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

Assessment Report
Title Page and Summary

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

TOTAL COST: $7621.00

AUTHOR(S): A.Carpenter

SIGNATURE(S):

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

YEAR OF WORK: 2016

STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):
5628237 2016/DEC/05

PROPERTY NAME: Galore Creek

CLAIM NAME(S) (on which the work was done):
516165

COMMODITIES SOUGHT: Copper, Gold, Silver

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN:

MINING DIVISION: Liard Mining Division

NTS/BCGS: 104G/3 104G/4

LATITUDE: 57 ° 07 ' 08 " **LONGITUDE:** 131 ° 27 ' 58 " **(at centre of work)**

OWNER(S):
1) Galore Creek Mining Corporation
2)

MAILING ADDRESS:
Suite 3300, 550 Burrard Street, Vancouver, BC, V6C 0B3

OPERATOR(S) [who paid for the work]:
1) Galore Creek Mining Corporation
2)

MAILING ADDRESS:
Suite 3300, 550 Burrard Street, Vancouver, BC, V6C 0B3

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Porphyry, Alkalic, Alkali Syenites, Late Triassic, Stuhini Group,
Stikine Terrane, Galore CreekProperty, Saddle zone, copper-gold-silver mineralization, volcanics, basalt, syenite.

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS:
2016 (AR35835), 2015 (AR34980) 2010 (AR 32119), 1990 (AR 20558A)

Next Page

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			
Silt			
Rock	7 ICP-MS		
Other			
DRILLING (total metres; number of holes, size)			
Core			
Non-core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic	2 Thin section and analysis		
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:	$7621.00

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**2016 GEOLOGICAL & GEOCHEMICAL ASSESSMENT REPORT
ON THE GALORE CREEK PROPERTY**

Event Number: 5628237
Claims Worked On: 516165

Located in the Galore Creek Area
Liard Mining Division
British Columbia, Canada

NTS Map Sheet 104G/3 and 104G/4
BCGS Map Sheet 104G.013
57^{o} 07’ 08” North Latitude
131^{o} 27’ 58” West Longitude

Owned & Operated by
Galore Creek Mining Corporation
Suite 3300, 550 Burrard Street
Vancouver, B.C. V6C 0B3

Prepared by

Alicia Carpenter, B.Sc.

Galore Creek Mining Corporation
Suite 3300, 550 Burrard Street
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December, 2016

TABLE OF CONTENTS

Page

APPENDICES

LIST OF TABLES Page

LIST OF FIGURES Page

1.0 INTRODUCTION

The Galore Creek Property (Figure 1) is located within the historic Stikine Gold Belt of north-western British Columbia, approximately 75 kilometres northwest of Barrick Gold's decommissioned Eskay Creek mine. The property consists of 295 contiguous mineral claims, totaling 137,776.94 hectares registered in the name of Galore Creek Mining Corporation.

Galore Creek is characterized as an alkaline porphyry-style copper-gold-silver deposit. It consists of a number of mineralized zones including the Central Zone, comprised of Central–North (includes the Legacy Zone), Central-South and Bountiful, the Southwest Zone, the Junction and North Junction Zones, the Middle Creek Zone, and the West Fork Zone. The Galore Creek property is host to 6.8B pounds of Proven and Probable reserves grading 0.6% copper, 5.45 Moz. at 0.32 g/t gold and 102.0 Moz. at 6.0 g/t silver. Inclusive of Proven and Probable reserves Galore Creek is host to 8.9B pounds of Measured and Indicated resources grading 0.50% copper, 8.0 Moz. at 0.3 g/t gold and 136.0 Moz. at 5.2 g/t silver, as well as 346.6M tonnes of Inferred resources grading 0.42% copper, 0.24 g/t gold and 4.28 g/t silver. Mineral reserves and resources were estimated using an NSR cut-off grade of $10.08/t milled, and Mineral Reserves are reported using commodity prices of US$4.44/lb copper, US$1,613/oz gold, and US$40.34/oz silver (effective July 27, 2011) (AMEC, 2011).

In July 2003, SpectrumGold Inc. (now NovaGold Canada Inc.) entered into an option agreement to acquire a 100% interest in the Galore Creek property from Stikine Copper Limited. NovaGold carried out exploration programs on the property in years 2003 through 2007, and additional claims have been staked for the project. NovaGold Canada Inc. is a subsidiary wholly owned by NovaGold Resources Inc. On May 1, 2007, NovaGold and Teck Cominco Limited (Teck Cominco) announced the formation of a 50-50 partnership to develop the Galore Creek Mine. The Galore Creek Partnership was finalized on August 1, 2007 and the jointly controlled operating company, Galore Creek Mining Corporation (GCMC) was created to direct all aspects of project construction and operation. Galore Creek claims were subsequently transferred to GCMC in October 2007. In November 2007, NovaGold and Barrick Gold Corporation (Barrick) reached an agreement and announced that the Grace Property claims would be sold 100% to the Galore Creek Partnership. On December 3, 2007, all the Grace claims were transferred to GCMC. During March 2008, Galore Creek Mining Corporation acquired additional mineral claims in the Scud River area, Stikine River area and north of West More Creek. These claims are contiguous with the Galore Creek Property.

This report covers work completed on portions of the Galore Creek Property on August 6th 2016. The work at Galore Creek was conducted entirely within the boundaries of mineral claim 516165.

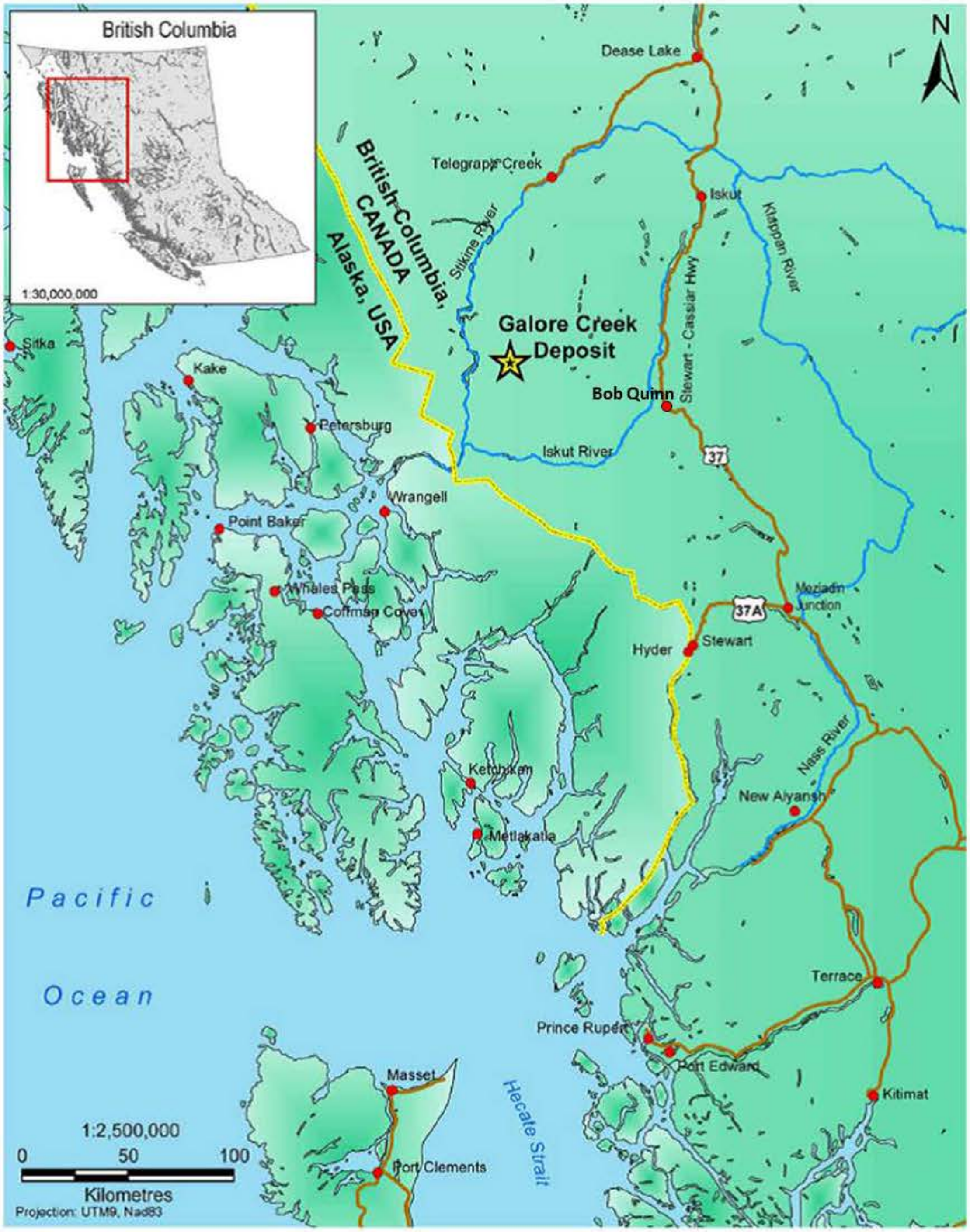


Figure 1: General Location Map

Galore Creek Mining Corporation

2.0 LOCATION, ACCESS & PHYSIOGRAPHY

The Galore Creek property (Figure 1) is located within the Liard Mining Division of northwestern British Columbia, approximately 70 kilometres west of the Bob Quinn airstrip and 90 kilometres northeast of Wrangell, Alaska. The property is situated at the headwaters of Galore Creek, a tributary of the Scud River, which in turn flows into the Stikine River. The property lies at latitude 57°07’08’’N and longitude 131°27’58”W, on NTS map sheets 104G/03 and 104G/04.

The town of Smithers, located 370 kilometres to the southeast, is the nearest major supply centre. An existing forest service road, and an access road built by GCMC provides access to the Chi’yone camp (km 36). During the 2016 program personnel, supplies, and equipment were staged from Bell II Lodge to the southeast with access to the GCMC claims by helicopter.

Galore Creek is located in the humid continental climate zone of coastal BC. Summers are generally cool, and winters cold, with substantial snowfall. Property temperatures range from 20°C in the summer to well below -20°C in the winter. Annual precipitation is 76 centimetres with the majority (70%) falling as snow between September and February.

Physiographically, the Stikine-Iskut area is characterized by rugged mountains with elevations ranging between 500 to 2080 metres above sea level, active alpine glaciation and deep U-shaped valleys. Relief on the property varies from moderate to extreme. The tree line, located at an elevation of 1100 metres, divides forests of Balsam Fir, Sitka Spruce, Alder, Willow, Devils Club and Cedar from sparse grasses and brush above.

3.0 EXPLORATION HISTORY

Mineralization was first discovered in the upper Galore Creek valley in 1955 by M. Monson and W. Buchholz while prospecting for a subsidiary of Hudson Bay. Staking and sampling were completed in the area in 1955. Work in 1956 included mapping, trenching and diamond drilling. No further work was undertaken and most of the claims were allowed to expire.

In 1959, reconnaissance stream sediment surveys were carried out by Kennco Explorations (Western) Limited (the Canadian subsidiary of Kennecott Copper, now Rio Tinto Ltd.) in the Stikine River area. Results prompted Kennco to stake mineral claims around the remaining 16 Hudson Bay claims the following year. Four of the original claims were subsequently optioned by Consolidated Mining and Smelting Company of Canada Limited (Cominco) from W. Buchholz. Late in 1962, the three companies agreed to participate jointly in future exploration work. As a result, Stikine Copper Limited was incorporated in 1963, on the basis of the following interests: Kennco Explorations (Western) Limited (59%), Hudson Bay Mining and Smelting Company Limited (34%), and Consolidated Mining and Smelting Company of Canada Limited (5%).

Work conducted since discovery in 1955 outlined a significant copper-gold-silver mineralized zone in the Central Zone and identified several satellite mineralized zones, most importantly the Southwest, North Junction and Junction Zones. This work has included soil sampling, pole-dipole resistivity/induced polarization (IP), magnetics, electromagnetics (EM), radiometrics, very low frequency (VLF) and audio frequency magnetics (AFMAG) airborne geophysical surveys.

From 1960 to 1968, the property was operated by Kennco Exploration. Exploration work during this period included 53,164 metres of diamond drilling in 235 holes and 807 metres of underground development work in two adits. The Central Zone was the focus of most of this work. During the same period, a road was constructed from an airstrip at the confluence of the Stikine and Scud rivers along the Scud River and up Galore Creek to what was then an exploration camp.

No work was done between 1968 and 1972. In 1972, Hudson Bay became operator and in 1972 and 1973 an additional 25,352 metres of diamond drilling was completed in 111 holes. This work concentrated on the mineralization in the Central and North Junction Zones. A further 5,310 metres of diamond drilling was completed in 24 holes in 1976.

In 1989, Mingold Resources Inc. (an affiliated company of Hudson Bay) operated the property in order to investigate its gold potential. In 1990, Mingold completed 1,225 metres of diamond drilling in 18 holes.

Kennecott resumed as operator of the project in 1991 and completed 13,830 metres of diamond drilling in 49 holes. An airborne geophysics survey and over 90 line kilometres of IP survey were also completed. At the end of this initial exploration phase, a total of twelve prospects and deposits had been identified: Central, Junction, North Junction, West Rim, Butte, Southwest, Saddle, West Fork, South Butte, South 110, Middle Creek and North Rim.

3.1 SpectrumGold/NovaGold Exploration

In August 2003, SpectrumGold Inc. (now NovaGold Canada Inc.) entered into an option agreement to acquire a 100% interest in the Galore Creek property from Stikine Copper Limited, a company owned by QIT-FER et Titane Inc. (a wholly-owned subsidiary of Rio Tinto Ltd.) and Hudson Bay. In 2003, SpectrumGold carried out a 10 hole, 2,950 metre diamond drill program on the property. The work program was directed toward confirming grades of copper and gold mineralization defined by previous drilling in the Central and Southwest Zones.

In 2004, NovaGold Canada Inc. (NovaGold) carried out a 79 hole, 25,976 metre diamond drill program to upgrade and expand the existing resource, and to test several peripheral mineral occurrences and nearby properties. Extensive geophysical surveys were conducted to assist the exploratory drilling. The results of the 2004 drilling program provided the basis for geological modeling, resource estimation, preliminary mine planning and economic evaluation at Preliminary Assessment (PA) level.

In 2005, NovaGold completed a 260 hole, 63,190 metre diamond drill program on the Galore Creek property. The aim of the 2005 exploration program was to test for extensions of known mineralization and to explore for new targets within the Galore Creek valley. Additional drilling was utilized for engineering and environmental testing. Mapping focused on defining drill targets, major structures, and alteration assemblages. The geophysical program included a wide-spaced Vector IP reconnaissance program and IP surveys, conducted both south of the Central Zone and along the East Fork of Galore Creek.

In 2006, NovaGold completed 33,575 metres of diamond drilling in 57 holes. The 2006 drilling tested new exploration targets based on geophysical anomalies and new geological interpretations. The goal of the program was to upgrade the resource estimation categories.

In 2007, NovaGold completed 17 holes, totalling 4,547 metres on the Galore Creek property for the Galore Creek Mining Corporation (GCMC). Drilling focussed on the Southwest Zone, Central Replacement Zone, Butte Zone and reconnaissance targets.

3.2 Galore Creek Mining Corporation Exploration

In 2008, Galore Creek Mining Corporation (GCMC) completed nine diamond drill holes totalling 2,049.58 metres. The main objectives of the drill program were to obtain ABA (Acid Base Accounting) data in the Central, Southwest, North Junction and Junction pits, to confirm legacy grades in the Junction pit, and to collect metallurgical data in the Central pit.

In 2010, GCMC conducted a site investigation program of nine exploration diamond drill holes totalling 2,803.33 metres and four geotechnical boreholes totalling 240.70 metres. The main objectives of the exploration drilling were to obtain metallurgical and resource in-fill data in the Central deposit. A geotechnical borehole was drilled in an area under consideration for construction of a water-retaining dam. Three geotechnical boreholes were drilled in the Galore Valley to install standpipes to monitor drawdown associated with pump testing of nearby, previously installed, pump wells.

In 2011, GCMC's site investigation included a drilling program consisting of eighteen (18) exploration drill holes totalling 9,953.22 metres, and sixteen (16) geotechnical boreholes totalling 5,887.30 metres. The main objectives of the exploration drill program were to upgrade and possibly extend mineralization within the Central South and Bountiful zones. The SRK geotechnical site investigation program was undertaken to enable Feasibility-level design of the proposed open pits at Galore Creek.

In 2012, the GCMC site investigation included a diamond drilling program consisting of forty-seven (47) exploration drill holes totalling 23,369.2 metres, nine (9) geotechnical boreholes totalling 3,296.1 metres, six (6) hydrogeological holes totalling 835.0 metres, and sixteen (16) overburden-geotechnical holes totalling 589.5 metres. The main objective of the exploration drill program was to upgrade Inferred resources to Measured and Indicated classification. Exploration drilling successfully encountered copper mineralization.

In 2013, GCMC's site investigation included a diamond drilling program consisting of twenty-two (22) exploration drill holes totalling 11,649 metres. The main objective of the drill program was to upgrade the Legacy Zone to an inferred classification, and explore the continuity and extents of this mineralized zone.

In 2014, GCMC's site investigation included a geochemical sampling program consisting of fourteen (14) rock samples taken from outcrop for lithogeochemical sampling. The main objective of the geochemical sampling program was to characterize the intrusive, volcanic, and sedimentary rock types to the northeast of the Galore Creek valley.

In 2015, GCMC the exploration program focused on the Saddle Zone, located to the southeast of the Bountiful deposit. Nine (9) ICP samples and one lithogeochem sample were collected. This sampling program highlighted an area of anomalous copper, silver and gold values at the southern end of the Saddle zone, with significant gold grades in an area newly exposed by retreating glacial ice.

4.0 LAND TENURE AND CLAIM STATUS

In July 2003, SpectrumGold Inc. (now NovaGold Canada Inc.) entered into an option agreement to acquire a 100% interest in the Galore Creek property from Stikine Copper Limited, a company owned by QIT-FER et Titane Inc. and Hudson Bay Mining and Smelting Co. Limited.

The original Galore Creek property consisted of 292 two-post claims, of which 39 were fractions, all held in the name of Stikine Copper Limited. In July 2005, NovaGold converted the 292 claims into six cell claims to hold an area of 5,111 hectares and the claims are listed below in Table 1.

On March 28, 2007, NovaGold exercised the Stikine Copper Limited option and acquired 100% in the property as of June 1, 2007.

Table 1 - Galore Creek Property Claims

Tenure No.	Name	Owner	Area (ha.)
516158	Cell Claim	Galore Creek Mining Corporation (Client No. 211373)	772.237
516165	Cell Claim	Galore Creek Mining Corporation (Client No. 211373)	667.543
516177	Cell Claim	Galore Creek Mining Corporation (Client No. 211373)	175.777
516178	Cell Claim	Galore Creek Mining Corporation (Client No. 211373)	457.053
516179	Cell Claim	Galore Creek Mining Corporation (Client No. 211373).	1,317.270
516459	GALORE 1 CELL CLAIM	Galore Creek Mining Corporation (Client No. 211373)	1,721.252
Totals:	**6 claims**		**5,111.132**

Since the initial option agreement on the Galore Creek claims in 2003, NovaGold has acquired significant ground in the area through staking as well as purchase of mineral claims from other parties. All the claims are listed in Table 3.

On August 1, 2007, the Galore Creek Partnership (Teck Cominco Limited and NovaGold Canada Inc. 50/50) was established to develop the Galore Creek mine; the Partnership created the jointly controlled operating company called the Galore Creek Mining Corporation (GCMC). In

October 2007, all Galore Creek Property claims held by NovaGold Canada Inc. were transferred to the Galore Creek Mining Corporation.

In November 2007, NovaGold and Barrick Gold Corporation (Barrick) reached an agreement and announced the Grace property claims would be sold 100% to the Galore Creek Partnership. On December 3, 2007, all the Grace claims were transferred to Galore Creek Mining Corporation and Table 2 lists the Grace property mineral claims. These claims are now part of the Galore Creek Property and are listed in Table 3.

Table 2 – Grace Property Claims

Tenure No.	Name	Owner	Area (ha.)
404921	Grace 4	Galore Creek Mining Corporation (Client No. 211373)	500
404922	Grace 5	Galore Creek Mining Corporation (Client No. 211373)	500
516161	Cell Claim	Galore Creek Mining Corporation (Client No. 211373)	543.835
516163	Cell Claim	Galore Creek Mining Corporation (Client No. 211373)	1244.967
517480	Cell Claim	Galore Creek Mining Corporation (Client No. 211373)	52.637
Totals:	**5 claims**		**2,841.44**

Between March 2008 and December, 2015, Galore Creek Mining Corporation acquired additional mineral claims in the Scud River area, Stikine River area and West More area. These claims are contiguous with the Galore Creek Property claims and are listed in Table 3.

Table 3 - Galore Creek Property Mineral Claims, Liard Mining Division, BC

Owner: Galore Creek Mining Corporation - Client No. 211373

Tenure No.	Claim Name	Owner	Tenure Type	Issue Date	Good To Date	Area (ha)
404921	GRACE 4	211373 (100%)	Mineral Claim	2003/sep/07	2024/dec/01	500
404922	GRACE 5	211373 (100%)	Mineral Claim	2003/sep/07	2024/dec/01	500
408613	VIA 32	211373 (100%)	Mineral Claim	2004/feb/29	2024/dec/01	450
410802	J3	211373 (100%)	Mineral Claim	2004/may/26	2024/dec/01	300
410810	CONTACT 5	211373 (100%)	Mineral Claim	2004/may/26	2024/dec/01	200
410812	CONTACT 7	211373 (100%)	Mineral Claim	2004/may/26	2024/dec/01	450
412228	GL 16	211373 (100%)	Mineral Claim	2004/jul/04	2024/dec/01	500
412241	GL 29	211373 (100%)	Mineral Claim	2004/jul/06	2024/dec/01	500
501126	SPC11	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	368.042
501150	SPC01	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	438.094
501166	SPC02	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	438.096
501212	SPC03	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	437.848
501276	SPC04	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	437.851
501341	SPC06	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	315.279
501401	SPC07	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	210.367
501428	SPC05	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	315.486
501454	SPC09	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	438.097
501496	SPC10	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	437.858
501524	SPC12	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	367.917
501560	SPC13	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	367.793
501583	SPC14	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	420.171
501603	SPC15	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	420.137
501634	SPC16	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	280.043
501660	SPC17	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	420.095
501669	SPC18	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	437.659
501685	SPC20	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	419.889
501726	SPC19	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	437.421
501738	SPC21	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	420.221
501755	SPC22	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	385.557
501775	SPC23	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	437.899
501787	SPC24	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	437.661
501798	SPC25	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	420.67
501815	SPC26	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	420.408
501829	SPC27	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	210.068
501839	SPC29	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	438.001
501857	SPC28	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	420.672
501865	SPC30	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	438.002
501882	SPC31	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	420.291
501891	SPC32	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	420.136
501905	SPC08	211373 (100%)	Mineral Claim	2005/jan/12	2024/dec/01	210.366
501931	PORC01	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	405.39
501965	PORC02	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	440.514
501999	PORC03	211373 (100%)	Mineral Claim	2005/jan/12	2024/jan/12	105.708

Table 3 - Galore Creek Property Mineral Claims - Continued

509232	tunnel	211373 (100%)	Mineral Claim	2005/mar/18	2024/dec/01	333.757
509234	porc 04	211373 (100%)	Mineral Claim	2005/mar/18	2024/mar/18	440.357
509235	porc 05	211373 (100%)	Mineral Claim	2005/mar/18	2024/mar/18	405.158
509250	porc 06	211373 (100%)	Mineral Claim	2005/mar/18	2024/mar/18	123.308
509253	sphaler 01	211373 (100%)	Mineral Claim	2005/mar/18	2024/mar/18	422.571
509259	sphaler 02	211373 (100%)	Mineral Claim	2005/mar/18	2024/mar/18	211.356
509261	ng 01	211373 (100%)	Mineral Claim	2005/mar/18	2024/mar/18	420.826
509262	ng 02	211373 (100%)	Mineral Claim	2005/mar/18	2024/mar/18	105.208
509893	NR 3	211373 (100%)	Mineral Claim	2005/mar/30	2024/dec/01	70.379
511868	SPHCR 01	211373 (100%)	Mineral Claim	2005/apr/30	2024/apr/30	405.262
511869	SPHCR02	211373 (100%)	Mineral Claim	2005/apr/30	2024/apr/30	422.876
511870	SPHCR03	211373 (100%)	Mineral Claim	2005/apr/30	2024/apr/30	422.878
512425		211373 (100%)	Mineral Claim	2005/may/11	2024/dec/01	700.818
512426		211373 (100%)	Mineral Claim	2005/may/11	2024/dec/01	473.235
512478	CONT 1	211373 (100%)	Mineral Claim	2005/may/12	2024/may/26	770.372
516158		211373 (100%)	Mineral Claim	2005/jul/06	2024/dec/01	772.237
516161		211373 (100%)	Mineral Claim	2005/jul/06	2024/dec/01	543.835
516163		211373 (100%)	Mineral Claim	2005/jul/06	2024/dec/01	1244.967
516165		211373 (100%)	Mineral Claim	2005/jul/06	2024/dec/01	667.543
516177		211373 (100%)	Mineral Claim	2005/jul/06	2024/dec/01	175.777
516178		211373 (100%)	Mineral Claim	2005/jul/06	2024/dec/01	457.053
516179		211373 (100%)	Mineral Claim	2005/jul/06	2024/dec/01	1317.27
516235		211373 (100%)	Mineral Claim	2005/jul/07	2024/dec/01	1161.63
516271		211373 (100%)	Mineral Claim	2005/jul/07	2024/dec/01	315.411
516275		211373 (100%)	Mineral Claim	2005/jul/07	2024/dec/01	1407.331
516284		211373 (100%)	Mineral Claim	2005/jul/07	2024/dec/01	947.189
516285		211373 (100%)	Mineral Claim	2005/jul/07	2024/dec/01	614.229
516286		211373 (100%)	Mineral Claim	2005/jul/07	2024/dec/01	912.089
516327		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	999.585
516335		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	1354.185
516340		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	1195.156
516342		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	1107.372
516345		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	949.18
516359		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	789.736
516367		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	1052.596
516377		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	1143.352
516433		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	1318.728
516441		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	1390.457
516443		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	880.157
516445		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	985.011
516448		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	862.311
516452		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	879.374
516458		211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	949.726
516459	GALORE 1 CELL CLAIM	211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	1721.252
516463	NR 4	211373 (100%)	Mineral Claim	2005/jul/08	2024/dec/01	140.84
516474	SPHCR 04	211373 (100%)	Mineral Claim	2005/jul/08	2024/jul/08	422.996

Table 3 - Galore Creek Property Mineral Claims - Continued

516475	SPHCR 05	211373 (100%)	Mineral Claim	2005/jul/08	2024/jul/08	422.996
516496		211373 (100%)	Mineral Claim	2005/jul/09	2024/dec/01	1299.197
516498		211373 (100%)	Mineral Claim	2005/jul/09	2024/dec/01	1105.922
516500		211373 (100%)	Mineral Claim	2005/jul/09	2024/dec/01	1527.806
516503		211373 (100%)	Mineral Claim	2005/jul/09	2024/dec/01	1178.494
516505		211373 (100%)	Mineral Claim	2005/jul/09	2024/dec/01	1126.672
516508		211373 (100%)	Mineral Claim	2005/jul/09	2024/dec/01	1020.993
516509		211373 (100%)	Mineral Claim	2005/jul/09	2024/dec/01	1039.113
516511		211373 (100%)	Mineral Claim	2005/jul/09	2024/dec/01	968.695
516674		211373 (100%)	Mineral Claim	2005/jul/11	2024/dec/01	157.819
516691		211373 (100%)	Mineral Claim	2005/jul/11	2024/dec/01	563.2
517480	GRACE G	211373 (100%)	Mineral Claim	2005/jul/12	2024/jul/12	52.637
522318	CONT 2	211373 (100%)	Mineral Claim	2005/nov/15	2024/dec/01	386.718
522319	CONT 3	211373 (100%)	Mineral Claim	2005/nov/15	2024/dec/01	245.815
556327		211373 (100%)	Mineral Claim	2007/apr/13	2024/dec/01	387.2667
556330		211373 (100%)	Mineral Claim	2007/apr/13	2024/dec/01	281.5297
556331		211373 (100%)	Mineral Claim	2007/apr/13	2024/dec/01	140.7942
556334		211373 (100%)	Mineral Claim	2007/apr/13	2024/dec/01	211.1915
579405	SCU 1	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.2202
579406	SCUD 1	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.9753
579407	SCUD 2	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	122.4604
579408	SCU 2	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.2223
579409	SCUD 3	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	349.8247
579410	SCU 3	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	436.9756
579411	SCUD 4	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.9061
579412	SCUD 5	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	349.7099
579413	SCU 3	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.0939
579414	SCUD 6	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	157.3518
579416	SCU 4	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	401.6306
579417	SCUD 7	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.9056
579418	SCU 5	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	436.9768
579420	SCUD 8	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.6281
579421	SCU 6	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	436.9789
579423	SCUD 9	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.1346
579424	SCU 7	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	436.9808
579426	SCU 8	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	436.9835
579428	SCUD 10	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	244.6974
579429	SCU 9	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.2886
579431	SCUD 11	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	366.949
579432	SCU 10	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.2913
579434	SCU 11	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.3084
579435	SCUD 12	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	209.7657
579436	SCU 12	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	436.7655
579437	SCUD 13	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.4795
579439	SCU 13	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.0121
579441	SCU 14	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.2245

Table 3 - Galore Creek Property Mineral Claims - Continued

579443	SCU 15	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.2253
579454	RDL 1	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.8799
579456	RDL 2	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	439.4831
579457	LIN 1	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.6811
579458	RDL 3	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	439.34
579459	LIN 2	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.7224
579461	RDL 4	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.6429
579462	LIN 3	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	298.7028
579463	RDL 5	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.6515
579467	RDL 6	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.5126
579469	RDL 7	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.512
579470	LIN 6	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	333.6831
579472	LIN 7	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	438.8378
579473	RDL 8	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.5266
579479	LIN 10	211373 (100%)	Mineral Claim	2008/mar/28	2024/dec/01	421.016
579517	SCUD S1	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.3757
579519	SCUD S2	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.114
579521	SCUD S3	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	350.0739
579523	SCUD S4	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.2729
579526	SCUD S5	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.2704
579528	SCUD S6	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.7174
579530	SCUD S7	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.7149
579532	SCUD S8	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.9041
579535	SCUD S9	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.0905
579537	SCUD S10	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	350.2287
579541	SCUD S11	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	385.4026
579542	SCUD S12	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.4623
579544	SCUD S13	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	419.9021
579545	SCUD S14	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.0891
579547	SCUD S15	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.4696
579548	SCUD S16	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.4701
579549	SCUD S17	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.4678
579550	SCUD S18	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.4649
579551	SCUD S19	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.2738
579552	SCUD S20	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.7128
579553	SCUD S21	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.7161
579554	SCUD S22	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.7156
579556	SCUD S22	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.7135
579557	SCUD S23	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.4638
579558	SCUD S24	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	420.4437
579559	SCUD S25	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.964
579560	SCUD S26	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.9651
579561	SCUD S27	211373 (100%)	Mineral Claim	2008/mar/28	2024/mar/28	437.9638
585412	RDL 21	211373 (100%)	Mineral Claim	2008/may/29	2024/dec/01	35.1912
662956	RLS 1	211373 (100%)	Mineral Claim	2009/oct/31	2024/dec/01	70.3864
662967	RLS 2	211373 (100%)	Mineral Claim	2009/oct/31	2024/dec/01	70.3828

Table 3 - Galore Creek Property Mineral Claims - Continued

662975	R 1	211373 (100%)	Mineral Claim	2009/oct/31	2024/dec/01	87.9738
662982	RLS 3	211373 (100%)	Mineral Claim	2009/oct/31	2024/dec/01	105.567
975932	HURON 001	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	420.5231
975933	HURON 002	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.8049
975952	HURON 003	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.5775
975953	HURON 004	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	385.5836
975954	HURON 005	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.9536
975955	HURON 006	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.723
975956	HURON 007	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	402.9514
975957	JAY001	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	403.5812
975972	HURON 008	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.7656
975993	JAY002	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	421.4118
975994	HURON 009	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	420.3235
975995	JAY003	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	386.3496
975996	HURON 010	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	420.4012
975997	HURON 011	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.573
975998	JAY004	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.8367
975999	HURON 012	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.5844
976000	JAY005	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	421.029
976002	HURON 013	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.3275
976003	JAY006	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	421.1768
976004	HURON 014	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.7743
976005	JAY007	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.9156
976006	HURON 015	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.9419
976007	HURON 016	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.7952
976008	JAY008	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	420.9761
976012	JAY009	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.6893
976032	HURON 017	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.4339
976052	HURON 018	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.4854
976053	JAY010	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.6839
976054	HURON 019	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.0853
976055	HURON 020	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.0788
976056	NAVO 001	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.795
976057	JAY011	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.5354
976060	JAY012	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.7231
976061	NAVO 002	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.0959
976062	JAY013	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.6981
976064	JAY014	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	421.3459
976065	JAY0015	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.8828
976066	HURON 024	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.5249
976067	JAY16	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	316.0291
976068	NAVO 003	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.4241
976070	JAY017	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	420.881
976072	JAY018	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	438.3879
976092	HURON 027	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.007
976112	NAVO 005	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.8963

Table 3 - Galore Creek Property Mineral Claims - Continued

976152	HURON 028	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.4041
976153	NAVO 006	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	349.2964
976154	HURON 029	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.7264
976156	HURON 030	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.6758
976157	NAVO 007	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.607
976159	NAVO 008	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.8969
976161	NAVO 009	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.141
976163	NAVO 010	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.8991
976172	NAVO 011	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.1368
976173	HURON 031	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.2289
976174	NAVO 012	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.1327
976175	HURON 032	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.0418
976176	NAVO 013	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.1266
976177	HURON 033	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	349.1978
976179	HURON 034	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	261.8845
976180	NAVO 14	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.8991
976212	NAVO 015	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.0713
976232	HURON 035	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.3596
976234	HURON 036	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.2952
976236	NAVO 016	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	314.2504
976239	NAVO 017	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.6337
976252	NAVO 018	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	349.3086
976412	HURON 050	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	349.9337
976452	HURON 051	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	349.926
976456	HURON 052	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.2404
976459	HURON 053	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	349.9377
976461	HURON 054	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	349.9392
976463	HURON 055	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	419.7249
976467	HURON 056	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.022
976469	HURON 057	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.0772
976472	HURON 058	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.1779
976532	HURON 059	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.1838
976554	HURON 060	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	437.1827
976556	HURON 061	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.942
976558	HURON 062	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.9441
976560	NAVO 029	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	349.3167
976561	HURON 063	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.9394
976572	HURON 064	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.7731
976593	HURON 065	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.526
976612	HURON 066	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.8678
976632	HURON 067	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.9275
976653	HURON 068	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.6217
976656	HURON 069	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	418.8978
976657	HURON 070	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.6796
976672	HURON 071	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.4646
976675	HURON_072	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.6764

Table 3 - Galore Creek Property Mineral Claims - Continued

976676	HURON_073	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.6678
976692	HURON_074	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.6657
976713	HURON_075	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.4147
976718	HURON_079	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	436.4558
976732	HURON_080	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	418.7387
976753	HURON_081	211373 (100%)	Mineral Claim	2012/apr/02	2024/apr/02	418.7768
1016352	MAC	211373 (100%)	Mineral Claim	2013/jan/27	2024/jan/27	771.4353
1017781	HURON201301	211373 (100%)	Mineral Claim	2013/mar/14	2024/mar/14	157.3895
1017782	HURON201302	211373 (100%)	Mineral Claim	2013/mar/14	2024/mar/14	104.9935
1017784	HURON201303	211373 (100%)	Mineral Claim	2013/mar/14	2024/mar/14	157.8589
1018229	SPC 33	211373 (100%)	Mineral Claim	2013/apr/03	2024/apr/03	104.9952
1018771	SPC 34	211373 (100%)	Mineral Claim	2013/apr/23	2024/apr/23	175.2671
1019238	SPC 35	211373 (100%)	Mineral Claim	2013/may/04	2024/may/04	87.858
1019756	SPC 36	211373 (100%)	Mineral Claim	2013/may/24	2024/may/24	281.0559
1021815	SPC 37	211373 (100%)	Mineral Claim	2013/aug/22	2019/dec/01	1154.5208
1021830	SPC 38	211373 (100%)	Mineral Claim	2013/aug/23	2019/dec/01	419.9081
1025793	HUR	211373 (100%)	Mineral Claim	2014/feb/08	2020/dec/01	157.4446
1025944	HUR 1	211373 (100%)	Mineral Claim	2014/feb/14	2019/apr/08	157.802
1032810	SPC 39	211373 (100%)	Mineral Claim	2014/dec/18	2018/dec/30	701.1912
1034110	SPC 40	211373 (100%)	Mineral Claim	2015/feb/15	2018/dec/30	52.612
1040495	SPC 41	211373 (100%)	Mineral Claim	2015/dec/12	2018/dec/30	315.6024
1040566	SPC 42	211373 (100%)	Mineral Claim	2015/dec/16	2018/dec/30	263.0019
295	**Mineral Claims**				**Hectares:**	**137,776.940**

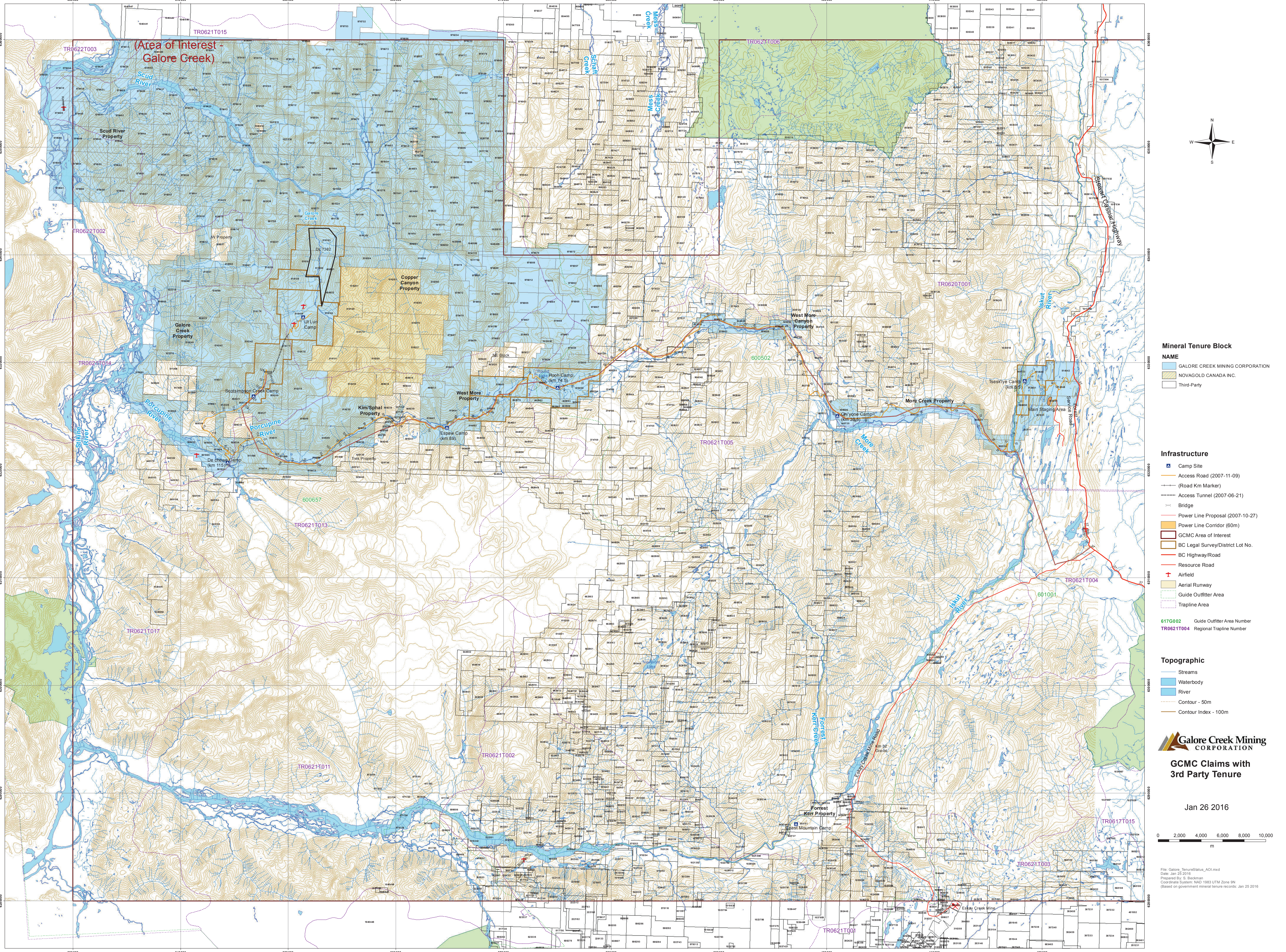
This report covers rock petrographic and geochemical sampling on the Galore Creek Property on August 6th 2016. The sampling work at Galore Creek includes seven (7) rock samples taken for geochemical analysis, and two (2) samples taken for petrographic analyses within mineral claim 516165 (Figure 3) and applied to selected and contiguous claims held by the Galore Creek Mining Corporation. Under Event Number 5628237, assessment work was applied to four mineral claims (SPC 39, SPC 40, SPC 41 and SPC 42) listed in Table 4. The claim expiry dates will be advanced to Dec 30, 2018, subject to government approval.

Table 4 - Application of 2016 Assessment Work - Galore Creek Property Mineral Claims

Owner: Galore Creek Mining Corporation - Client No. 211373

Event No. 5628237 - December 05, 2016

Tenure No.	Claim Name	Owner	Tenure Type	Issue Date	Good To Date	Area (ha)
1032810	SPC 39	211373 (100%)	Mineral Claim	2014/dec/18	2018/dec/30	701.1912
1034110	SPC 40	211373 (100%)	Mineral Claim	2015/feb/15	2018/dec/30	52.612
1040495	SPC 41	211373 (100%)	Mineral Claim	2015/dec/12	2018/dec/30	315.6024
1040566	SPC 42	211373 (100%)	Mineral Claim	2015/dec/16	2018/dec/30	263.0019
					Hectares	**1,332.41**


(Area of Interest - Galore Creek)
Scud River Property
Galore Creek Property
Copper Canyon Property
West More Property
Kim/Sphal Property
West More Canyon Property
More Creek Property
Forrest Kerr Property
Scotsimpson Creek Camp
Hoon Camp (km 74.5)
Espaw Camp (km 89)
De Creek Camp (km 115)
Tsesklye Camp
Main Staging Area
Forrest Kerr Creek
Stewart Cassiar Highway
Iskut River
Porcupine River
Stikine River
Scud River
More Creek
Schaft Creek
Mess Creek
TR0622T003
TR0621T015
TR0621T006
TR0622T002
TR0621T014
TR0620T001
TR0621T005
TR0621T013
TR0621T004
TR0621T017
TR0621T011
TR0621T002
TR0617T015
TR0621T003
TR0621T001
600502
600657
601001
Mineral Tenure Block
NAME
GALORE CREEK MINING CORPORATION
NOVAGOLD CANADA INC.
Third-Party
Infrastructure
Camp Site
Access Road (2007-11-09)
(Road Km Marker)
Access Tunnel (2007-06-21)
Bridge
Power Line Proposal (2007-10-27)
Power Line Corridor (60m)
GCMC Area of Interest
BC Legal Survey/District Lot No.
BC Highway/Road
Resource Road
Airfield
Aerial Runway
Guide Outfitter Area
Trapline Area
617G002 Guide Outfitter Area Number
TR0621T004 Regional Trapline Number
Topographic
Streams
Waterbody
River
Contour - 50m
Contour Index - 100m
Galore Creek Mining Corporation
GCMC Claims with 3rd Party Tenure
Jan 26 2016
0 2,000 4,000 6,000 8,000 10,000
m
File: Galore_TenureStatus_AOI.mxd
Date: Jan 25 2016
Prepared By: S. Beckman
Coordinate System: NAD 1983 UTM Zone 9N
(Based on government mineral tenure records: Jan 25 2016

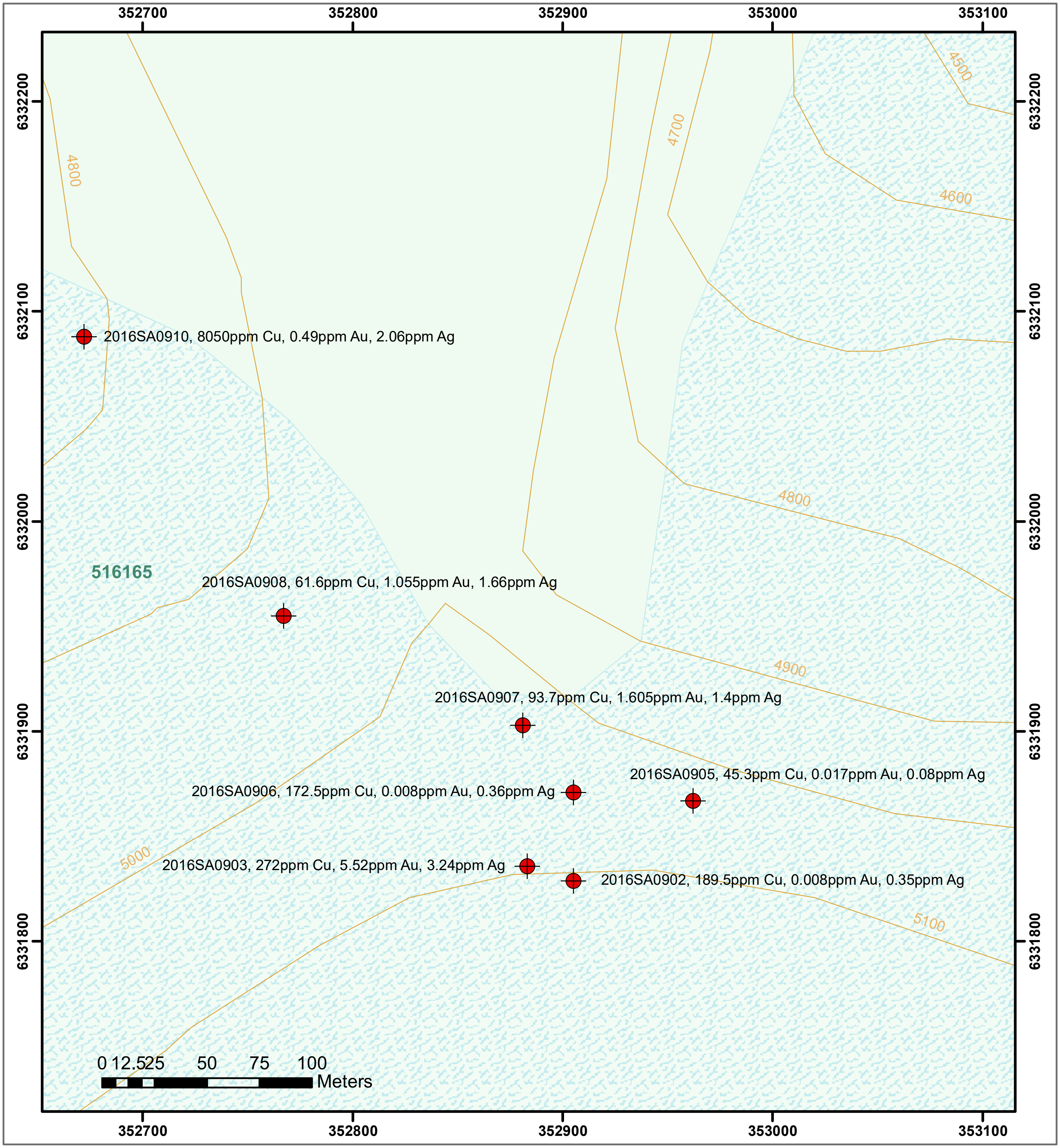


Figure 3. 2016 Geochemical Sample Location Map

LEGEND

- 2016 geochemical samples
- GCMC Mineral Tenure
- River, Stream
- Contour ft.
- Ice Fields

Galore Creek Mining
CORPORATION

Scale 1:2,500
Datum: Nad83, UTM Zone 9
Date: 12/07/2016
Drawn by: A. Carpenter

5.0 2016 SUMMARY OF WORK

The 2016 Galore Creek Mining Corporation field geochemical sampling program consisted of one days of work conducted on August 6th, 2016 at a cost of $7,621. The purpose of the field work was to follow up on anomalous base and precious metal values discovered at the Saddle zone during the 2015 field season, where samples returned elevated copper, gold, and silver values. One 2015 sample, taken directly beside retreating glacial ice at the southern end of claim 516165, returned a gold value of 4.63 ppm Au. During the 2016 field program, nine rock samples were collected for geochemical and petrographic analysis from claim 516165 (Figure 3) to follow up on the 2015 results and to further explore the area. This report discusses the work completed during this period. Details of the reported assessment work expenditures can be found in Appendix II.

On December 5, 2016, under Event Number 5628237, geological and geochemical work, and PAC funds totalling $10,668.64 were filed on Galore Creek claims SPC 39, SPC 40, SPC 41, and SPC 42. (Table 4). The claim expiry dates will be advanced to Dec 30, 2018, upon government approval of this assessment report.

Helicopter support for the project was provided by Lakelse Air, of Terrace, BC. The following helicopter was supplied under charter arrangement or sublease: one 206L Long ranger.

6.0 GEOLOGY

6.1 Regional Geology

The following description of the regional geology is an excerpt from Simpson (2003). It has been divided into three parts: stratigraphy, intrusives, and structure.

> The Galore Creek deposits lie in Stikinia Terrane, an accreted package of Mesozoic volcanic and sedimentary rocks intruded by Cretaceous to Eocene plutonic and volcanic rocks. The eastern boundary of the Coast Plutonic complex lies about 7 kilometres to the west of the claims. The property lies within a regional transcurrent structure known as the Stikine Arch.
>
> **Stratigraphy**
>
> Stikine Terrane at this latitude can be grouped into four tectonostratigraphic successions. The first, and most important one in this area, is a Late Paleozoic to Middle Jurassic island arc suite represented by the Stikine assemblage of Monger (1970), the Stuhini Group (Kerr, 1948) and Hazelton Group equivalent rocks. The other successions are; Middle Jurassic to early Late Cretaceous successor-basin sediments of the Bowser Lake Group (Tipper and Richards, 1976); Late Cretaceous to Tertiary transtensional continental volcanic-arc assemblages of the Sloko Group (Aiken, 1959); and Late Tertiary to Recent post-orogenic plateau basalt bimodal volcanic rocks of the Edziza and Spectrum ranges.
>
> The oldest stratigraphy in the area is known as the Stikine assemblage and comprises Permian and older argillites, mafic to felsic flows and tuffs. These rocks grade upward into two distinctive Mississippian limestone members separated by intercalated volcanics and clastic sediments. The topmost stratigraphy consists of two regionally extensive Permian carbonate units which suggest a stable continental shelf depositional environment.
>
> The Middle to Upper Triassic Stuhini Group unconformably overlies the Stikine assemblage. Stuhini Group rocks comprise a variety of flows, tuffs, volcanic breccia and sediments, and are important host rocks to the alkaline-intrusive related gold-silver-copper mineralization at Galore Creek. They define a volcanic edifice centered on Galore Creek and represent an emergent Upper Triassic island arc characterized by

shoshonitic and leucitic volcanics (de Rosen-Spence, 1985), distal volcaniclastics and sedimentary turbidites. The succession at Galore Creek was divided by Panteleyev (1975) into a submarine basalt and andesite lower unit overlain by more differentiated, partly subaerial alkali-enriched flows and pyroclastic rocks.

Intrusives

Three intrusive episodes have been recognized in the region. The earliest and most important is the Middle Triassic to Middle Jurassic Hickman plutonic suite that is coeval with Upper Triassic Stuhini Group volcanic flows. The Mount Hickman batholith comprises three plutons known as Hickman, Yehinko and Nightout. The latter two are exposed north of the map area. The Schaft Creek porphyry copper deposit is associated with the Hickman stock, and is located 39 km northeast of Galore Creek. This stock is crudely zoned with a pyroxene diorite core and biotite granodiorite margins. Alkali syenites of the Galore complex like those found at the nearby Copper Canyon deposit and the pyroxene diorite bodies of the zoned Hickman pluton have been interpreted as differentiated end members of the Stuhini volcanic-Hickman plutonic suite, by Souther (1972) and Barr (1966). The alkali syenites are associated with important copper-gold-silver mineralization at Galore Creek and at Copper Canyon. These rocks are believed to be at least as old as Early Jurassic in age, based on K-Ar dating of hydrothermal biotite in the syenites intruding the sequences (Allen, 1966). An Ar-Ar age of 212 Ma (Logan et al., 1989) in syenite may give the time of crystallization of the intrusive rocks at Copper Canyon, to the east of Galore Creek. More recent U-Pb dates of Galore Creek syenites have given ages ranging from 205-210 Ma (Mortensen, 1995).

Coast Range intrusions comprise the large plutonic mass west of the map area. Three texturally and compositionally distinct intrusive phases were mapped by previous workers. From inferred oldest to youngest, they are potassium feldspar megacrystic granite to monzonite; biotite hornblende diorite to granodiorite; and biotite granite. Small tertiary intrusive stocks and dikes are structurally controlled in their distribution. At Galore Creek young post-mineral basalt and felsite dikes are abundant as a dike swarm in the northwest part of the property. Elsewhere, Tertiary intrusions may be important in their association with small gold occurrences.

Structure

The regional geology has been affected by polyphase deformation and four main sets of faults. The oldest phase of folding is pre-Permian to post-Mississippian and affected the Paleozoic rocks between Round Lake and Sphaler Creek. This deformation is characterized by bedding plane parallel foliation in sediments and fragment flattening in volcaniclastics. Pre-Late Triassic folding is characterized by large, upright, tight to open folds with north to northwest trend of axial plane traces and westerly fold vergence. Metamorphism accompanying the first two phases of deformation reached greenschist facies. The third phase of folding is manifested as generally upright chevron folds with fold axes pointed west-northwesterly.

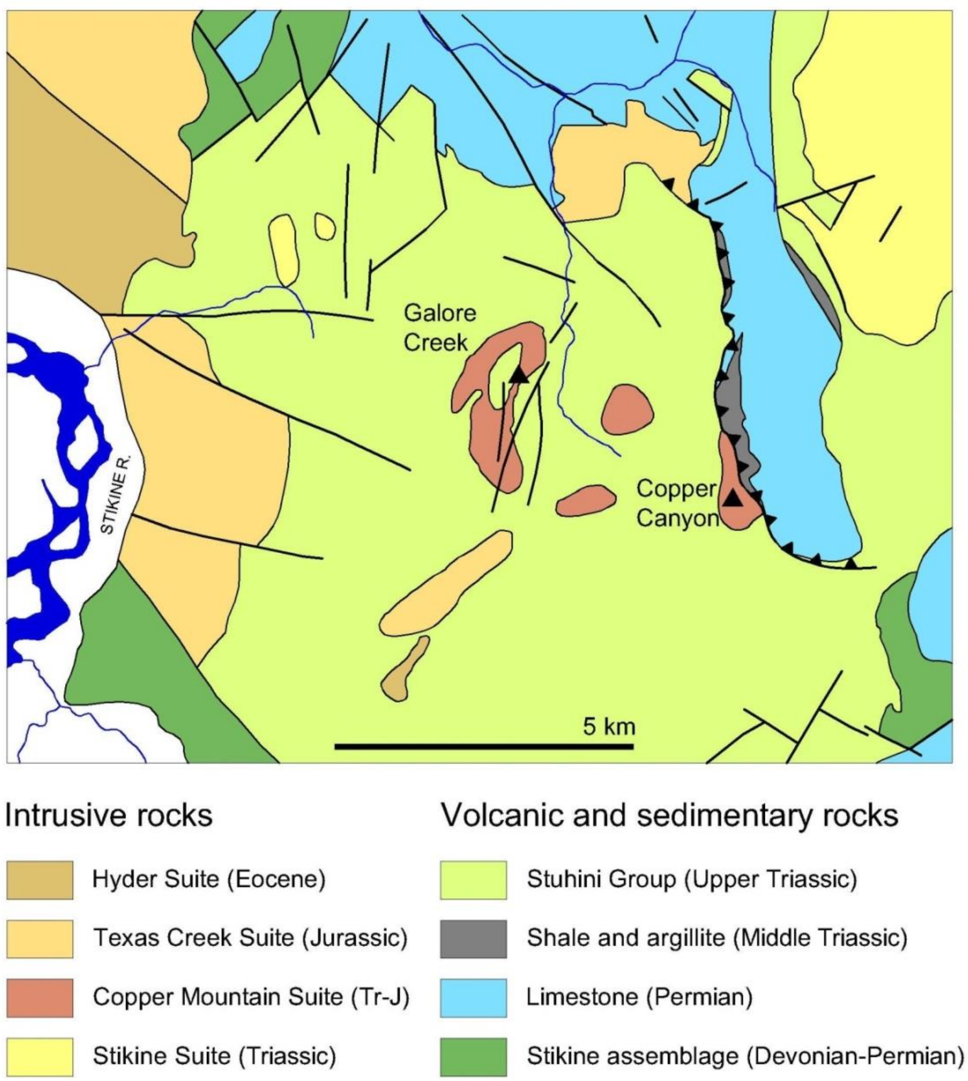
The oldest and longest-lived fault structures in the area have a north strike and sub-vertical dip. The best example occurs on the west flank of the Hickman batholith, where a major fault juxtaposes Permian limestone with a narrow belt of Stuhini Group volcanics. The second important fault type occurs at Copper Canyon as a west directed thrust fault with a north strike and east dip of 30 to 50 degrees. It juxtaposes overturned Permian limestone and Middle Triassic shale with Stuhini volcanics below. Early to Middle Jurassic syenite intrusions occupy this contact. A third important set of faults with north-west strike mark the boundary between Upper Triassic and Paleozoic rocks between Scud River and Jack Wilson Creek. The youngest faults have a northeast strike direction and are of great local importance. At Galore Creek, some of these faults show considerable post-mineral movement of up to 200 metres while others appear to control the emplacement of mineralized intrusive phases and breccia bodies.

6.2 Property Geology

The Galore Creek intrusive-volcanic complex is composed of multiple intrusions emplaced into volcanic and sedimentary rocks of similar composition. Country rocks to the syenite intrusions are volcanic flows and volcaniclastic sediments, with subordinate greywacke, siltstone and local conglomerate (Enns et al., 1995). Augite-bearing volcanic flows and tuffs underlie and are interbedded with the pseudoleucite-bearing and orthoclase-bearing flows, tuffaceous and fragmental units, which are prominent in the south and southwest parts of the complex (Enns et al., 1995). Multiple alkali syenite intrusive phases occur in the complex and are divided into the pre- to syn-mineralization intrusives (i1 to i4), syn- to post-mineralization intrusives (i5 to i9) and post-mineralization intrusives (i10 to i12). The complex is centered in the west fork of

Galore Creek and is approximately 5 kilometres in length and 2 kilometres in width. To date, twelve copper-gold-silver mineralized zones have been identified on the property. Most zones, including the Central, North Junction, Junction, Middle Creek, West Rim, Butte and South 110, occur in highly altered volcanic rocks and to a lesser degree in syenite intrusions. The Southwest, Opulent, and Saddle zones are hosted by breccias and the North Rim and West Fork zones occur within syenite intrusions.

Figure 4: Geological map of the Copper Canyon and Galore Creek area (adapted from Enns et al., 1995, and Logan and Koyanagi, 1994, by Twelker, 2007).



6.3 Galore Creek Lithologic Descriptions

The following section is summarized from Workman (2011) to describe Galore Creek deposit lithologies encountered during the 2016 geochemical sampling program:

VOLCANIC ROCKS

(V1) AUGITE-BEARING VOLCANICS:
Augite-bearing flows contain porphyritic and, infrequently, amygdaloidal textures. Augite phenocrysts vary in size from 2-5 mm and are generally euhedral to subhedral, stubby and dark green to black. They comprise up to 30% of the rock and are supported in a medium to dark green, aphanitic groundmass. The augite phenocrysts are usually altered to biotite, epidote and chlorite. Locally, strong garnet-biotite-orthoclase alteration is also observed. Interbedded with the augite bearing flows are augite-bearing volcaniclastics in the form of fine and coarse lapilli tuffs, tuff breccias and flow breccias, containing subangular to subrounded fragments of augite porphyry. These volcaniclastics are generally matrix supported.

(V2) PSEUDOLEUCITE-BEARING VOLCANICS:
The original textures are often obliterated by intense orthoclase and sericite alteration. Copper/gold mineralization appears to occur preferentially in these rocks. In unaltered areas, euhedral and broken pseudoleucite phenocrysts up to 1.5 cm occur within a bluish grey to salmon pink groundmass. These phenocrysts often exhibit orthoclase-sericite altered cores. Rims are sometimes altered to sericite, magnetite and chlorite.

(V3) ORTHOCLASE-BEARING VOLCANICS:
Orthoclase-bearing volcanics are predominantly fine to coarse crystal lithic tuffs, with possible subordinate flows. They are often strongly mineralized with disseminated bornite, chalcopyrite and gold. They appear to be cogenetic and coeval with dark syenite porphyry intrusives, which may be their subvolcanic equivalents. The crystal fragments in the tuffs are broken orthoclase shards up to 7 mm across and are supported by a highly altered biotite-orthoclase +/- garnet-anhydrite matrix. Rare bedding is preserved locally.

UNDIFFERENTIATED VOLCANICS (V4, V5, V6)

In some areas, intense alteration has obliterated original textures resulting in the more vague classification of "undifferentiated volcanics". Such rocks have been classified on the basis of colour and association.

(V4) MAFIC VOLCANICS:
Mafic volcanic rocks (V4) are dark green, chloritic flows and tuffs, common in the north part of the Central Zone. These are interbedded, and may in part be correlated with, unit V1 (augite-bearing volcanics). Porphyritic and amygdaloidal flow textures have been preserved locally and volcanic clasts are sometimes preserved in pyroclastic rocks.

(V5) INTERMEDIATE VOLCANICS:
Intermediate volcanic rocks (V5) are very common in the Central Zone. These rocks are medium greenish grey volcaniclastics and flows, and may be aphyric equivalents of the pseudoleucite bearing volcanic units. Included in this unit are possible trachy-andesites containing subrounded orthoclase phyric fragments. Aphanitic volcanic clasts up to 3 cm across have also been observed within a fine grained to aphanitic matrix. Secondary biotite occurs both as a spotted to patchy alteration and as coarse aggregates and veins.

(V6) FELSIC VOLCANICS:
Intense orthoclase flooding has resulted in pale grey, felsic volcanic rocks (V6) which are fine to medium grained volcaniclastics and flows. V6 rocks are present in the north and central part of the Central Zone, often interbedded with pseudoleucite volcanic rocks which may be their equivalent.

INTRUSIVE ROCKS

(i6/i8) EQUIGRANULAR AND PORPHYRITIC SYENITES:
This closely related family of syenites occur as tabular and irregular, anastomosing, steep dikes. They are distinguished primarily on matrix and phenocryst size differences.

Fine grained syenite (i6) is a medium green-grey, equigranular, fine grained intergrowth of orthoclase, altered hornblende and epidote.

Fine grained syenite porphyry (i7) is greenish grey, and composed of 2-5%, 2-10 millimetre, subhedral, tabular, and equant orthoclase phenocrysts set in a greenish, often epidote rich, fine grained groundmass of orthoclase, altered hornblende, and epidote. The rock is locally crystal poor, and texturally equivalent to i6 and i8.

Medium grained syenite (i8) is a medium green to grey, equigranular intergrowth of orthoclase, altered hornblende, epidote, and rare 2-5 millimetre orthoclase phenocrysts.

7.0 GEOCHEMICAL SAMPLING AND PETROGRAPHIC ANALYSIS

7.1 Introduction

The 2016 geochemical sampling program at Galore Creek was carried out on August 6th, 2016. The sampling program consisted of seven (7) rock outcrop samples taken for ICP-MS and two (2) samples collected for petrographic analysis within the Saddle Zone. The Saddle Zone is located on a ridge overlooking the west fork of the Galore Creek valley, approximately 2.5km to the southeast of Galore Creek's main Central Zone deposit, and on the ridge east of the Bountiful deposit. The southern extent of the Saddle zone is marked by glacial ice.

The following description of the Saddle zone is excerpted from Yarrow & Taylor (1990):

> The Saddle Zone occurs above treeline on a steep west facing slope near the southeast corner of the property. The zone is comprised of a magnetite cemented intrusive fragment breccia containing varying amounts of chalcopyrite, malachite and bornite with associated gold values. In plan it has a rough oval shape with approximate dimensions of 110 meters by 60 meters. Actual breccia-country rock contacts are obscured by rock scree and rubble.

In 2015, nine (9) ICP-MS and one lithogeochem sample were collected over two days by GCMC. These samples identified anomalous copper, silver and gold values to the south of the magnetite-breccia zone identified in Mingold's 1990 report. One sample at the southern edge of claim 516165 return a gold value of 4.63ppm Au in a strongly k-feldspar altered, pyritic syenite. Alteration is strongly texturally destructive, and the rock type was identified as intrusive through petrographic work (See Section 7.3 and Appendix VI). The southern extent of the alteration is under glacier cover, and more will continue to be exposed in the future due to the southward retreat of the glacier. The alteration style and precious metal content indicate the potential for previously unidentified porphyry or epithermal style mineralization in the southern Saddle zone.

The main objectives of the sampling program were to define the extents of gold mineralization and favourably altered rock identified during the 2015 program, to characterize the alteration style and history of the newly identified mineralization, and to follow the contact between the host rock syenite and the i8 unit. The i8 unit is a medium grained, equigranular syenite which post-dates mineralization in the Central zone of the Galore Creek deposit.

Seven rock outcrop or sub-crop samples were collected during the 2016 sampling program by geologists Alicia Carpenter and Sarah Henderson. All of the samples were collected for ICP multi-element analysis, and two samples identified as having favourable alteration styles were collected for petrographic analysis.

At each ICP sample location, approximately 1 kg of rock was chipped using a hammer and collected for assay. ICP samples were taken from outcrops suspected to have anomalous base or precious metal content, and if significant changes in alteration was observed. A waypoint was taken at each sample location using a handheld GPS, and all samples were given field descriptions of lithology, alteration and mineralization where present. Samples were bagged in poly sample bags, zap strapped, and flown to Bell II Lodge, where they were stored in a secure location until shipment.

Samples were shipped to ALS Minerals Laboratories in North Vancouver for preparation and analysis. Sample preparation consisted of typical drying, crushing, splitting, and pulverizing (Prep Code PREP-31). The eight ICP samples were assayed by aqua regia digestion using a 51-element ICP-MS and ICP-AES analytical package at ALS (ME-MS41). Gold assays were performed by fire assay with an atomic absorption finish (Au-AA23). Standards and Blanks were inserted into the sample batch to maintain geochemical quality control. Please see Appendix V for details of ALS analytical and QA/QC procedures.

The petrographic samples were shipped to Vancouver Petrographics Ltd. in Langley B.C, where polished thin sections were prepared, with the offcuts stained to identify the presence of K-feldspar. The prepared sections and offcuts were shipped to Blue Metal Resources Inc. in Squamish BC, for thin section analysis.

Locations and types of all samples collected during the 2016 field program can be found in Table 5 below.

Table 5: 2016 Galore Creek Geochemical and Geological Sample Locations

WPT #	UTM_E*	UTM_N*	Elevation	Sample Type(s)	Sample #	Claim #
902	352905	6331829	1568	ICP	2016SA0902	516165
903	352883	6331836	1571	ICP (5m chip)	2016SA0903	516165
905	352962	6331867	1543	ICP	2016SA0905	516165
906	352905	6331871	1545	ICP	2016SA0906	516165
907	352881	6331903	1553	ICP + Petrographic	2016SA0907	516165

WPT #	UTM_E*	UTM_N*	Elevation	Sample Type(s)	Sample #	Claim #
908	352767	6331955	1528	ICP + Petrographic	2016SA0908	516165
910	352672	6332088	1482	ICP	2016SA0910	516165

*UTM NAD 83, Zone 9

7.2 Summary of Geochemical Results

The following section describes the lithology, alteration and mineralization present for each sample taken, as well as the geochemical results of the rock samples taken on the GCMC claims (from Table 5). ALS assay certificates are located in Appendix IV. A map of the locations of the geochemical samples can be found in Figure 3.

The seven samples taken represent the three main lithology and alteration types: Three samples were collected from the main zone of interest, a resistant ridge of intensely k-spar altered syenite-monzonite containing 5-20% disseminated pyrite, three samples were collected from chlorite-sericite-calcite altered mafic volcanic fragmental rocks located to the east of the syenite, and one sample was collected from the copper rich contact between the syenite to the east, and i8 to the west.

7.2.1 ICP Sampling

Sample descriptions, and copper, gold, and silver assay results from the seven samples collected are presented below in Table 6.

Four of the seven samples collected during the 2016 field program returned significant gold values (2016SA0903, 907, 908, and 910). Samples 903, 907, and 908 are along a 200m trend of intensely k-feldspar altered syenite to monzonite containing 10-20% fine grained disseminated and vein hosted pyrite, with traces of chalcopyrite and galena disseminated and along fractures. These rocks form an oxidized, resistant ridge trending N-NW. Au assay values associated with this alteration range from 1.055ppm to 5.52ppm Au. The highest value of 5.52ppm Au was obtained from a 5m chip sample, 5m west of a brecciated, pyrite rich shear contact with volcanic rocks lying to the east. The chip sample (2016SA0903) was collected at the location of a 4.63ppm Au sample (2015) to see if gold grades from the 2015 program were repeatable using different sample methods.

The last anomalous Au value of 0.49ppm Au from sample 910 is associated with a sharp contact between the i8 unit, a medium grained equigranular syenite to the west, and the zone of pyritized, strongly k-feldspar syenite to the east. The i8 unit contains magnetite disseminated, in pods, and in veins 0.2-3cm thick. Magnetite-pyrite-chalcopyrite-malachite veins, with epidote alteration selvages, are spatially associated with the contact. Sample 910 contains the highest Cu grades, at 0.80% Cu due to the presence of chalcopyrite and pyrite in the veins.

Within the K-feldspar altered syenite samples (2016SA0903, 907, and 908) Cu values are slightly anomalous, ranging from 62-190ppm Cu and appear to be proportional to the gold grade. Trace chalcopyrite was observed within two of these samples. Chlorite-sericite-calcite altered volcanics define the eastern extent of sampling and two samples (2016SA0902, 906) returned elevated Cu values.

Six of the seven samples collected returned anomalous silver values, (2016SA0902, 903, 906, 907, 908, and 910). In the altered syenite these grades are directly proportional to the Au values, and sample 907 contained trace disseminated galena and tetrahedrite visible in thin section (see Appendix VI). Sample 2016SA0908 located along the contact between the mineralized syenite to the east, and equigranular syenite to the west, yielded an anomalous Ag value of 2.06ppm. Electrum was found during petrographic analysis of sample 2016SA0908 (see Appendix VI).

Anomalous gold assays returned from the strongly k-feldspar altered syenite in samples 2016SA0903, 907, and 908, also display anomalous arsenic values in the range of 100-200pm, and are related to increased pyrite concentrations in the host rock, and the presence of tennanite (Appendix VI). This suggests that the elevated gold is also associated with pyrite.

Table 6: 2016 Galore Creek Claims Sampling and Results

UTM_E*	UTM_N*	Sample #	Description	Au ppm	Cu ppm	Ag ppm
352905	6331829	2016SA0902	ICP-GRAB Chl, ser altered outcrop, texturally destroyed (possibly Stuhini volcanic?). Moderate carbonate alt. Very magnetic. ~1% pyrite disseminated, +/- minor cpy.	0.008	189.5	0.35
352883	6331836	2016SA0903	ICP-5m CHIP Same weathered + altered (pyritized) outcrop as 2015SA0853a. 5m chip sample taken for representation of mineralization. Alteration (kspar flooding? + carb + py + qtz?). ~10-20% disseminated, fine to medium grained py. Some cpy visible on fractures (trace – weak).	5.52	272	3.24

UTM_E*	UTM_N*	Sample #	Description	Au ppm	Cu ppm	Ag ppm
352962	6331867	2016SA0905	ICP-GRAB Outcrop east of the Saddle zone ridge. Carbonate altered, grey-green volcanic with lapilli. Weakly mag altered (weaker than previous outcrops). Little to no pyrite or cpy mineralization. Much of the area around this outcrop is covered by glacial till - o/c is at the toe of a retreating glacier. Photo 0537 taken of outcrop.	0.017	45.3	0.08
352905	6331871	2016SA0906	ICP-GRAB Foliated, weakly sheared unit. Same as the other altered grey-green, volcanic in the area. Stuhini volcanic	0.008	172.5	0.36
352881	6331903	2016SA0907	ICP-GRAB Light-grey, silicified (?) unit (*identified by petrographic work as syenite, Appendix VI)*. ~10% disseminated + blebby pyrite. Rarer disseminated cpy (<1%). Rare, disseminated, silver metallic mineral (galena?). Outcrop is a resistant, oxidized ridge amongst much glacial till. Sample taken for ICP assaying, and for petrographic analysis (is silica present in the groundmass?)	1.605	93.7	1.4
352767	6331955	2016SA0908	ICP-GRAB Light-grey green, altered unit with 0.2-0.5cm kspar shards/crystals. (*Petrography identified unit as monzonite porphyry. Appendix VI).* Outcrop looks bleached (by kspar or qtz?). Same unit as seen as WPT 907. 1-5% fine-grained pyrite and rarer disseminated cpy. Qtz (?)+carb veins in o/c with malachite, azurite and chalcopyrite. Petrographic sample taken.	1.055	61.6	1.66
352672	6332088	2016SA0910	ICP-GRAB Contact between pyrite-rich, light-grey, orthoclase phyric, qtz-kspar-ser-py altered unit with Qtz + Py +/- cpy +/- mal veins, and mod-strongly epidote altered i8 (equigranular syenite) unit. Moderate to strong magnetite in i8 unit occurs disseminated, in pods, and in veins 0.2-3cm thick. In i8 syenite mag +/- py +/- malachite veins with epidote selvages. The volcanic unit is very oxidized, the contact between the volcanic and the syenite is sharp and units are clearly distinguishable by colour.	0.49	8050	2.06

*UTM NAD 83, Zone 9

Figure 5: Chip sample location 2016SA903. Strongly oxidized and altered syenite with 10-15% fine grained disseminate pyrite. ICP assay returned significant values. 5.52ppm Au, 272ppm Cu, and 3.24Ag. Follow up location for 2015 sample.

7.3 Petrographic Work

Two samples, 2016SA0907, and 2016SA908, were collected for petrographic analysis to support geological interpretation completed during the field program. Both samples were collected from strongly altered, pyrite rich, resistant syenite to monzonite intrusive rocks. Locations of these samples can be viewed in Figure 3. Hand samples of representative rock types were shipped to Vancouver Petrographics in Langley, B.C., where polished thin sections were prepared, then samples were shipped to Blue Metal Resources, in Squamish, BC where petrographic descriptions were completed. Petrographic descriptions excerpted from Febbo's (2016) report are below:

> **Summary:** Samples are medium-grained syenite to monzonite porphyry intrusions overprinted by an intense potassic-carbonate alteration related to the introduction of chalcopyrite, sphalerite, tetrahedrite tennantite, and electrum.
>
> **Sample 2016SA0907:** The sample is of a medium-grained, syenite porphyry that cut an earlier K-feldspar-bearing porphyry and hydrothermal silica. Pyrite-sphalerite-chalcopyrite-tetrahedrite/tennantite mineralization is introduced as part of a multi-phase ,porphyry-type potassic-carbonate alteration assemblage of ankerite-K-feldspar and lesser quartz-rutile-garnet sericite-albite-apatite-leucoxene-magnetite-rutile.
>
> **Sample 2016SA0908:** The sample is of a medium-grained, synmineral monzonite porphyry. The monzonite intrusion cuts early hydrothermal chalcedonic quartz-barite-pyrite and K-feldspar bearing porphyry. The resultant intrusion breccia is overprinted by intense potassic-carbonate alteration that introduces pyrite-chalcopyrite-electrum-tetrahedrite/tennantite mineralization. Main stage potassic-carbonate alteration comprises abundant K-feldspar-ankerite and lesser quartz-magnetite-albite-leucoxene-rutile-titanite. A late stage alteration of anhydrite-quartz sericite/muscovite overprints the potassic-carbonate.

Febbo's work (2016) identified a long lived, multi stage hydrothermal system. Three distinct events were observed and are summarized below:

1) Early stage Qtz-Barite-Pyrite is observed as xenoliths in both samples 907, and 908. This is interpreted as high level epithermal alteration (Thompson and Thompson, 2011).

2) "The main alteration stage is a complex, multi-episodic alteration that introduces abundant Kfeldspar and ankerite with lesser magnetite, garnet, quartz, albite, apatite, rutile and titanite. Mineralization associated with the main alteration includes chalcopyrite, sphalerite, tetrahedrite/tennantite, and electrum that overprints the syenite and monzonite intrusions. Micko (2010) distinguishes up to five potassic and calc-potassic alteration types for the Central zone that are analogous both in mineralogy and complexity to the alteration described here." All three vein stages observed in samples 907 and 908 were associated with pervasive calc-potassic alteration.

3) Late stage ankerite-anhydrite-sericite-pyrite, observed overprinting magneite. Interpreted as later, lower temperature event similar to the sericite-anhydrite-carbonate zone observed in the Central Zone of the Galore Creek Deposit, and described by Micko (2010).

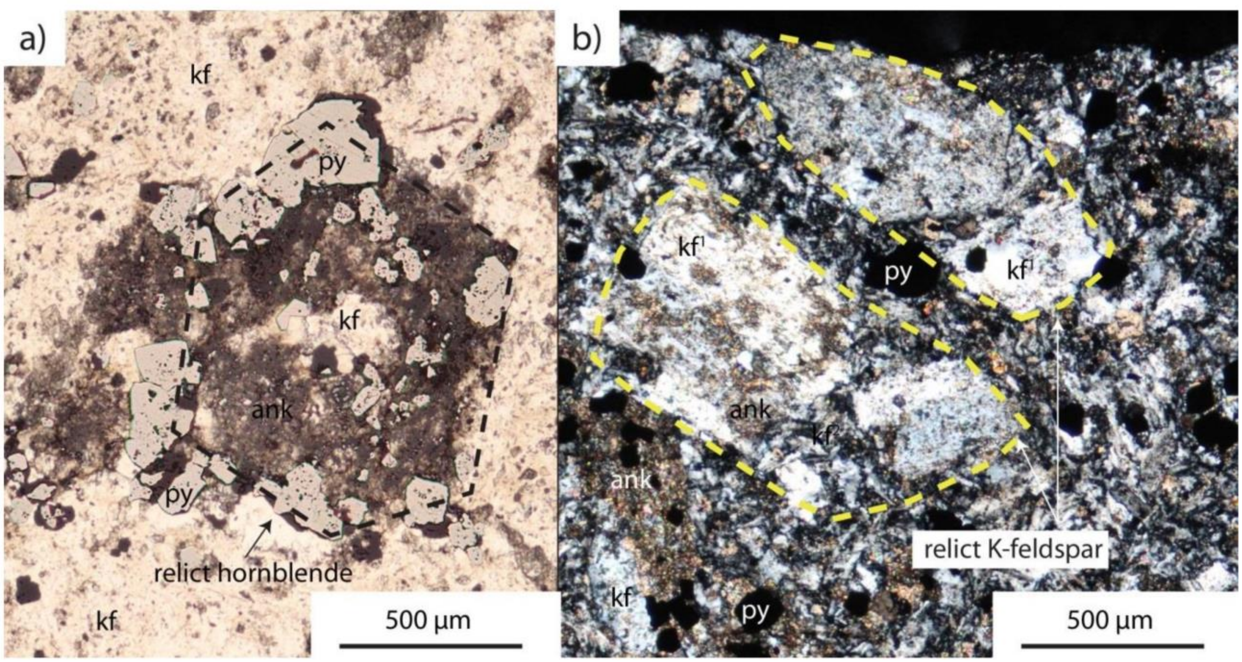


Figure 6. Photomicrograph of sample 2016SA0907. a) Relict hornblende defines a faint 6-sided geometry and is completely altered to K-feldspar (kf), pyrite (py) and cal (cal); groundmass is altered to K-feldspar (kf), plane polarized and reflected light. b) Two relict K-feldspar (kf_1) phenocrysts are rectangular-shaped, partially replaced to ankerite (ank) and recrystallized K-feldspar (kf_2); groundmass is replaced to pyrite (py), K-feldspar (kf), and ankerite (ank); cross polarized light. (Febbo, 2010)

Both petrographic samples 907 and 908 returned anomalous gold and silver values (1.605ppm Au, 1.4ppm Ag and 1.055ppm Au, 1.66ppm Ag respectively). Pyrite was observed to contain abundant inclusions of chalcopyrite-magnetite and growth of rutile on rims, and is spatially associated with ankerite-rich alteration domains. The petrographic report adds evidence for the association of gold with pyrite alteration events by the presence of electrum inclusions in pyrite grains in sample 908. Silver grades are related to the presence of electrum and tetrahedrite/tennatite inclusions in pyrite, and in sample 907, tetrahedrite was observed along the vein margins of a quartz, K-feldspar, ankerite, garnet, and pyrite vein.

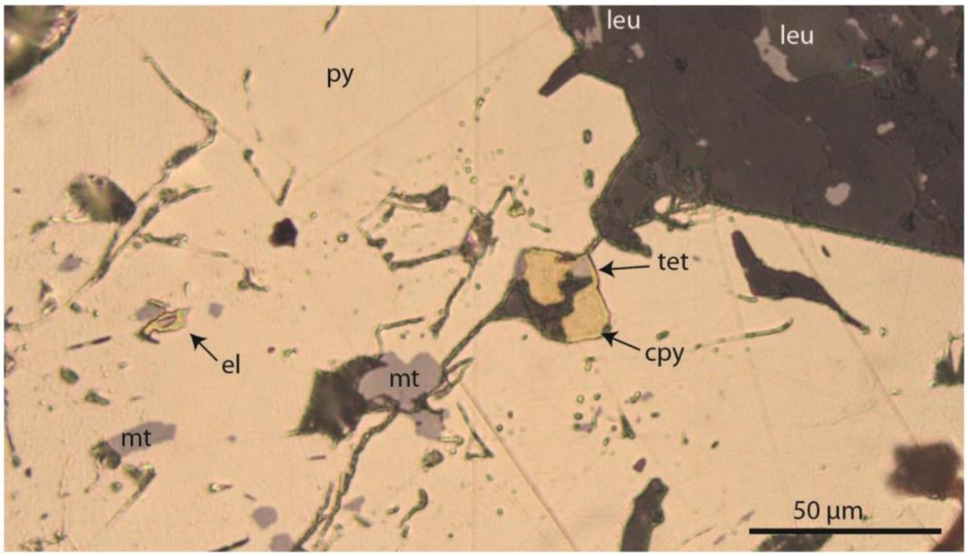


Figure 7. Microphotograph of sample 2016SA0908. Pale grey leucoxene grains (leu) are disseminated in the margin of pyrite grain (py) that is host to magnetite (mt) inclusions, chalcopyrite (cpy)-tetrahedrite/tennantite (tet) inclusion, and one potential electrum (el) inclusion characterized by higher reflectivity than chalcopyrite, reflected light. (Febbo, 2010)

Febbo (2016) states that "mineral textures, alteration assemblages, and high Au:Cu ratios indicate the surface exposures reflect the upper reaches of the porphyry system. The disseminated nature of mineralization, the multi-episodic metasomatism, and the presence of a synmineral porphyry lead to the conclusion that the zone has significant potential in terms of size and economics"

8.0 DISCUSSION AND CONCLUSIONS

During the 2016 field season, a total of seven rock samples were collected on the main GCMC claim package, to the southeast and east of the main Galore Creek deposit, for ICP-MS and petrographic analysis.

The purpose of the field work was to follow up on anomalous ICP sampling results from the 2015 field program. Sample 2015SA0853a returned a gold value of 4.63pm Au at the south end of claim 516165 where glacial retreat has recently uncovered new ground. Sampling and prospecting on the ridge directly east of the Bountiful zone was completed in 2016 to assess the extent of mineralization, understand the relationship between the mineralized host rock to its surrounding lithologies, and to gain an understanding of the alteration history in the area.

Three samples with anomalous gold values were collected from a K-feldspar-ankerite altered syenite with 5-20% secondary pyrite. Sample 2016SA0903 is a chip sample collected from the same outcrop as sample 2015SA0853a and returned a similar gold value of 5.52ppm Au. The other two samples also returned significant gold grades. Assay results from the 2016 program indicate the arsenic and silver can be used as an indicator for the presence of significant gold.
The petrographic study completed by Febbo (2016) on these latter two samples display an alkalic porphyry style potassic-carbonate assemblage of ankerite-k-feldspar with associated pyrite-chalcopyrite-sphalerite-tetrahedrite and electrum. Although similar to alteration assemblages located in the main zone of the Galore Creek deposit (Micko, 2010), a notable difference is the presence of secondary quartz introduced as veins and intergrown with pyrite associated with potassic-carbonate alteration and the presence of ankerite rather than calcite as the dominant carbonate mineral.

A single high grade copper sample was collected at the contact between the previously mentioned altered syenite, and a later medium grained, equigranular syenite (i8), with sample 910 containing 0.8% Cu. Copper mineralization is spatially associated with the contact and is hosted by quartz-magnetite-pyrite-chalcopyrite veins with epidote alteration selvages. This mineralization style may be related to the magnetite chalcopyrite breccia which was the target of exploration in the Saddle zone in 1990 by Mingold (Yarrow & Taylor, 1990).

Three samples collected from mafic volcanic rocks to the East of the other samples yielded elevated Cu results, but do not appear to host significant mineralization on surface.

Future work should also focus on mapping the extent of the gold-hosting syenite-monzonite porphyritic rocks, and its contacts with both the i8 unit and the mafic volcanics in the area. The i8 contact should be further explored in order to assess its relationship to the mineralized breccia bodies in the Saddle zone reported by Mingold, as well as following up on magnetic anomalies indicated by Yarrow & Taylor (1990) to the northeast of the current study area. A comparison of the alteration assemblages observed in samples collected should be made with analogous deposits, in order to better understand how the area is related to the known porphyry deposits in the area.

APPENDIX I

REFERENCES

References

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APPENDIX II

STATEMENT OF EXPENDITURES

Statement of Expenditures

Galore Creek Geochemical Sampling program

Period of Field Work: August 6, 2016
Work Performed on Claims: 516165

Indirect Sampling Costs:		
Helicopter Support – Lake Else Air Ltd		
Long Ranger ($1,150/hr)		$2645
Helicopter Fuel (variable by location)		$568
Lodging costs (Bell II):		
Camp accommodation rate per day: $198 (2 crew*1 day)		$396
Sample Assaying and Freight Costs:		
ALS Minerals Lab (7 samples)		$557.02
Shipping (Bandstra)		$100
Petrographic sections and report		$500
Geochemical Sampling and Report Preparation Costs:		
Geologists Sarah Henderson and Alicia Carpenter (Aug 6th, 2016)		$1258.00
Report preparation (GCMC)		$1,674
	Subtotal:	**$7,621.00**

TOTAL WORK AVAILABLE FOR ASSESSMENT CREDIT:	**$7,621.00**
FUNDS DEBITED FROM PAC (211373)	**$3,047.64**
Total Assessment Work Applied to Mineral Claims:	**$10,668.64**

Event Number: 5628237

APPENDIX III

STATEMENT OF QUALIFICATION

I, Alicia N. Carpenter, do hereby certify that:

1. I am a geologist in the minerals exploration industry employed by:
   Galore Creek Mining Corporation
   3300-550 Burrard Street
   Vancouver, BC, V6C 0B3

2. I graduated from the University of British Columbia, Vancouver, British Columbia, with a Bachelor of Science degree in Earth and Ocean Science in 2007.

3. I am a member in good standing of the Association of Professional Engineers and Geologists of British Columbia.

4. I have practiced my profession with exploration companies in British Columbia and Nunavut, Canada for eight years.

5. I am the author of the '2016 Geological and Geochemical Assessment Report on the Galore Creek Property', dated December, 2016.

6. The Assessment Report is based on mapping and sampling conducted by the author and Sarah L. Henderson of the Galore Creek Mining Corporation, historical reports, and from information available from public files.

7. I have no interest in the property herein.

Dated at Revelstoke, British Columbia, Canada this 17th day of December, 2016.

____
Alicia N. Carpenter

APPENDIX IV

ASSAY CERTIFICATES

(Attached Digitally)

ALS Canada Ltd.

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

To: GALORE CREEK MINING CORPORATION
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

CERTIFICATE VA16134089

Project: Galore Creek
P.O. No.: 13053
This report is for 9 Rock samples submitted to our lab in Vancouver, BC, Canada on 12- AUG- 2016.
The following have access to data associated with this certificate:

SARAH HENDERSON		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% <75 um
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	
ME- MS41	Ultra Trace Aqua Regia ICP- MS	
Au- AA23	Au 30g FA- AA finish	AAS

To: GALORE CREEK MINING CORPORATION
ATTN: SARAH HENDERSON
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

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

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

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

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VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

CERTIFICATE OF ANALYSIS VA16134089

Sample Description	Method / Analyte / Units / LOR	WEI- 21 Recvd Wt. kg 0.02	Au- AA23 Au ppm 0.005	ME- MS41 Ag ppm 0.01	ME- MS41 Al % 0.01	ME- MS41 As ppm 0.1	ME- MS41 Au ppm 0.2	ME- MS41 B ppm 10	ME- MS41 Ba ppm 10	ME- MS41 Be ppm 0.05	ME- MS41 Bi ppm 0.01	ME- MS41 Ca % 0.01	ME- MS41 Cd ppm 0.01	ME- MS41 Ce ppm 0.02	ME- MS41 Co ppm 0.1	ME- MS41 Cr ppm 1
2016SA0902		2.80	0.008	0.35	2.24	8.5	<0.2	<10	300	1.33	0.04	5.37	0.76	19.25	27.1	18
2016SA0903		1.16	5.52	3.24	0.51	104.0	6.1	<10	20	0.71	0.47	0.98	4.38	14.10	32.1	6
2016SA0904		1.16	0.016	0.01	0.06	<0.1	<0.2	<10	10	<0.05	0.01	>25.0	0.02	0.24	0.5	<1
2016SA0905		1.72	0.017	0.08	1.45	4.9	<0.2	<10	330	1.08	0.03	5.46	0.21	21.8	19.6	10
2016SA0906		1.74	0.008	0.36	2.57	21.5	<0.2	<10	140	1.12	0.58	0.33	0.11	16.65	13.3	21
2016SA0907		2.68	1.605	1.40	0.33	240	1.3	<10	40	0.37	0.05	3.90	15.75	12.40	22.5	6
2016SA0908		2.88	1.055	1.66	0.30	190.5	0.9	<10	30	0.36	0.02	3.89	0.67	13.35	21.8	5
2016SA0909		0.88	0.175	0.29	0.66	6.6	0.2	10	270	1.25	0.01	4.78	0.49	20.8	19.9	1
2016SA0910		0.14	0.490	2.06	1.91	23.3	0.4	<10	270	0.45	5.17	1.11	0.16	51.7	19.4	77

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

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Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

CERTIFICATE OF ANALYSIS VA16134089

Sample Description	Method	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41
	Analyte	Cs	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na
	Units	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%
	LOR	0.05	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01
2016SA0902		0.94	189.5	7.20	12.15	0.15	0.05	<0.01	0.040	0.30	9.5	17.0	2.67	2860	1.41	0.02
2016SA0903		0.46	272	6.76	2.52	0.05	0.06	0.22	0.055	0.42	6.6	6.3	0.24	4350	9.18	0.02
2016SA0904		<0.05	3.2	0.08	0.09	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	0.4	1.80	39	0.23	0.01
2016SA0905		0.62	45.3	5.25	7.39	0.05	0.04	<0.01	0.041	0.25	12.4	18.6	1.84	2630	0.49	0.03
2016SA0906		1.05	172.5	7.93	14.10	0.14	0.13	0.01	0.047	0.32	8.6	22.4	2.72	665	2.60	0.02
2016SA0907		0.23	93.7	4.61	2.40	<0.05	0.03	0.56	0.059	0.32	6.3	2.3	1.20	5240	2.79	0.01
2016SA0908		0.22	61.6	5.54	2.21	<0.05	0.07	0.07	0.029	0.32	7.2	2.7	1.33	4290	9.12	0.01
2016SA0909		0.78	129.5	4.57	1.45	0.05	<0.02	0.02	0.060	0.52	10.9	1.1	1.42	1500	0.37	0.02
2016SA0910		8.17	8050	5.08	8.30	0.16	0.38	0.03	0.567	0.95	25.9	29.7	1.20	381	215	0.14

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

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VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

CERTIFICATE OF ANALYSIS VA16134089

Sample Description	Method / Analyte / Units / LOR	ME- MS41 Nb ppm 0.05	ME- MS41 Ni ppm 0.2	ME- MS41 P ppm 10	ME- MS41 Pb ppm 0.2	ME- MS41 Rb ppm 0.1	ME- MS41 Re ppm 0.001	ME- MS41 S % 0.01	ME- MS41 Sb ppm 0.05	ME- MS41 Sc ppm 0.1	ME- MS41 Se ppm 0.2	ME- MS41 Sn ppm 0.2	ME- MS41 Sr ppm 0.2	ME- MS41 Ta ppm 0.01	ME- MS41 Te ppm 0.01	ME- MS41 Th ppm 0.2
2016SA0902		0.05	14.0	2460	12.5	22.9	<0.001	0.13	0.53	29.0	0.8	0.3	238	<0.01	0.08	0.9
2016SA0903		0.07	14.2	2590	233	21.9	0.004	3.18	3.72	23.2	5.7	0.2	89.6	<0.01	0.38	0.7
2016SA0904		<0.05	0.3	50	1.1	0.2	0.001	0.11	<0.05	0.3	0.2	<0.2	5090	<0.01	0.02	<0.2
2016SA0905		<0.05	10.3	2310	5.9	18.1	<0.001	0.04	0.56	17.1	0.7	0.2	229	<0.01	<0.01	1.1
2016SA0906		0.17	11.7	2460	51.3	22.2	0.003	1.66	0.44	29.8	4.0	0.4	55.2	<0.01	0.49	0.9
2016SA0907		0.06	11.7	1990	115.0	13.4	<0.001	3.61	3.80	18.4	0.9	<0.2	139.5	<0.01	0.32	1.0
2016SA0908		0.06	9.4	2110	40.7	14.5	<0.001	4.96	5.28	16.6	1.2	<0.2	125.5	<0.01	0.41	0.8
2016SA0909		<0.05	3.2	1970	20.0	19.4	0.001	0.03	3.76	12.7	0.8	<0.2	234	<0.01	0.01	0.9
2016SA0910		1.17	34.7	990	19.1	104.5	0.003	0.98	1.04	7.4	8.7	9.8	64.1	<0.01	0.14	15.0

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

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Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

CERTIFICATE OF ANALYSIS VA16134089

Sample Description	Method / Analyte / Units / LOR	ME- MS41 Ti % 0.005	ME- MS41 Tl ppm 0.02	ME- MS41 U ppm 0.05	ME- MS41 V ppm 1	ME- MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME- MS41 Zn ppm 2	ME- MS41 Zr ppm 0.5
2016SA0902		0.045	0.28	0.28	337	0.37	9.06	274	1.8
2016SA0903		0.016	0.42	0.35	99	0.91	8.74	391	1.9
2016SA0904		<0.005	<0.02	1.44	2	<0.05	0.30	2	<0.5
2016SA0905		0.019	0.13	0.52	180	0.27	12.50	123	1.4
2016SA0906		0.110	0.26	0.41	344	0.37	8.23	185	2.7
2016SA0907		<0.005	0.27	0.33	62	0.95	8.18	1050	1.4
2016SA0908		<0.005	0.52	0.72	100	1.61	9.05	155	2.5
2016SA0909		<0.005	0.08	0.32	54	0.95	11.25	119	<0.5
2016SA0910		0.315	0.59	3.92	112	1.96	15.20	124	10.2

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

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VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

CERTIFICATE OF ANALYSIS VA16134089

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

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

Applies to Method: ME- MS41

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:

Au- AA23	CRU- 31	CRU- QC	LOG- 22
LOG- 24	ME- MS41	PUL- 31	PUL- QC
SPL- 21	WEI- 21		

ALS Canada Ltd.
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North Vancouver BC V7H 0A7
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To: GALORE CREEK MINING CORPORATION
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

QC CERTIFICATE VA16134089

Project: Galore Creek
P.O. No.: 13053
This report is for 9 Rock samples submitted to our lab in Vancouver, BC, Canada on 12- AUG- 2016.
The following have access to data associated with this certificate:

SARAH HENDERSON		

SAMPLE PREPARATION

ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LOG- 22	Sample login - Rcd w/o BarCode
CRU- QC	Crushing QC Test
PUL- QC	Pulverizing QC Test
CRU- 31	Fine crushing - 70% <2mm
SPL- 21	Split sample - riffle splitter
PUL- 31	Pulverize split to 85% <75 um
LOG- 24	Pulp Login - Rcd w/o Barcode

ANALYTICAL PROCEDURES

ALS CODE	DESCRIPTION	
ME- MS41	Ultra Trace Aqua Regia ICP- MS	
Au- AA23	Au 30g FA- AA finish	AAS

To: GALORE CREEK MINING CORPORATION
ATTN: SARAH HENDERSON
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

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

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

Signature:
Colin Ramshaw, Vancouver Laboratory Manager

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ALS Minerals

To: GALORE CREEK MINING CORPORATION
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

QC CERTIFICATE OF ANALYSIS VA16134089

Sample Description / Method	Au- AA23	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41
Analyte	Au	Ag	Al	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs
Units	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm
LOR	0.005	0.01	0.01	0.1	0.2	10	10	0.05	0.01	0.01	0.01	0.02	0.1	1	0.05
STANDARDS															
MRGeo08		4.21	2.60	31.7	<0.2	<10	430	0.73	0.66	1.08	2.08	69.4	18.6	89	10.10
Target Range - Lower Bound		4.00	2.44	29.6	<0.2	<10	370	0.67	0.60	1.00	2.01	66.2	17.0	81	9.40
Upper Bound		4.92	3.00	36.4	0.4	20	530	0.95	0.76	1.24	2.47	81.0	21.0	102	11.60
OGGeo08		19.15	2.24	121.5	<0.2	<10	90	0.81	10.80	0.91	19.50	61.7	98.0	80	9.51
Target Range - Lower Bound		18.15	2.05	107.0	<0.2	<10	60	0.61	9.44	0.82	16.75	56.7	87.2	75	8.68
Upper Bound		22.2	2.53	131.0	0.4	30	110	0.89	11.55	1.02	20.5	69.3	107.0	93	10.70
OREAS 503b	0.706														
Target Range - Lower Bound	0.648														
Upper Bound	0.742														
OREAS 905		0.50	0.82	33.1	0.4	<10	240	0.93	5.84	0.35	0.38	79.5	13.9	17	1.23
Target Range - Lower Bound		0.45	0.73	28.4	<0.2	<10	200	0.78	5.16	0.29	0.30	72.0	12.4	15	1.14
Upper Bound		0.58	0.91	35.0	0.8	20	300	1.08	6.32	0.38	0.38	88.0	15.4	20	1.50
OREAS 920		0.09	2.49	5.0	<0.2	<10	80	0.75	1.58	0.35	0.07	73.6	16.0	43	1.99
Target Range - Lower Bound		0.07	2.18	3.8	<0.2	<10	50	0.59	0.60	0.28	0.04	64.8	13.4	37	1.84
Upper Bound		0.12	2.68	4.9	0.4	20	110	0.87	0.76	0.37	0.09	79.2	16.6	48	2.36
OxJ111	2.23														
Target Range - Lower Bound	2.03														
Upper Bound	2.30														
BLANKS															
BLANK	<0.005														
Target Range - Lower Bound	<0.005														
Upper Bound	0.010														
BLANK		<0.01	<0.01	<0.1	<0.2	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05
BLANK		<0.01	<0.01	<0.1	<0.2	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05
Target Range - Lower Bound		<0.01	<0.01	<0.1	<0.2	<10	<10	<0.05	<0.01	<0.01	<0.01	<0.02	<0.1	<1	<0.05
Upper Bound		0.02	0.02	0.2	0.4	20	20	0.10	0.02	0.02	0.02	0.04	0.2	2	0.10

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To: GALORE CREEK MINING CORPORATION
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

QC CERTIFICATE OF ANALYSIS VA16134089

Sample Description	Method / Analyte / Units / LOR	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41
	Analyte	Cu	Fe	Ga	Ge	Hf	Hg	In	K	La	Li	Mg	Mn	Mo	Na	Nb
	Units	ppm	%	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	%	ppm	ppm	%	ppm
	LOR	0.2	0.01	0.05	0.05	0.02	0.01	0.005	0.01	0.2	0.1	0.01	5	0.05	0.01	0.05
STANDARDS																
MRGeo08		629	3.53	9.16	0.13	0.70	0.05	0.150	1.28	34.3	30.1	1.13	415	13.55	0.33	0.83
Target Range - Lower Bound		587	3.22	8.73	0.07	0.64	0.04	0.137	1.12	33.2	29.6	1.03	378	13.10	0.30	0.79
Upper Bound		675	3.96	10.80	0.29	0.83	0.10	0.179	1.40	41.0	36.4	1.29	473	16.10	0.39	1.09
OGGeo08		8840	5.15	8.60	0.16	0.77	0.45	1.470	1.09	30.5	31.5	0.95	394	861	0.29	0.90
Target Range - Lower Bound		7800	4.51	8.05	0.21	0.72	0.41	1.335	0.94	27.7	29.8	0.84	350	811	0.26	0.97
Upper Bound		8980	5.53	9.95	0.45	0.92	0.57	1.645	1.18	34.3	36.6	1.05	438	991	0.34	1.29
OREAS 503b																
Target Range - Lower Bound																
Upper Bound																
OREAS 905		1590	3.48	6.32	0.09	1.12	0.01	0.591	0.32	40.2	4.6	0.15	349	3.03	0.10	0.24
Target Range - Lower Bound		1450	3.14	5.74	<0.05	1.08	<0.01	0.517	0.28	35.6	4.3	0.13	310	2.65	0.07	0.19
Upper Bound		1670	3.86	7.12	0.10	1.36	0.02	0.643	0.36	44.0	5.5	0.19	390	3.35	0.12	0.43
OREAS 920		113.0	3.72	6.88	0.08	0.56	<0.01	0.031	0.42	37.5	23.1	1.10	535	0.39	0.02	0.33
Target Range - Lower Bound		102.0	3.26	6.12	<0.05	0.53	<0.01	0.019	0.39	33.3	19.0	0.98	472	0.29	<0.01	0.31
Upper Bound		118.0	4.00	7.60	0.10	0.69	0.02	0.043	0.50	41.1	23.4	1.22	588	0.53	0.02	0.55
OxJ111																
Target Range - Lower Bound																
Upper Bound																
BLANKS																
BLANK																
Target Range - Lower Bound																
Upper Bound																
BLANK		<0.2	<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	<0.1	<0.01	<5	<0.05	<0.01	<0.05
BLANK		0.3	<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	0.1	<0.01	<5	<0.05	<0.01	<0.05
Target Range - Lower Bound		<0.2	<0.01	<0.05	<0.05	<0.02	<0.01	<0.005	<0.01	<0.2	<0.1	<0.01	<5	<0.05	<0.01	<0.05
Upper Bound		0.4	0.02	0.10	0.10	0.04	0.02	0.010	0.02	0.4	0.2	0.02	10	0.10	0.02	0.10

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

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To: GALORE CREEK MINING CORPORATION
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

QC CERTIFICATE OF ANALYSIS VA16134089

Sample Description / Method	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41
Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
LOR	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
STANDARDS															
MRGeo08	690	1000	1055	137.0	0.008	0.30	2.87	7.0	1.4	3.3	75.2	0.01	0.03	20.3	0.373
Target Range - Lower Bound	622	900	959	132.0	0.006	0.27	2.80	6.7	0.9	2.8	72.1	<0.01	<0.01	19.1	0.338
Upper Bound	760	1130	1175	162.0	0.010	0.35	3.90	8.4	1.9	4.0	88.5	0.03	0.04	23.7	0.424
OGGeo08	8930	810	7200	123.5	1.420	2.77	17.70	6.7	11.6	13.1	65.4	0.01	0.16	17.3	0.315
Target Range - Lower Bound	7760	700	6520	109.5	1.295	2.51	17.70	6.0	9.7	12.0	59.6	<0.01	0.14	15.6	0.279
Upper Bound	9480	880	7970	134.5	1.585	3.09	24.1	7.6	12.3	15.1	73.2	0.03	0.20	19.6	0.353
OREAS 503b															
Target Range - Lower Bound															
Upper Bound															
OREAS 905	8.8	250	16.3	18.8	<0.001	0.07	0.92	1.8	2.5	1.3	12.8	<0.01	0.06	8.8	0.020
Target Range - Lower Bound	7.8		15.2	17.3	<0.001	0.04	0.90	1.6	1.8	0.8	10.9	<0.01	0.04	7.8	0.008
Upper Bound	10.0		19.0	21.3	0.002	0.09	1.34	2.2	2.8	1.7	13.7	0.02	0.09	10.0	0.030
OREAS 920	41.2	740	22.2	25.2	<0.001	0.04	0.55	2.9	1.0	1.1	18.8	0.01	0.02	16.2	0.128
Target Range - Lower Bound	34.4		19.2	22.2	<0.001	<0.01	0.45	2.5	0.4	0.7	15.0	<0.01	<0.01	13.6	0.106
Upper Bound	42.4		23.9	27.4	0.002	0.05	0.77	3.3	1.3	1.7	18.8	0.02	0.02	17.0	0.140
OxJ111															
Target Range - Lower Bound															
Upper Bound															
BLANKS															
BLANK															
Target Range - Lower Bound															
Upper Bound															
BLANK	<0.2	<10	<0.2	<0.1	<0.001	0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005
BLANK	<0.2	<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005
Target Range - Lower Bound	<0.2	<10	<0.2	<0.1	<0.001	<0.01	<0.05	<0.1	<0.2	<0.2	<0.2	<0.01	<0.01	<0.2	<0.005
Upper Bound	0.4	20	0.4	0.2	0.002	0.02	0.10	0.2	0.4	0.4	0.4	0.02	0.02	0.4	0.010

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To: GALORE CREEK MINING CORPORATION
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

QC CERTIFICATE OF ANALYSIS VA16134089

Sample Description / Method / Analyte / Units / LOR	ME- MS41 Tl ppm 0.02	ME- MS41 U ppm 0.05	ME- MS41 V ppm 1	ME- MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME- MS41 Zn ppm 2	ME- MS41 Zr ppm 0.5
STANDARDS							
MRGeo08	0.78	5.19	98	2.53	18.55	778	20.8
Target Range - Lower Bound	0.64	4.93	90	2.44	17.50	708	18.1
Upper Bound	0.92	6.13	112	3.42	21.5	870	25.7
OGGeo08	1.49	4.95	79	2.82	16.90	7160	22.8
Target Range - Lower Bound	1.14	4.45	70	2.58	15.35	6500	19.5
Upper Bound	1.58	5.55	88	3.60	18.85	7950	27.5
OREAS 503b							
Target Range - Lower Bound							
Upper Bound							
OREAS 905	0.11	2.26	6	0.50	7.27	65	42.4
Target Range - Lower Bound	0.06	2.08	4	0.44	6.32	58	39.9
Upper Bound	0.16	2.66	8	0.76	7.84	76	55.1
OREAS 920	0.15	2.16	25	0.44	18.45	108	21.5
Target Range - Lower Bound	0.07	1.89	23	<0.05	16.85	93	17.6
Upper Bound	0.18	2.42	30	0.10	20.7	119	25.0
OxJ111							
Target Range - Lower Bound							
Upper Bound							
BLANKS							
BLANK							
Target Range - Lower Bound							
Upper Bound							
BLANK	<0.02	<0.05	<1	<0.05	<0.05	<2	<0.5
BLANK	<0.02	<0.05	<1	<0.05	<0.05	<2	<0.5
Target Range - Lower Bound	<0.02	<0.05	<1	<0.05	<0.05	<2	<0.5
Upper Bound	0.04	0.10	2	0.10	0.10	4	1.0

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

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QC CERTIFICATE OF ANALYSIS VA16134089

Sample Description (Method / Analyte / Units / LOR)	Au- AA23 Au ppm 0.005	ME- MS41 Ag ppm 0.01	ME- MS41 Al % 0.01	ME- MS41 As ppm 0.1	ME- MS41 Au ppm 0.2	ME- MS41 B ppm 10	ME- MS41 Ba ppm 10	ME- MS41 Be ppm 0.05	ME- MS41 Bi ppm 0.01	ME- MS41 Ca % 0.01	ME- MS41 Cd ppm 0.01	ME- MS41 Ce ppm 0.02	ME- MS41 Co ppm 0.1	ME- MS41 Cr ppm 1	ME- MS41 Cs ppm 0.05
DUPLICATES															
ORIGINAL	0.145														
DUP	0.144														
Target Range - Lower Bound	0.132														
Upper Bound	0.157														
ORIGINAL	<0.005														
DUP	<0.005														
Target Range - Lower Bound	<0.005														
Upper Bound	0.010														
ORIGINAL		0.11	0.97	110.0	<0.2	<10	740	1.25	1.27	<0.01	0.03	3.34	10.9	16	1.01
DUP		0.13	1.06	117.0	<0.2	<10	850	1.30	1.36	0.01	0.02	3.81	11.6	17	1.14
Target Range - Lower Bound		0.10	0.95	107.5	<0.2	<10	730	1.16	1.24	<0.01	<0.01	3.38	10.6	15	0.97
Upper Bound		0.14	1.08	119.5	0.4	20	860	1.39	1.39	0.02	0.04	3.77	11.9	18	1.18
ORIGINAL	0.009														
DUP	0.007														
Target Range - Lower Bound	<0.005														
Upper Bound	0.010														
ORIGINAL		0.05	1.22	0.1	<0.2	<10	80	2.03	0.02	0.02	0.01	26.9	0.9	44	0.31
DUP		0.05	1.27	<0.1	<0.2	<10	80	1.87	0.02	0.02	0.01	25.9	1.0	46	0.31
Target Range - Lower Bound		0.04	1.17	<0.1	<0.2	<10	60	1.80	<0.01	<0.01	<0.01	25.1	0.8	42	0.24
Upper Bound		0.06	1.32	0.2	0.4	20	100	2.10	0.03	0.03	0.02	27.7	1.1	48	0.38

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VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

QC CERTIFICATE OF ANALYSIS VA16134089

Sample Description	Method / Analyte / Units / LOR	ME- MS41 Cu ppm 0.2	ME- MS41 Fe % 0.01	ME- MS41 Ga ppm 0.05	ME- MS41 Ge ppm 0.05	ME- MS41 Hf ppm 0.02	ME- MS41 Hg ppm 0.01	ME- MS41 In ppm 0.005	ME- MS41 K % 0.01	ME- MS41 La ppm 0.2	ME- MS41 Li ppm 0.1	ME- MS41 Mg % 0.01	ME- MS41 Mn ppm 5	ME- MS41 Mo ppm 0.05	ME- MS41 Na % 0.01	ME- MS41 Nb ppm 0.05
								DUPLICATES								
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL		244	22.4	6.48	0.07	0.04	0.04	0.355	0.14	1.3	9.4	0.01	359	15.20	0.05	<0.05
DUP		256	23.8	7.06	0.08	0.04	0.04	0.388	0.15	1.5	9.9	0.01	378	16.50	0.05	<0.05
Target Range - Lower Bound		241	21.9	6.38	<0.05	<0.02	0.03	0.348	0.13	1.1	9.1	<0.01	345	15.00	0.04	<0.05
Upper Bound		259	24.3	7.16	0.10	0.06	0.05	0.395	0.16	1.7	10.2	0.02	392	16.70	0.06	0.10
ORIGINAL																
DUP																
Target Range - Lower Bound																
Upper Bound																
ORIGINAL		18.2	2.90	6.53	0.07	0.07	<0.01	0.020	0.49	13.0	13.9	0.50	71	0.87	0.02	0.51
DUP		17.7	3.03	6.55	0.06	0.07	<0.01	0.023	0.51	12.7	12.9	0.52	75	0.82	0.02	0.49
Target Range - Lower Bound		17.1	2.81	6.16	<0.05	0.05	<0.01	0.015	0.47	12.0	12.6	0.47	64	0.75	<0.01	0.43
Upper Bound		18.8	3.12	6.92	0.10	0.09	0.02	0.028	0.54	13.7	14.2	0.55	82	0.94	0.03	0.58

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SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

QC CERTIFICATE OF ANALYSIS VA16134089

Sample Description / Method	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41	ME- MS41
Analyte	Ni	P	Pb	Rb	Re	S	Sb	Sc	Se	Sn	Sr	Ta	Te	Th	Ti
Units	ppm	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%
LOR	0.2	10	0.2	0.1	0.001	0.01	0.05	0.1	0.2	0.2	0.2	0.01	0.01	0.2	0.005
DUPLICATES															
ORIGINAL															
DUP															
Target Range - Lower Bound															
Upper Bound															
ORIGINAL															
DUP															
Target Range - Lower Bound															
Upper Bound															
ORIGINAL	26.8	1520	777	7.0	<0.001	0.24	8.71	11.8	6.1	4.3	20.2	<0.01	0.76	1.6	<0.005
DUP	28.9	1610	829	8.3	<0.001	0.26	8.36	12.8	6.3	4.7	23.1	<0.01	0.76	1.7	<0.005
Target Range - Lower Bound	26.3	1480	763	7.2	<0.001	0.23	7.84	11.6	5.7	4.1	20.4	<0.01	0.71	1.4	<0.005
Upper Bound	29.4	1650	843	8.1	0.002	0.27	9.23	13.0	6.7	4.9	22.9	0.02	0.81	1.9	0.010
ORIGINAL															
DUP															
Target Range - Lower Bound															
Upper Bound															
ORIGINAL	1.5	20	3.5	51.3	<0.001	0.07	<0.05	3.1	0.2	<0.2	1.5	<0.01	0.01	25.9	0.166
DUP	1.4	20	3.5	50.9	<0.001	0.07	<0.05	3.2	0.2	<0.2	1.9	<0.01	0.01	25.7	0.169
Target Range - Lower Bound	1.2	<10	3.1	48.4	<0.001	0.06	<0.05	2.9	<0.2	<0.2	1.4	<0.01	<0.01	24.3	0.154
Upper Bound	1.7	30	3.9	53.8	0.002	0.08	0.10	3.4	0.4	0.4	2.0	0.02	0.02	27.3	0.181

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

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

To: GALORE CREEK MINING CORPORATION
SUITE 3300, 550 BURRARD STREET
VANCOUVER BC V6C 0B3

Finalized Date: 8- SEP- 2016
Account: GALCRE

Project: Galore Creek

QC CERTIFICATE OF ANALYSIS VA16134089

Sample Description	Method / Analyte / Units / LOR	ME- MS41 Tl ppm 0.02	ME- MS41 U ppm 0.05	ME- MS41 V ppm 1	ME- MS41 W ppm 0.05	ME- MS41 Y ppm 0.05	ME- MS41 Zn ppm 2	ME- MS41 Zr ppm 0.5
DUPLICATES								
ORIGINAL								
DUP								
Target Range - Lower Bound								
Upper Bound								
ORIGINAL								
DUP								
Target Range - Lower Bound								
Upper Bound								
ORIGINAL		0.44	1.04	60	<0.05	8.23	650	2.4
DUP		0.49	1.11	64	<0.05	9.02	683	2.4
Target Range - Lower Bound		0.41	0.97	58	<0.05	8.14	631	1.7
Upper Bound		0.52	1.18	66	0.10	9.11	702	3.1
ORIGINAL								
DUP								
Target Range - Lower Bound								
Upper Bound								
ORIGINAL		0.32	0.40	73	<0.05	1.98	45	2.2
DUP		0.33	0.38	75	<0.05	2.02	47	2.2
Target Range - Lower Bound		0.28	0.32	69	<0.05	1.85	42	1.5
Upper Bound		0.37	0.46	79	0.10	2.15	50	2.9

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

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Project: Galore Creek

QC CERTIFICATE OF ANALYSIS VA16134089

CERTIFICATE COMMENTS

ANALYTICAL COMMENTS

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

Applies to Method: ME- MS41

LABORATORY ADDRESSES

Processed at ALS Vancouver located at 2103 Dollarton Hwy, North Vancouver, BC, Canada.

Applies to Method:

Au- AA23	CRU- 31	CRU- QC	LOG- 22
LOG- 24	ME- MS41	PUL- 31	PUL- QC
SPL- 21	WEI- 21		

APPENDIX V

ANALYTICAL PROCEDURES

(Attached Digitally)

Au- AA23 & Au- AA24
Fire Assay Fusion, AAS Finish

Sample Decomposition:

Fire Assay Fusion (FA-FUS01 & FA-FUS02)

Analytical Method:

Atomic Absorption Spectroscopy (AAS)

A prepared sample is fused with a mixture of lead oxide, sodium carbonate, borax, silica and other reagents as required, inquarted with 6 mg of gold-free silver and then cupelled to yield a precious metal bead.

The bead is digested in 0.5 mL dilute nitric acid in the microwave oven, 0.5 mL concentrated hydrochloric acid is then added and the bead is further digested in the microwave at a lower power setting. The digested solution is cooled, diluted to a total volume of 4 mL with de-mineralized water, and analyzed by atomic absorption spectroscopy against matrix-matched standards.

Method Code	Element	Symbol	Units	Sample Weight (g)	Lower Limit	Upper Limit	Default Overlimit Method
Au-AA23	Gold	Au	ppm	30	0.005	10.0	Au-GRA21
Au-AA24	Gold	Au	ppm	50	0.005	10.0	Au-GRA22

Standards Council of Canada
Conseil canadien des normes

200-270, rue Albert St.
Ottawa, ON (Canada)
K1P 6N7

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Tel.: +1 613 238 3222
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SCOPE OF ACCREDITATION

ALS Limited
ALS MINERALS
2103 Dollarton Hwy
North Vancouver, BC
V7H 0A7

Accredited Laboratory No. 579
(Conforms with requirements of CAN-P-1579 , CAN-P-4E (ISO/IEC 17025:2005))

CONTACT:	Ms. Erin Miller
TEL:	+1 604 984 0221
FAX:	+1 604 984 0218
EMAIL:	erin.miller@alsglobal.com
URL:	www.alsglobal.com
CLIENTS SERVED:	Mining, Exploration and other interested parties
FIELDS OF TESTING:	Chemical/Physical
PROGRAM SPECIALTY AREA:	Mineral Analysis
ISSUED ON:	2014-12-17
VALID TO:	2017-05-18

The physical sample preparation involving accredited test method for Minerals Analysis as listed on the Scope of Accreditation may be performed at the ALS Minerals North Vancouver location or at off-site sample preparation laboratories that are monitored regularly for quality control and quality assurance practices:

ALS Minerals - Unit 150 - 2155 Dollarton Hwy, North Vancouver, BC V7H 2B2 Canada
ALS Minerals - 2912 Molitor Street, Terrace, British Columbia V8G 3A4 Canada
ALS Minerals - 3 Coronation Drive, PO Box 1919, Yellowknife, NWT X1A 2P4 Canada
ALS Minerals - 78 Mt. Sima Rd Whitehorse, YK Y1A 0A8 Canada
ALS Minerals - 2953 Shuswap Drive, Kamloops, BC V2H 1S9 Canada
ALS Minerals - Jazmin 1140, e/R, Michel y Amapola, Sector Reforma Colonia San Carlos, Guadalajara, Jalisco 44460 Mexico
ALS Minerals Magnolia #16, Esq. Laurles Col. Libertad, Hermosillo, Sonora 83130 Mexico
ALS Minerals - Avenida de las Industrias No 6500, Col. Zona Industrial Nombre de Dios, Chihuahua, Chihuahua 31156 Mexico

ALS Minerals - Transito Pesado S/n, Bodega 100, 200, 300 y 400, Frente a Central Camionera, Col. Lomas de la Isabelica, Zacatecas, Zacatecas 98099 Mexico

METALLIC ORES AND PRODUCTS

Mineral Analysis Testing

Mineral Assaying

AA45	Ag, Cu, Pb and Zn - Determination of Base Metals Using AAS Following an Aqua Regia Digestion
AA46	Ag, Cu, Pb, Zn and Mo - Determination of Ores and High Grade Materials Using AAS Following an Aqua Regia Digestion
AA61	Ag, Co, Cu, Ni, Pb and Zn - Determination of Base Metals Using AAS Following a Four Acid Digestion
AA62	Ag, Co, Cu, Mo, Ni, Pb and Zn - Determination of Ores and High Grade Materials Using AAS Following a Four Acid Digestion
Au/Ag-GRA	Determination of Au and Ag by Lead Collection Fire Assay and Gravimetric Finish
Au-AA	Determination of Au by Lead Collection Fire Assay and Atomic Absorption Spectrometry
C-IR07	C - Determination of Total C by Leco Furnace and Infrared Spectroscopy.
ICP81	Al, Co, Cu, Fe, Mg, Mn, Ni, Pb, S, and Zn by Sodium Peroxide Fusion and ICP-AES
ME-ICP06	SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, Na_2O, K_2O, Cr_2O_3, TiO_2, MnO, P_2O_5, SrO, BaO, Total - Determination of Major Oxides by Lithium Metaborate/Lithium Tetraborate Fusion and ICP-AES.
ME-ICP41	Multi-Element (Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Ti, Tl, U, V, W, Zn) Determination by Aqua Regia Digestion and ICP-AES.
ME-ICP41a	Multi-Element (Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, Ga, Hf, Hg, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, S, Sb, Sc, Se, Si, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn) Determination of Low Grade Ores by Aqua Regia Digestion and ICP-AES.
ME-ICP61	Multi-Element (Ag, Al, As, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, S, Sb, Sc, Se, Si, Sn, Sr, Ta, Te, Ti, Tl, U, V, W, Y, Zn, Zr) Determination by 4-Acid Digestion and ICP-AES
ME-ICP61a	Multi-Element (Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cu, Fe, Ga, Hf, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, S, Sb, Sc, Se, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn, Zr Determination of Low Grade Ores by

	Four-Acid Digestion and ICP-AES.
ME-MS41	Multi-Element (Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Fe, Ga, Ge, Hf, Hg, In, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, Re, S, Sb, Sc, Se, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn, Zr) Determination by Aqua Regia Digestion and ICP-AES and ICP-MS.
ME-MS61	Multi-Element (Ag, Al, As, Ba, Be, Bi, Ca, Cd, Ce, Co, Cr, Cs, Cu, Fe, Ga, Ge, Hf, In, K, La, Li, Mg, Mn, Mo, Na, Nb, Ni, P, Pb, Rb, Re, S, Sb, Sc, Se, Si, Sn, Sr, Ta, Te, Th, Ti, Tl, U, V, W, Y, Zn, Zr) Determination by 4 Acid Digestion and ICP-AES and ICP-MS.
ME-MS81	Ba, Ce, Cr, Cs, Dy, Er, Eu, Ga, Gd, Hf, Ho, La, Lu, Nb, Nd, Pr, Rb, Sm, Sn, Sr, Ta, Tb, Th, Tl, Tm, U, V, W, Y, Yb, Zr Determination of Rare Earth Elements by Lithium Borate Fusion and ICP-MS.
ME-XRF06	SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, Na_2O, K_2O, Cr_2O_3, TiO_2, MnO, P_2O_5, SrO, BaO, Total Determination of Major Oxides by Lithium Metaborate/Lithium Tetraborate Fusion and XRF.
ME-XRF26	SiO_2, Al_2O_3, Fe_2O_3, CaO, MgO, Na_2O, K_2O, Cr_2O_3, TiO_2, MnO, P_2O_5, SrO, BaO, Total Determination of Major Oxides by Lithium Metaborate/Lithium Tetraborate Fusion and XRF.
OA-GRA05	LOI Loss on Ignition
OA-GRA05x	LOI Loss on Ignition.
OA-GRA06	LOI Loss on Ignition.
OA-VOL08	Fizz Rating, NP, MPA, NNP, Ratio (NP:MPA) Acid Base Accounting.
OG46	Ag, Cu, Mo, Pb and Zn - Determination of Ores and High Grade Material Using ICP-AES Following an Aqua Regia Digestion
OG62	Ag, Cu, Co, Mo, Ni, Pb and Zn-Determination of Ores and High Grade Material Using ICP-AES Following a Four-Acid Digestion
PGM-ICP	Determination of Au, Pt and Pd by Lead Collection Fire Assay and ICP-AES
S-IR08	S Determination of Total S by Leco Furnace and Infrared Spectroscopy.

Notes:

CAN-P-1579: Requirements for the Accreditation of Mineral Analysis Testing Laboratories
CAN-P-4E (ISO/IEC 17025): General Requirements for the Competence of Testing and Calibration Laboratories (ISO/IEC 17025-2005)

Chantal Guay, ing., P. Eng.
Vice President, Accreditation

Services

Date: 2014-12-17

Number of Scope Listings: 26
SCC 1003-15/722
Partner File #0
Partner: SCC

ME- MS41
Ultra- Trace Level Methods Using ICP- MS and ICP- AES

Sample Decomposition:

Aqua Regia Digestion (GEO-AR01)

Analytical Method:

Inductively Coupled Plasma-Atomic Emission Spectroscopy (ICP-AES) Inductively Coupled Plasma - Mass Spectrometry (ICP-MS)

A prepared sample (0.50 g) is digested with aqua regia in a graphite heating block. After cooling, the resulting solution is diluted to with deionized water, mixed and analyzed by inductively coupled plasma-atomic emission spectrometry. Following this analysis, the results are reviewed for high concentrations of bismuth, mercury, molybdenum, silver and tungsten and diluted accordingly. Samples are then analysed by ICP-MS for the remaining suite of elements. The analytical results are corrected for inter-element spectral interferences.

Element	Symbol	Units	Lower Limit	Upper Limit
Silver	Ag	ppm	0.01	100
Aluminum	Al	%	0.01	25
Arsenic	As	ppm	0.1	10 000
Gold	Au	ppm	0.2	25
Boron	B	ppm	10	10 000
Barium	Ba	ppm	10	10 000
Beryllium	Be	ppm	0.05	1 000
Bismuth	Bi	ppm	0.01	10 000
Calcium	Ca	%	0.01	25
Cadmium	Cd	ppm	0.01	1 000
Cerium	Ce	ppm	0.02	500
Cobalt	Co	ppm	0.1	10 000
Chromium	Cr	ppm	1	10 000

Element	Symbol	Units	Lower Limit	Upper Limit
Cesium	Cs	ppm	0.05	500
Copper	Cu	ppm	0.2	10 000
Iron	Fe	%	0.01	50
Gallium	Ga	ppm	0.05	10 000
Germanium	Ge	ppm	0.05	500
Hafnium	Hf	ppm	0.02	500
Mercury	Hg	ppm	0.01	10 000
Indium	In	ppm	0.005	500
Potassium	K	%	0.01	10
Lanthanum	La	ppm	0.2	10 000
Lithium	Li	ppm	0.1	10 000
Magnesium	Mg	%	0.01	25
Manganese	Mn	ppm	5	50 000
Molybdenum	Mo	ppm	0.05	10 000
Sodium	Na	%	0.01	10
Niobium	Nb	ppm	0.05	500
Nickel	Ni	ppm	0.2	10 000
Phosphorus	P	ppm	10	10 000
Lead	Pb	ppm	0.2	10 000
Rubidium	Rb	ppm	0.1	10 000
Rhenium	Re	ppm	0.001	50
Sulphur	S	%	0.01	10
Antimony	Sb	ppm	0.05	10 000
Scandium	Sc	ppm	0.1	10 000
Selenium	Se	ppm	0.2	1 000
Tin	Sn	ppm	0.2	500
Strontium	Sr	ppm	0.2	10 000

Element	Symbol	Units	Lower Limit	Upper Limit
Tantalum	Ta	ppm	0.01	500
Tellurium	Te	ppm	0.01	500
Thorium	Th	ppm	0.2	10000
Titanium	Ti	%	0.005	10
Thallium	Tl	ppm	0.02	10 000
Uranium	U	ppm	0.05	10 000
Vanadium	V	ppm	1	10 000
Tungsten	W	ppm	0.05	10 000
Yttrium	Y	ppm	0.05	500
Zinc	Zn	ppm	2	10 000
Zirconium	Zr	ppm	0.5	500

NOTE: In the majority of geological matrices, data reported from an aqua regia leach should be considered as representing only the leachable portion of the particular analyte.

PREP-31
Standard Sample Preparation: Dry, Crush, Split and Pulverize

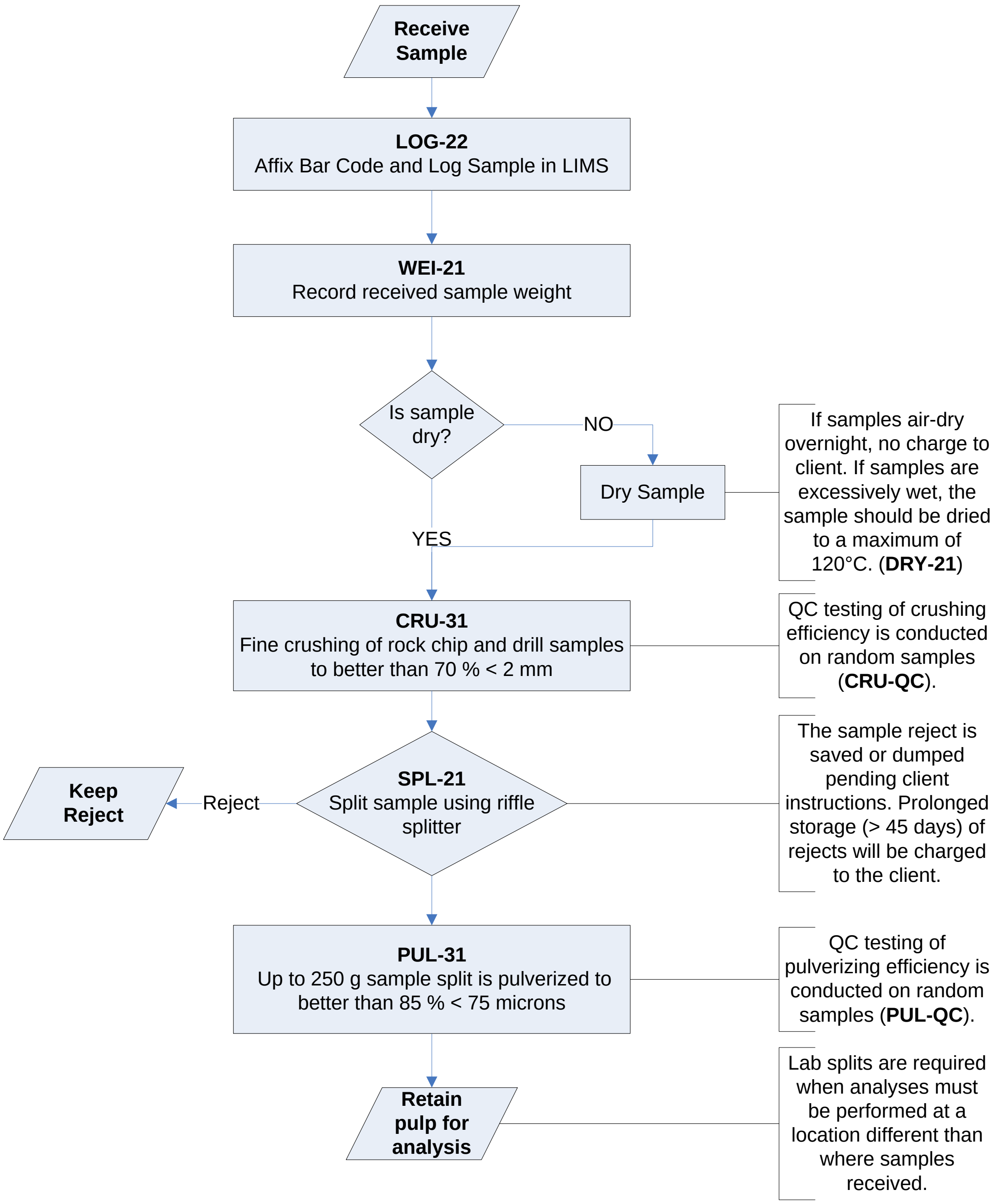
Sample preparation is the most critical step in the entire laboratory operation. The purpose of preparation is to produce a homogeneous analytical sub-sample that is fully representative of the material submitted to the laboratory.

The sample is logged in the tracking system, weighed, dried and finely crushed to better than 70 % passing a 2 mm (Tyler 9 mesh, US Std. No.10) screen. A split of up to 250 g is taken and pulverized to better than 85 % passing a 75 micron (Tyler 200 mesh, US Std. No. 200) screen. This method is appropriate for rock chip or drill samples.

Method Code	Description
LOG-22	Sample is logged in tracking system and a bar code label is attached.
CRU-31	Fine crushing of rock chip and drill samples to better than 70 % of the sample passing 2 mm.
SPL-21	Split sample using riffle splitter.
PUL-31	A sample split of up to 250 g is pulverized to better than 85 % of the sample passing 75 microns.

Flow Chart -

Sample Preparation Package – PREP-31
Standard Sample Preparation: Dry, Crush, Split and Pulverize



APPENDIX VI

PETROGRAPHIC REPORT

Sarah Henderson,
Galore Creek Mining Corp.,
3300-550 Burrard Street,
Vancouver BC, V6C0B3
E-mail: sarah.henderson@gcmc.ca
Tel: 604-699-4738

October, 2016

Samples: 2016SA0907, 2016SA0908

Summary: Samples are medium-grained syenite to monzonite porphyry intrusions overprinted by an intense potassic-carbonate alteration related to the introduction of chalcopyrite, sphalerite, tetrahedrite-tennantite, and electrum.

Sample 2016SA0907: The sample is of a medium-grained, syenite porphyry that cut an earlier K-feldspar-bearing porphyry and hydrothermal silica. Pyrite-sphalerite-chalcopyrite-tetrahedrite/tennantite mineralization is introduced as part of a multi-phase, porphyry-type potassic-carbonate alteration assemblage of ankerite-K-feldspar and lesser quartz-rutile-garnet-sericite-albite-apatite-leucoxene-magnetite-rutile.

Sample 2016SA0908: The sample is of a medium-grained, synmineral monzonite porphyry. The monzonite intrusion cuts early hydrothermal chalcedonic quartz-barite-pyrite and K-feldspar-bearing porphyry. The resultant intrusion breccia is overprinted by intense potassic-carbonate alteration that introduces pyrite-chalcopyrite-electrum-tetrahedrite/tennantite mineralization. Main stage potassic-carbonate alteration comprises abundant K-feldspar-ankerite and lesser quartz-magnetite-albite-leucoxene-rutile-titanite. A late stage alteration of anhydrite-quartz-sericite/muscovite overprints the potassic-carbonate.

Gayle E. Febbo
E-mail: gayle.febbo@gmail.com
Tel: 250-837-1606

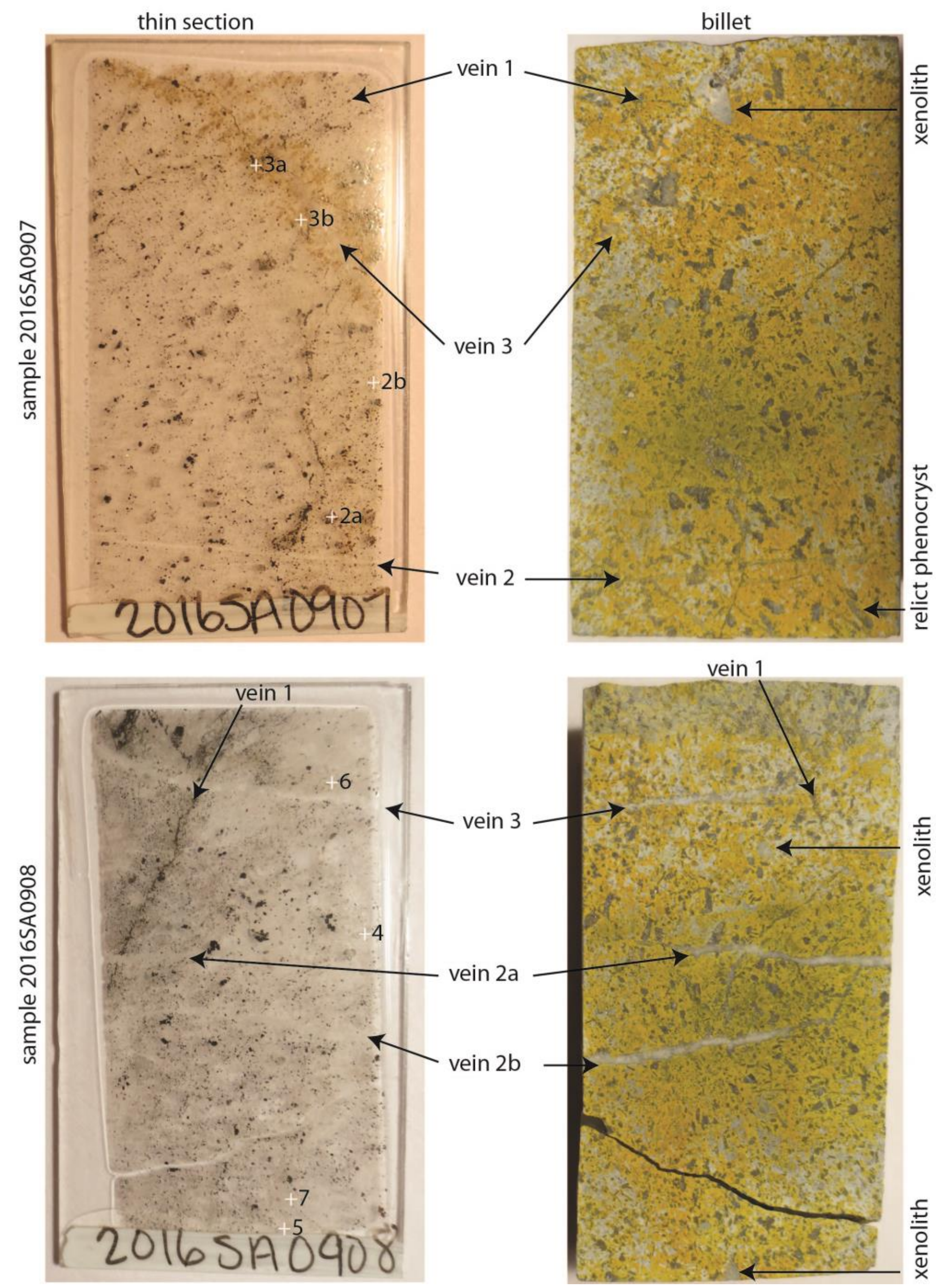


Figure 1. Photographs of thin sections and billets for samples 2016SA0907 and 2016SA0908 with locations of veins referred to in descriptions and locations of Figures 3-7 on the thin section. Yellow stain on billet is K-feldspar.

Minerals	**Sample 2016SA0907**	**2016SA0908**
Primary	*Estimated abundance (percentage) prior to alteration and average diameter*	
K-feldspar	57%: bimodal 0.4-0.6 mm phenocrysts (20%) and 20-100 µm in groundmass	50%: bimodal 200 µm – 2 mm phenocrysts (15%) and 20-100 µm in groundmass
Plagioclase	29%: bimodal 0.5-2 mm phenocrysts (10%) and 20-100 µm in groundmass	50%: bimodal 0.5-2 mm phenocrysts (15%) and 20-100 µm in groundmass
Hornblende	14%: bimodal 0.5- 1 mm phenocrysts (5%) and 0.5- 1 mm in groundmass	
Secondary	*Estimated abundance (percentage) of alteration and average diameter*	
Ankerite	22%, 1-30 µm	18%, 5-20 µm
K-feldspar	18%, 1-30 µm	18%, 50-300 µm
Anhydrite		7%, 1-10 µm
Apatite	1%, 1-10 µm	
Rutile	Tr, 10-50 µm	Tr, 10-30 µm
Garnet	Tr, 100-200 µm	
Sericite	Tr, 1-5 µm	Tr, 1-5 µm
Muscovite		Tr, 10-20 µm
Goethite	Tr, 1-10 µm	
Titanite		Tr, 50 µm
Quartz	Tr, 20-100 µm	Tr, 10 µm
Secondary Opaque	*Estimated abundance (percentage) of alteration and average diameter*	
Pyrite	10%, 100-300 µm	15%, 100-300 µm
Chalcopyrite	Tr, 5 µm	Tr, 1-5 µm
Sphalerite	Tr, 10-20 µm	
Magnetite	Tr, 10-20 µm	Tr, 1-5 µm
Leucoxene	Tr, 10-50 µm	Tr, 10-50 µm
Tetrahedrite-tennantite	Tr, 50-100 µm	Tr, 5 µm
Electrum		Tr, 5 µm

Table 1. Summary of primary and secondary mineral abundance and average diameter estimates of petrographic samples.

Sample 2016SA0907: Syenite porphyry, potassic-carbonate alteration

Description: The sample is of a medium-grained, syenite porphyry that cut an earlier K-feldspar-bearing porphyry and hydrothermal silica. Pyrite-sphalerite-chalcopyrite-tetrahedrite/tennantite mineralization is introduced as part of a multi-phase, porphyry-type potassic-carbonate alteration assemblage of ankerite-K-feldspar and lesser quartz-rutile-garnet-sericite-apatite-leucoxene-magnetite-rutile.

Primary Minerals and clasts:

20% K-feldspar phenocrysts: Grains are rectangular, 0.4-0.6 mm diameter, sub- and euhedral original shapes (Fig. 2b), and are partially altered to ankerite-quartz-sericite-K-feldspar. Local recrystallized domains within the relict phenocryst can be observed (Fig. 2b).

10% Plagioclase phenocrysts: Grains are rectangular, 0.5-2 mm in length, have aspect ratios of 1:3 to 1:5, contain very diffuse boundaries and are completely replaced to calcite-pyrite-K-feldspar-rutile. Relict parting planes parallel the c-axis and are defined by pyrite-ankerite. Grains are interpreted to be plagioclase due to the marked parting planes and the lath-like geometry.

5% Hornblende: Relict phenocryst sites are equant domains that are completely replaced to pyrite and ankerite (Fig. 2a), measure 0.5 - 1 mm, a few are apparently 6-sided (Fig. 2a), and are interpreted to have near euhedral forms prior to hydrothermal alteration. These phenocrysts were likely mafic in composition due to the composition of replacement minerals and are interpreted to be hornblende prior to replacement due to the 6-sided geometry.

Tr Xenoliths and xenocrysts: Lithic fragments are observed in billet only as unstained, very fine-grained, homogeneous textured siliceous clasts. They measure up to 0.5 cm, are angular, and have very sharp margins. Two grains of K-feldspar observed in thin section are much less altered than other phenocrysts, have very sharp grain margins, and have embayed boundaries. These grains are interpreted to be xenocrysts.

64% groundmass: Grain size of the groundmass ranges 20-100 µm. Groundmass minerals are intensely hydrothermally replaced but are interpreted to be comparable in composition to phenocrysts (ratio of 4:2:1 for K-feldspar:plagioclase:hornblende).

Secondary Minerals:

22% Ankerite: 1-30 µm grains disseminated throughout with mottled replacement patches measuring 100-200 µm; replacement of pyrite-rutile, plagioclase and K-feldspar phenocrysts. Most grains are anhedral with sub- and euhedral grains as isolated disseminations and in veins. Brown pleochroism interpreted to result from Fe content (i.e. ankerite), however some grains may be dolomite.

18% K-feldspar: 50-300 µm grains are subhedral, pervasive replacements of groundmass and selective replacement of plagioclase phenocrysts and selective overgroths of K-feldspar phenocrysts (Fig. 2b). Grains are replaced to ankerite along parting planes and intergrown with ankerite. Pervasive K-feldspar alteration is correlated with all three vein events.

1% Apatite: 1-10 µm colourless, high relief disseminations have low 1st order interference, can be pebbly-shaped, and are commonly disseminated with secondary K-feldspar.

Tr Rutile: 10-50 µm grains are amorphous, intergrown with ankerite, have high relief (plane polarized light), colourless to purple-brown pleochroism and 3rd order interference colours. Some grains are nearly opaque. Grey-brown under reflected light (10-20% reflectance) and strong, white internal reflections. Some rutile domains may reflect magnetite replacement.

Tr Garnet: 100-200 µm disseminations are colourless (plane polarized light) and isotropic; grains contain abundant fluid inclusions.

Tr Sericite: 1-5 µm lenticular inclusions in K-feldspar.

1% Goethite: 1-10 µm amorphous grains are pleochroic brown, brown internal reflections and commonly replace pyrite.

Tr Quartz: 20-100 µm grains are anhedral and distributed about margin of 'Vein 3.'

Secondary Opaque Minerals:

10% Pyrite: 100-300 µm grains evenly disseminated throughout are blocky, an- and subhedral, contain abundant inclusions of magnetite and sphalerite and growth of rutile on rims (Fig. 3a). Pyrite is spatially associated with ankerite-rich alteration domains.

Tr Chalcopyrite: 5 µm inclusions in pyrite are yellow and highly reflective and co-precipitate with magnetite and sphalerite (Fig. 3a, b).

Tr Sphalerite: 10-20 µm grains occur as inclusions in pyrite, dull grey reflective with yellow-brown internal reflections that distinguish these from magnetite; grains range from opaque to semi-transparent (Fig. 3a, b).

Tr Leucoxene: 10-50 µm amorphous, feathery to lath-like fine grains with ankerite, spatially distributed in relict phenocryst sites, common as isolated grains in groundmass. Grains are opaque and reflected colours are paler, whitish grey in comparison to rutile.

Tr Magnetite: 10-20 µm grain inclusions in pyrite and not as isolated grains. Abundance of rutile and leucoxene in groundmass may indicate the replacement of isolated magnetite grains.

Tr Tetrahedrite-tennantite: 50-100 µm grains disseminated at margin to Vein 3 is silver-grey, highly reflective, and has high relief.

Vein 1: 0.5 mm wide, diffuse boundaries, subhedral pyrite grains concentrated at margins, intergrown quartz-ankerite; overprints K-feldspar grains in margins to vein; clearly cut by Vein 3 (Fig. 1).

Vein 2: 200-300µm wide vein with diffuse boundaries; contains twinned albite, sub- and euhedral ankerite, subhedral pyrite, anhedral K-feldspar (medial and as alteration halos) and quartz; margins are ankerite-enriched. Euhedral ankerite on margins may indicate early, open-space precipitation. Fluid inclusion trains parallel vein boundary.

Vein 3: 1 mm wide vein has sharp boundaries and contains blocky quartz, K-feldspar (ser dusting on these grains) and ankerite intergrown with fine euhedral garnet and pyrite. Semi-fibrous ankerite and quartz are oriented perpendicular to vein boundary.

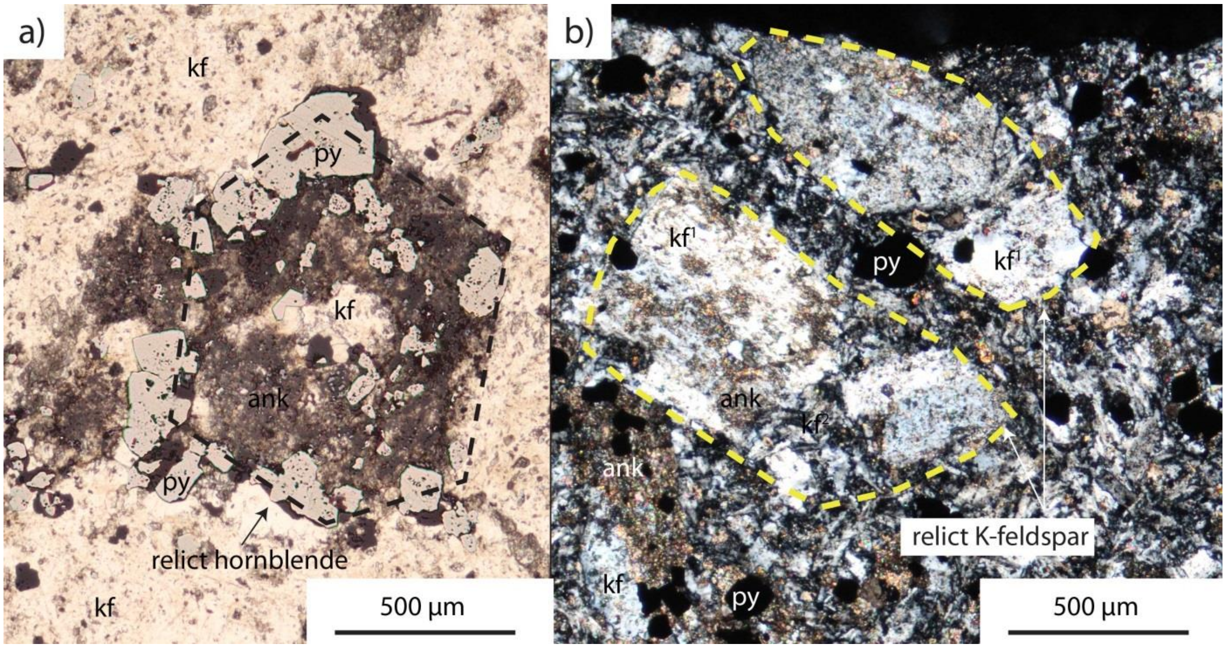


Figure 2. Photomicrograph of sample 2016SA0907. a) Relict hornblende defines a faint 6-sided geometry and is completely altered to K-feldspar (kf), pyrite (py) and cal (cal); groundmass is altered to K-feldspar (kf), plane polarized and reflected light. b) Two relict K-feldspar (kf^1) phenocrysts are rectangular-shaped, partially replaced to ankerite (ank) and recrystallized K-feldspar (kf^2); groundmass is replaced to pyrite (py), K-feldspar (kf), and ankerite (ank); cross polarized light.

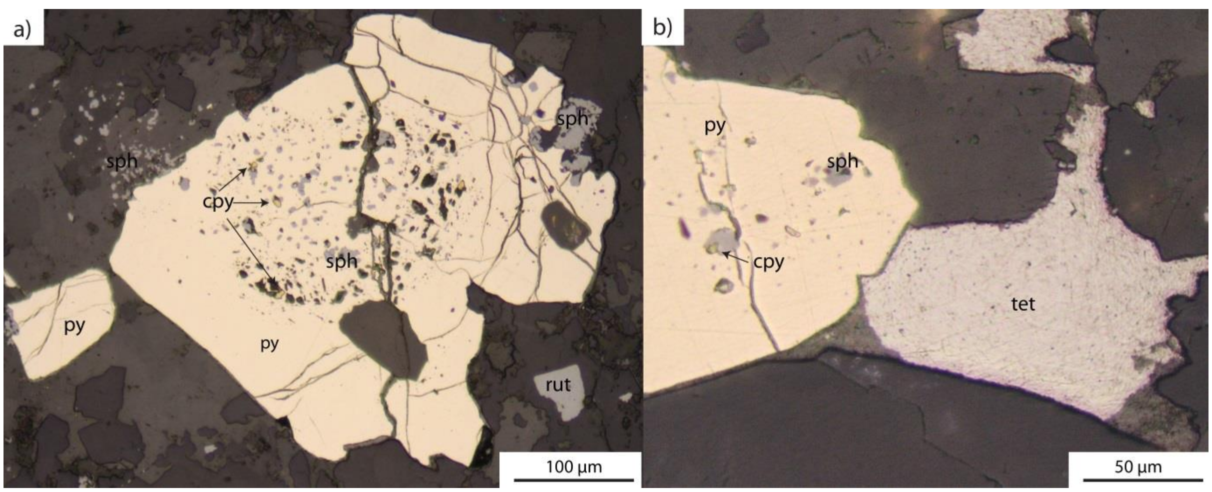


Figure 3. Reflected light photomicrograph of sample 2016SA0907. a) Pyrite (py) grain contains numerous brittle fractures, inclusions of chalcopyrite (cpy), sphalerite (sph), and is replaced by sphalerite on the upper right margin of grain. Isolated grain of rutile (rut) in groundmass (lower right); reflected light. b) Grain of pyrite (py) contains inclusions of chalcopyrite (cpy) and sphalerite (sph) and shares a grain boundary with tetrahedrite-tennantite (tet); reflected light.

Sample 2016SA0908: Monzonite intrusion breccia, potassic-calcic alteration

Description: The sample is of a medium-grained, synmineral monzonite porphyry. The monzonite intrusion cuts early hydrothermal chalcedonic quartz-barite-pyrite and K-feldspar-bearing porphyry. The resultant intrusion breccia is overprinted by intense potassic-carbonate alteration that introduces pyrite-chalcopyrite-electrum-tetrahedrite/tennantite mineralization. Main stage potassic-carbonate alteration comprises abundant K-feldspar-ankerite and lesser quartz-magnetite-albite-leucoxene-rutile-titanite. A late stage alteration of anhydrite-quartz-sericite/muscovite overprints the potassic-carbonate.

Primary Minerals and clasts:

15% K-feldspar phenocrysts: rectangular to equant, 200 µm – 2 mm in diameter, sub- and euhedral shapes, cloudy surfaces, low relief, low 1^{st} order birefringence, and rarely twinned. The grains are partially altered to sericite, carbonate, and muscovite.

15% Plagioclase phenocrysts: Grains are rectangular, 0.5-2 mm in length, have aspect ratios of 1:3 to 1:5, define a weak trachytic alignment, contain very diffuse boundaries and are completely replaced to carbonate-pyrite-muscovite (Fig. 4).

5% Xenoliths and xenocrysts: Numerous lithic fragments of hydrothermal material range in size from 0.5 – 2 mm in diameter and are subrounded to irregular and angular. Some clasts are characterized by chalcedonic quartz, some contain aggregates of barite (high relief, low 1^{st} order birefringence, orthogonal cleavage and parallel extinction in 010 section), and some clasts contain aggregates of barite overgrown on chalcedony with disseminated pyrite (Fig. 5). Barite and chalcedony are both clearly truncated at the clast boundary and clasts are overprinted by secondary minerals including ankerite, anhydrite and pyrite. K-feldspar crystals with embayed grain boundaries are interpreted to be xenocrysts (Fig. 4).

65% groundmass: Grain size of the groundmass ranges 20-100 µm. Groundmass minerals are intensely hydrothermally replaced but are interpreted to be comparable in composition to phenocrysts (ratio of 1:1 K-feldspar:plagioclase).

Secondary Minerals:

18% K-feldspar: cryptocrystalline 5-300 µm grains are subhedral, pervasive replacements of groundmass and selective replacement of relict phenocrysts (Fig. 4). Secondary K-feldspar is intergrown with ankerite, pyrite and muscovite in the groundmass and local overgrowths of K-feldspar replace domains of primary K-feldspar phenocrysts. K-feldspar alteration is correlated with all three vein events. Secondary K-feldspar is white in the billet; hematite dusting on grain is absent.

18% Ankerite: 5-20 µm granular masses define abundant as replacements of plagioclase phenocrysts (Fig. 4). Moderate brown pleochroic masses are contemporaneous with K-feldspar alteration. Muscovite, ankerite, and leucoxene define relict cleavage planes in replaced plagioclase (Fig. 4). Commonly defines riddled inclusions in K-feldspar phenocrysts and replacement domains in K-feldspar.

7% Anhydrite: 1- 10 µm amorphous masses (Fig. 6), overgrowths on K-feldspar, intergrown with ankerite, and replacement domains in the groundmass. Grains have moderate relief, are colourless, vivid 2nd order interference and are anhedral.

Tr Quartz: 10 µm grains are fibrous and define pressure shadows to pyrite with sweeping extinction. Most quartz is associated with anhydrite and ankerite and can be intergrown with pyrite.

Tr Sericite: 1-5 µm lenticular inclusions in K-feldspar.

Tr Muscovite: 10-20 µm grains replace small domains in plagioclase phenocrysts and replace clasts of barite. Minor pressure shadows to pyrite are defined by muscovite.

Tr Titanite: 50 µm dissemination of high relief, pleochroic pale yellow, triangular-shaped to cubic geometry, most are sub- to euhedral, and have 3rd order birefringence.

Tr Rutile: 10-30 µm grains are amorphous to blocky, define irregular pseudomorphs, intergrown with ankerite, have high relief (plane polarized light), and deep brown pleochroism. Grains have low reflectivity and are dull grey with strong, white internal reflections. Distribution of rutile at margins to some pyrite grains is interpreted to reflect replacement of magnetite.

Secondary Opaque Minerals:

15% Pyrite: 100-300 µm grains evenly disseminated throughout are blocky, an- and subhedral, contain abundant inclusions of chalcopyrite-magnetite and growth of rutile on rims. Pyrite is spatially associated with ankerite-rich alteration domains. Pyrite is mostly associated with Vein 1 and to a lesser extent Veins 2a and 2b (Fig. 6, 7).

Tr Leucoxene: 10-50 µm amorphous, feathery to lath-like fine grains with ankerite, spatially distributed in relict phenocryst sites. Grains are opaque and reflected colours are paler, whitish-grey in comparison to rutile (Fig. 7).

Tr Magnetite: 1-5 µm grains are dull grey, intergrown with chalcopyrite grains as pyrite inclusions (Fig. 7). Grains are slightly darker grey than rutile and are distinguished by being opaque. Only magnetite inclusions are preserved; isolated grains are interpreted to be replaced.

Tr Chalcopyrite: 1-5 µm inclusions in pyrite grains are highly reflective; some of these fine inclusions could be electrum (Fig. 7).

Tr Electrum: 5 µm grain inclusion in pyrite, significantly more reflective and a slightly whiter hue than chalcopyrite (Fig. 7). The sample requires Scanning Electron Microscopy to positively identify electrum.

Tr Tetrahedrite/tennantite: 5 µm grain shares inclusion space with chalcopyrite, enclosed by pyrite (Fig. 7).

Vein 1: Earliest vein is very diffuse, ~200 μm wide and defined by pyrite and lesser ankerite, quartz, and K-feldspar. Non-reflective, opaque grains of goethite have yellow-brown internal reflections.

Vein 2a: ~1 mm wide vein of same generation as Vein 2b cuts Vein 1. Both 2a and 2b are associated with a 2 cm wide domain of pervasive potassic alteration, beyond this domain K-feldspar alteration is patchy. Fine anhydrite grains (50 μm) are interstitial to coarser ankerite that has clear twin lamellae that are diagonal to the short axis of the cleavage rhombs, grains are also dusty brown in plane polarized light. Minor quartz grains have undulose extinction (~100 μm), and minor interstitial K-feldspar grains enclosed by ankerite.

Vein 2b: ~ 1 mm wide vein same generation as Vein 2a. Vein is composed predominantly of ankerite with marked pleochroic twins and blocky grains same diameter as vein width. Minor K-feldspar grains enclosed by ankerite and equant pyrite grains that measure ~100 μm.

Vein 3: Third generation vein is 0.5 mm wide with sharp, irregular boundaries. The vein contains blocky ankerite, blocky albite with polysynthetic twins, anhydrite with orthogonal cleavage, and trace apatite at margins of veins. Very minor pyrite grains are in trails orthogonal to vein trend and are interpreted to be incorporated from wall rock (Fig. 6).

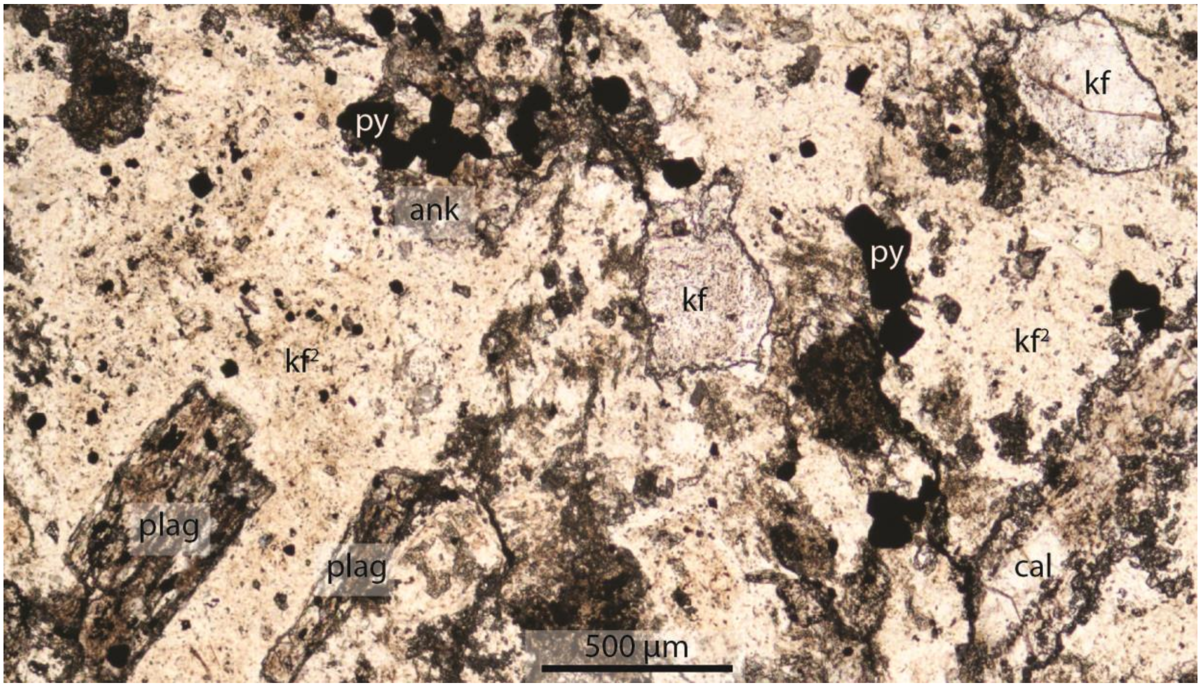


Figure 4. Microphotograph of sample 2016SA0908. Lath-shaped plagioclase (plag) phenocrysts are completely replaced to pyrite-ankerite-muscovite, K-feldspar (kf) phenocrysts are equant in shape. Secondary K-feldspar (kf^2), disseminated pyrite (py, and ankerite (ank) replace the groundmass. Vein 2a (lower right) contains ankerite (cal) locally, plane polarized light.

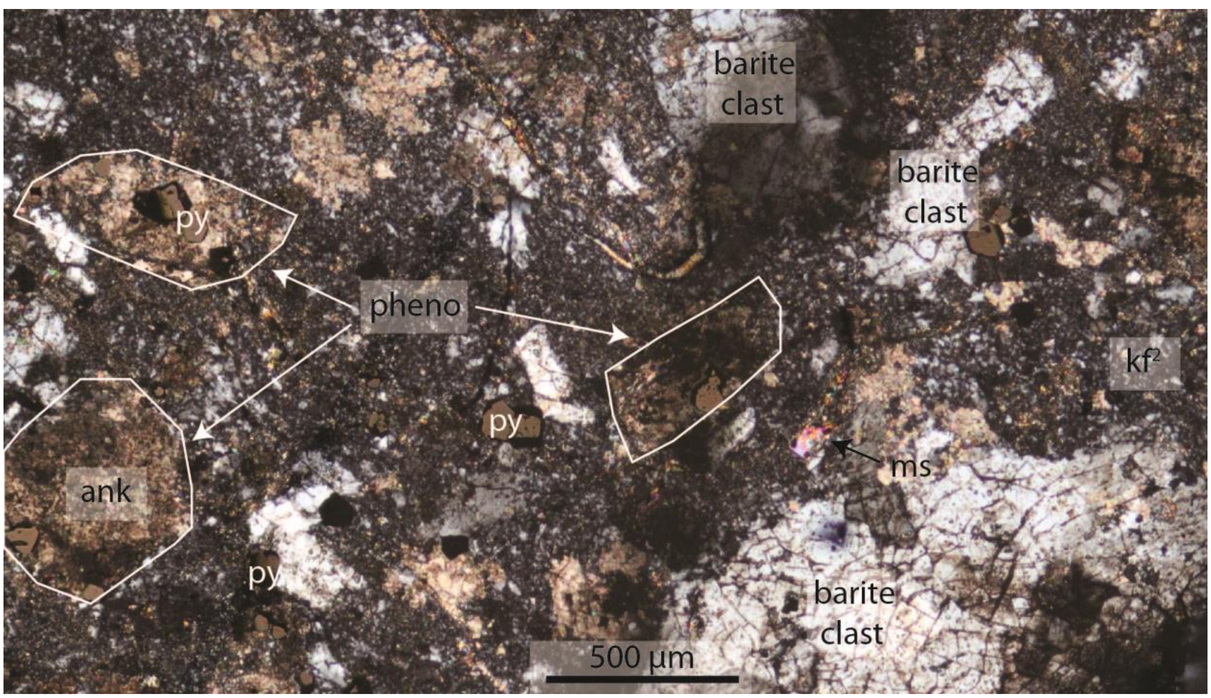


Figure 5. Microphotograph of sample 2016SA0908. Barite clasts have irregular boundaries, are altered to K-feldspar (kf^2) and muscovite (ms); pyrite (py) disseminated throughout. Three domains of pyrite (py) and ankerite (ank) alteration reflect relict phenocrysts of plagioclase grains.

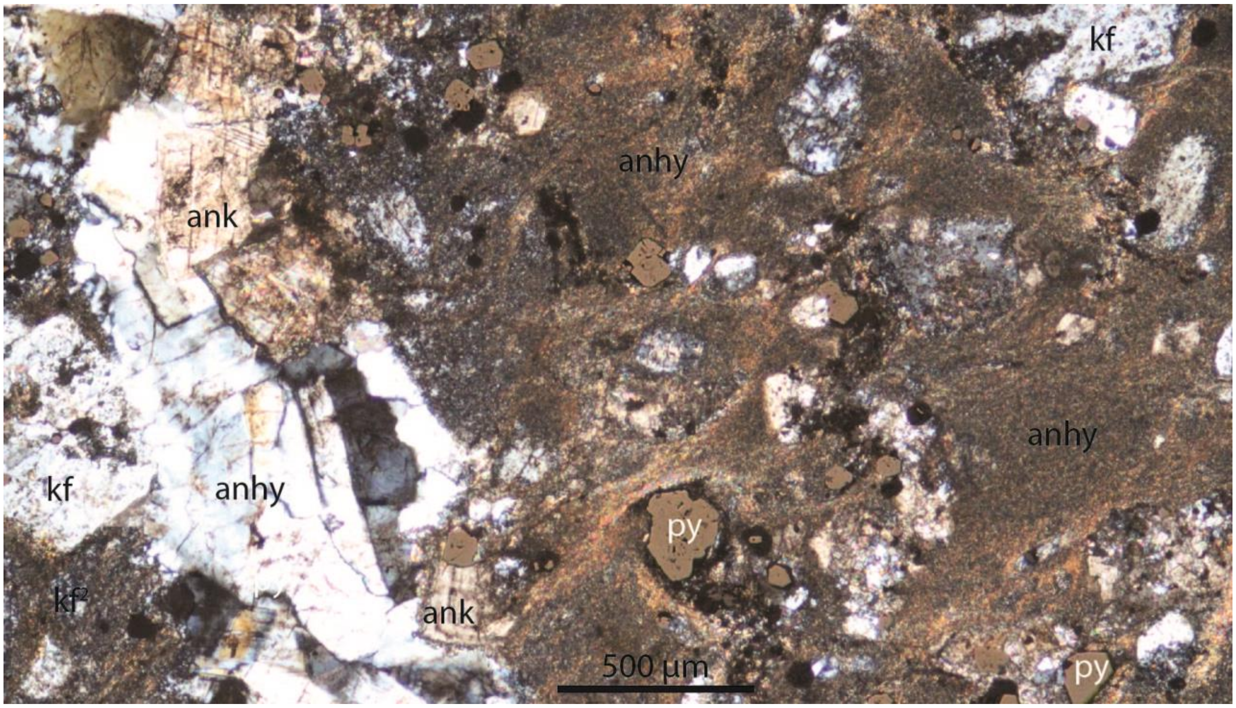


Figure 6. Microphotograph of sample 2016SA0908. Vein 3 (left) contains anhydrite (anhy)-ankerite (ank), cuts K-feldspar phenocryst (kf) and secondary K-feldspar in groundmass (kf^2). In halo to vein pervasive, fine-grained anhydrite (anhy) replaces the groundmass, partially replaces K-feldspar phenocrysts (kf); pyrite (py) is disseminated throughout; cross polarized and reflected light.

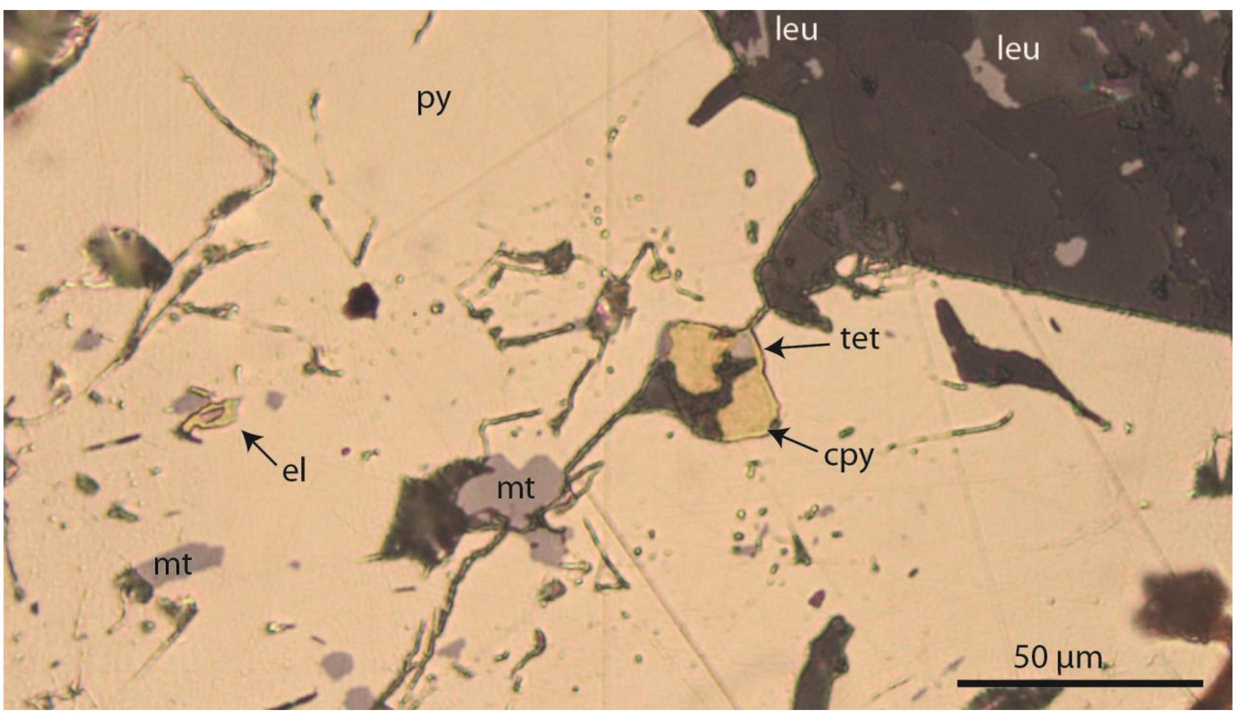


Figure 7. Microphotograph of sample 2016SA0908. Pale grey leucoxene grains (leu) are disseminated in the margin of pyrite grain (py) that is host to magnetite (mt) inclusions, chalcopyrite (cpy)-tetrahedrite/tennantite (tet) inclusion, and one potential electrum (el) inclusion characterized by higher reflectivity than chalcopyrite, reflected light.

Alteration Summary:

Three general stages of alteration are preserved by these samples and are summarized as follows:

1) The earliest stage of alteration in these samples is preserved as xenoliths of hydrothermal material comprised of chalcedonic quartz, barite and disseminated pyrite. This alteration assemblage reflects a high-level, epithermal setting and may have formed as part of a lithocap overlying the porphyry body (Thompson and Thompson, 2011). The presence of K-feldspar xenocrysts in the intrusions may reflect a pre-mineral syenitic porphyry host to the lithocap.

2) The main alteration stage is a complex, multi-episodic alteration that introduces abundant K-feldspar and ankerite with lesser magnetite, garnet, quartz, albite, apatite, rutile and titanite. Mineralization associated with the main alteration includes chalcopyrite, sphalerite, tetrahedrite/tennantite, and electrum that overprints the syenite and monzonite intrusions. Micko (2010) distinguishes up to five potassic and calc-potassic alteration types for the Central zone that are analogous both in mineralogy and complexity to the alteration described here. Apatite, rutile, garnet and titanite are also observed in the Central zone as accessory alteration minerals that comprise the calc-potassic alterations.

A significant difference between this study and Micko's (2010) research is that the carbonate component in this study is part of the ankerite-dolomite solid solution series and not calcite as observed in the Central zone. The presence of short-diagonal twins (Nesse, 1991) and the absence of effervescence favours the ankerite-dolomite interpretation over calcite. The composition is generalized here as ankerite due to the brown pleochroism, however some grains may be dolomitic in composition. The other significant difference is that the primary and secondary K-feldspar in these samples lack hematite dusting, potentially due to recent glacial retreat.

3) Late stage alteration is comprised of ankerite-anhydrite-sericite/muscovite-pyrite that overprints the main potassic alteration. Textural destruction of magnetite and introduction of sericite/muscovite are interpreted to be part of this cooler temperature, late stage alteration. Additional Titanite, rutile, albite and leucoxene are likely associated with this late alteration. Micko's (2010) late stage 'sericite-anhydrite-carbonate' (SAC) alteration of the Central zone is a good analogue for this alteration type.

Conclusions:

The findings of this research suggest that these samples are part of a long-lived, alkalic porphyry system analogous to the Central zone. Mineral textures, alteration assemblages, and high Au:Cu ratios indicate the surface exposures reflect the upper reaches of the porphyry system. The disseminated nature of mineralization, the multi-episodic metasomatism, and the presence of a synmineral porphyry lead to the conclusion that the zone has significant potential in terms of size and economics. Further surface work and drill testing of the zone is strongly recommended.

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Nesse, W.D, 1991. Introduction to optical mineralogy 2nd ed., Oxford University Press, 335 p.

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