu and 0.29% Cu, respectively.

Table 4: Selected rock sample results, Lake Area

Sample	Sample Type	Results				
		Au (ppb)	Ag (ppm)	Cu (ppm)	Mo (ppm)	As (ppm)
1972	Float	55	0.6	1290	3	3
1973	Float	18	0.8	2040	279	2
1974	Float	45	0.7	3040	776	<2
1989	Outcrop	11	2.6	7040	<1	7



LEGEND

GEOLOGY

Dykes
- Rhyolite dyke
- Aplite dyke

Intrusives
- Quartz monzonite
- Granite, granodiorite
- Quartz diorite, diorite
- Monzonite

GEOCHEMISTRY

- Rock sample site: outcrop, float
- 1989,0.70,0.01 — 2013 sample, Cu %, Au g/t
- 1767 — 2010-2012 samples

Sample Colour Key **(2013 samples only)**
- Anomalous Cu: ≥0.1% Cu
- Anomalous Au: ≥0.1g/t Au
- Anomalous Cu and Au
- Not anomalous

12600E — Survey grid line

TOPOGRAPHY

- Contour
- Watercourse
- Waterbody
- Property boundary
- 558588 — Mineral tenure and ID

0 400m

NAD83 UTM Zone 10 North
NTS: 094C04,TRIM: 094C012,022

THANE MINERALS INC.

ROCK GEOCHEMISTRY PLAN MAP 2013 SAMPLING Lake Area

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

Project No:	C122	By:	CN, TV
Scale:	1:10,000	Drawn:	TV
Figure:	6	Date:	February 2014

CME

4.2 SOIL SAMPLING

Soil sampling was carried out at the Lake Area. An uncut survey grid was established in the area downslope and to the east of the Saddle Showing (Figure 6). The survey grid consisted of a single 600 metre baseline (50+00N) with four cross lines at 200 metre spacings (12000E, 12200E, 12400E and 12600E) ranging from 425 to 650 metres in length with a cumulative distance of 2,275 metres. No samples were collected from unsuitable sites, such as marshy or rocky ground. A total of 90 samples were collected from 96 sample stations

Soil samples were collected from the B horizon at approximately 20 to 30 centimetre depth. Samples were placed in labeled kraft sample bags. No samples were collected at unsuitable sites such as swamps, creeks, roads, or areas of surface disturbance.

Samples were delivered to CME's field office in Vavenby, BC for sample preparation prior to analysis. Preparation included drying and sieving. All soils were sieved to -80 mesh using a stainless steel Tyler screen. The -80 fraction was then placed into a Ziploc© sandwich bag. Soil samples were transferred from the kraft sample bags into a plastic sandwich bag.

Samples were analyzed utilizing a hand held Delta Premium XRF (x-ray fluorescence) instrument by qualified CME personnel.

Prior to analysis, each sandwich bag containing the -80 mesh soil sample was lightly shaken to homogenize the material. Analysis was undertaken through the sandwich bag.

The XRF unit was set to soil mode which uses beams 1 and 2 at ten second intervals for each beam. While the instrument detects many elements, only copper is considered at this time. A correction factor is applied to all raw copper results and is discussed in Appendix III. Results are reported in parts per million (ppm) for both copper. Lower detection limits are variable and depend on the element.

Sample details including location coordinates and copper results are presented in Appendix IIb.

Results

Table 5 presents the results of a simple statistical analysis for copper. In the Lake Area, arsenic concentrations are uniformly low, with a maximum of 19 ppm As. The lack of arsenic with copper in the Lake Area is consistent with rock sampling results of previous years.

Table 5: Statistical Analysis, Soil Samples, Lake Area

Element	Sample Pass*	No. Samples	Minimum	Maximum	Mean	Standard Deviation
Copper (ppm)	*Pass 1*	90	34	701	155	105
	Pass 2	87	34	358	143	79

** Pass 2 is a calculated by using the mean + 2 standard deviation from Pass 1 as the maximum allowable value.*

Soil sample locations and geochemical results are presented in Figure 7.

The geochemical results do not present any clear trends other than a possible WSW-ENE trend of elevated values: 301 ppm Cu and 323 ppm Cu (line 12000E, 5000N and 4975N), 432 ppm Cu (line12200E, 5050N), and 701 ppm Cu (line 12400E, 5225N). Line 12600E does not extend far enough north to cross the projected extension of this trend. Elevated copper along the fringes of the grid (e.g. 317 ppm Cu at L12400E, 5475N, 309 ppm Cu at L124000E, 4850E) may be reflecting copper mineralization in the surrounding cliffs. The lack of structural data in this area, particularly joints and faults, make interpretation tentative at this time.

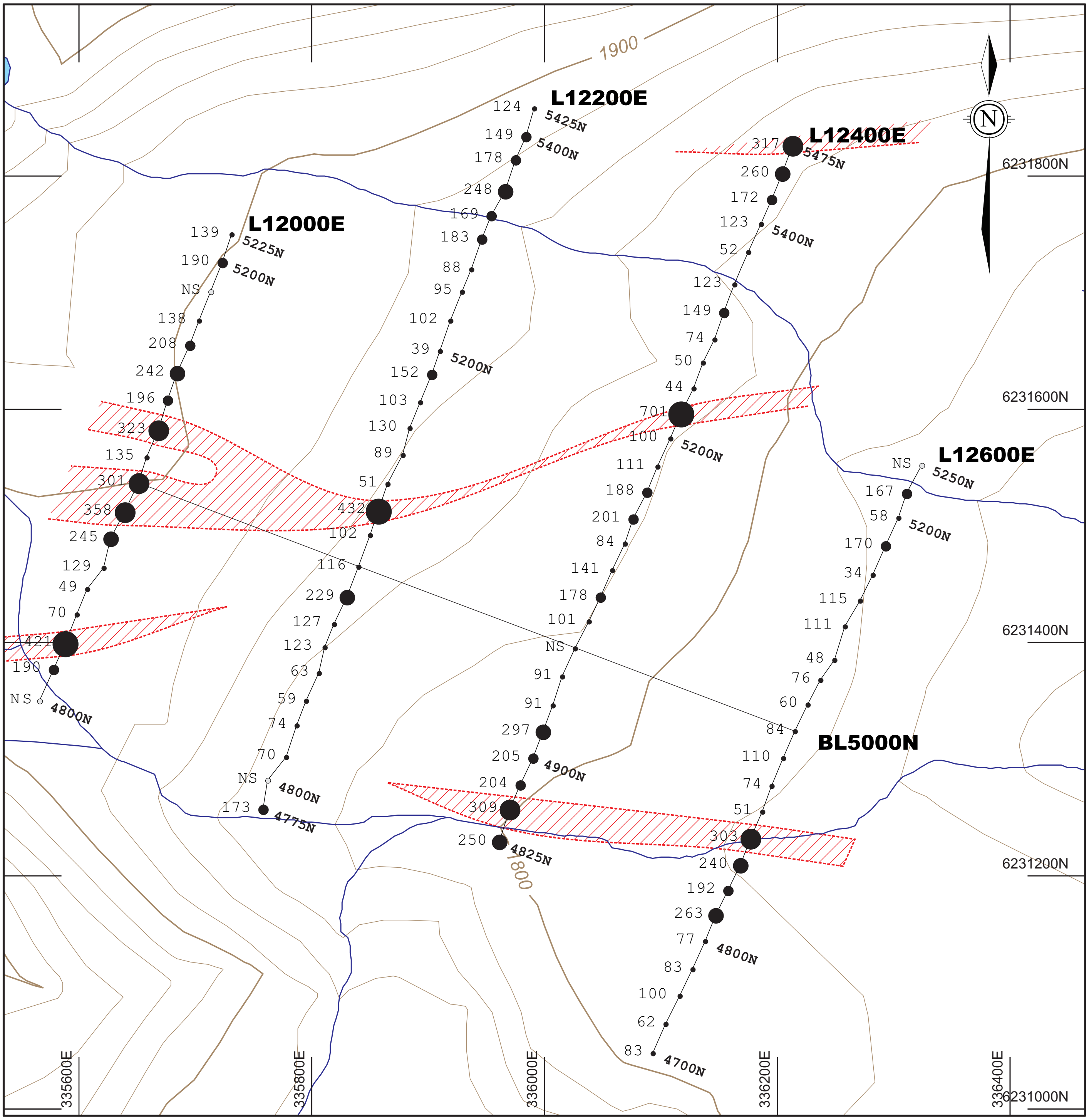
4.3 QUALITY CONTROL

Quality control protocol was implemented for all samples.

Rock Samples

One certified reference material (CRM) was included with each batch of 35 samples sent to Actlabs. The CRM was obtained from CDN Resource Labs of Langley, BC. The CRM employed was CDN-CM-1 with certified copper, gold and molybdenum values of 0.853±0.020% Cu, 1.85±0.16 g/t Au and 0.076±0.008% Mo. A data sheet for this CRM is presented in Appendix IVb.

All three CRM returned gold concentrations greater than or equal to 2 standard deviations from the nominal value, one of which was greater than three standard deviations. All quantitative values were below the nominal value. Similarly, all three CRM's returned copper concentrations greater than or equal to 2 standard deviations from the nominal value, two of which were greater than three standard deviations. All quantitative values were below the nominal value. Lastly, all three CRM's returned molybdenum concentrations within 2 standard deviations from the nominal value. Again, the quantitative values, while within the acceptable range, were below the nominal value.



0 250m

NAD83 UTM Zone 10 North
NTS: 094C03,TRIM: 094C003

LEGEND

GEOCHEMISTRY

Soil Samples

152 Copper in soil results (ppm Cu)

BL5000N Survey grid line reference

4800N Survey grid station reference

Copper-in-soil anomaly, ≥301ppm Cu (mean+2sd)

● ≥301 ppm Cu

● 222 - 300 ppm Cu

● 143 - 221 ppm Cu

• < 143 ppm Cu

○ NS: no sample

TOPOGRAPHY

Contour

Watercourse

Waterbody

Property boundary

558588 Mineral tenure and ID

THANE MINERALS INC.

SOIL GEOCHEMISTRY PLAN MAP
COPPER
Lake Area
Cathedral Project
Omineca M.D., British Columbia, Canada

Project No:	C122	By:	CN, TV
Scale:	1:5,000	Drawn:	TV
Figure:	7	Date:	February 2014

CME

To investigate the poor CRM results of the initial analysis, each CRM plus several routine samples surrounding the CRM were reanalysed. Results of the re-analysis of the CRM returned gold concentrations within 2 standard deviations of the nominal value. Two CRM's returned copper concentrations within 2 standard deviations from the nominal value, and one which was greater than three standard deviations. One CRM returned molybdenum concentrations within 2 standard deviations from the nominal value, one greater than 2 standard deviations and one greater than 3 standard deviations. CRM performance information is included in Appendix IVc.

A comparison of the results of the multi-element data of the re-analysed rock samples does not demonstrate significant differences between the original value and the re-analysed value. Most elements show an average variance of 10% or less between the original analysis and the re-analysis. This would suggest that the discrepancy in the CRM may be related to the CRM itself, rather than an analysis issue. Comparative results of selected multi-element data are presented in Appendix IVc.

The analytical laboratory also routinely inserts their own non-blind control samples, consisting of standards, sample splits and sample repeats.

Soil Samples

During analysis of soil samples by handheld XRF, non-blind control samples (standard and blank) were inserted and analysed by the operator to monitor the XRF instrument performance.

The standard used consists of a vial of a reference material "NIST 2710a" with a copper value of 3,420 ± 50 ppm Cu and arsenic value of 1,540 ± 10 ppm As. The blank consists of a vial of silica sand material "SiO_2". Analyses of the reference returned values of Cu and As consistently higher (20.4% and 65.5%, respectively) than the recommended value. The analytical values were consistent, demonstrating a measure of precision in the analyses. Analyses of the blank consistently returned very low values of both copper and arsenic.

5.0 CONCLUSIONS

The Pinnacle Showing consists of a 60 metre wide fault zone containing a minimum of seven faults (designated F1 to F7) striking 150° to 170° and dipping 50° to 60° to the west (Figure 5, Plate 1). This fault zone is referred to as the Pinnacle Fault Zone, while the nearby N-S trending faults are referred to as the Valley faults. Rock samples collected from the two westernmost (F1, F2) and two easternmost (F6, F7) faults of the Pinnacle Fault Zone have returned the most significant gold results, though anomalous gold has been encountered in the central structures. Significant gold samples invariably have anomalous arsenic values, although the converse does not necessarily hold. This may be due to "nugget effect", and further examination of the mineralogy is required.

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.

Sampling of the westernmost fault, F1, returned up to 3.60 g/t Au (sample 1926). Sampling of fault F2 during the current program returned the best gold grade of 7.78 g/t Au along with 12.3 g/t Ag, and 2.54% Cu from a dark green andesitic rock with quartz vein breccia containing clots of chalcopyrite and pyrite and arsenopyrite disseminated in the groundmass. Sampling in 2011 had returned grades of 2.61 g/t Au and 1.94% Cu and 20.10 g/t Au and 3.29% Cu (samples 6044 and 6047).

On the eastern side of the Pinnacle Showing, sampling at fault F6 returned 4.37 g/t Au and greater than 1% As (sample 1932) and 1.55 g/t Au and 8,860 ppm As (sample 1914). Sample 1932 consisted mainly of quartz vein material with chlorite and minor carbonate and sulphides of pyrite, arsenopyrite and chalcopyrite. Sample 1914 consisted of quartz stockwork veining and a fine fracture network with red-brown alteration and associated chalcopyrite, pyrite and arsenopyrite. Fault F7, which appears to be the bounding fault of the zone, contains a 0.8 metre wide quartz vein. A chip sample across the vein returned 0.36 g/t Au along with greater than 1% As (sample 1934). Elsewhere along the fault, sample 1935 returned 0.22 g/t Au, 2.91% Cu and greater than 1% As. A float sample of chlorite and silica-altered quartz monzonite with semi-massive arsenopyrite and minor pyrite likely sourced from this fault structure returned 3.41 g/t Au (sample 1936). Sampling of this structure in 2012 had returned gold grades of up to 13.00 g/t Au (sample 1255).

The Lake Area also lies wholly within the rocks of the Hogem Plutonic Suite. Quartz monzonite and monzonite make up the most abundant lithologies in this area, along with lesser granodiorite and diorite. Volcanic lithologies are also noted including volcanic dykes, feldspar porphyritic dykes, volcanics related to the Takla Group and andesite dykes. Understanding of the controls on mineralization is still unclear. Copper mineralization is mainly constrained to the intrusive units, with the most visually consistent and abundant occurring in the diorite.

Of the 23 rock samples collected from the Lake Area, 4 returned greater than 0.1% Cu and one returned greater than 0.5% Cu (0.70% Cu). Rock sampling did not return any anomalous gold values, but two samples did return anomalous molybdenum (279 and 776 ppm Mo). Results of the soil sampling suggest a possible WSW-ENE trending, anomalous copper zone (>300 ppm Cu) with individual results of up to 701 ppm Cu.

Respectfully Submitted,

Christopher O. Naas, *P.Geo.*

6.0 REFERENCES

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Garratt, G.L. and Lindinger, J.E.L.
2009. Summary Report on the Lorraine-Jajay-Jan-Tam-Misty Property for Lorraine Copper Corp., September 8, 2009.

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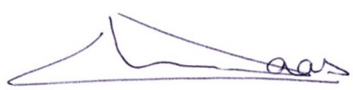
Stevenson, D.B.
1991. A Geological, Geochemical and Geophysical Report on the Ten Property, Germansen Landing Area, Central British Columbia; unpublished report for Cyprus Gold (Canada) Ltd., June 6, 1991; Assessment Report 21419.

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;
5. The opinions and conclusions contained herein are based on a review of previous records and the results of the current field visit.

Dated at Richmond, British Columbia, this 12th day of February, 2014.



Christopher O. Naas, *P.Geo.*

8.0 STATEMENT OF COSTS

Field

Personnel	*Unit*	*Rate*		
Chris Naas	13.00	1,000.00	13,000.00	
Spencer Plugoway	15.00	400.00	6,000.00	
Ted Vanderwart	2.50	700.00	1,750.00	
				20,750.00
Equipment				
Truck	13.00	125.00	1,625.00	
Generator	11.00	50.00	550.00	
Computer	6.75	50.00	337.50	
Rock Saw	1.00	35.00	35.00	
Trailer	11.00	100.00	1,100.00	
				3,647.50
Disbursements				
Analyses			4,812.10	
Accommodation and Food			2,287.50	
Communications (satellite phone)			275.91	
Field Supplies			155.06	
Helicopter			10,169.20	
Fuel (helicopter)			1,128.59	
Fuel (truck)			925.87	
Printing			88.65	
Shipping			151.39	
				19,994.27

Office *(Report Preparation and Map Drafting)*

Personnel	*Unit*	*Rate*		
Chris Naas	0.50	1,000.00	500.00	
Ted VanderWart	5.00	700.00	3,500.00	
Supplies	1.00	90.00	90.00	
				4,090.00
			Total	**$48,481.77**

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
Intuit	Quickbooks 2014

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
SAMPLE DETAIL

a. Rock Samples
b. Soil Samples

APPENDIX II
SAMPLE DETAIL

a. Rock Samples

Rock Sample Details
Cathedral Property

Sample No.	Area	Showing	UTM Zone 10N NAD 83		Map No.	Tenure No.	Description						Structure	Results			
			Easting	Northing			Sample Type	Lithology	Alteration	Sulphides (%)	Min Style	Field Sample Description		Cu (ppm)	Au (ppb)	Ag (ppm)	As (ppm)
1913	Cathedral	Pinnacle	347665	6219697	M03	689828	Outcrop	Diorite/monzonite		Py 2, Cp 1	Py V, Cp FF	Original intrusive texture fairly subtle, but mineral percentages suggest a dioritie to monzonitic lithology. Quartz vein/fracture-fill includes abundant py. Cp noted in host rock and looks to be oriented along microfractures. Cp is patchy, up to 3 mm, oriented along fracture direction		4920	371	2.7	952
1914	Cathedral	Pinnacle	347668	6219691	M03	689828	Outcrop	Quartz veining in ??	Fe-ox 3	Py <1, Cp 1, Aspy <1	Cp, Py, Aspy FF, D	Quartz stockwork veining in intrusive. Original lith obscured. Irregular veining. Also very fine network of fracturing with red-brown alteration and associated cp, py and trace aspy		4430	1550	4.7	8860
1915	Cathedral	Pinnacle	347665	6219685	M03	689828	Outcrop	Quartz vein		Py <1	Py D	Quartz vein, 3cm thcik with white quartz. Sub-parallel and cross-cutting fracs with orange-brown Fe-ox. Vein is cross cut by narrow qc-Fe-carb-hem vnlt, 1mm. Trace py.		16	<5	<0.2	28
1916	Cathedral	Pinnacle	347665	6219685	M03	689828	Outcrop	Monzonite/diorite	Chl 2, Epi 2, Pot 3	Mag 1-2	Mag D	Monzonite/diorite, dark green and pink mottled. Quartz-Fe-carb vnly cuts through potassically altered host. Magnetite crystals up to 2mm noted, also blebs of red hem (<=1mm).		65	<5	<0.2	20
1917	Cathedral	Pinnacle	347665	6219685	M03	689828	Outcrop	Monzonite/diorite	Chl 2, Epi 2, Pot 3	Mag 1-2	Mag D	Similar to 1916 - Monzonite/diorite, dark green and pink mottled. Key feature is 2 mm quartz veinlet with potassic alteration halo extending through much of sample. A second vnlt approx 2 cm, parallel to main one with similar alteration. No sx noted visually. Magnetite occurs as 1-2mm crystals within potassic alteration halo.		28	<5	<0.2	6
1918	Cathedral	Pinnacle	347663	6219691	M03	689828	Outcrop	Monzonite/diorite	Chl 2, Epi 2, Pot? 1	Py 1	Py D	Similar to 1916 - Monzonite/diorite, dark green and pink mottled. Key feature is 2 mm quartz veinlet with potassic alteration halo extending through much of sample. A second vnlt approx 2 cm, parallel to main one with similar alteration. No sx noted visually. Magnetite occurs as 1-2mm crystals within potassic alteration halo.		55	<5	<0.2	21
1919	Cathedral	Pinnacle	347653	6219679	M03	689828	Float	Quartz vein	Hem 4			Quartz vein, 3.5cm thick of white quartz with overprint of rusty Fe-ox. Centre of vein shows another infill of different quartz, slightly yellowish. Open space on exposed surface encrusted with euhedral quartz crystals. Selvage of vein with heavy Fe-ox alteration. No sx noted (may be oxidized). Not magnetic.		194	<5	<0.2	7
1920	Cathedral	Pinnacle	347648	6219652	M03	689828	Float	Diorite/monzonite	Pot 3, Chl 3	Py <1, Cp <1	Py, Cp D, FF	Diorite, dark green and pink mottled due to chlorite and potassic alteration. Sulphides noted more on exposed surface versus cut surface. Both dissem py and cp, associated with narrow fractures. Other fractures show tension gashes with open-space infilled by cb. Not magnetic. Small 1mm qz-cb vnlt cross-cuts with poss pink cb mineral.		134	147	<0.2	12
1921	Cathedral	Pinnacle	347640	6219647	M03	689828	Outcrop	Quartz diorite	Chl 3, Ser 3, Fe-ox 1	Py <1	Py D, FF	Quartz diorite to diorite, 5% qz, up to 40% amph (and minor px), dark green chloritic aleration of mafics. Light green sericitic alteration of fsp noted giving the appearance of a possible alteration halo around some structure - light green alteration fades into dark green chloritic alteration. Non-magnetic. Minor dissem py, appears associated with fracture.		4	<5	<0.2	32
1922	Cathedral	Pinnacle	347638	6219647	M03	689828	Outcrop	Quartz diorite to diorite	Chl 2,	Py <1	Py D	Fine to medium-grained quartz monzonite, 60-70% fsp, 5% qz, 20-30% amph (chloritized). Minor dissem py. Small <1cm quartz vein cuts through with indistinct margins.		19	21	0.2	105
1923	Cathedral	Pinnacle	347631	6219657	M03	689828	Float	Gossanous quartz vein?	Hem/lim 4	Py, Cp? <1	Py, Cp FF, D	Extremely rusty orange-red fractured quartz vein 3-5cm thick, or replacement silica of original lithology. Fractures infilled with hem/lim. Most sx probably oxidized.		3510	2130	9.6	8130
1924	Cathedral	Pinnacle	347628	6219657	M03	689828	Float	Quartz vein	Hem/lim 4	Sx not noted		Extremely rusty orange quartz vein approximately 2cm thick. Heavy lim/Fe-ox concentrated along selvage or in wallrock (vein boundary indistinct), Quartz is white with abundant fracturing infilled by dark grey material, possibly sulphides, but very fine.		102	40	<0.2	49
1925	Cathedral	Pinnacle	347628	6219663	M03	689828	Outcrop	Altered	Chl 2, Hem 2	Sx not noted		Original texture obscured and overprinted with quartz veining, silica, and chlorite/epidote alteration, possible green sericite, probably was a quartz monzonite to monzonite. Narrow (3-5mm) erratic vein, fractured with Fe-ox alteration in fracs cuts through samples, with some open space cavities due to weathering of py. Py not noted. Not magnetic.		69	233	0.8	646
1926	Cathedral	Pinnacle	347632	6219659	M03	689828	Outcrop	Quartz vein		Py 30-40, Aspy 1-2, Cp <1	Py, Aspy, Cp SM, D	Quartz-sulphide vein, ~2.5 to 3cm thick. Semi-massive py chain of grains and aggregates with lesser dissem aspy. Quartz, medium grey. Later carb (dol?) infill - this is weakly mineralized.		1010	**3.60 g/t**	2.8	>10000
1927	Cathedral	Pinnacle	347628	6219666	M03	689828	Float	Quartz vein		Py 5	Py D	Banded quartz vein. White to liggt grey quartz, green chlorite clots. Highly fractures with Fe-ox/lim along fractures. Py common dissem throughout samples as cubes and aggregates of cubes		98	58	0.5	590
1928	Cathedral	Pinnacle	347621	6219659	M03	689828	Outcrop	Dioruite/quartz diorite	Chl 3, Pot 2	Sx not noted		Diorite to quartz diorite, <5% qz, dominantly potassic altered fsp with chloritized px? Or amph. Salmon coloured with green mafics. Rare bio flakes, may be associated with potassic alteration. Sample bisected by 3mm fracture/vein with some open-space due to weathering. Non magnetic. No sx noted		57	<5	<0.2	26
1929	Cathedral	Pinnacle	347628	6219644	M03	689828	Outcrop	Quartz monzonite/quartz vein	Chl 2, Sil 2, Fe-ox 2			Quartz-monzonite. Cut surface is medium green, exposed surface is light reddish-brown to dark brown. Minor patchy disseminated py cubes. Non magnetic. Sample ~2/3 host rock, ~1/3 fractured quartz vein, at least 2cm thick. Vein is vuggy, due to weathering out py cubes, many still		277	38	0.9	122
1930	Cathedral	Pinnacle	347676	6219669	M03	689828	Outcrop	Quartz monzonite/monzonite	Chl 3, Sil 2	Aspy <1, Py 1	Aspy D, Py D	Quartz-monzonite to monzonite (depending on nature of quartz seen). Cut surface is medium green, exposed surface is light reddish-brown to dark brown. Patchy disseminated py cubes associated with qz, thin acicular aspy grain (~1mm long). Abundant hairline fractures with cb-hem/lim alteration. Non magnetic.		305	143	0.6	2370
1931	Cathedral	Pinnacle	347675	6219670	M03	689828	Outcrop	Quartz vein/flood	Chl 3, Sil, 3	Aspy <1, Py 2-3, Cp 1		Mainly quartz vein and minor carbonate (dol). Blebby, angular py, aspy and cp. Fe-ox in fracs, and on exposed surface. Py associated with qz-dolomite infill, often clusters of cubic grains. Py <1-3mm. Exposed surface dark green-grey.		493	548	0.6	9410
1932	Cathedral	Pinnacle	347676	6219670	M03	689828	Outcrop	Quartz vein/quartz monzonite	Chl 3, Sil, 3	Aspy <1, Py 2-3, Cp 1	Py, Aspy, Cp, D, V	Mainly quartz vein with lineal chlorite and minor carbonate. Vein appears multi-generational with fractures marking off events. Width approx 3cm. Blebby, angular py, aspy and cp. Fe-ox in fracs, and on exposed surface. Open vuggy areas with euhedral quartz crystals. Exposed surface also pitted, probably from weathered out py cubes. Host rock likely quartz monzonite-monzonite.		813	**4.37 g/t**	1.7	>10000
1933	Cathedral	Pinnacle	347673	6219669	M03	689828	Outcrop	Quartz monzonite/quartz vein	Chl 4, Sil 2	Aspy 3, Py <1		Quartz flooded or veined through probable quartz monzonitic host, but relict texture and mineral assemblage is difficult to discern. Quartz flooding occupies about half of sample. One side has thick 5-8mm aspy vein parallel. Minor disseminated py in quartz. Open space fractures with euhedral quartz crystals and/or encrustations of chalcedonic quartz over surfaces. Fe-ox over exposed surface. Non magnetic		110	684	1.1	>10000
1934	Cathedral	Pinnacle	347678	6219671	M03	689828	Outcrop	Quartz monzonite	Chl 2, Sil 1,	Py 1-2	Py D	Quartz-monzonite/monzonite. Similar to 1935 but with stronger intrusive texture. Cut surface is medium green, exposed surface is light reddish-brown to dark brown. Shows a weak gneissic texture with bands of mafic mineralis separating the felsic minerals. Patchy disseminated py cubes. Possible orpiment-very small yellow-orange mineral. Abundant hairline fractures with cb-hem/lim alteration. Non magnetic		266	362	1.1	>10000
1935	Cathedral	Pinnacle	347675	6219682	M03	689828	Outcrop	Quartz monzonite	Chl 4, Sil 1, Cb 1	Aspy 1, Py 3, Cp 2	Py FF, V, Aspy D , Cp, D	Relict intrusive texture, slightly visible. Similar to 1936, probably started as a quartz monzonite/monzonite. Cut surface is medium green, exposed surface is very dark brown. Most quartz visible appears related to subsequent fracturing and veining, although erractic probably overprinted by further silica. Sub-parallet fracturing associated with py, along with less aspy and cp. Sulphided noticeable on exposed surface. Cp more common on exposed surface versus cut surface.		**2.91%**	223	8.7	1480

Rock Sample Details
Cathedral Property

Sample No.	Area	Showing	UTM Zone 10N NAD 83		Map No.	Tenure No.	Description						Structure	Results			
			Easting	Northing			Sample Type	Lithology	Alteration	Sulphides (%)	Min Style	Field Sample Description		Cu (ppm)	Au (ppb)	Ag (ppm)	As (ppm)
1936	Cathedral	Pinnacle	347693	6219659	M03	689828	Float	Quartz monzonite	Chl 3-4, Sil 2	Aspy 10-15, Py 1	Aspy SM, D	Quartz monzonite? Original texture subdued due to alteration of chl and some quartz overprint. Possible quartz vein with incorporated wall rock along one edge of sample. Most notable is the rich aspy occurrence, almost semi-massive as patchy blebs disseminated in the host rock. Aspy also in the quartz vein material, but less.. Minor py. Open fractures, with some infilled by cb.		236	2310	4.3	>10000
1938	Cathedral	Pinnacle	347561	6219768	M03	689828	Outcrop	Granite (pegmatite?)	Hem 3, Pot 1	Py <1	Py D	Pinkish red granite, possibly a pegmatite. Blush grey quartz grains up to 3mm. Fs is even reddish-pink colour with interesting graphic texture (<1mm long with qz-hem), and may be large 3cm fsp crystals with poikilitic texture. Rare biotite flakes. uartz may be later frac filling, trace py. Non-magnetic		27	<5	<0.2	79
1939	Cathedral	Pinnacle	347552	6219773	M03	689828	Float	Quartz vein		Py 1	Py D, FF	Highly fractured to brecciated quartz vein. Dark to medium grey quartz, white dolomitic? Fragments infilling fractures. Also infill by chalcedonic quartz (med bluish grey). Later fractures cross-cutting with orange Fe-oxid (lim or goethite) and fine cystalline quartz. Fine dissemination of the py associated with vein. Exposed surface very orange brown.		939	37	1.1	198
1940	Cathedral	Pinnacle	347550	6219796	M03	689828	Float	Quartz diorite	Chl 3, Pot 1	Py <1, Mag 5	Py, Mag D	Massive equigranular quartz diorite, 10-15% quartz, 50-60 fsp, 20-30% hbl, maybe some px?. Latter are moderately chloritized. Magnetite commonly disseminated as purplish black crystals throughout, strong magnetic response. Small quartz-chl+/-cb veinlet (~2-4mm) with potassic halo up to 3 mm into wall rock		845	<5	0.4	8
1941	Cathedral	Pinnacle	347545	6219775	M03	689828	Float	Quartz vein?	Hem 3	Py 1-2	Py FF, D	(Very small hand sample) Highly fractured quartz vein. Quartz is light to medium dark grey, sugary texture. Fractures filled with orange-brown limonite? Quartz vein may be brecciated but size makes that determination speculative		372	1780	9.7	12
1942	Cathedral	Pinnacle	347535	6219784	M03	689828	Outcrop	Granodiorite/quart diorite/diorite	Chl 4, Fe-oxid 3	Py <1	Py D	Dark green on cut face, fsp and qz indistinct, mafics chloritized and fairly soft. Heaviliy fractures with abundant brown Fe-oxid alteration along fractures. Possibly a altered granodiorite/quart diorite/diorite. Non-magnetic.		99	<5	<0.2	21
1943	Cathedral	Pinnacle	347430	6219932	M03	689826	Float	Monzonite/monzodiorite	Pot 4, Chl 3	Py <1	Py D	Pink and green, massive, almost equigranular monzonite to monzodiorite, although quartz content is difficult to ascertain. Fs dominant, mix of K-fsp and placioclase (60-70%), amphiboles (20-30%) of hbl, some thin lath-shaped. Strong magnetic response. Salmon-pink alteration of the fsp. Minor disseminated py		343	<5	<0.2	7
1944	Cathedral	Pinnacle	347440	6219946	M03	689826	Float	Monzonite	Hem 3, Pot 2, Chl 1	Py 5	Py FF	Pale pink to white, very low quartz, dominantly fsp (80%) with fine hbl, or possibly bio (5-10%). Heaviliy fractured in multiple cross-cutting orientations. Frac fill with hem and py		463	<5	1.4	554
1945	Cathedral	Pinnacle	347440	6219954	M03	689826	Float	Granite/quartz monzonite	Chl 3, Epi 3, Hem 3, Sil? 1	Py 2	Py FF	Altered granite?, few mafics, abundant hem alteration in fractures, possilbe silicification. Massive and orange-brown overall colour, both on cut and exposed surface. Vein-like structure ~1.5cm thick cuts through with quartz fragments with epi-chl-hem in fracs. Py blebs infilling fracs within vein and host rock. Py infill later stage frac filling, assocated with hematite		477	<5	1	382
1946	Cathedral	Pinnacle	347440	6219989	M03	689826	Float	Diorite, quartz diorite	Chl 3, Cb 2, Pot 2, Epi 1	Py 3	Py D, V	Diorite, 20-30% chloritized lath-shaped hbl, 60-70% fsp, rare <5% qz. Lots of small hematitic fractures, weak potassic, but could be hem alteration giving the reddish-pink colouration. Minor epidote. Dissem py in rock. Exposed surface with common py - may be frac surface		447	23	0.7	399
1947	Cathedral	Pinnacle	347447	6219993	M03	689826	Float	Diorite to quartz diorite	Chl 4, Pot 4	Py 1-2	Py D, V	Altered diorite, potassic and chlorite alteration, heavily fractures with abundant chl, poss ser in fracs. Py dissem in rock with 5mm py veinlet along one edge		437	101	0.6	281
1948	Cathedral	Pinnacle	347465	6220098	M03	689826	Float	unknown, poss monzonite	Chl 3, Cb 2	Py 1-2	Py D	Texture obscured, probable medium grained intrusive. Dark to medium green colour, heavily fractures with qz-carb, poss limonite alonf fractures. Surface is very dark red-brown. Localized dissem py		205	<5	1	23
1949	Cathedral	Pinnacle	347448	6220125	M03	689826	Float	Quartz monzonite	Chl 3	Py 3, Cp tr	Py, Cp FF	Medium grained quartz monzonite, with a darker, fine-grained green, chloritic phase(?) or dyke ~2cm wide, well mineralized with py infilling fractures. Py also noted in host quartz monzonite; trace cp		365	<5	0.3	76
1950	Cathedral	Pinnacle	347438	6220122	M03	689826	Float	Granodiorite?/Quartz monzodiorite?	Chl 3, Epi 3	Py 1	Py D	Fine-grained, dark green with probable quartz vein or quartz-rich intrusive phase. Hbl chloritized. Moderate epi alteration, but strong in vein with quartz. Narrow hem? Veinlet parallel to quartz vein. Py dissemination.		25	13	<0.2	22
1951	Cathedral	Pinnacle	347413	6220118	M03	689826	Outcrop	Gossan	Pot 5, Chl 4	Py 1-3	Py D, FF	Surface very orange-bown to yellow-brown, cut surface very reddish, poss hematite, strong potassic alteration, mainly in K-feld. Original lithology probably quartz monzonite as mafics <10%, and some have been altered replaced by chlorite and sulphides. Sulphide veinlets and fractures throughout consist of py		314	43	0.8	205
1952	Cathedral	Pinnacle	347408	6220125	M03	689826	Outcrop	Diorite	Pot 4, Chl 4	Py 1-3	Py D, FF	Variable textured diorite, 30-40% chloritized hbl, 60-70% fsp, potassic alteration overprinting. Weak to non-magnetic. Dissem and frac-controlled py clots on cut surface and also seen on exposed surface.		1790	20	1	357
1953	Cathedral	Pinnacle	347407	6220119	M03	689826	Outcrop	Diorite	Pot 3, Chl 3, Epi 2, Fe-ox 2, Lim	Py 3-5	Py D, V	Variable textured diorite with areas of dominantly mafic components and dyke-like structure of more typical dioritic rock, Weak to non-magnetic. Epi stringers cross-cut 'dyke' Py noted throughout as granular clusters of fine cubes/ Surface with Fe-ox and yellowish limonite. Py content more pronounced on surfaces and probably formed along fractures.		142	<5	<0.2	20
1954	Cathedral	Pinnacle	347407	6220119	M03	689826	Outcrop	Diorite	Pot 4, Chl 4, Epi, 3	Py 1	Py D, FF	Heavily hem-altered diorite. Fine-medium grained. Hbl appears altered to green chorite and associated with epidote alteration. Main lithology in contact with dark greeen aphanitic 'andesite', but may be mafic fraction of the melt as some dioritic texture is noted.. Potassic alteration is strong. Pyrite noted as dissemination associated with fractures and mafic components. Fractured with hem and/or lim staining along fracs. Minor py dissem. Surface gossanous with minor Mn-coating		89	<5	<0.2	25
1955	Cathedral	Pinnacle	347404	6219964	M03	689826	Float	Diorite	Hem 3, Pot 4	Py 1-2	Py V?	Main hand sample is medium grained equigranular diorite with both potassic and strong Fe-ox overprint over the rock. 30-50% hbl (elongate), with remaining mainly fsp, pink due to potassic alteration. <5^% qz. Some orange-red hem localized and in variable orientations. Unclear if associated with fracturing. Py on exposed surface, but little if any noted on cut surface. Probably limited to fracture. Smaller hand specimen shows less potassic alteration with 1-2 cm thick sulphide vn or fracture fill. Limited to py, up to 10%		249	<5	0.4	289
1956	Cathedral	Pinnacle	347354	6219983	M03	689826	Outcrop	Quartz monzonite		Py <1	Py D	Heavily hem-altered quartz monzonite to granite. Fine-medium grained. Hbl appears altered to red hem. Fractured with hem and/or lim staining along fracs. Minor py dissem. Surface gossanous with minor Mn-coating		159	5	0.3	214
1957	Cathedral	Pinnacle	347372	6219974	M03	689826	Outcrop	Gossan/Quartz Monzonite	Hem 3	Py 1-2	Py D	Lith ID difficult due to extensive Fe-oxid alteration. Fs+qz, with dissem py. Quite soft, red hematitic material throughout. Minor chloritized hbl, probable altered quartz monzonite. Soft		276	<5	1.5	836
1958	Cathedral	Pinnacle	347359	6219987	M03	689826	Outcrop	Quartz vein breccia		Py 2-3, Cp 1, Aspy?Stib? 3-5	Py, Cp D, Aspy V?	Brecciated quartz-sulphides. Quartz lt-grey tp white. Dark grey to bluish fine-grained sulphides with probable aspy, maybe stibnite. Py and cpy as courser disseminations and appear different phase of mineralization from the very fine brecciated sulphides.		1110	85	3.9	>10000

Rock Sample Details
Cathedral Property

Sample No.	Area	Showing	UTM Zone 10N NAD 83 Easting	UTM Zone 10N NAD 83 Northing	Map No.	Tenure No.	Sample Type	Lithology	Alteration	Sulphides (%)	Min Style	Field Sample Description	Structure	Cu (ppm)	Au (ppb)	Ag (ppm)	As (ppm)
1959	Cathedral	Pinnacle	347383	6219977	M03	689826	Float	Diorite/andesite?	Chl 4, Cb ??	Py 3-5	Py V	Mainly massive, medium green, fine-grained but indistinct rock with inclusion/xenolith of medium grained diorite/granodiorite. Most striking are the sulphide veinlets along fractures cross cutting both lithologies. Sx vnlts up to 3mm wide, pyritic. Small later generation qz veinlet noted crossing and overprinting sx vnlts, ~1mm wide with no sx noted.		783	<5	1.5	923
1960	Cathedral	Pinnacle	347329	6219436	M03	689828	Outcrop	Granite, quartz monzonite	Chl 2-3, Fe-oxid 3	Py 1-2	Py D, FF	Granite to quartz monzonite: 60-70% fsp, 10-15% qz, 5-15% fine chloritized hbl. Medium grained Salt and pepper texture, almost equigranular. May be bleached or silica-flooded - hbl indistinct possibly due to silica overprint. Narrow fractures with Fe-oxids. Py dissem throughout and localized along fracs with hem. Surface coating dark orange-brown		515	9	0.7	87
1961	Cathedral	Pinnacle	347336	6219447	M03	689828	Float	Granite, quartz monzonite	Chl 2	Py 1-2	Py D, FF	Granite to quartz monzonite: 60-70% fsp, 10-15% qz, 5-15% fine chloritized hbl. Fine-grained , salt and pepper texture, almost equigranular. May be bleached - locallized vugs show cubic shape where py has been removed. Py in sample also oxidized to limonitized. Py as 2-5mm disseminations, although some occur along fractures.		10	<5	<0.2	162
1962	Cathedral	Pinnacle	347648	6219679	M03	689828	Outcrop	Quartz monzonite	Chl 3, Fe-ox 2,	Py 1	Py D (cubes)	Quartz monzonite, 5-10% chloritized hbl, 50-60% feldspar, variably potassically altered, 15-20% quartz. No magnetite. Dark green aphanitic dyke with sharp contact, ~2cm thick, possible andesite. Cubic py dissem in quartz monzonite, <1 to 3 mm in size		64	73	0.4	168
1963	Cathedral	Pinnacle	347643	6219667	M03	689828	Outcrop	Quartz monzonite/granodiorite	Chl 3, Pot, 4	Mag 1	Mag D	Quartz monzonite to granodioritic, depending on the breakdown of the feldspar types which are not easily identified due to pervasise pink potassic alteration. 10-15% chloritized hbl, 50-60% feldspar <10% quartz. Medium grained and equigranular, Magnetic.		101	<5	<0.2	8
1964	Cathedral	Pinnacle	347630	6219658	M03	689828	Float	Andesite?	Chl 5	Py 3-5, Cp 1-3, Aspy 1-2	Py D, M, Cp D M, Aspy, D	Dark green, aphanitic andesitic rock. Quartz veins infilling fractures, may be brecciated but hard to tell at the hand sample scale. Quartz veining rich with py, cp and aspy. Minor open space filling with small bladed cc or qz xtals. Aspy is also dissem in the groundmass as ~1mm grains. Py and cp as massive clots in the veins; Strong chl alteration, no magnetite. Surface with dark rusty oxidation, gossanous		**2.54%**	**7.78 g/t**	12.3	3670
1965	Cathedral	Pinnacle	347627	6219665	M03	689828	Float	Gabbro?	Chl 4, Epi 2	Sx not noted		Dark green, medium green gabbro, or diabase. Some deformation with ragged erratic fsp and qz grains. Rock is quite soft. Identification of mafics is difficult, some ghosted px grains. Weakly magnetic		436	28	0.6	102
1966	Cathedral	Pinnacle	347624	6219666	M03	689828	Outcrop	Quartz monzonite	Chl 4, Pot 4, Epi 3	Mag <1, sx not noted	Mag D	Fine to medium-grained quartz monzonite, strong potassic alteration. Mafics 5-10%, probably hbl but chloritized and some cb. Fracture with bleached halo. Fracture itself shows Fe-oxidation staining. Potassic alteration of fsp in belached area still present. Possible red hematite.		247	9	<0.2	19
1967	Cathedral	Pinnacle	347577	6219512	M03	689828	Float	Granite?/aplite?	Chl 4, Pot 4-5	Py 1-2	Py D	Highly fractured to brecciated, aplitic dyke, granitic in composition, salmon to pink coloured fsp with dark green to black fracture-fill, ~5% quartz grains, 60-70% fsp, strong potassic alteration. Py 1-2% disseminated and frac/vnlt controlled		16	16	<0.2	59
1969	Lake		337035	6230797	M07	688823	Float	Diorite	Chl 3, Pot 2	Py tr, cp?, Mag 1-2	Py FF, Mag D	Coarse-grained diorite, 30-40% 5-10mm chloritized hbl/px; 50-60% feldpar with light potassic alteration. Rare quartz <5%). Small felsic/aplite dyke cutting diorite. Narrow fracture in diorite with minor py and poss cp. Strong localized magnetite in diorite associated with mafics		442	11	<0.2	<2
1970	Lake		337037	6230797	M07	688823	Float	Quartz monzonite	Chl 3, Pot 3, Epi 1	Mag tr, sx not noted		Quartz monzonite, 5-10% chloritized hbl, 50-60% feldspar, variably potassically altered, 15-20% quartz. Weakly magnetic		62	<5	<0.2	<2
1971	Lake		337057	6230797	M07	688823	Float	Diorite/aplite	Pot 2-3, Chl 3	Cp 1, Mag 1-2	Cp D, Mag D	Medium to coarse-grained diorite, weakly foliated, cross-cut by medium-grained pink aplite dyke. Diorite 30-40% px/hbl, 60-70% feldspar 1-6mm crystals. Moderate potassic alteration of the host diorite. Aplite dyke is ~2cm wide with distinct contact with host. Cp associated with aplite as disseminations up to 3mm		733	9	0.3	<2
1972	Lake		337132	6230811	M07	688823	Float	Aplite	Pot 3-4	Cp <1, Py 1-2, Mal 1-2	Cp, Py FF, Mal surface coating	Medium-grained sugary aplitic dyke, pink, with small piece of host diorite in contact. Aplite with some larger fsp crystals up to 5 mm, making it potentially more pegmatitic in texture. Mineralization of py and cp associated with fractures in aplite. Another dark mineral associated with cp, but indistinct - could be hem. Mal noted on surfaces		1290	55	0.6	3
1973	Lake		337134	6230804	M07	688823	Float	Quartz vein	Hem 2	Cp 5, Py tr	Cp FF	Quartz vein with light Fe-oxide staining. 2cm cp fracture-fill clot within vein with minor py and hem(?)		2040	18	0.8	2
1974	Lake		337151	6230814	M07	688823	Float	Quartz vein/Aplite	Pot 3	Cp 2; Py 1, Hem <1	Cp FF, Py FF, Hem FF	Appears to be a quartz vein cored by an aplite dyke. Quartz is white with orangy Fe-oxide alteration. Frac-fill cpy noted in quartz vein component, and appears rimmed by red hematite of iron-oxide. Py as cubes or blobby disseminations noted near aplite/vein boundary on uncut surface. Mineralization rare in aplite, except where fractures cut into dyke and quartz + sx ingressed.		3040	45	0.7	<2
1975	Lake		337298	6230823	M07	688823	Outcrop	Diorite	Chl 3, Pot 3, Epi 3	Mag 1-2, Py trace	Mag D	Coarse grained diorite. Diorite is 25-30% mafic, mainly amph, with possible px. Felsic componient is mainly white to pink fspp. Qtz <10%. Magnetic-magnetite occurs as 1-2mm dk purple crystals. Moderate propylitic alteration with potassic overprint. Two fracture sets noted (no orientation possible). Chlorite, poss cb denote fractures; Possible trace py, but very fine-grained.		71	<5	<0.2	3
1976	Lake		337287	6230844	M07	688823	Outcrop	Diorite	Chl 4, Pot 2	Mag 1-2, sx not noted	Mag D	Coarse grained diorite. Diorite is 25-30% mafic, mainly amph, with possible px. Felsic componient is mainly white to pink fspp. Qtz <10%. Magnetic-magnetite occurs as 1-2mm crystals. Moderate propylitic alteration with potassic overprint. Two fracture sets noted (no orientation possible). Chlorite, poss cb denote fractures		128	<5	<0.2	5
1977	Lake		337277	6230846	M07	688823	Outcrop	Diorite	Chl	Mag 1-2, Cp <1	Mag D, Cp D	Medium-coarse grained equigranular diorite, slightly higher mafi content (px/hbl 30+%) with remainder white to pink altered feldspar. Pink is probable potassic alteration along with localized epidote alteration and chloritization of the mafics. Epidote generally localized to the feldspar components. Magnetic. Cp noted in one location with surrounding magnetite.		127	<5	0.9	<2
1978	Lake		335663	6231291	M07	688843	Float	Diorite	Chl 4, Pot 4	Mag 1-2, sx not noted	Mag D	Medium grained, equigranular, diorite, 20-25% hbl/px, 40-50% feldspar. Distinct pink colouration of the feldspars set against green chloritic alteration of the mafic componen. Probable fracture with increased potassic alteration and patchy epidote, magnetite xtals;		884	8	<0.2	<2
1979	Lake		335621	6231329	M07	688843	Outcrop	Gabbro	Chl 5	Mag 1, Py tr	Mag D	Very dark green-black, medium-grained, dominated by dark green feldspar (bytownite?) (30%) and probably pyroxene (30%). Crystal size 2-5 mm. Rare white to pale pink shardy feldspar grains; Magnetic.		177		<0.2	<2
1980	Lake		335359	6231656	M07	688843	Float	Pegmatite	Chl 2, Epi 2	Mag <1	Mag D	Very coarse-grained, pink K-feldspar up to 12mm, white tp pale green plag, 50% plag, 30% K-felspar, <5%qz, <5% chloritized hbl; Chlorite and epidote common along fractures; 4mm magnetite xtal		169	<5	0.5	<2
1981	Lake	Saddle	335109	6231728	M07	688863	Outcrop	Diorite	Chl 4, Pot 1-2	Not noted		Foliated diorite. Coarse-grained, 30-40% hbl, 30-40% plag, trace qz, trace bio; magnetic. 1mm epi frac/vnlt parallel to weak foliation; weak potassic alteration of primary feldspars		71	<5	<0.2	<2
1982	Lake	Saddle	335115	6231730	M07	688843	Outcrop	Diorite	Chl 4, Pot 1-2	Not noted		Foliated diorite. Coarse-grained, 30-40% hbl, 30-40% plag, trace qz, trace bio; magnetic		453	<5	0.2	<2
1983	Lake	Saddle	335119	6231731	M07	688843	Outcrop	Diorite	Chl 4, Epi 2	Cp <1, Sp?	Cp D	Foliated diorite-gabbro. 20% white fspp grains up to 3mm, 70% dark green hbl, minor bio. Inclusion of pink, propylitic altered granitic inclusion, epi stringers associated. Trace cp in inclusion and fracs in diorite, with poss sp or hem.		350	29	0.2	<2

Rock Sample Details
Cathedral Property

Sample No.	Area	Showing	UTM Zone 10N NAD 83		Map No.	Tenure No.	Description						Structure	Results			
			Easting	Northing			Sample Type	Lithology	Alteration	Sulphides (%)	Min Style	Field Sample Description		Cu (ppm)	Au (ppb)	Ag (ppm)	As (ppm)
1984	Lake	Saddle	335134	6231746	M07	688843	Outcrop	Quartz vein/Pegm dyke	Chl 4 (wall rock)	Cp <1, Mal <1	Cp D,FF	Quartz vein or pegmatite dyke. Core is mainly white quartz with edges dominated by pink to salmon-coloured feldspar along selvage. Feldspar shows an almost graphic texture per[endicluar to to the vein/dyle axis. Wall rock is chloritized diorite, magnetic. Small grains of cp noted in vein/dyke associated with dark chlorite		469	17	<0.2	<2
1986	Lake	Saddle	335107	6231716	M07	688863	Subcrop	Quartz monzonite	Chl 5	Not noted		Medium grained (1-5mm), intrusive, 3-5% mafic (hbl), 30-40% fspp, 30-40% qz - Quartz monzonite		111	10	<0.2	<2
1987	Lake	Saddle	335107	6231716	M07	688863	Float	Volcanic	Chl 4, Epi 2	Mag 1-2, sx not noted		Dark green, variably textured, ranging from fine to meduim-grained. Large pink felsic (grantic) inclusion(?) or xeonlith within host. Host grain size increase near boundary of inclusion. Host with 70% dark mafic and 20% white fspp grains, generally sub-hedral. Possible flow-like texture near inclusion. Volcanic?		439	6	<0.2	<2
1988	Lake		335357	6231518	M07	688843	Float	Pegmatite/Qz Vein		Cp <1, Hem <1	Cpy/Hem FF	Quartz vein with potassic feldspar selvege? Or could be a pegmatite. Extreme edge of hand sample looks dioritic as in samples 1990 and 1991. Quartz is qhite bull quartz. Pink fspp near edges with dioritic wall rockm but also internally as possible large xtals up to 1.2 cm. Small frac-fill of hematite and cpy noted at qz-fspp boundary. Hem is dk red, dull, with dissem cpy in the hem		744	12	0.5	<2
1989	Lake		335374	6231511	M07	688843	Outcrop	Basalt/Gabbro	Chl 5, Cb 2	Cpy 1-2, Mal 1	Cpy D	Dark green, coarse-grained volcanic? Volcaniclastic?. Coarse 1-3mm hb, dark Ca-plag? Possible andesite-basalt, Gabbro?. Narrow 1mm cb veinlets. Malachite stain on exposed surface		7040	11	2.6	7
1990	Lake		336439	6230901	M07	688843	Outcrop	Diorite/pegmatite	Chl 4, Epi 2	Mag 1-2, sx not noted		Coarse grained diorite. Diorite is 25-30% mafic, mainly amph, with possible px. Felsic component is mainly white to pink fspp. Qtz <10%. Magnetic. Moderate propylitic alteration with potassic overprint.		170	10	<0.2	<2
1991	Lake		336441	6230903	M07	688843	Outcrop	Diorite/pegmatite	Chl 4	Mag 1-2, sx not noted		Very similar to 1990. Contact of pink potassic alteration halo or felsic (granitic) dyke and coarse grained diorite. Diorite is 30% mafic, mainly amph, with possible px. Felsic is mainly white to pink fspp, poss K-feld altered, but could be primary. Qtz <10%. Granitic dyke is very coarse grained K-feldspar, pegmatitic. Diorite is magnetic		141	<5	<0.2	<2
1992	Lake				M07			Diorite with course felsic intrusive (granite) or volcanic	Chl 4	Py <1; Mag 1-2	Py D	Very similar to 1990 and 1991. Contact between granite dyke(?) and mafic intrusive, diorite (50% px/amph, 25% K-fsp, 25% plag-fsp). Could also be a contact between a felsic dyke and Takla volcanic unit with intrusive subsuming and plucking volcanic unit. Dark dioritic/volcanic is magnetic; Pink fsp could be late potassic alteration.		99	8	<0.2	<2

APPENDIX II
SAMPLE DETAIL

b. Soil Samples

Grid Soil Sample Details
Cathedral Property

Grid		Area	Location (UTM Zone 10 North NAD 83)		Map No.	Tenure No.	Results	
East	North		Easting	Northing			Cu (ppm)	As (ppm)
12600	5000	Lake	336215	6231324	M07	688843	84	4
12400	5000	Lake	336026	6231395	M07	688843	NS	NS
12200	5000	Lake	335840	6231465	M07	688843	116	4
12000	5000	Lake	335651	6231537	M07	688843	301	4
12000	4800	Lake	335566	6231350	M07	688843	NS	NS
12000	4825	Lake	335578	6231377	M07	688843	190	11
12000	4850	Lake	335588	6231399	M07	688843	421	4
12000	4875	Lake	335598	6231424	M07	688843	70	4
12000	4900	Lake	335607	6231446	M07	688843	49	4
12000	4925	Lake	335621	6231464	M07	688843	129	4
12000	4950	Lake	335627	6231489	M07	688843	245	4
12000	4975	Lake	335639	6231512	M07	688843	358	4
12000	5225	Lake	335731	6231750	M07	688843	139	4
12000	5200	Lake	335723	6231726	M07	688843	190	12
12000	5175	Lake	335713	6231701	M07	688843	NS	NS
12000	5150	Lake	335703	6231676	M07	688843	138	4
12000	5125	Lake	335695	6231655	M07	688843	208	4
12000	5100	Lake	335684	6231631	M07	688843	242	4
12000	5075	Lake	335676	6231608	M07	688843	196	4
12000	5050	Lake	335668	6231582	M07	688843	323	4
12000	5025	Lake	335658	6231559	M07	688843	135	4
12200	4775	Lake	335758	6231257	M07	688843	173	4
12200	4800	Lake	335762	6231282	M07	688843	NS	NS
12200	4825	Lake	335778	6231302	M07	688843	70	4
12200	4850	Lake	335787	6231329	M07	688843	74	4
12200	4875	Lake	335795	6231350	M07	688843	59	4
12200	4900	Lake	335806	6231374	M07	688843	63	4
12200	4925	Lake	335811	6231396	M07	688843	123	4
12200	4950	Lake	335819	6231416	M07	688843	127	4
12200	4975	Lake	335830	6231439	M07	688843	229	4
12200	5425	Lake	335991	6231858	M07	688843	124	4
12200	5400	Lake	335984	6231834	M07	688843	149	4
12200	5375	Lake	335975	6231814	M07	688843	178	4
12200	5350	Lake	335966	6231787	M07	688843	248	4
12200	5325	Lake	335954	6231766	M07	688843	169	4
12200	5300	Lake	335946	6231746	M07	688843	183	4
12200	5275	Lake	335937	6231720	M07	688843	88	4
12200	5250	Lake	335929	6231701	M07	688843	95	4
12200	5225	Lake	335919	6231676	M07	688843	102	4
12200	5200	Lake	335910	6231650	M07	688843	39	4
12200	5175	Lake	335903	6231630	M07	688843	152	4
12200	5150	Lake	335893	6231606	M07	688843	103	4
12200	5125	Lake	335884	6231584	M07	688843	130	4
12200	5100	Lake	335878	6231561	M07	688843	89	4
12200	5075	Lake	335865	6231536	M07	688843	51	4
12200	5050	Lake	335857	6231513	M07	688843	432	4
12200	5025	Lake	335850	6231492	M07	688843	102	4
12400	5475	Lake	336213	6231826	M07	688843	317	14
12400	5450	Lake	336204	6231802	M07	688843	260	19
12400	5425	Lake	336195	6231780	M07	688843	172	4
12400	5400	Lake	336186	6231759	M07	688843	123	4
12400	5375	Lake	336175	6231735	M07	688843	52	4
12400	5350	Lake	336163	6231707	M07	688843	123	4
12400	5325	Lake	336154	6231683	M07	688843	149	9
12400	5300	Lake	336146	6231660	M07	688843	74	4
12400	5275	Lake	336136	6231640	M07	688843	50	4
12400	5250	Lake	336128	6231618	M07	688843	44	4
12400	5225	Lake	336117	6231596	M07	688843	701	4
12400	5200	Lake	336108	6231575	M07	688843	100	4
12400	5175	Lake	336097	6231551	M07	688843	111	4
12400	5150	Lake	336088	6231529	M07	688843	188	4

Grid Soil Sample Details
Cathedral Property

Grid		Area	Location (UTM Zone 10 North NAD 83)		Map No.	Tenure No.	Results	
East	North		Easting	Northing			Cu (ppm)	As (ppm)
12400	5125	Lake	336076	6231506	M07	688843	201	4
12400	5100	Lake	336069	6231485	M07	688843	84	4
12400	5075	Lake	336058	6231462	M07	688843	141	4
12400	5050	Lake	336048	6231439	M07	688843	178	4
12400	5025	Lake	336038	6231418	M07	688843	101	4
12400	4975	Lake	336015	6231371	M07	688843	91	4
12400	4950	Lake	336007	6231346	M07	688843	91	4
12400	4925	Lake	335999	6231324	M07	688843	297	8
12400	4900	Lake	335990	6231301	M07	688843	205	4
12400	4875	Lake	335979	6231278	M07	688843	204	4
12400	4850	Lake	335970	6231257	M07	688843	309	4
12400	4825	Lake	335961	6231229	M07	688843	250	9
12600	4700	Lake	336093	6231048	M07	688843	83	4
12600	4725	Lake	336104	6231073	M07	688843	62	4
12600	4750	Lake	336116	6231097	M07	688843	100	4
12600	4775	Lake	336127	6231120	M07	688843	83	4
12600	4800	Lake	336138	6231144	M07	688843	77	4
12600	4825	Lake	336147	6231166	M07	688843	263	4
12600	4850	Lake	336158	6231188	M07	688843	192	4
12600	4875	Lake	336168	6231209	M07	688843	240	4
12600	4900	Lake	336177	6231232	M07	688843	303	4
12600	4925	Lake	336187	6231255	M07	688843	51	4
12600	4950	Lake	336195	6231277	M07	688843	74	4
12600	4975	Lake	336205	6231301	M07	688843	110	4
12600	5025	Lake	336226	6231347	M07	688843	60	4
12600	5050	Lake	336237	6231368	M07	688843	76	4
12600	5075	Lake	336249	6231385	M07	688843	48	4
12600	5100	Lake	336258	6231414	M07	688843	111	4
12600	5125	Lake	336271	6231436	M07	688843	115	4
12600	5150	Lake	336282	6231458	M07	688843	34	4
12600	5175	Lake	336293	6231483	M07	688843	170	4
12600	5200	Lake	336304	6231507	M07	688843	58	4
12600	5225	Lake	336311	6231528	M07	688843	167	4
12600	5250	Lake	336324	6231552	M07	688843	NS	NS

APPENDIX III
CERTIFICATES OF ANALYSIS

Quality Analysis ... **Actlabs** *Innovative Technologies*

Date Submitted:	06-Aug-13
Invoice No.:	A13-08993
Invoice Date:	14-Aug-13
Your Reference:	Cathedral

CME Consultants Inc.
2130-21331 Gordon Way
Richmond BC V6W 1S9
Canada

ATTN: Chris Naas

CERTIFICATE OF ANALYSIS

1 Pulp sample and 34 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 1A2-Kamloops Au - Fire Assay AA
Code 1E3-Kamloops Aqua Regia ICP(AQUAGEO)
Code 8-AR Kamloops Code 8-Assays Kamloops

REPORT **A13-08993**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited LAB 266
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

1336 Sandhill Drive, Ancaster, Ontario Canada L9G 4V5 TELEPHONE +1.905.648.9611 or +1.888.228.5227 FAX +1.905.648.9613
E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1913	371	2.7	1.4	4920	1270	5	4	408	156	1.15	952	< 10	14	< 0.5	< 2	3.36	34	13	7.50	< 10	< 1	0.14	< 10	0.25
1914	1550	4.7	28.6	4430	1480	15	2	593	1910	2.92	8860	< 10	24	< 0.5	< 2	0.21	173	13	10.7	< 10	< 1	0.16	< 10	0.76
1915	< 5	< 0.2	< 0.5	16	436	5	< 1	11	15	0.26	28	< 10	159	< 0.5	< 2	0.61	10	33	0.94	< 10	< 1	0.11	< 10	0.05
1916	< 5	< 0.2	< 0.5	65	1050	1	3	2	53	1.48	20	< 10	285	0.6	< 2	2.11	10	6	3.32	< 10	< 1	0.28	16	0.62
1917	< 5	< 0.2	< 0.5	28	705	1	< 1	4	35	1.03	6	< 10	68	< 0.5	< 2	1.28	6	11	2.52	< 10	< 1	0.14	19	0.42
1918	< 5	< 0.2	< 0.5	55	1240	2	5	9	67	3.90	21	< 10	239	0.6	< 2	1.77	18	7	8.98	< 10	2	0.28	11	1.51
1919	< 5	< 0.2	< 0.5	194	1310	2	4	< 2	50	2.48	7	< 10	107	0.7	< 2	2.44	10	4	6.77	< 10	< 1	0.27	11	0.94
1920	147	< 0.2	< 0.5	134	4720	1	2	4	58	0.21	12	< 10	340	< 0.5	< 2	15.2	7	< 1	10.1	< 10	2	0.09	10	3.01
1921	< 5	< 0.2	< 0.5	4	430	3	1	< 2	35	1.54	32	< 10	99	< 0.5	5	0.40	14	9	3.49	< 10	< 1	0.35	< 10	0.33
1922	21	0.2	< 0.5	19	1270	5	4	8	64	2.75	105	< 10	78	0.7	< 2	0.53	23	9	8.15	< 10	< 1	0.30	< 10	0.69
1923	2130	9.6	< 0.5	3510	118	51	7	44	39	0.13	8130	< 10	83	< 0.5	2	0.02	298	6	15.3	< 10	< 1	0.05	< 10	0.01
1924	40	< 0.2	< 0.5	102	4310	3	5	8	159	0.20	49	< 10	217	< 0.5	< 2	16.5	32	1	12.5	< 10	5	0.07	< 10	3.69
1925	233	0.8	< 0.5	69	543	28	2	56	57	0.92	646	< 10	75	< 0.5	2	0.08	24	10	7.51	< 10	< 1	0.17	< 10	0.15
1926	> 3000	2.8	< 0.5	1010	1520	47	7	40	68	0.47	> 10000	< 10	< 10	< 0.5	4	2.19	152	9	12.2	< 10	< 1	0.16	< 10	0.54
1927	58	0.5	< 0.5	98	724	6	6	18	36	0.19	590	< 10	< 10	< 0.5	4	1.39	136	17	8.20	< 10	< 1	0.04	< 10	0.31
1928	< 5	< 0.2	< 0.5	57	839	1	4	< 2	35	1.56	26	< 10	679	< 0.5	< 2	0.38	19	8	2.69	< 10	< 1	0.33	13	0.53
1929	38	0.9	< 0.5	277	974	26	5	491	96	2.68	122	< 10	118	< 0.5	< 2	0.20	17	13	8.53	< 10	2	0.15	< 10	0.83
1930	143	0.6	< 0.5	305	1570	2	6	11	75	4.31	2370	< 10	88	< 0.5	< 2	0.56	28	11	11.8	< 10	< 1	0.21	< 10	1.26
1931	548	0.6	9.6	493	1170	4	6	20	304	2.12	9410	< 10	14	< 0.5	< 2	1.74	89	15	8.74	< 10	< 1	0.18	< 10	0.77
1932	2800	1.7	< 0.5	813	1310	11	12	85	71	0.60	> 10000	< 10	< 10	< 0.5	4	1.80	318	11	12.7	< 10	< 1	0.08	< 10	0.64
1933	684	1.1	2.8	110	1290	14	3	203	115	1.51	> 10000	< 10	28	< 0.5	4	1.11	405	17	6.73	< 10	< 1	0.07	< 10	0.45
1934	362	1.1	1.4	266	1230	11	4	142	129	2.67	> 10000	< 10	40	< 0.5	3	1.31	199	6	8.73	< 10	< 1	0.33	< 10	0.71
1935	223	8.7	6.8	> 10000	2250	2	12	482	869	6.86	1480	< 10	20	< 0.5	< 2	0.24	60	3	23.1	10	< 1	0.14	< 10	2.14
1936	2310	4.3	2.4	236	1020	86	27	381	150	1.84	> 10000	< 10	< 10	< 0.5	14	0.08	1460	11	12.4	< 10	< 1	0.04	< 10	0.52
1937	1630	3.8	1.2	8290	218	728	63	52	82	1.34	38	< 10	28	< 0.5	< 2	1.04	20	72	3.78	< 10	1	0.42	18	0.65
1938	< 5	< 0.2	< 0.5	27	505	4	2	5	16	0.43	79	< 10	244	< 0.5	< 2	1.96	4	12	1.89	< 10	< 1	0.19	45	0.61
1939	37	1.1	< 0.5	939	1520	158	4	8	54	0.28	198	< 10	32	< 0.5	< 2	6.09	25	6	5.13	< 10	< 1	0.13	< 10	1.56
1940	< 5	0.4	< 0.5	845	983	2	6	< 2	63	1.61	8	< 10	127	0.8	< 2	2.85	15	6	4.43	< 10	< 1	0.21	12	1.17
1941	1780	9.7	< 0.5	372	829	22	3	16	74	0.42	12	< 10	132	< 0.5	< 2	2.82	12	12	3.17	< 10	< 1	0.17	< 10	0.12
1942	< 5	< 0.2	< 0.5	99	663	4	3	< 2	48	1.74	21	< 10	231	0.8	< 2	0.39	27	6	4.45	< 10	< 1	0.39	22	0.57
1943	< 5	< 0.2	< 0.5	343	539	19	2	< 2	37	1.22	7	< 10	212	< 0.5	< 2	0.89	8	7	2.69	< 10	< 1	0.28	17	0.47
1944	< 5	1.4	< 0.5	463	310	10	< 1	9	29	1.33	554	< 10	21	< 0.5	< 2	0.27	29	3	6.17	< 10	< 1	0.09	< 10	0.39
1945	< 5	1.0	< 0.5	477	186	16	1	8	22	0.96	382	< 10	22	< 0.5	< 2	0.06	28	9	5.72	< 10	< 1	0.11	< 10	0.17
1946	23	0.7	< 0.5	447	561	26	4	14	36	2.01	399	< 10	33	0.5	2	0.95	33	5	7.11	< 10	< 1	0.22	< 10	0.95
1947	101	0.6	< 0.5	437	224	4	2	< 2	21	1.89	281	< 10	15	< 0.5	< 2	0.15	37	4	8.51	< 10	1	0.08	< 10	0.38

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au	Cu
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	%
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03	0.001
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA	ICP-OES
1913	0.011	0.035	4.02	5	3	21	< 0.01	3	< 2	< 10	19	< 10	29	6		
1914	0.011	0.064	2.69	7	4	4	< 0.01	< 1	< 2	< 10	58	< 10	17	7		
1915	0.014	0.017	0.10	< 2	< 1	11	< 0.01	< 1	< 2	< 10	6	< 10	5	2		
1916	0.057	0.153	0.02	3	5	46	< 0.01	1	< 2	< 10	63	< 10	18	5		
1917	0.061	0.118	0.03	< 2	4	26	< 0.01	4	< 2	< 10	39	< 10	19	5		
1918	0.024	0.148	0.22	5	7	26	< 0.01	< 1	< 2	< 10	135	< 10	10	6		
1919	0.020	0.179	0.09	3	5	29	< 0.01	8	< 2	< 10	92	< 10	14	6		
1920	0.015	0.006	0.02	5	< 1	111	< 0.01	< 1	< 2	< 10	21	< 10	26	5		
1921	0.014	0.035	0.66	2	1	5	< 0.01	< 1	< 2	< 10	10	< 10	8	8		
1922	0.013	0.108	0.84	4	4	7	< 0.01	< 1	< 2	< 10	61	< 10	9	8		
1923	0.009	0.011	0.44	61	1	5	< 0.01	2	< 2	< 10	17	< 10	2	9		
1924	0.014	0.009	0.01	9	5	130	< 0.01	< 1	3	< 10	105	< 10	11	7		
1925	0.011	0.046	0.66	3	3	6	< 0.01	< 1	< 2	< 10	44	< 10	7	9		
1926	0.011	0.051	5.61	19	4	19	< 0.01	2	< 2	< 10	32	< 10	8	9	3.60	
1927	0.010	0.005	7.28	4	1	12	< 0.01	3	< 2	< 10	17	< 10	2	4		
1928	0.052	0.146	0.06	< 2	3	36	< 0.01	< 1	< 2	< 10	60	< 10	12	5		
1929	0.012	0.078	0.33	2	4	5	< 0.01	< 1	< 2	< 10	71	< 10	4	6		
1930	0.013	0.103	0.70	4	5	6	< 0.01	< 1	< 2	< 10	87	< 10	6	7		
1931	0.011	0.060	3.92	6	3	30	< 0.01	< 1	< 2	< 10	44	< 10	13	6		
1932	0.013	0.019	9.99	21	2	15	< 0.01	< 1	3	< 10	21	< 10	5	7		
1933	0.011	0.029	2.04	13	2	12	< 0.01	< 1	< 2	< 10	29	< 10	6	4		
1934	0.019	0.139	2.12	7	4	19	< 0.01	< 1	2	< 10	61	< 10	13	7		
1935	0.009	0.144	4.12	7	7	3	< 0.01	< 1	< 2	< 10	152	< 10	3	12		2.91
1936	0.009	0.023	4.57	33	2	3	< 0.01	3	9	< 10	39	< 10	4	6		
1937	0.040	0.054	2.47	17	4	48	0.05	< 1	< 2	< 10	42	< 10	10	7		
1938	0.065	0.010	0.01	< 2	1	41	< 0.01	< 1	< 2	< 10	8	< 10	12	18		
1939	0.014	0.026	0.97	3	2	138	< 0.01	< 1	< 2	< 10	27	< 10	7	4		
1940	0.110	0.152	0.02	3	10	98	0.07	1	< 2	< 10	156	< 10	18	8		
1941	0.014	0.036	0.28	< 2	2	112	< 0.01	< 1	< 2	< 10	24	< 10	7	4		
1942	0.022	0.097	0.24	3	3	16	< 0.01	1	< 2	< 10	45	< 10	15	5		
1943	0.124	0.091	0.03	< 2	4	45	0.12	< 1	< 2	< 10	63	< 10	20	6		
1944	0.113	0.079	2.89	5	5	10	< 0.01	3	4	< 10	68	< 10	8	11		
1945	0.082	0.021	2.97	< 2	2	7	< 0.01	8	< 2	< 10	22	179	4	15		
1946	0.038	0.179	2.35	< 2	8	25	0.01	2	< 2	< 10	142	< 10	14	11		
1947	0.076	0.087	3.61	3	4	6	< 0.01	1	< 2	< 10	30	< 10	8	9		

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas		28.7	2.5	1190	779	13	29	635	726	0.34	349	11	205	0.8	1370	0.76	6	6	20.4	< 10	5	0.03	< 10	0.13
GXR-1 Cert		31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90	0.050	7.50	0.217
GXR-4 Meas		3.4	< 0.5	6380	142	320	39	46	76	3.03	99	< 10	40	1.5	17	0.84	14	56	3.02	< 10	< 1	1.58	38	1.60
GXR-4 Cert		4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5	1.66
GXR-6 Meas		0.3	< 0.5	75	1060	2	24	101	123	7.06	244	< 10	713	0.8	5	0.10	13	84	5.98	10	1	0.91	< 10	0.37
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
MP-1b Meas																								
MP-1b Cert																								
CCu-1d Meas																								
CCu-1d Cert																								
CZN-4 Meas																								
CZN-4 Cert																								
OXK94 Meas																								
OXK94 Cert																								
OXL93 Meas																								
OXL93 Cert																								
SE58 Meas	585																							
SE58 Cert	607.00																							
SF57 Meas	789																							
SF57 Cert	848.000																							
SF57 Meas	778																							
SF57 Cert	848.000																							
1925 Orig		0.8	< 0.5	70	548	29	1	55	57	0.93	651	< 10	79	< 0.5	2	0.08	24	10	7.62	< 10	< 1	0.17	< 10	0.16
1925 Dup		0.8	< 0.5	67	538	27	2	57	57	0.91	642	< 10	71	< 0.5	3	0.08	23	10	7.41	< 10	< 1	0.17	< 10	0.15
1937 Orig	1620																							
1937 Dup	1690																							
1942 Orig	< 5	< 0.2	< 0.5	99	663	4	3	< 2	48	1.74	21	< 10	231	0.8	< 2	0.39	27	6	4.45	< 10	< 1	0.39	22	0.57
1942 Split	< 5	< 0.2	< 0.5	99	671	4	1	< 2	48	1.72	21	< 10	224	0.8	3	0.39	27	6	4.43	< 10	< 1	0.38	22	0.56
Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	3	< 0.01	2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank	< 5																							
Method Blank	< 5																							
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Method Blank																								

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au	Cu
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	%
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03	0.001
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA	ICP-OES
GXR-1 Meas	0.037	0.034	0.17	69	< 1	126		3	< 2	29	79	120	27	15		
GXR-1 Cert	0.0520	0.0650	0.257	122	1.58	275		13.0	0.390	34.9	80.0	164	32.0	38.0		
GXR-4 Meas	0.119	0.120	1.59	4	5	68		3	< 2	< 10	82	17	9	9		
GXR-4 Cert	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186		
GXR-6 Meas	0.060	0.033	0.01	4	12	20		< 1	< 2	< 10	167	< 10	4	9		
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110		
MP-1b Meas																3.15
MP-1b Cert																3.069
CCu-1d Meas																23.9
CCu-1d Cert																23.93
CZN-4 Meas																0.401
CZN-4 Cert																0.403
OXK94 Meas															3.61	
OXK94 Cert															3.56	
OXL93 Meas															5.80	
OXL93 Cert															5.84	
SE58 Meas																
SE58 Cert																
SF57 Meas																
SF57 Cert																
SF57 Meas																
SF57 Cert																
1925 Orig	0.011	0.046	0.67	3	3	6	< 0.01	4	< 2	< 10	45	< 10	7	9		
1925 Dup	0.011	0.046	0.65	4	3	6	< 0.01	< 1	< 2	< 10	44	< 10	7	9		
1937 Orig																
1937 Dup																
1942 Orig	0.022	0.097	0.24	3	3	16	< 0.01	1	< 2	< 10	45	< 10	15	5		
1942 Split	0.022	0.096	0.25	3	3	16	< 0.01	4	< 2	< 10	45	< 10	16	6		
Method Blank	0.008	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	2	< 10	< 1	< 10	< 1	< 1		
Method Blank	0.009	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1		
Method Blank																
Method Blank																
Method Blank															< 0.03	
Method Blank															< 0.03	
Method Blank																
Method Blank																
Method Blank																0.009

Quality Analysis ... *Innovative Technologies*

Date Submitted:	06-Aug-13
Invoice No.:	A13-08996
Invoice Date:	13-Aug-13
Your Reference:	Cathedral

CME Consultants Inc.

2130-21331 Gordon Way
Richmond BC V6W 1S9
Canada

ATTN: Chris Naas

CERTIFICATE OF ANALYSIS

1 Pulp sample and 34 Rock samples were submitted for analysis.

The following analytical packages were requested:

Code 1A2-Kamloops Au - Fire Assay AA
Code 1C-Exp Fire Assay-ICP/MS
Code 1C-Exp-Kamloops Fire Assay-ICP/MS
Code 1E3-Kamloops Aqua Regia ICP(AQUAGEO)
Code 8-AR Kamloops Code 8-Assays Kamloops

REPORT **A13-08996**

Notes:

If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.
We recommend reanalysis by fire assay Au, Pt, Pd Code 8 if values exceed upper limit.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited LAB 266
LAB 266 Accrédité CCN

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Pd	Pt	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg
Unit Symbol	ppb	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
Detection Limit	5	1	1	2	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1
Analysis Method	FA-AA	FA-MS	FA-MS	FA-MS	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1948	< 5				1.0	< 0.5	205	348	1	8	< 2	22	2.99	23	< 10	19	< 0.5	2	0.18	37	6	9.22	< 10	2
1949	< 5				0.3	< 0.5	365	461	< 1	11	10	20	2.71	76	< 10	32	< 0.5	< 2	0.26	31	5	9.97	< 10	2
1950	13				< 0.2	< 0.5	25	653	4	3	6	15	1.87	22	< 10	62	< 0.5	4	0.46	68	16	4.91	< 10	< 1
1951	43				0.8	< 0.5	314	260	< 1	< 1	< 2	10	1.08	205	< 10	57	< 0.5	< 2	0.20	37	4	4.24	< 10	< 1
1952	20				1.0	< 0.5	1790	631	< 1	1	8	25	2.25	357	< 10	42	< 0.5	< 2	0.24	22	4	8.01	< 10	< 1
1953	< 5				< 0.2	< 0.5	142	659	< 1	3	6	29	3.49	20	< 10	138	0.6	< 2	0.88	21	2	8.91	10	5
1954	< 5				< 0.2	< 0.5	89	398	< 1	< 1	2	17	2.03	25	< 10	64	< 0.5	3	0.49	44	3	5.23	< 10	< 1
1955	< 5				0.4	< 0.5	249	285	7	2	6	20	1.75	289	< 10	47	0.5	12	0.60	14	8	4.96	< 10	< 1
1956	5				0.3	< 0.5	159	517	6	3	8	33	1.13	214	< 10	109	0.7	2	0.49	20	3	4.45	< 10	< 1
1957	< 5				1.5	< 0.5	276	500	85	< 1	27	64	1.22	836	< 10	20	0.9	3	0.43	33	2	8.43	< 10	< 1
1958	85				3.9	44.4	1110	988	44	4	604	2390	0.67	> 10000	< 10	< 10	0.7	< 2	2.83	68	8	7.96	< 10	1
1959	< 5				1.5	< 0.5	783	322	5	6	7	39	4.26	923	< 10	13	< 0.5	5	0.10	64	3	17.6	< 10	2
1960	9				0.7	< 0.5	515	183	2	1	16	34	0.84	87	< 10	53	< 0.5	< 2	0.55	17	14	2.33	< 10	< 1
1961	< 5				< 0.2	< 0.5	10	107	< 1	2	21	13	0.70	162	< 10	51	< 0.5	2	0.04	2	6	3.26	< 10	< 1
1962	73				0.4	< 0.5	64	1630	5	3	22	54	0.52	168	< 10	12	< 0.5	4	4.47	101	12	9.13	< 10	< 1
1963	< 5				< 0.2	< 0.5	101	515	3	< 1	< 2	37	0.85	8	< 10	53	1.0	< 2	0.63	6	10	2.79	< 10	< 1
1964	> 3000				12.3	< 0.5	> 10000	1350	5	18	299	128	4.58	3670	< 10	15	< 0.5	< 2	0.15	51	8	17.0	10	< 1
1965	28				0.6	0.8	436	1250	4	3	< 2	63	4.91	102	< 10	68	< 0.5	< 2	0.71	11	6	11.7	10	< 1
1966	9				< 0.2	< 0.5	247	683	7	< 1	7	35	0.90	19	< 10	128	0.6	< 2	1.53	7	8	2.73	< 10	< 1
1967	16				< 0.2	< 0.5	16	1220	5	2	2	63	2.00	59	< 10	93	< 0.5	2	0.03	91	6	6.01	< 10	< 1
1968	1630				3.6	1.5	8100	218	718	66	54	79	1.34	27	< 10	27	< 0.5	12	1.04	19	70	3.79	< 10	< 1
1969	11				< 0.2	< 0.5	442	343	4	5	4	29	1.58	< 2	< 10	134	< 0.5	< 2	1.27	11	11	2.99	< 10	< 1
1970	< 5				< 0.2	< 0.5	62	167	1	1	4	17	1.51	< 2	< 10	123	< 0.5	< 2	1.27	5	4	0.99	< 10	< 1
1971	9				0.3	< 0.5	733	337	< 1	5	< 2	26	1.52	< 2	< 10	92	< 0.5	< 2	1.48	10	8	2.03	< 10	< 1
1972	55				0.6	< 0.5	1290	117	3	3	3	14	0.58	3	< 10	109	< 0.5	< 2	0.43	11	14	0.94	< 10	< 1
1973	18				0.8	< 0.5	2040	47	279	4	4	3	0.03	2	< 10	14	< 0.5	< 2	0.02	2	44	0.72	< 10	< 1
1974	45				0.7	< 0.5	3040	125	776	5	5	10	0.45	< 2	< 10	71	< 0.5	3	0.16	4	31	0.99	< 10	< 1
1975	< 5				< 0.2	< 0.5	71	796	3	8	< 2	54	2.19	3	< 10	78	< 0.5	< 2	1.73	16	11	4.03	< 10	< 1
1976	< 5				< 0.2	< 0.5	128	920	2	12	< 2	82	2.51	5	< 10	59	< 0.5	5	2.74	21	12	5.03	< 10	< 1
1977	< 5				0.9	< 0.5	127	1040	< 1	8	< 2	77	2.45	< 2	< 10	69	< 0.5	< 2	2.73	19	9	4.57	< 10	< 1
1978	8				< 0.2	< 0.5	884	647	< 1	2	< 2	69	1.38	< 2	< 10	84	< 0.5	< 2	1.22	13	6	4.13	< 10	< 1
1979		12	7	21	< 0.2	< 0.5	177	788	< 1	68	< 2	45	1.05	< 2	< 10	287	< 0.5	< 2	3.37	16	349	5.25	< 10	< 1
1980	< 5				0.5	< 0.5	169	181	< 1	7	7	19	1.03	< 2	< 10	197	< 0.5	< 2	0.49	6	7	1.63	< 10	< 1
1981	< 5				< 0.2	< 0.5	71	551	< 1	78	< 2	38	2.41	< 2	< 10	90	< 0.5	< 2	1.34	20	209	4.95	< 10	< 1
1982	< 5				0.2	< 0.5	453	519	< 1	71	< 2	56	2.12	< 2	< 10	274	< 0.5	< 2	1.70	18	172	4.61	< 10	< 1

Analyte Symbol	K	La	Mg	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au	Cu
Unit Symbol	%	ppm	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	%
Detection Limit	0.01	10	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03	0.001
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA	ICP-OES
1948	0.29	< 10	1.11	0.030	0.080	3.65	3	2	6	< 0.01	2	< 2	< 10	69	20	5	8		
1949	0.20	< 10	0.90	0.022	0.114	4.48	5	5	10	< 0.01	< 1	4	< 10	94	< 10	6	9		
1950	0.18	< 10	0.56	0.024	0.032	1.00	3	1	100	0.02	< 1	2	< 10	34	357	10	3		
1951	0.30	< 10	0.31	0.018	0.118	1.20	3	3	14	< 0.01	< 1	< 2	< 10	53	< 10	10	9		
1952	0.23	< 10	0.33	0.021	0.094	2.02	4	2	15	< 0.01	< 1	2	< 10	37	< 10	11	11		
1953	0.25	35	1.64	0.031	0.112	0.57	6	8	65	0.09	< 1	< 2	< 10	117	11	17	5		
1954	0.21	16	0.83	0.066	0.115	1.02	4	6	43	0.11	< 1	5	< 10	86	< 10	13	5		
1955	0.22	< 10	0.48	0.079	0.060	1.36	3	3	27	< 0.01	7	< 2	< 10	43	< 10	10	8		
1956	0.28	< 10	0.11	0.062	0.127	0.60	9	4	15	< 0.01	< 1	< 2	< 10	52	< 10	17	8		
1957	0.17	< 10	0.10	0.029	0.137	2.50	52	8	11	< 0.01	< 1	< 2	< 10	92	< 10	13	14		
1958	0.22	10	0.82	0.013	0.030	3.42	207	3	23	< 0.01	1	< 2	< 10	15	< 10	15	12		
1959	0.14	< 10	0.31	0.011	0.062	6.58	9	< 1	3	< 0.01	< 1	< 2	< 10	12	< 10	6	13		
1960	0.43	< 10	0.04	0.053	0.035	1.07	3	< 1	26	< 0.01	2	< 2	< 10	7	< 10	6	14		
1961	0.05	16	0.16	0.177	0.034	1.13	< 2	2	10	< 0.01	< 1	< 2	< 10	34	< 10	4	17		
1962	0.10	< 10	0.96	0.014	0.011	6.42	6	2	38	< 0.01	5	< 2	< 10	27	< 10	6	6		
1963	0.24	18	0.32	0.076	0.071	0.01	< 2	4	15	0.07	1	< 2	< 10	21	< 10	22	5		
1964	0.04	< 10	1.45	0.009	0.067	3.32	5	6	2	< 0.01	< 1	< 2	< 10	94	< 10	4	9	7.78	2.54
1965	0.36	10	1.63	0.015	0.133	0.09	6	6	8	< 0.01	< 1	< 2	< 10	107	< 10	7	6		
1966	0.36	15	0.21	0.051	0.055	0.09	3	3	28	< 0.01	4	< 2	< 10	9	< 10	15	3		
1967	0.24	< 10	0.34	0.018	0.026	0.67	4	2	8	< 0.01	6	< 2	< 10	12	< 10	4	8		
1968	0.44	18	0.65	0.041	0.055	2.42	20	4	47	0.05	6	< 2	< 10	42	11	10	6		
1969	0.40	< 10	0.78	0.146	0.123	0.04	< 2	4	82	0.16	3	< 2	< 10	130	< 10	9	3		
1970	0.31	< 10	0.31	0.136	0.074	< 0.01	< 2	1	108	0.07	7	< 2	< 10	42	< 10	4	2		
1971	0.20	< 10	0.69	0.098	0.127	0.06	< 2	2	116	0.14	8	< 2	< 10	76	< 10	7	2		
1972	0.23	< 10	0.16	0.092	0.027	0.11	< 2	< 1	47	0.05	1	< 2	< 10	30	< 10	3	2		
1973	0.02	< 10	< 0.01	0.022	0.002	0.20	< 2	< 1	4	< 0.01	< 1	< 2	< 10	2	< 10	< 1	< 1		
1974	0.15	< 10	0.24	0.034	0.003	0.32	< 2	< 1	25	0.01	1	< 2	< 10	13	< 10	< 1	1		
1975	0.16	< 10	1.27	0.076	0.145	< 0.01	3	4	79	0.12	< 1	< 2	< 10	137	< 10	8	3		
1976	0.13	< 10	1.85	0.051	0.155	< 0.01	2	9	103	0.12	4	< 2	< 10	169	< 10	11	4		
1977	0.15	< 10	1.65	0.054	0.154	< 0.01	2	6	106	0.17	< 1	< 2	< 10	130	< 10	9	3		
1978	0.22	14	0.78	0.098	0.200	0.04	2	6	58	0.14	2	< 2	< 10	117	< 10	17	4		
1979	0.21	13	2.10	0.150	0.508	< 0.01	4	13	42	0.13	3	< 2	< 10	264	< 10	19	5		
1980	0.30	< 10	0.32	0.120	0.025	< 0.01	< 2	< 1	123	0.06	< 1	< 2	< 10	67	< 10	3	1		
1981	0.17	< 10	2.22	0.063	0.271	< 0.01	3	4	49	0.19	< 1	< 2	< 10	173	< 10	8	4		
1982	0.31	< 10	1.83	0.078	0.278	0.01	3	3	80	0.21	< 1	< 2	< 10	216	< 10	10	3		

Quality Control

Analyte Symbol	Au	Pd	Pt	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg
Unit Symbol	ppb	ppb	ppb	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm
Detection Limit	5	1	1	2	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1
Analysis Method	FA-AA	FA-MS	FA-MS	FA-MS	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas					28.7	2.5	1190	779	13	29	635	726	0.34	349	11	205	0.8	1370	0.76	6	6	20.4	< 10	5
GXR-1 Cert					31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90
GXR-4 Meas					3.4	< 0.5	6380	142	320	39	46	76	3.03	99	< 10	40	1.5	17	0.84	14	56	3.02	< 10	< 1
GXR-4 Cert					4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110
GXR-6 Meas					0.3	< 0.5	75	1060	2	24	101	123	7.06	244	< 10	713	0.8	5	0.10	13	84	5.98	10	1
GXR-6 Cert					1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680
MP-1b Meas																								
MP-1b Cert																								
CCu-1d Meas																								
CCu-1d Cert																								
CZN-4 Meas																								
CZN-4 Cert																								
OXK94 Meas																								
OXK94 Cert																								
OXL93 Meas																								
OXL93 Cert																								
SE58 Meas	583																							
SE58 Cert	607.00																							
SE58 Meas	607																							
SE58 Cert	607.00																							
SF57 Meas	812																							
SF57 Cert	848.000																							
SF57 Meas	828																							
SF57 Cert	848.000																							
CDN-PGMS-23 Meas		1880	469	528																				
CDN-PGMS-23 Cert		2032.000	456.000	496.000																				
CDN-PGMS-24 Meas		4530	1030	742																				
CDN-PGMS-24 Cert		4880.00	1090.00	806.000																				
1951 Orig					0.8	< 0.5	310	259	< 1	2	< 2	10	1.08	203	< 10	58	< 0.5	< 2	0.20	37	4	4.22	< 10	< 1
1951 Dup					0.7	< 0.5	317	261	< 1	< 1	< 2	10	1.09	207	< 10	57	< 0.5	2	0.21	37	4	4.27	< 10	< 1
1965 Orig					1.0	0.6	437	1270	4	3	< 2	63	4.94	103	< 10	68	< 0.5	< 2	0.73	12	6	11.8	10	2
1965 Dup					0.3	0.9	434	1230	4	4	4	62	4.88	102	< 10	68	< 0.5	3	0.70	10	6	11.5	10	< 1
1966 Orig	9																							
1966 Dup	8																							
1968 Orig	1600																							
1968 Dup	1670																							
1977 Orig	< 5				0.9	< 0.5	127	1040	< 1	8	< 2	77	2.45	< 2	< 10	69	< 0.5	< 2	2.73	19	9	4.57	< 10	< 1
1977 Split	< 5				0.4	< 0.5	138	1080	< 1	10	< 2	82	2.60	3	< 10	73	< 0.5	< 2	2.88	20	11	4.84	< 10	3
1977 Orig	< 5																							
1977 Dup	< 5																							
1979 Orig		13	7	17																				
1979 Dup		12	7	24																				
Method Blank					< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	3	< 0.01	2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1
Method Blank					< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank		< 1	< 1	< 2																				
Method Blank																								
Method Blank																								
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank																								

Quality Control

Analyte Symbol	K	La	Mg	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr	Au	Cu
Unit Symbol	%	ppm	%	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	g/tonne	%
Detection Limit	0.01	10	0.01	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1	0.03	0.001
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	FA-GRA	ICP-OES
GXR-1 Meas	0.03	< 10	0.13	0.037	0.034	0.17	69	< 1	126		3	< 2	29	79	120	27	15		
GXR-1 Cert	0.050	7.50	0.217	0.0520	0.0650	0.257	122	1.58	275		13.0	0.390	34.9	80.0	164	32.0	38.0		
GXR-4 Meas	1.58	38	1.60	0.119	0.120	1.59	4	5	68		3	< 2	< 10	82	17	9	9		
GXR-4 Cert	4.01	64.5	1.66	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186		
GXR-6 Meas	0.91	< 10	0.37	0.060	0.033	0.01	4	12	20		< 1	< 2	< 10	167	< 10	4	9		
GXR-6 Cert	1.87	13.9	0.609	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110		
MP-1b Meas																			3.15
MP-1b Cert																			3.069
CCu-1d Meas																			23.9
CCu-1d Cert																			23.93
CZN-4 Meas																			0.401
CZN-4 Cert																			0.403
OXK94 Meas																		3.54	
OXK94 Cert																		3.56	
OXL93 Meas																		5.75	
OXL93 Cert																		5.84	
SE58 Meas																			
SE58 Cert																			
SE58 Meas																			
SE58 Cert																			
SF57 Meas																			
SF57 Cert																			
SF57 Meas																			
SF57 Cert																			
CDN-PGMS-23 Meas																			
CDN-PGMS-23 Cert																			
CDN-PGMS-24 Meas																			
CDN-PGMS-24 Cert																			
1951 Orig	0.30	< 10	0.31	0.017	0.117	1.19	3	3	14	< 0.01	< 1	< 2	< 10	53	11	10	9		
1951 Dup	0.30	< 10	0.31	0.018	0.119	1.20	3	3	14	< 0.01	< 1	< 2	< 10	53	< 10	10	9		
1965 Orig	0.36	10	1.65	0.015	0.135	0.09	5	6	9	< 0.01	< 1	< 2	< 10	108	12	7	6		
1965 Dup	0.35	10	1.61	0.015	0.131	0.09	7	6	8	< 0.01	< 1	< 2	< 10	105	< 10	7	6		
1966 Orig																			
1966 Dup																			
1968 Orig																			
1968 Dup																			
1977 Orig	0.15	< 10	1.65	0.054	0.154	< 0.01	2	6	106	0.17	< 1	< 2	< 10	130	< 10	9	3		
1977 Split	0.17	< 10	1.77	0.056	0.164	< 0.01	2	7	112	0.17	9	< 2	< 10	136	< 10	10	3		
1977 Orig																			
1977 Dup																			
1979 Orig																			
1979 Dup																			
Method Blank	< 0.01	< 10	< 0.01	0.008	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	2	< 10	< 1	< 10	< 1	< 1		
Method Blank	< 0.01	< 10	< 0.01	0.009	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1		
Method Blank																			
Method Blank																			
Method Blank																			
Method Blank																		< 0.03	
Method Blank																		< 0.03	
Method Blank																			
Method Blank																			
Method Blank																			0.009

Quality Analysis ... *Innovative Technologies*

Date Submitted:	06-Aug-13
Invoice No.:	A13-09000
Invoice Date:	13-Aug-13
Your Reference:	Cathedral

CME Consultants Inc.
2130-21331 Gordon Way,
Richmond BC V6W 1S9 Canada

ATTN: Chris Naas

CERTIFICATE OF ANALYSIS

1 Pulp sample and 9 Rock samples were submitted for analysis.

The following analytical packages were requested: Code 1A2-Kamloops Au - Fire Assay AA
Code 1E3-Kamloops Aqua Regia ICP(AQUAGEO)

REPORT **A13-09000**

Notes:
If value exceeds upper limit we recommend reassay by fire assay gravimetric-Code 1A3
Values which exceed the upper limit should be assayed for accurate numbers.

CERTIFIED BY :

Emmanuel Eseme , Ph.D.
Quality Control

ISO/IEC 17025
SCC Accredited
LAB 266
LAB 266
Accrédité CCN

ACTIVATION LABORATORIES LTD.

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E-MAIL Ancaster@actlabs.com ACTLABS GROUP WEBSITE www.actlabs.com

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1983	29	0.2	< 0.5	350	414	< 1	54	< 2	26	1.84	< 2	< 10	71	< 0.5	< 2	2.24	14	138	3.62	< 10	< 1	0.10	< 10	1.56
1984	17	< 0.2	< 0.5	469	451	< 1	58	< 2	26	1.95	< 2	< 10	80	< 0.5	< 2	2.44	14	152	4.00	< 10	< 1	0.11	< 10	1.61
1985	1530	3.4	1.6	7820	216	683	60	49	80	1.31	28	< 10	33	< 0.5	< 2	1.01	19	70	3.73	< 10	< 1	0.44	18	0.64
1986	10	< 0.2	< 0.5	111	143	4	3	3	15	0.82	< 2	< 10	99	< 0.5	< 2	0.55	3	13	0.89	< 10	< 1	0.18	< 10	0.27
1987	6	< 0.2	< 0.5	439	423	< 1	56	3	31	2.03	< 2	< 10	190	< 0.5	< 2	2.01	19	89	5.28	< 10	< 1	0.20	< 10	1.76
1988	12	0.5	< 0.5	744	206	1	9	3	16	0.59	< 2	< 10	46	< 0.5	2	0.34	5	39	1.07	< 10	< 1	0.12	< 10	0.38
1989	11	2.6	0.7	7040	561	< 1	53	< 2	25	1.00	7	< 10	12	< 0.5	3	4.49	19	205	11.0	< 10	1	0.04	19	1.41
1990	10	< 0.2	< 0.5	170	256	< 1	2	4	23	1.02	< 2	< 10	56	< 0.5	< 2	0.84	7	10	1.85	< 10	< 1	0.17	< 10	0.44
1991	< 5	< 0.2	< 0.5	141	321	< 1	4	< 2	31	1.19	< 2	< 10	53	< 0.5	< 2	0.70	10	11	1.91	< 10	< 1	0.11	< 10	0.70
1992	8	< 0.2	< 0.5	99	402	< 1	47	< 2	35	1.71	< 2	< 10	237	< 0.5	< 2	1.33	14	142	3.57	< 10	< 1	0.58	< 10	1.28

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
1983	0.063	0.218	0.03	2	3	104	0.17	7	< 2	< 10	134	< 10	6	3
1984	0.073	0.233	0.04	3	3	118	0.18	7	< 2	< 10	145	< 10	6	3
1985	0.040	0.054	2.39	18	4	47	0.05	2	< 2	< 10	41	13	10	6
1986	0.083	0.031	< 0.01	< 2	< 1	58	0.07	< 1	< 2	< 10	24	< 10	3	1
1987	0.072	0.426	0.01	< 2	4	102	0.17	4	< 2	< 10	213	< 10	9	3
1988	0.068	0.036	0.05	< 2	1	29	0.06	< 1	< 2	< 10	39	< 10	3	3
1989	0.050	1.12	0.07	5	8	95	0.05	< 1	< 2	< 10	354	< 10	25	4
1990	0.071	0.085	0.01	< 2	2	61	0.11	< 1	< 2	< 10	78	< 10	6	2
1991	0.055	0.093	0.01	< 2	2	58	0.12	3	< 2	< 10	67	< 10	6	2
1992	0.083	0.215	< 0.01	< 2	3	47	0.19	2	< 2	< 10	154	< 10	8	2

Quality Control

Analyte Symbol	Au	Ag	Cd	Cu	Mn	Mo	Ni	Pb	Zn	Al	As	B	Ba	Be	Bi	Ca	Co	Cr	Fe	Ga	Hg	K	La	Mg
Unit Symbol	ppb	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm	%
Detection Limit	5	0.2	0.5	1	5	1	1	2	2	0.01	2	10	10	0.5	2	0.01	1	1	0.01	10	1	0.01	10	0.01
Analysis Method	FA-AA	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas		28.7	2.5	1190	779	13	29	635	726	0.34	349	11	205	0.8	1370	0.76	6	6	20.4	< 10	5	0.03	< 10	0.13
GXR-1 Cert		31.0	3.30	1110	852	18.0	41.0	730	760	3.52	427	15.0	750	1.22	1380	0.960	8.20	12.0	23.6	13.8	3.90	0.050	7.50	0.217
GXR-4 Meas		3.4	< 0.5	6380	142	320	39	46	76	3.03	99	< 10	40	1.5	17	0.84	14	56	3.02	< 10	< 1	1.58	38	1.60
GXR-4 Cert		4.00	0.860	6520	155	310	42.0	52.0	73.0	7.20	98.0	4.50	1640	1.90	19.0	1.01	14.6	64.0	3.09	20.0	0.110	4.01	64.5	1.66
GXR-6 Meas		0.3	< 0.5	75	1060	2	24	101	123	7.06	244	< 10	713	0.8	5	0.10	13	84	5.98	10	1	0.91	< 10	0.37
GXR-6 Cert		1.30	1.00	66.0	1010	2.40	27.0	101	118	17.7	330	9.80	1300	1.40	0.290	0.180	13.8	96.0	5.58	35.0	0.0680	1.87	13.9	0.609
SE58 Meas	616																							
SE58 Cert	607.00																							
SE58 Meas	614																							
SE58 Cert	607.00																							
SF57 Meas	825																							
SF57 Cert	848.000																							
SF57 Meas	801																							
SF57 Cert	848.000																							
1985 Orig	1540																							
1985 Dup	1530																							
1987 Orig		< 0.2	< 0.5	433	421	< 1	57	4	30	2.02	< 2	< 10	189	< 0.5	< 2	1.99	19	89	5.24	< 10	< 1	0.20	< 10	1.76
1987 Dup		< 0.2	< 0.5	444	426	< 1	55	2	31	2.03	< 2	< 10	191	< 0.5	< 2	2.03	19	89	5.31	< 10	< 1	0.20	< 10	1.77
1988 Orig	12																							
1988 Dup	13																							
Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	3	< 0.01	2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank		< 0.2	< 0.5	< 1	< 5	< 1	< 1	< 2	< 2	< 0.01	< 2	< 10	< 10	< 0.5	< 2	< 0.01	< 1	< 1	< 0.01	< 10	< 1	< 0.01	< 10	< 0.01
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							
Method Blank	< 5																							

Quality Control

Analyte Symbol	Na	P	S	Sb	Sc	Sr	Ti	Te	Tl	U	V	W	Y	Zr
Unit Symbol	%	%	%	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm
Detection Limit	0.001	0.001	0.01	2	1	1	0.01	1	2	10	1	10	1	1
Analysis Method	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP	AR-ICP
GXR-1 Meas	0.037	0.034	0.17	69	< 1	126		3	< 2	29	79	120	27	15
GXR-1 Cert	0.0520	0.0650	0.257	122	1.58	275		13.0	0.390	34.9	80.0	164	32.0	38.0
GXR-4 Meas	0.119	0.120	1.59	4	5	68		3	< 2	< 10	82	17	9	9
GXR-4 Cert	0.564	0.120	1.77	4.80	7.70	221		0.970	3.20	6.20	87.0	30.8	14.0	186
GXR-6 Meas	0.060	0.033	0.01	4	12	20		< 1	< 2	< 10	167	< 10	4	9
GXR-6 Cert	0.104	0.0350	0.0160	3.60	27.6	35.0		0.0180	2.20	1.54	186	1.90	14.0	110
SE58 Meas														
SE58 Cert														
SE58 Meas														
SE58 Cert														
SF57 Meas														
SF57 Cert														
SF57 Meas														
SF57 Cert														
1985 Orig														
1985 Dup														
1987 Orig	0.071	0.427	0.01	< 2	3	103	0.17	3	< 2	< 10	212	< 10	9	3
1987 Dup	0.072	0.424	0.01	3	4	102	0.17	6	< 2	< 10	214	< 10	9	3
1988 Orig														
1988 Dup														
Method Blank	0.008	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	2	< 10	< 1	< 10	< 1	< 1
Method Blank	0.009	< 0.001	< 0.01	< 2	< 1	< 1	< 0.01	< 1	< 2	< 10	< 1	< 10	< 1	< 1
Method Blank														
Method Blank														
Method Blank														
Method Blank														

APPENDIX IV
SAMPLE ANALYSES

a. Analytical Methodology
b. CRM Specifications
c. CRM Performance

APPENDIX IV
SAMPLE ANALYSIS

a. Analytical Methodology

XRF Analysis Methodology

Soil samples were analyzed utilizing a Delta Premium XRF instrument.

Prior to analysis, each zip log sandwich bag containing the soil sample was shaken in a manner to allow fines to consolidate at the bottom of the sandwich bag. Analysis was undertaken on these fines through the zip lock sandwich bag. At each startup, a calibration coin was analyzed and subsequent analysis was only performed when a pass was obtained, which was calculated internally by the XRF instrument.

The XRF unit was set to soil mode and used beams 1 and 2 at ten second intervals for each beam. While the instrument detects many elements, only copper and arsenic were used. A correction factor was applied to all raw copper and arsenic results. Information pertaining to the correction factor is presented in Appendix IVa.

Results are reported in parts per million (ppm) for both copper and arsenic. Lower detection limits are variable and depend on the element.

During analysis of soil samples by handheld XRF, non-blind control samples were analysed to monitor the XRF instrument calibration and performance. These standards were included with the XRF instrument and are treated as internal controls.

The standard used consisted of a vial of a reference material "2710a" with a copper value of 2,950 ± 130 ppm Cu and arsenic value of 626 ± 38 ppm As. A blank consisted of a vial of silica sand material "SiO_2". Analyses of the reference returned values of Cu and As consistently higher (23.9% and 67.8%, respectively) than the recommended value. The analytical values were quite consistent demonstrating a measure of precision in the analyses. Analyses of the blanks consistently returned very low values of copper and arsenic.

XRF Correction

A correction factor was applied to to the raw data. This factor was determined by CME for copper and arsenic only.

The correction factor was determined by selecting rock sample pulps that had been analyzed at a commercial laboratory with an accompanying certificate of analysis. These rock sample pulps of varying copper and arsenic concentrations were analyzed by the handheld XRF using the method described above for rocks. A total of 113 samples were used for determination of the copper correction factor and 110 samples were used for the arsenic correction factor.

Results from the XRF analysis (analytical lab versus XRF) were plotted in an X-Y scatter plot and trend line (best fit) determined. Trend lines consisted of linear and polynomial to various orders and an equation for each trend line was determined. Samples that had been analyzed by XRF with known copper and arsenic concentrations were plugged into the various equations and the resulting value was compared to the certified value from the laboratory.

Using this method, the best trend line (equation) was determined:

- polynominal to the order of 3 for copper, and
- polynominal to the order of 2 for arsenic.

Close This Window

1A2 - (1A2-50) Au Fire Assay - AA

Fire Assay Fusion

A sample size of 5 to 50 grams can be used but the routine 30 g size is applied for rock pulps, soils or sediments (exploration samples). The sample is mixed with fire assay fluxes (borax, soda ash, silica, litharge) and with Ag added as a collector and the mixture is placed in a fire clay crucible, the mixture is preheated at 850°C, intermediate 950°C and finish 1060°C, the entire fusion process should last 60 minutes. The crucibles are then removed from the assay furnace and the molten slag (lighter material) is carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button is then placed in a preheated cupel which absorbs the lead when cupelled at 950°C to recover the Ag (doré bead) + Au.

AA Finish

The entire Ag dore bead is dissolved in aqua regia and the gold content is determined by AA (Atomic Absorption). AA is an instrumental method of determining element concentration by introducing an element in its atomic form, to a light beam of appropriate wavelength causing the atom to absorb light – atomic absorption. The reduction in the intensity of the light beam directly correlates with the concentration of the elemental atomic species.

Hoffman, E.L. , Clark, J.R. and Yeager, J.R. 1998. Gold analysis - Fire Assaying and alternative methods. Exploration and Mining Geology, Volume 7, pp. 155-160.

Code 1A2 (Fire Assay-AA) Detection Limits (ppb)

Element	Detection Limit	Upper Limit
Au	5	3,000

Note: If value exceeds upper limit, reanalysis by Fire Assay-Gravimetric (Code 1A3) is recommended.

Close This Window

1A3 - (1A3-30 or 50) - Au Fire Assay - Gravimetric

Fire Assay
A sample size of 10 to 50 grams can be used but the routine 30 g size is applied for rock pulps, soils or sediments (exploration samples). The sample is mixed with fire assay fluxes (borax, soda ash, silica, litharge) and with Ag added as a collector and the mixture is placed in a fire clay crucible, the mixture is preheated at 850°C, intermediate 950 °C and finish 1060 °C, the entire fusion process should last 60 minutes. The crucibles are then removed from the assay furnace and the molten slag (lighter material) is carefully poured from the crucible into a mould, leaving a lead button at the base of the mould. The lead button is then placed in a preheated cupel which absorbs the lead when cupelled at 950°C to recover the Ag (doré bead) + Au.

Au is separated from the Ag in the doré bead by parting with nitric acid. The resulting gold flake is annealed using a torch. The gold flake remaining is weighed gravimetrically on a microbalance.

Hoffman, E.L. , Clark, J.R. and Yeager, J.R. 1998. Gold analysis - Fire Assaying and alternative methods. Exploration and Mining Geology, Volume 7, p.155-160.

Code 1A3 (Fire Assay-Gravimetric) Detection Limits (g/tonne)

Element	Detection Limit	Upper Limit
Au	0.03	10,000

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1E3 - Aqua Regia - ICP

0.5 g of sample is digested with aqua regia for 2 hours at 95 ° C. Sample is cooled then diluted with deionized water. The samples are then analyzed using a Varian ICP for the 35 element suite. QC for the digestion is 15% for each batch, 2 method reagent blanks, 6 in-house controls, 8 sample duplicates and 5 certified reference materials. An additional 20% QC is performed as part of the instrumental analysis to ensure quality in the areas of instrumental drift.

Code 1E3 Elements and Detection Limits (ppm)

Element	Detection Limit	Upper Limit
Ag	0.2	100
Al*	0.01%	-
As*	2	10,000
B*	10	-
Ba*	10	-
Be*	0.5	-
Bi	2	-
Ca*	0.01%	-
Cd	0.5	2,000
Co*	1	10,000
Cr*	1	-
Cu	1	10,000
Fe*	0.01%	-

Element	Detection Limit	Upper Limit
Ga*	10	-
Hg	1	-
K*	0.01%	-
La*	10	-
Mg*	0.01%	-
Mn*	5	100,000
Mo*	1	10,000
Na*	0.001%	-
Ni*	1	10,000
P*	0.001%	-
Pb	2	5,000
S	0.01%	20%

Element	Detection Limit	Upper Limit
Sb*	2	-
Sc*	1	-
Sr*	1	-
Te*	1	500
Ti*	0.01%	-
Tl*	2	-
U	10	-
V*	1	-
W*	10	-
Y*	1	-
Zn*	2	10,000
Zr*	1	10,000

Notes:
* Element may only be partially extracted.
Assays are recommended for values which exceed the upper limits.

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Close This Window

8 - AR - ICP

Assays provide quantitative determinations of elements in non-processed geological materials. Assays are usually required when samples are known or suspected to contain higher levels of metals.

A 0.5 g sample is digested in aqua regia and diluted volumetrically to 250 ml with 18 megaohm water. CANMET reference materials for the appropriate elements are digested the same way and are used as a verification standard(s). Samples are analyzed on a Varian Vista 735.

Assay package for base metals, aqua regia digestion.

Element	Detection Limit
Hg	1 ppm
Ag	3 ppm
Cu	0.001%
Zn	0.001%
Pb	0.003%
Ni	0.003%
Cd	0.003%
Co	0.003%
Mn	0.003%
Fe	0.003%

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http://www.actlabs.com/

APPENDIX IV
SAMPLE ANALYSIS

b. CRM Specifications

CDN Resource Laboratories Ltd.

10945-B River Road, Delta, B.C., Canada, V4C 2R8, 604-540-2233, Fax: 604-540-2237 (www.cdnlabs.com)

ORE REFERENCE STANDARD: CDN-CM-1

Recommended values and the "Between Lab" Two Standard Deviations

Gold	***1.85 ± 0.16 g/t***	
Copper	***0.853 ± 0.020 %***	
Molybdenum	***0.076 ± 0.008 %***	

PREPARED BY: CDN Resource Laboratories Ltd.
CERTIFIED BY: Duncan Sanderson, B.Sc., Licensed Assayer of British Columbia
INDEPENDENT GEOCHEMIST: Dr. Barry Smee., Ph.D., P. Geo.
DATE OF CERTIFICATION: April 12, 2007

METHOD OF PREPARATION:

Reject ore material was dried, crushed, pulverized and then passed through a 200 mesh screen. The +200 material was discarded. The -200 material was mixed for 6 days in a double cone blender. Splits were taken and sent to twelve laboratories for round robin assaying.

ORIGIN OF REFERENCE MATERIAL:

The ore was supplied by Pacific Sentinel from the Casino Property in British Columbia. Copper-gold-molybdenum mineralization is genetically related to a breccia and microbreccia pipe of fine grained quartz monzonites, intrusion breccias, and plagioclase-porphyritic intrusions that may be subvolcanic in origin, comprising part of the 72-74 Ma Casino Intrusive Complex. Roughly centred on the microbreccia pipe, both the alteration and mineralization are zoned. Innermost is the potassic alteration suite consisting of K-feldspar, biotite, magnetite, anhydrite, gypsum, and pyrite, chalcopyrite, molybdenite, and gold.

Standard CDN-CM-1 was made by combining 680 kg of Casino material with 20 kg of a Au-Cu-Mo concentrate.

Approximate chemical composition is as follows:

	Percent			Percent
SiO2	63.1		MgO	1.4
Al2O3	13.6		K2O	4.6
Fe2O3	6.3		TiO2	0.5
CaO	1.8		LOI	5.6
Na2O	1.5		S	2.8

Statistical Procedures:

The mean and standard deviation for all data was calculated. Outliers were defined as samples beyond the mean ± 2 Standard Deviations from all data. These outliers were removed from the data and a new mean and standard deviation was determined. The Au data from one laboratory and the Ag data from another laboratory were excluded as theydid not pass the "t" test. This method is different from that used by Government agencies in that the actual "between-laboratory" standard deviation is used in the calculations. This produces upper and lower limits that reflect actual individual analyses rather than a grouped set of analyses. The limits can therefore be used to monitor accuracy from individual analyses, unlike the Confidence Limits published on other standards.

Results from round-robin assaying are presented on the following page:

Assay Procedures:

Au: Fire assay pre-concentration, AA or ICP finish (30g sub-sample).
Cu, Mo: 4-acid digestion, AA or ICP finish.

STANDARD REFERENCE MATERIAL CDN-CM-1

	Lab 1	Lab 2	Lab 3	Lab 4	Lab 5	Lab 6	Lab 7	Lab 8	Lab 9	Lab 10	Lab 11	Lab 12
	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t	Au g/t
CM1-1	1.80	1.94	1.90	1.79	1.78	1.99	1.93	1.86	1.92	1.88	1.66	1.98
CM1-2	1.84	1.82	1.76	1.86	1.82	1.97	1.93	1.82	1.80	1.85	1.61	1.85
CM1-3	1.91	1.78	1.77	1.97	1.89	1.83	1.81	1.72	1.94	1.90	1.75	1.81
CM1-4	2.00	1.87	1.75	1.97	1.86	1.84	1.81	1.73	1.75	1.91	1.72	1.75
CM1-5	1.83	1.76	1.90	1.96	1.71	1.81	1.80	1.78	1.86	1.83	1.69	1.87
CM1-6	2.00	1.76	2.02	1.84	1.65	1.82	1.79	1.85	1.90	1.87	1.69	1.91
CM1-7	1.91	1.80	1.86	1.90	1.63	1.87	1.77	1.86	1.86	1.85	1.65	1.91
CM1-8	1.92	1.97	1.83	1.83	1.74	1.96	1.91	1.84	1.82	1.89	1.75	1.80
CM1-9	1.82	1.96	1.97	1.94	1.77	1.94	1.82	1.95	1.94	1.90	1.74	1.85
CM1-10	2.01	1.89	1.91	1.86	1.70	1.80	1.76	2.06	1.91	1.93	1.66	1.85
Mean	1.90	1.86	1.87	1.89	1.76	1.88	1.83	1.85	1.87	1.88	1.69	1.86
Std. Dev'n	0.0805	0.0822	0.0907	0.0655	0.0858	0.0739	0.0649	0.1008	0.0635	0.0311	0.0486	0.0649
%RSD	4.23	4.43	4.86	3.46	4.89	3.93	3.54	5.46	3.40	1.65	2.87	3.50
	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %	Cu %
CM1-1	0.845	0.865	0.851	0.849	0.793	0.856	0.850	0.840	0.846	0.859	0.857	0.860
CM1-2	0.870	0.845	0.854	0.851	0.827	0.861	0.850	0.850	0.849	0.863	0.855	0.872
CM1-3	0.822	0.865	0.853	0.847	0.843	0.848	0.845	0.848	0.833	0.851	0.862	0.870
CM1-4	0.880	0.869	0.870	0.852	0.834	0.860	0.849	0.853	0.842	0.861	0.860	0.854
CM1-5	0.848	0.870	0.869	0.853	0.832	0.862	0.855	0.843	0.843	0.863	0.874	0.870
CM1-6	0.834	0.863	0.857	0.850	0.826	0.853	0.840	0.854	0.846	0.854	0.864	0.865
CM1-7	0.840	0.849	0.853	0.857	0.837	0.858	0.841	0.843	0.838	0.850	0.864	0.862
CM1-8	0.838	0.856	0.847	0.859	0.828	0.850	0.845	0.850	0.848	0.855	0.856	0.863
CM1-9	0.845	0.858	0.854	0.860	0.845	0.838	0.845	0.848	0.850	0.850	0.856	0.869
CM1-10	0.833	0.864	0.837	0.846	0.845	0.850	0.845	0.854	0.842	0.857	0.870	0.864
Mean	0.846	0.860	0.856	0.852	0.831	0.854	0.847	0.848	0.844	0.856	0.862	0.865
Std. Dev'n	0.0174	0.0083	0.0079	0.0049	0.0152	0.0074	0.0045	0.0049	0.0052	0.0051	0.0064	0.0055
%RSD	2.06	0.96	0.92	0.57	1.83	0.87	0.53	0.58	0.62	0.60	0.74	0.64
	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %	Mo %
CM1-1	0.070	0.071	0.069	0.077	0.070	0.073	0.076	0.082	0.081	0.080	0.079	0.076
CM1-2	0.072	0.071	0.071	0.078	0.070	0.075	0.075	0.082	0.081	0.083	0.080	0.078
CM1-3	0.074	0.072	0.071	0.078	0.072	0.073	0.078	0.081	0.080	0.080	0.079	0.073
CM1-4	0.076	0.071	0.071	0.078	0.072	0.072	0.076	0.082	0.079	0.080	0.079	0.078
CM1-5	0.075	0.073	0.074	0.078	0.073	0.073	0.077	0.082	0.080	0.079	0.080	0.079
CM1-6	0.070	0.074	0.073	0.078	0.073	0.071	0.077	0.083	0.079	0.079	0.080	0.079
CM1-7	0.073	0.071	0.069	0.077	0.072	0.074	0.078	0.081	0.079	0.079	0.081	0.078
CM1-8	0.075	0.072	0.071	0.078	0.072	0.073	0.077	0.082	0.079	0.077	0.080	0.080
CM1-9	0.076	0.072	0.072	0.078	0.072	0.072	0.076	0.081	0.081	0.080	0.080	0.079
CM1-10	0.072	0.070	0.070	0.078	0.074	0.073	0.078	0.082	0.080	0.075	0.081	0.080
Mean	0.073	0.072	0.071	0.078	0.072	0.073	0.077	0.082	0.080	0.079	0.080	0.078
Std. Dev'n	0.0023	0.0012	0.0016	0.0004	0.0012	0.0011	0.0010	0.0006	0.0009	0.0021	0.0007	0.0021
%RSD	3.09	1.62	2.24	0.54	1.73	1.51	1.34	0.77	1.11	2.67	0.92	2.70

STANDARD REFERENCE MATERIAL CDN-CM-1

Participating Laboratories:
(not in same order as listed in table of results)

Acme Analytical Laboratories Ltd., Vancouver
Assayers Canada Ltd., Vancouver
Alex Stewart (Assayers) Argentina
ALS Chemex Laboratories, North Vancouver
Actlabs, Ancaster, Ontario
Eco-Tech Laboratories Ltd., Kamloops
Genalysis Laboratory Services Ltd., Perth
GTK Laboratory, Finland
OMAC Laboratory Ltd., Ireland
Skyline Assayers & Laboratories, Tucson, USA
Teck Cominco - Global Discovery Laboratory, Vancouver
TSL Laboratories Ltd., Saskatoon

Legal Notice:

This certificate and the reference material described in it have been prepared with due care and attention. However CDN Resource Laboratories Ltd. or Barry Smee accept no liability for any decisions or actions taken following the use of the reference material. Our liability is limited solely to the cost of the reference material.

Certified by Duncan Sanderson
Duncan Sanderson, Certified Assayer of B.C.

Geochemist BW Smee
Dr. Barry Smee, Ph.D., P. Geo.

APPENDIX IV
SAMPLE ANALYSIS

c. CRM Performance

CRM Performance - Rock Samples

CRM	Element	Nominal	2sd
CDN-CM-1	Cu (ppm)	8530	200
	Au (ppb)	1850	160
	Mo (ppm)	760	80

ORIGINAL ANALYSES

Batch	CRM	Cu (ppm)	Δ Cu		Au (ppb)	Δ Au		Mo (ppm)	Δ Mo	
A13-08993	1937	8290	-240	> 2sd	1630	-220	> 2sd	728	-32	OK
A13-08996	1968	8100	-430	> 3sd	1630	-220	> 2sd	718	-42	OK
A13-09000	1985	7820	-710	> 3sd	1530	-320	> 2sd	683	-77	OK

RE-ANALYSES

Batch	CRM	Cu (ppm)	Δ Cu		Au (ppb)	Δ Au		Mo (ppm)	Δ Mo	
A13-08993	1937	8500	-30	OK	1810	-40	OK	644	-116	> 2sd
A13-08996	1968	8000	-530	> 3sd	1790	-60	OK	597	-163	> 3sd
A13-09000	1985	8420	-110	OK	1850	0	OK	706	-54	OK

CRM Performance - Soil Samples

CRM	Element	Nominal	Expanded Uncertainly
2710a	Cu (ppm)	3420	50
	As ppm	1540	10

CRM	Cu (ppm)	As (ppm)	Δ Cu	Variance Cu	Δ As	Variance As
2710a	4056	2457	636	18.6%	917	59.5%
2710a	4082	2627	662	19.4%	1087	70.6%
2710a	4165	2567	745	21.8%	1027	66.7%
2710a	4164	2541	744	21.8%	1001	65.0%
			697	**20.4%**	**1008**	**65.5%**

Blank	Cu (ppm)	As (ppm)
SiO_2	17	4
SiO_2	17	4
SiO_2	17	4
SiO_2	17	4

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Au / ppb		rerun-original	rerun/original
A13-08993	1932	2800	>3000		
	1933	684	749	65	110%
	1934	362	321	-41	89%
	1935	223	170	-53	76%
	1936	2310	2200	-110	95%
	1937	**1630**	**1810**	**180**	**111%**
	1938	3	8	5	267%
	1939	37	45	8	122%
	1940	3	9	6	300%
A13-08996	1963	3	6	3	200%
	1964	>3000	>3000		
	1965	28	25	-3	89%
	1966	9	11	2	122%
	1967	16	17	1	106%
	1968	**1630**	**1790**	**160**	**110%**
	1969	11	14	3	127%
	1970	3	7	4	233%
	1971	9	16	7	178%
	1972	55	39	-16	71%
	1973	18	25	7	139%
A13-09000	1983	29	12	-17	41%
	1984	17	12	-5	71%
	1985	**1530**	**1850**	**320**	**121%**
	1986	10	11	1	110%
	1987	6	9	3	150%
	1988	12	18	6	150%
	1989	11	12	1	109%
	1990	10	14	4	140%
	1991	3	6	3	200%
	1992	8	8	0	100%
			Average difference (excl CRM)		-5
			Average variance (excl CRM)		129%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Ag / ppm		rerun-original	rerun/original
A13-08993	1932	1.7	2	0.3	118%
	1933	1.1	1.4	0.3	127%
	1934	1.1	1.2	0.1	109%
	1935	8.7	7.8	-0.9	90%
	1936	4.3	4.7	0.4	109%
	1937	**3.8**	**3.3**	**-0.5**	**87%**
	1938	0.1	0.1	0	100%
	1939	1.1	1	-0.1	91%
	1940	0.4	0.3	-0.1	75%
A13-08996	1963	0.1	0.1	0	100%
	1964	12.3	9.7	-2.6	79%
	1965	0.6	0.4	-0.2	67%
	1966	0.1	0.1	0	100%
	1967	0.1	0.1	0	100%
	1968	**3.6**	**3.3**	**-0.3**	**92%**
	1969	0.1	0.1	0	100%
	1970	0.1	0.1	0	100%
	1971	0.3	0.3	0	100%
	1972	0.6	0.6	0	100%
	1973	0.8	0.8	0	100%
A13-09000	1983	0.2	0.1	-0.1	50%
	1984	0.1	0.1	0	100%
	1985	**3.4**	**3.7**	**0.3**	**109%**
	1986	0.1	0.1	0	100%
	1987	0.1	0.1	0	100%
	1988	0.5	0.4	-0.1	80%
	1989	2.6	0.1	-2.5	4%
	1990	0.1	0.1	0	100%
	1991	0.1	0.1	0	100%
	1992	0.1	0.1	0	100%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		91%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Cd / ppm		rerun-original	rerun/original
A13-08993	1932	0.3	1.7	1.4	567%
	1933	2.8	2.2	-0.6	79%
	1934	1.4	1.3	-0.1	93%
	1935	6.8	7.7	0.9	113%
	1936	2.4	3.2	0.8	133%
	1937	**1.2**	**1.4**	**0.2**	**117%**
	1938	0.3	0.3	0	100%
	1939	0.3	0.5	0.2	167%
	1940	0.3	0.3	0	100%
A13-08996	1963	0.3	0.3	0	100%
	1964	0.3	1.1	0.8	
	1965	0.8	0.3	-0.5	38%
	1966	0.3	0.3	0	100%
	1967	0.3	0.3	0	100%
	1968	**1.5**	**1.2**	**-0.3**	**80%**
	1969	0.3	0.3	0	100%
	1970	0.3	0.3	0	100%
	1971	0.3	0.3	0	100%
	1972	0.3	0.3	0	100%
	1973	0.3	0.3	0	100%
A13-09000	1983	0.3	0.3	0	100%
	1984	0.3	0.3	0	100%
	1985	**1.6**	**1.5**	**-0.1**	**94%**
	1986	0.3	0.3	0	100%
	1987	0.3	0.3	0	100%
	1988	0.3	0.3	0	100%
	1989	0.7	1	0.3	143%
	1990	0.3	0.3	0	100%
	1991	0.3	0.3	0	100%
	1992	0.3	0.3	0	100%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		102%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Cu / ppm		rerun-original	rerun/original
A13-08993	1932	813	842	29	104%
	1933	110	117	7	106%
	1934	266	278	12	105%
	1935	>10000	>10000		
	1936	236	246	10	104%
	1937	**8290**	**8500**	**210**	**103%**
	1938	27	24	-3	89%
	1939	939	892	-47	95%
	1940	845	753	-92	89%
A13-08996	1963	101	109	8	108%
	1964	>10000	>10000		
	1965	436	454	18	104%
	1966	247	259	12	105%
	1967	16	16	0	100%
	1968	**8100**	**8000**	**-100**	**99%**
	1969	442	430	-12	97%
	1970	62	51	-11	82%
	1971	733	777	44	106%
	1972	1290	1170	-120	91%
	1973	2040	2000	-40	98%
A13-09000	1983	350	391	41	112%
	1984	469	495	26	106%
	1985	**7820**	**8420**	**600**	**108%**
	1986	111	120	9	108%
	1987	439	457	18	104%
	1988	744	729	-15	98%
	1989	7040	6820	-220	97%
	1990	170	169	-1	99%
	1991	141	134	-7	95%
	1992	99	102	3	103%
			Average difference (excl CRM)		-13
			Average variance (excl CRM)		101%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Mn / ppm		rerun-original	rerun/original
A13-08993	1932	1310	1230	-80	94%
	1933	1290	1290	0	100%
	1934	1230	1100	-130	89%
	1935	2250	1910	-340	85%
	1936	1020	1050	30	103%
	1937	**218**	**198**	**-20**	**91%**
	1938	505	459	-46	91%
	1939	1520	1350	-170	89%
	1940	983	842	-141	86%
A13-08996	1963	515	489	-26	95%
	1964	1350	1230		91%
	1965	1250	1140	-110	91%
	1966	683	686	3	100%
	1967	1220	1090	-130	89%
	1968	**218**	**183**	**-35**	**84%**
	1969	343	315	-28	92%
	1970	167	124	-43	74%
	1971	337	269	-68	80%
	1972	117	98	-19	84%
	1973	47	44	-3	94%
A13-09000	1983	414	422	8	102%
	1984	451	441	-10	98%
	1985	**216**	**215**	**-1**	**100%**
	1986	143	150	7	105%
	1987	423	410	-13	97%
	1988	206	194	-12	94%
	1989	561	480	-81	86%
	1990	256	236	-20	92%
	1991	321	287	-34	89%
	1992	402	405	3	101%
			Average difference (excl CRM)		-56
			Average variance (excl CRM)		92%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Mo / ppm		rerun-original	rerun/original
A13-08993	1932	11	11	0	100%
	1933	14	14	0	100%
	1934	11	10	-1	91%
	1935	2	2	0	100%
	1936	86	78	-8	91%
	1937	**728**	**644**	**-84**	**88%**
	1938	4	3	-1	75%
	1939	158	140	-18	89%
	1940	2	2	0	100%
A13-08996	1963	3	3	0	100%
	1964	5	4	-1	80%
	1965	4	3	-1	75%
	1966	7	6	-1	86%
	1967	5	4	-1	80%
	1968	**718**	**597**	**-121**	**83%**
	1969	4	3	-1	75%
	1970	1	1	0	100%
	1971	1	1	0	100%
	1972	3	3	0	100%
	1973	279	263	-16	94%
A13-09000	1983	1	1	0	100%
	1984	1	1	0	100%
	1985	**683**	**706**	**23**	**103%**
	1986	4	3	-1	75%
	1987	1	1	0	100%
	1988	1	1	0	100%
	1989	1	1	0	100%
	1990	1	1	0	100%
	1991	1	1	0	100%
	1992	1	1	0	100%
			Average difference (excl CRM)		-2
			Average variance (excl CRM)		95%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Ni / ppm		rerun-original	rerun/original
A13-08993	1932	12	11	-1	92%
	1933	3	3	0	100%
	1934	4	3	-1	75%
	1935	12	5	-7	42%
	1936	27	29	2	107%
	1937	**63**	**57**	**-6**	**90%**
	1938	2	1	-1	50%
	1939	4	3	-1	75%
	1940	6	4	-2	67%
A13-08996	1963	1	1	0	100%
	1964	18	11	-7	61%
	1965	3	6	3	200%
	1966	1	1	0	100%
	1967	2	1	-1	50%
	1968	**66**	**53**	**-13**	**80%**
	1969	5	5	0	100%
	1970	1	1	0	100%
	1971	5	4	-1	80%
	1972	3	2	-1	67%
	1973	4	3	-1	75%
A13-09000	1983	54	54	0	100%
	1984	58	56	-2	97%
	1985	**60**	**62**	**2**	**103%**
	1986	3	3	0	100%
	1987	56	55	-1	98%
	1988	9	9	0	100%
	1989	53	47	-6	89%
	1990	2	3	1	150%
	1991	4	3	-1	75%
	1992	47	45	-2	96%
			Average difference (excl CRM)		-1
			Average variance (excl CRM)		91%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Pb / ppm		rerun-original	rerun/original
A13-08993	1932	85	89	4	105%
	1933	203	215	12	106%
	1934	142	140	-2	99%
	1935	482	426	-56	88%
	1936	381	381	0	100%
	1937	**52**	**46**	**-6**	**88%**
	1938	5	5	0	100%
	1939	8	11	3	138%
	1940	1	1	0	100%
A13-08996	1963	1	3	2	300%
	1964	299	280	-19	94%
	1965	1	7	6	700%
	1966	7	8	1	114%
	1967	2	1	-1	50%
	1968	**54**	**43**	**-11**	**80%**
	1969	4	4	0	100%
	1970	4	3	-1	75%
	1971	1	1	0	100%
	1972	3	2	-1	67%
	1973	4	1	-3	25%
A13-09000	1983	1	1	0	100%
	1984	1	1	0	100%
	1985	**49**	**50**	**1**	**102%**
	1986	3	3	0	100%
	1987	3	5	2	167%
	1988	3	5	2	167%
	1989	1	1	0	100%
	1990	4	7	3	175%
	1991	1	3	2	300%
	1992	1	5	4	500%
			Average difference (excl CRM)		-2
			Average variance (excl CRM)		155%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Zn / ppm		rerun-original	rerun/original
A13-08993	1932	71	69	-2	97%
	1933	115	115	0	100%
	1934	129	117	-12	91%
	1935	869	744	-125	86%
	1936	150	149	-1	99%
	1937	**82**	**74**	**-8**	**90%**
	1938	16	14	-2	88%
	1939	54	48	-6	89%
	1940	63	55	-8	87%
A13-08996	1963	37	35	-2	95%
	1964	128	123	-5	96%
	1965	63	59	-4	94%
	1966	35	34	-1	97%
	1967	63	58	-5	92%
	1968	**79**	**71**	**-8**	**90%**
	1969	29	27	-2	93%
	1970	17	14	-3	82%
	1971	26	21	-5	81%
	1972	14	12	-2	86%
	1973	3	3	0	100%
A13-09000	1983	26	27	1	104%
	1984	26	27	1	104%
	1985	**80**	**80**	**0**	**100%**
	1986	15	15	0	100%
	1987	31	29	-2	94%
	1988	16	16	0	100%
	1989	25	26	1	104%
	1990	23	22	-1	96%
	1991	31	28	-3	90%
	1992	35	33	-2	94%
			Average difference (excl CRM)		-7
			Average variance (excl CRM)		94%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		As / ppm		rerun-original	rerun/original
A13-08993	1932	>10000	>10000		
	1933	>10000	>10000		
	1934	>10000	>10000		
	1935	1480	1220	-260	82%
	1936	>10000	>10000		
	1937	**38**	**40**	**2**	**105%**
	1938	79	71	-8	90%
	1939	198	166	-32	84%
	1940	8	10	2	125%
A13-08996	1963	8	5	-3	63%
	1964	3670	3300	-370	90%
	1965	102	108	6	106%
	1966	19	22	3	116%
	1967	59	57	-2	97%
	1968	**27**	**27**	**0**	**100%**
	1969	1	5	4	500%
	1970	1	2	1	200%
	1971	1	1	0	100%
	1972	3	4	1	133%
	1973	2	3	1	150%
A13-09000	1983	1	2	1	200%
	1984	1	4	3	400%
	1985	**28**	**30**	**2**	**107%**
	1986	1	1	0	100%
	1987	1	1	0	100%
	1988	1	1	0	100%
	1989	7	5	-2	71%
	1990	1	1	0	100%
	1991	1	1	0	100%
	1992	1	5	4	500%
			Average difference (excl CRM)		-28
			Average variance (excl CRM)		140%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Ba / ppm		rerun-original	rerun/original
A13-08993	1932	5	5	0	100%
	1933	28	21	-7	75%
	1934	40	28	-12	70%
	1935	20	19	-1	95%
	1936	5	5	0	100%
	1937	**28**	**30**	**2**	**107%**
	1938	244	229	-15	94%
	1939	32	40	8	125%
	1940	127	112	-15	88%
A13-08996	1963	53	55	2	104%
	1964	15	16	1	107%
	1965	68	67	-1	99%
	1966	128	135	7	105%
	1967	93	94	1	101%
	1968	**27**	**31**	**4**	**115%**
	1969	134	134	0	100%
	1970	123	101	-22	82%
	1971	92	80	-12	87%
	1972	109	96	-13	88%
	1973	14	15	1	107%
A13-09000	1983	71	82	11	115%
	1984	80	85	5	106%
	1985	**33**	**28**	**-5**	**85%**
	1986	99	118	19	119%
	1987	190	195	5	103%
	1988	46	46	0	100%
	1989	12	13	1	108%
	1990	56	58	2	104%
	1991	53	51	-2	96%
	1992	237	247	10	104%
			Average difference (excl CRM)		-1
			Average variance (excl CRM)		99%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Ca / %		rerun-original	rerun/original
A13-08993	1932	1.8	1.73	-0.07	96%
	1933	1.11	1.08	-0.03	97%
	1934	1.31	1.18	-0.13	90%
	1935	0.24	0.22	-0.02	92%
	1936	0.08	0.08	0	100%
	1937	**1.04**	**0.89**	**-0.15**	**86%**
	1938	1.96	1.72	-0.24	88%
	1939	6.09	5.35	-0.74	88%
	1940	2.85	2.37	-0.48	83%
A13-08996	1963	0.63	0.59	-0.04	94%
	1964	0.15	0.14	-0.01	93%
	1965	0.71	0.69	-0.02	97%
	1966	1.53	1.48	-0.05	97%
	1967	0.03	0.03	0	100%
	1968	**1.04**	**0.83**	**-0.21**	**80%**
	1969	1.27	1.13	-0.14	89%
	1970	1.27	0.89	-0.38	70%
	1971	1.48	1.15	-0.33	78%
	1972	0.43	0.35	-0.08	81%
	1973	0.02	0.02	0	100%
A13-09000	1983	2.24	2.24	0	100%
	1984	2.44	2.33	-0.11	95%
	1985	**1.01**	**0.98**	**-0.03**	**97%**
	1986	0.55	0.59	0.04	107%
	1987	2.01	1.91	-0.1	95%
	1988	0.34	0.31	-0.03	91%
	1989	4.49	3.93	-0.56	88%
	1990	0.84	0.74	-0.1	88%
	1991	0.7	0.6	-0.1	86%
	1992	1.33	1.31	-0.02	98%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		91%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Co / ppm		rerun-original	rerun/original
A13-08993	1932	318	316	-2	99%
	1933	405	419	14	103%
	1934	199	191	-8	96%
	1935	60	55	-5	92%
	1936	1460	1540	80	105%
	1937	**20**	**19**	**-1**	**95%**
	1938	4	4	0	100%
	1939	25	23	-2	92%
	1940	15	13	-2	87%
A13-08996	1963	6	6	0	100%
	1964	51	47	-4	92%
	1965	11	11	0	100%
	1966	7	7	0	100%
	1967	91	88	-3	97%
	1968	**19**	**17**	**-2**	**89%**
	1969	11	11	0	100%
	1970	5	4	-1	80%
	1971	10	8	-2	80%
	1972	11	9	-2	82%
	1973	2	2	0	100%
A13-09000	1983	14	14	0	100%
	1984	14	14	0	100%
	1985	**19**	**20**	**1**	**105%**
	1986	3	3	0	100%
	1987	19	19	0	100%
	1988	5	5	0	100%
	1989	19	18	-1	95%
	1990	7	7	0	100%
	1991	10	9	-1	90%
	1992	14	15	1	107%
			Average difference (excl CRM)		2
			Average variance (excl CRM)		96%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Cr / ppm		rerun-original	rerun/original
A13-08993	1932	11	9	-2	82%
	1933	17	18	1	106%
	1934	6	5	-1	83%
	1935	3	3	0	100%
	1936	11	11	0	100%
	1937	**72**	**62**	**-10**	**86%**
	1938	12	11	-1	92%
	1939	6	5	-1	83%
	1940	6	5	-1	83%
A13-08996	1963	10	10	0	100%
	1964	8	8	0	100%
	1965	6	5	-1	83%
	1966	8	8	0	100%
	1967	6	5	-1	83%
	1968	**70**	**58**	**-12**	**83%**
	1969	11	10	-1	91%
	1970	4	3	-1	75%
	1971	8	6	-2	75%
	1972	14	10	-4	71%
	1973	44	44	0	100%
A13-09000	1983	138	136	-2	99%
	1984	152	147	-5	97%
	1985	**70**	**73**	**3**	**104%**
	1986	13	14	1	108%
	1987	89	84	-5	94%
	1988	39	35	-4	90%
	1989	205	171	-34	83%
	1990	10	9	-1	90%
	1991	11	9	-2	82%
	1992	142	135	-7	95%
				Average difference (excl CRM)	-3
				Average variance (excl CRM)	90%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Fe / %		rerun-original	rerun/original
A13-08993	1932	12.7	13.5	0.8	106%
	1933	6.73	7.53	0.8	112%
	1934	8.73	9.24	0.51	106%
	1935	23.1	20.6	-2.5	89%
	1936	12.4	14.2	1.8	115%
	1937	**3.78**	**3.46**	**-0.32**	**92%**
	1938	1.89	1.79	-0.1	95%
	1939	5.13	5.11	-0.02	100%
	1940	4.43	3.88	-0.55	88%
A13-08996	1963	2.79	2.96	0.17	106%
	1964	17	17.5	0.5	103%
	1965	11.7	11.6	-0.1	99%
	1966	2.73	2.85	0.12	104%
	1967	6.01	5.81	-0.2	97%
	1968	**3.79**	**3.29**	**-0.5**	**87%**
	1969	2.99	2.8	-0.19	94%
	1970	0.99	0.75	-0.24	76%
	1971	2.03	1.67	-0.36	82%
	1972	0.94	0.78	-0.16	83%
	1973	0.72	0.68	-0.04	94%
A13-09000	1983	3.62	3.96	0.34	109%
	1984	4	4.14	0.14	104%
	1985	**3.73**	**4.03**	**0.3**	**108%**
	1986	0.89	0.95	0.06	107%
	1987	5.28	5.61	0.33	106%
	1988	1.07	1.03	-0.04	96%
	1989	11	10	-1	91%
	1990	1.85	1.81	-0.04	98%
	1991	1.91	1.71	-0.2	90%
	1992	3.57	3.57	0	100%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		97%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		K / %		rerun-original	rerun/original
A13-08993	1932	0.08	0.08	0	100%
	1933	0.07	0.07	0	100%
	1934	0.33	0.32	-0.01	97%
	1935	0.14	0.13	-0.01	93%
	1936	0.04	0.05	0.01	125%
	1937	**0.42**	**0.39**	**-0.03**	**93%**
	1938	0.19	0.17	-0.02	89%
	1939	0.13	0.13	0	100%
	1940	0.21	0.18	-0.03	86%
A13-08996	1963	0.24	0.26	0.02	108%
	1964	0.04	0.05	0.01	125%
	1965	0.36	0.35	-0.01	97%
	1966	0.36	0.37	0.01	103%
	1967	0.24	0.22	-0.02	92%
	1968	**0.44**	**0.37**	**-0.07**	**84%**
	1969	0.4	0.38	-0.02	95%
	1970	0.31	0.24	-0.07	77%
	1971	0.2	0.17	-0.03	85%
	1972	0.23	0.21	-0.02	91%
	1973	0.02	0.02	0	100%
A13-09000	1983	0.1	0.11	0.01	110%
	1984	0.11	0.12	0.01	109%
	1985	**0.44**	**0.47**	**0.03**	**107%**
	1986	0.18	0.2	0.02	111%
	1987	0.2	0.21	0.01	105%
	1988	0.12	0.12	0	100%
	1989	0.04	0.04	0	100%
	1990	0.17	0.17	0	100%
	1991	0.11	0.1	-0.01	91%
	1992	0.58	0.6	0.02	103%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		99%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

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Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Mg / %		rerun-original	rerun/original
A13-08993	1932	0.64	0.67	0.03	105%
	1933	0.45	0.49	0.04	109%
	1934	0.71	0.71	0	100%
	1935	2.14	1.84	-0.3	86%
	1936	0.52	0.57	0.05	110%
	1937	**0.65**	**0.59**	**-0.06**	**91%**
	1938	0.61	0.57	-0.04	93%
	1939	1.56	1.48	-0.08	95%
	1940	1.17	1.02	-0.15	87%
A13-08996	1963	0.32	0.32	0	100%
	1964	1.45	1.48	0.03	102%
	1965	1.63	1.61	-0.02	99%
	1966	0.21	0.21	0	100%
	1967	0.34	0.32	-0.02	94%
	1968	**0.65**	**0.55**	**-0.1**	**85%**
	1969	0.78	0.72	-0.06	92%
	1970	0.31	0.23	-0.08	74%
	1971	0.69	0.57	-0.12	83%
	1972	0.16	0.13	-0.03	81%
	1973	0.01	0.01	0	100%
A13-09000	1983	1.56	1.67	0.11	107%
	1984	1.61	1.66	0.05	103%
	1985	**0.64**	**0.68**	**0.04**	**106%**
	1986	0.27	0.28	0.01	104%
	1987	1.76	1.78	0.02	101%
	1988	0.38	0.36	-0.02	95%
	1989	1.41	1.25	-0.16	89%
	1990	0.44	0.43	-0.01	98%
	1991	0.7	0.64	-0.06	91%
	1992	1.28	1.31	0.03	102%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		96%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Na / %		rerun-original	rerun/original
A13-08993	1932	0.013	0.014	0.001	108%
	1933	0.011	0.013	0.002	118%
	1934	0.019	0.021	0.002	111%
	1935	0.009	0.01	0.001	111%
	1936	0.009	0.01	0.001	111%
	1937	**0.04**	**0.036**	**-0.004**	**90%**
	1938	0.065	0.059	-0.006	91%
	1939	0.014	0.016	0.002	114%
	1940	0.11	0.096	-0.014	87%
A13-08996	1963	0.076	0.083	0.007	109%
	1964	0.009	0.011	0.002	122%
	1965	0.015	0.017	0.002	113%
	1966	0.051	0.054	0.003	106%
	1967	0.018	0.019	0.001	106%
	1968	**0.041**	**0.036**	**-0.005**	**88%**
	1969	0.146	0.136	-0.01	93%
	1970	0.136	0.108	-0.028	79%
	1971	0.098	0.085	-0.013	87%
	1972	0.092	0.082	-0.01	89%
	1973	0.022	0.022	0	100%
A13-09000	1983	0.063	0.083	0.02	132%
	1984	0.073	0.088	0.015	121%
	1985	**0.04**	**0.044**	**0.004**	**110%**
	1986	0.083	0.098	0.015	118%
	1987	0.072	0.08	0.008	111%
	1988	0.068	0.065	-0.003	96%
	1989	0.05	0.048	-0.002	96%
	1990	0.071	0.077	0.006	108%
	1991	0.055	0.051	-0.004	93%
	1992	0.083	0.09	0.007	108%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		104%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		P / %		rerun-original	rerun/original
A13-08993	1932	0.019	0.018	-0.001	95%
	1933	0.029	0.029	0	100%
	1934	0.139	0.133	-0.006	96%
	1935	0.144	0.128	-0.016	89%
	1936	0.023	0.024	0.001	104%
	1937	**0.054**	**0.049**	**-0.005**	**91%**
	1938	0.01	0.009	-0.001	90%
	1939	0.026	0.024	-0.002	92%
	1940	0.152	0.13	-0.022	86%
A13-08996	1963	0.071	0.069	-0.002	97%
	1964	0.067	0.063	-0.004	94%
	1965	0.133	0.127	-0.006	95%
	1966	0.055	0.054	-0.001	98%
	1967	0.026	0.024	-0.002	92%
	1968	**0.055**	**0.046**	**-0.009**	**84%**
	1969	0.123	0.113	-0.01	92%
	1970	0.074	0.058	-0.016	78%
	1971	0.127	0.104	-0.023	82%
	1972	0.027	0.022	-0.005	81%
	1973	0.002	0.002	0	100%
A13-09000	1983	0.218	0.215	-0.003	99%
	1984	0.233	0.223	-0.01	96%
	1985	**0.054**	**0.054**	**0**	**100%**
	1986	0.031	0.031	0	100%
	1987	0.426	0.401	-0.025	94%
	1988	0.036	0.034	-0.002	94%
	1989	1.12	1.03	-0.09	92%
	1990	0.085	0.079	-0.006	93%
	1991	0.093	0.08	-0.013	86%
	1992	0.215	0.201	-0.014	93%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		93%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

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Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		S / %		rerun-original	rerun/original
A13-08993	1932	9.99	10.4	0.41	104%
	1933	2.04	2.13	0.09	104%
	1934	2.12	2.1	-0.02	99%
	1935	4.12	3.75	-0.37	91%
	1936	4.57	5.11	0.54	112%
	1937	**2.47**	**2.24**	**-0.23**	**91%**
	1938	0.01	0.01	0	100%
	1939	0.97	0.87	-0.1	90%
	1940	0.02	0.02	0	100%
A13-08996	1963	0.01	0.01	0	100%
	1964	3.32	2.94	-0.38	89%
	1965	0.09	0.09	0	100%
	1966	0.09	0.09	0	100%
	1967	0.67	0.62	-0.05	93%
	1968	**2.42**	**2.09**	**-0.33**	**86%**
	1969	0.04	0.04	0	100%
	1970	0.01	0.01	0	100%
	1971	0.06	0.05	-0.01	83%
	1972	0.11	0.09	-0.02	82%
	1973	0.2	0.19	-0.01	95%
A13-09000	1983	0.03	0.03	0	100%
	1984	0.04	0.04	0	100%
	1985	**2.39**	**2.49**	**0.1**	**104%**
	1986	0.01	0.01	0	100%
	1987	0.01	0.01	0	100%
	1988	0.05	0.05	0	100%
	1989	0.07	0.07	0	100%
	1990	0.01	0.01	0	100%
	1991	0.01	0.01	0	100%
	1992	0.01	0.01	0	100%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		97%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

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Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Sb / ppm		rerun-original	rerun/original
A13-08993	1932	21	19	-2	90%
	1933	13	13	0	100%
	1934	7	8	1	114%
	1935	7	4	-3	57%
	1936	33	33	0	100%
	1937	**17**	**18**	**1**	**106%**
	1938	1	1	0	100%
	1939	3	2	-1	67%
	1940	3	2	-1	67%
A13-08996	1963	1	1	0	100%
	1964	5	6	1	120%
	1965	6	4	-2	67%
	1966	3	2	-1	67%
	1967	4	1	-3	25%
	1968	**20**	**16**	**-4**	**80%**
	1969	1	3	2	300%
	1970	1	1	0	100%
	1971	1	1	0	100%
	1972	1	1	0	100%
	1973	1	1	0	100%
A13-09000	1983	2	1	-1	50%
	1984	3	1	-2	33%
	1985	**18**	**19**	**1**	**106%**
	1986	1	1	0	100%
	1987	1	3	2	300%
	1988	1	1	0	100%
	1989	5	4	-1	80%
	1990	1	1	0	100%
	1991	1	1	0	100%
	1992	1	1	0	100%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		94%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Sc / ppm		rerun-original	rerun/original
A13-08993	1932	2	2	0	100%
	1933	2	2	0	100%
	1934	4	3	-1	75%
	1935	7	7	0	100%
	1936	2	2	0	100%
	1937	**4**	**3**	**-1**	**75%**
	1938	1	1	0	100%
	1939	2	2	0	100%
	1940	10	8	-2	80%
A13-08996	1963	4	4	0	100%
	1964	6	6	0	100%
	1965	6	6	0	100%
	1966	3	3	0	100%
	1967	2	2	0	100%
	1968	**4**	**3**	**-1**	**75%**
	1969	4	3	-1	75%
	1970	1	1	0	100%
	1971	2	2	0	100%
	1972	1	1	0	100%
	1973	1	1	0	100%
A13-09000	1983	3	3	0	100%
	1984	3	3	0	100%
	1985	**4**	**4**	**0**	**100%**
	1986	1	1	0	100%
	1987	4	3	-1	75%
	1988	1	1	0	100%
	1989	8	6	-2	75%
	1990	2	2	0	100%
	1991	2	2	0	100%
	1992	3	3	0	100%
			Average difference (excl CRM)		0
			Average variance (excl CRM)		94%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Sr / ppm		rerun-original	rerun/original
A13-08993	1932	15	15	0	100%
	1933	12	13	1	108%
	1934	19	17	-2	89%
	1935	3	3	0	100%
	1936	3	3	0	100%
	1937	**48**	**42**	**-6**	**88%**
	1938	41	38	-3	93%
	1939	138	118	-20	86%
	1940	98	83	-15	85%
A13-08996	1963	15	15	0	100%
	1964	2	2	0	100%
	1965	8	8	0	100%
	1966	28	29	1	104%
	1967	8	7	-1	88%
	1968	**47**	**39**	**-8**	**83%**
	1969	82	73	-9	89%
	1970	108	76	-32	70%
	1971	116	88	-28	76%
	1972	47	39	-8	83%
	1973	4	4	0	100%
A13-09000	1983	104	112	8	108%
	1984	118	121	3	103%
	1985	**47**	**46**	**-1**	**98%**
	1986	58	65	7	112%
	1987	102	104	2	102%
	1988	29	28	-1	97%
	1989	95	83	-12	87%
	1990	61	56	-5	92%
	1991	58	49	-9	84%
	1992	47	49	2	104%
			Average difference (excl CRM)		-4
			Average variance (excl CRM)		94%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		V / ppm		rerun-original	rerun/original
A13-08993	1932	21	19	-2	90%
	1933	29	29	0	100%
	1934	61	56	-5	92%
	1935	152	127	-25	84%
	1936	39	37	-2	95%
	1937	**42**	**37**	**-5**	**88%**
	1938	8	7	-1	88%
	1939	27	24	-3	89%
	1940	156	129	-27	83%
A13-08996	1963	21	19	-2	90%
	1964	94	87	-7	93%
	1965	107	99	-8	93%
	1966	9	9	0	100%
	1967	12	11	-1	92%
	1968	**42**	**33**	**-9**	**79%**
	1969	130	119	-11	92%
	1970	42	29	-13	69%
	1971	76	58	-18	76%
	1972	30	24	-6	80%
	1973	2	2	0	100%
A13-09000	1983	134	133	-1	99%
	1984	145	140	-5	97%
	1985	**41**	**41**	**0**	**100%**
	1986	24	25	1	104%
	1987	213	204	-9	96%
	1988	39	35	-4	90%
	1989	354	297	-57	84%
	1990	78	70	-8	90%
	1991	67	58	-9	87%
	1992	154	151	-3	98%
			Average difference (excl CRM)		-8
			Average variance (excl CRM)		90%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Y / ppm		rerun-original	rerun/original
A13-08993	1932	5	5	0	100%
	1933	6	6	0	100%
	1934	13	11	-2	85%
	1935	3	2	-1	67%
	1936	4	4	0	100%
	1937	**10**	**8**	**-2**	**80%**
	1938	12	10	-2	83%
	1939	7	6	-1	86%
	1940	18	15	-3	83%
A13-08996	1963	22	19	-3	86%
	1964	4	4	0	100%
	1965	7	6	-1	86%
	1966	15	15	0	100%
	1967	4	3	-1	75%
	1968	**10**	**8**	**-2**	**80%**
	1969	9	8	-1	89%
	1970	4	3	-1	75%
	1971	7	6	-1	86%
	1972	3	2	-1	67%
	1973	1	1	0	100%
A13-09000	1983	6	5	-1	83%
	1984	6	6	0	100%
	1985	**10**	**9**	**-1**	**90%**
	1986	3	3	0	100%
	1987	9	8	-1	89%
	1988	3	2	-1	67%
	1989	25	21	-4	84%
	1990	6	5	-1	83%
	1991	6	5	-1	83%
	1992	8	7	-1	88%
			Average difference (excl CRM)		-1
			Average variance (excl CRM)		85%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.

Original Analysis vs. Re-analysis

LAB FILE	SAMPLE	ORIGINAL	RERUN	DIFFERENCE	VARIANCE
		Zr / ppm		rerun-original	rerun/original
A13-08993	1932	7	5	-2	71%
	1933	4	3	-1	75%
	1934	7	5	-2	71%
	1935	12	7	-5	58%
	1936	6	4	-2	67%
	1937	**7**	**4**	**-3**	**57%**
	1938	18	10	-8	56%
	1939	4	3	-1	75%
	1940	8	4	-4	50%
A13-08996	1963	5	3	-2	60%
	1964	9	6	-3	67%
	1965	6	5	-1	83%
	1966	3	2	-1	67%
	1967	8	7	-1	88%
	1968	**6**	**4**	**-2**	**67%**
	1969	3	2	-1	67%
	1970	2	1	-1	50%
	1971	2	2	0	100%
	1972	2	1	-1	50%
	1973	1	1	0	100%
A13-09000	1983	3	3	0	100%
	1984	3	3	0	100%
	1985	**6**	**5**	**-1**	**83%**
	1986	1	1	0	100%
	1987	3	2	-1	67%
	1988	3	2	-1	67%
	1989	4	3	-1	75%
	1990	2	2	0	100%
	1991	2	1	-1	50%
	1992	2	2	0	100%
			Average difference (excl CRM)		-1
			Average variance (excl CRM)		74%

NOTE: All below detection limit values assigned value of 0.5x and rounded to nearest significant figure.
No value assigned to greater detection limit values.
Red text denotes CRM.