

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



TYPE OF REPORT [type of survey(s)]: Soil Geochemistry, Prospecting

TOTAL COST: \$3,200

AUTHOR(S): Peter Holbek, Richard Joyes	SIGNATURE(S):
NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): N/A	YEAR OF WORK: 2013
STATEMENT OF WORK - CASH PAYMENTS EVENT NUMBER(S)/DATE(S):	5470284 2013/SEP/24 - 2013/OCT/01F
PROPERTY NAME: Fenton	
CLAIM NAME(S) (on which the work was done): Code 1, Code 2, Pimp	3, Pimpernel 4, Pimp 2
COMMODITIES SOUGHT: Ag, Au, Zn, Pb, Cu	
MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: $\underline{93L\ 004,\ 248,}$	258, 291
MINING DIVISION: Omenica	NTS/BCGS: 093L/02W
LATITUDE: 54 0 10 00 " LONGITUDE: 126	o 56 '00 " (at centre of work)
OWNER(S):  1) Electrum Resource Corporation	_ 2)
MAILING ADDRESS: 912-510 West Hastings Street, Vancouver, B.C. V6B 1L8	
OPERATOR(S) [who paid for the work]:  1) Copper Mountain Mining Corp.	2)
MAILING ADDRESS:  1700-700 West Pender Street, Vancouver, B.C. V6C 1G8	
PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure Felsic volcanic rocks, Tertiary, Fenton Volcanic rocks, Tip Top H	· · · · · · · · · · · · · · · · · · ·
flow-dome complexes, argillic alteration, silicification, epi-therma	al mineralization.
REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT R	<b>EPORT NUMBERS</b> : 29792, 23769, 25909

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			
		-	
		-	
Induced Polarization		_	
Radiometric		_	
Seismic		_	
Other		_	
Airborne		_	
GEOCHEMICAL (number of samples analysed for)			
<b>Soil</b> <u>31</u>		Code 1, Code 2, Pimp 2-3, Pimpernel 4	\$2900
Silt			
Rock			
Other			
DRILLING (total metres; number of holes, size) Core			
Non core			
RELATED TECHNICAL			
Sampling/assaying			
Petrographic			
Mineralographic			
Matalluraia			
PROSPECTING (scale, area) 1:5000			\$300
PREPARATORY / PHYSICAL			
Line/grid (kilometres)			
Topographic/Photogrammetric (scale, area)			
Legal surveys (scale, area)			
Road, local access (kilometres)/t			
Trench (metres)			
Underground dev. (metres)			
Other			
		TOTAL COST:	

### 2013 Reconnaissance Soil Geochemical Program

on the

### **Code and Pimpernel/Fenton Properties**

#### **Tenure Numbers**

1021836, 1021837,608164, 729443, 729502, 831223, 831232, 831312, 831349, 831530, 841286, 841696, 844217, 845652, 846049, 850428, 851928,851930, 851931, 857332, 857333, 857410, 857414, 865313, 865314, 936578, 906709, 908409, 909069, 909749, 913269, 914909, 918549, 920762

Mining Division: Omineca

NTS Map Sheet: 93 L 2 W

Latitude: 54° 10' N Longitude: 126° 55' W BC Geological Survey Assessment Report 34563

Owner of Claims: Electrum Resource Corporation

Project Operator: Copper Mountain Mining Corp.

Report by: Peter Holbek, MSc., P.Geo. and Richard Joyes, BSc.

Date of Report: December 18, 2013

### **Table of Contents**

Summar	y and Conclusions	4
1. Intr	oduction	6
1.1	Location and Access	6
1.2	Climate and Physiography	7
1.3	Property Description	8
1.4	Property History	8
1.5	Work Program	12
2. Geo	ology and Mineralization	12
2.1	Regional Geological Setting	12
2.2	Regional Metallogeny	14
2.3	Property Geology	18
3 Explora	ation Program	21
3.1 Ge	eochemical Soil Survey	21
3.2 M	ethodology	22
3.3 Re	sults	22
4. Conclu	usions and Recommendations	29
Appendi	x I	33
Appendi	x II: Certificate of Qualifications	34
Appendi	x IIIa: Analytical results	35
Appendi	x IIIb: Field Notes	36
APPEND	IX IV – Assay Certificates	38

## **List of Figures**

List of Tables  Table 1.1 Claim Data9	
List of Tables	
Figure 3.6Plan with proportioned dots for Ag28	
Figure 3.5 Plan with proportioned dots for Zn27	7
Figure 3.4 Plan with proportioned dots for Pb20	õ
Figure 3.3 Plotted values for Pb, Zn, and Ag at sample locations25	5
Figure 3.2 Sample location plan24	1
Figure 3.1 Compilation of Historical Exploration Work2	3
Figure 2.4 Interpreted Geology for Project Area1	7
Figure 2.3 Regional Metalogeny1	5
Figure 2.2 Regional Aeromagnetic data1	4
Figure 2.1 Regional Geology1	3
Figure 1.3 Detailed Claim Plan8	
Figure 1.2 Claim location on Satellite Image	
Figure 1.1 Provincial Scale Project Location Plan 6	

## **Summary and Conclusions**

Intermittent exploration has been carried out in the area covered by the Fenton, Code and Pimpernel claims for almost 50 years. Workers were initially attracted to the area due to stream geochemical samples in Code Creek that were anomalous in zinc, silver and lead. The discovery and production of metals at the Equity Silver deposit and Owen Lake area provided additional impetus for exploration within the district. Over the years there have been many programs of geology, geochemistry and geophysics with a positive correlation between geochemical anomalies, geophysical highs and drill results. However, the area of the geochemical anomalies, primarily on the Fenton claim area, is much greater than the area of geophysical anomalies which are, in turn, significantly greater than the area of 'positive' drill results. Thus, it would seem that the source of geochemical anomalies remains at least partly unexplained by either surface exposures of the geology or by the limited mineralization discovered in a few of the past drill holes.

The large size of the geochemical anomalies could be attributed to glacial smearing of overburden from an east to west direction, or alternatively there could be additional mineralization that was too dispersed, or for some other reason failed to create a significant geophysical response that was detected by historical surveys. The mineralization on the Fenton claim is epithermal in style but carries significant base metals (Zn + Pb) and only low levels of the typical epithermal indicator elements (As, Sb, Hg, etc.), perhaps more indicative of transitional zone from epi- to mesothermal. Mineralization on the Fenton claim area, as interpreted from limited outcrop geology and historical documentation, appears to be 'low-pressure' siliceous vein stockwork zones within what are probably high-porosity, Tertiary, felsic volcanic rocks. Whereas, historical exploration work carried out on the Pimpernel claim area, suggests potential for epi-genetic (intrusion related) high-sulphide vein mineralization of the Equity Silver type within probable, Jurassic, Hazelton Group rocks.

A reconnaissance style, geochemical and prospecting program was conducted on the Pimpernel and Code claims located to the west of the Fenton claim area. A total of 31 soil samples and two silt samples were collected at approximate 250m intervals along old logging roads were collected over a two day period in late September. The soil data ties in very well with past work on the Fenton claims and indicates that the Zn, Pb, and Ag anomalies extend, but in a fading fashion, onto the Code and Pimpernel claim areas and that the mineralization on the Fenton property that gives rise to strong soil geochemical anomalies does not appear to extend to the west onto the Code or Pimpernel claims, although rusty (pyrite bearing) felsic rocks do occur on the Code claims.

The geological setting of the Fenton and Code claims is interpreted to be a, Tertiary, felsic flow-dome complex, which a favourable environment for epithermal style mineralization and the limited mineralization discovered to date has significance within this setting. Much of the historical work predates extensive work and documentation of epithermal systems, and therefore, the early exploration programs may have been misdirected and exploration results may not have been correctly interpreted. There are, at least superficially, some similarities between Zn-Ag-Au mineralization in rhyolitic rocks at Fenton and those at Young-Davidson and Blackwater projects, situated 170km to the southeast. Future

exploration work should consider there is any relationship between Zn-Pb-Ag mineralization and potentially related, but possibly, off-set gold mineralization. The Blackwater project began as a zinc-silver stream geochemical anomaly associated with felsic volcanic rocks and initial drilling encountered widespread, but low grade Ag-Zn-Pb mineralization, before potentially economic gold grades were encountered in deeper drilling.

Recommended future work would include a deep penetration, inverted IP survey followed by drill testing, if warranted. All drill core should be analyzed as gold mineralization can be very cryptic in these systems and may be physically offset from silver (+/- base metals) mineralization. Pima analysis of core and surface samples may also be helpful to determine the nature and distribution of alteration zones.

#### 1. Introduction

#### 1.1 Location and Access

The Fenton, Code and Pimpernel properties (collectively, the Fenton project) are situated approximately 33km south of Houston, B.C. and just 2km south of the Morice River on NTS map sheet 93L 2W (Figure 1.1, and 1.2). The Fenton project forms an approximate 7.3 by 5.1 km rectangle that straddles Fenton Creek with central co-ordinates of 635300E, 6003500N (NAD83 Zone 9; Lat: 54° 10′ and Long 126°, 55′). The Pimpernel property is located just to the west of the Fenton property, forming an approximate square of 2.5 by 2.8 km, just north of Pimpernel Mountain, with central co-ordinates of 628400E, 6003400N.

The properties are easily accessed by Forest Service roads from Houston, B.C. All roads are easily observed on Google Earth images. The Morice River FSR (which is also the access road for Huckleberry Mine) departs from Highway 16 approximately 4km west of Houston. At the 25km mark the road forks, take the west branch for 3.5km and the Fenton Road branches to the south. Figure 1.3 shows claims overlain on a Google Earth image illustrating the location of forestry roads and cut blocks.

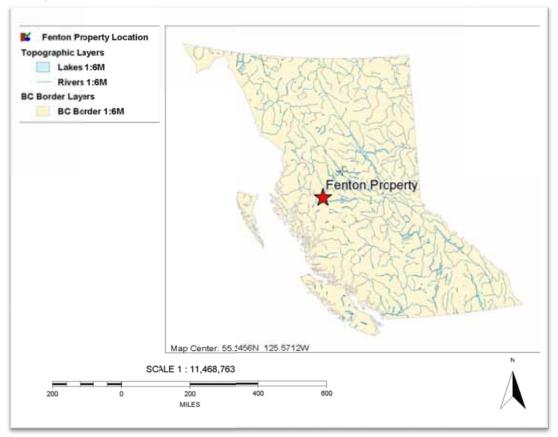


Figure 1.1 Project Location Map.

### 1.2 Climate and Physiography

The project area is at moderate elevations in north-central British Columbia, on the eastern side of the Coast Range Mountains. Climate is similar to that of Houston and Smithers with cold, but relatively dry, winters and moist, cool summers. Vegetation consists of spruce, fir and hemlock forests and relatively thick undergrowth. Climate is wet enough for abundant devil's club and slide alder. Southern facing slopes are slightly dryer and host densely packed wild rose, stinging nettles and tall grasses, where drainage through talus does not allow forests to grow. Some of the low lying areas are too damp for forest growth, with periodic flooding due to beaver activity, and support swamp and marsh flora.

Physiographically, the project area is situated on the northeastern edge of the Nechako Plateau. The property areas have low to moderate relief with elevations varying from 650m on the northwestern edge to 1340m on Tsalit Mtn., on the southeastern edge of the property. Much of the area has gentle topopgraphy and is blanketed by relatively thick deposits of glacial debris. On the northern edge of the property some creeks are deeply incised through what appears to be glacial debris, indicating depths in excess of 30m. The property hosts a number of steep sided hills, many of which are interpreted to be related to felsic volcanic vents.

Glacial direction is important for interpreting geochemical results. The last advance of the Cordilleran ice sheet, was easterly, averaging 94 degrees azimuth, as determined from glacial



Figure 1.2 Google Earth Image with Claim outlines.

striations (Church, 1972). However, geology and topography may have influenced ice flow locally and the potential for later directions material dispersion by mountain glaciers is also possible. Air photo analysis suggests that current topography is the product of scouring by a large ice sheet and the larger glacial deposits are compatible with both, easterly or westerly flow directions. Current work and interpretation of soil and stream geochemical results is suggesting a westerly flow direction for the most recent period of glaciation.

### 1.3 Property Description

The mineral tenures or claims are listed in Table 1.1 and displayed in Figure 1.3. All mineral tenures are currently owned by Electrum Resource Corp. but are subject to a purchase option agreement with Copper Mountain Mining Corp.

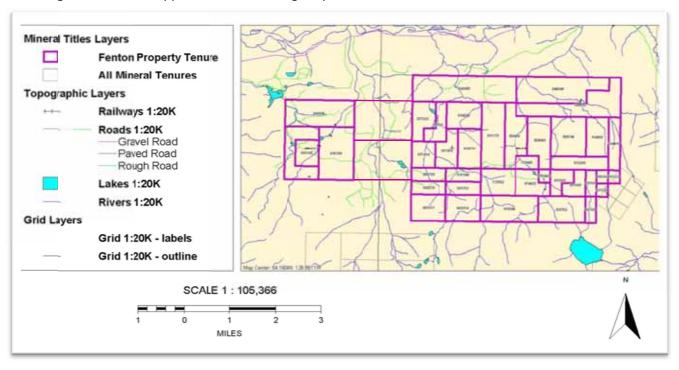


Figure 1.3 Plan of Mineral Tenure (claims)

## 1.4 Property History

Both the district and the properties have long histories of exploration, with the most significant exploration taking place in the late 1970's and early 1980's just as the Equity Silver mine was entering production. Although the two claim areas have similar exploration histories, the

claims were not always under the same ownership so a summary of the exploration histories will be listed separately for each property.

Tenure Number	Claim Name	Issue Date	Good to Date*	Area (Ha)
1021836	CODE 1	2013/aug/23	2014/aug/23	284.00
1021837	CODE 2	2013/aug/23	2014/aug/23	284.06
608164	FEN 6	2019/ddg/25 2009/jul/18	2014/jan/04	18.94
729443	FEN A	2010/mar/17	2014/jan/05	37.88
729502	FEN B	2010/mar/17	2014/jan/06	113.65
841696	PIMP 2	2010/mai/17 2010/dec/23	2014/jan/07	227.19
831223	FEN 8	2010/dcc/23 2010/aug/07	2014/jan/08	18.94
831232	FEN 7	2010/aug/07	2014/jan/09	18.94
831312	FEN 13	2010/aug/10	2014/jan/10	56.83
831349	FEN 4	2010/aug/10	2014/jan/11	56.82
831530	FEN 5	2010/aug/11 2010/aug/15	2014/jan/12	37.89
841286	PIMP 3	2010/ddg/13 2010/dec/20	2014/jan/14	227.23
844217	PIMPERNEL 4	2010/dec/20 2011/jan/24	2014/jan/15	151.49
845652	TSALIT 6-8	2011/Jan/24 2011/feb/07	2014/jan/16	246.10
846049	TSALIT 6-8	2011/feb/07 2011/feb/10	2014/jan/17	265.00
			2014/jan/18	
850428	FEN C	2011/apr/01 2011/apr/18	2014/Jan/18 2014/jan/19	18.94
861928	FEN A			56.82
851930	FEN B	2011/apr/18	2014/jan/20	56.83
851931	FEN C	2011/apr/18	2014/jan/21	37.88
857322	FEN 9B	2011/jun/20	2014/jan/22	75.74
857333	FEN 9A	2011/jun/20	2014/jan/23	94.67
857410	FEN 10B	2011/jun/21	2014/jan/24	94.68
857414	FEN 10A	2011/jun/21	2014/jan/25	75.75
865313	FEN 4B	2011/jul/09	2014/jan/26	113.67
865314	FEN 4C	2011/jul/09	2014/jan/27	113.67
936578	FEN 13B	2011/dec/07	2014/jan/28	56.83
906709	FEN 4A	2011/oct/07	2014/jan/29	56.82
908409	FEN 1B	2011/oct/09	2014/jan/30	151.48
909069		2011/oct/10	2014/feb/01	132.55
909749	TSALIT 9	2011/oct/11	2014/feb/02	170.42
913269	TSALIT 5A	2011/oct/13	2014/feb/05	94.70
914909	TSALIT 5B	2011/oct/14	2014/feb/06	113.61
918549	FEN 11	2011/oct/19	2014/feb/07	189.45
920762	FEN 12	2011/oct/21	2014/feb/08	151.56

Table 1.1 Claim Data (\*upon acceptance of this report)

#### Pimpernel:

The potential similarity of the geology in the Pimpernel claim area with the Equity silver area was recognized early, and likely resulted in Anaconda American Brass (Anaconda) conducting regional exploration in the district. Some initial exploration success started a long trend in exploration of which the highlights are documented below:

- 1970 Anaconda conducted regional geochemical surveys in the general area of the claims and located arsenic, zinc and mercury anomalies along the swamp in the center of the claim area.
- During 1971, Dr. B.N. Church of the B.C. Department of Mines mapped the area and described a
   0.5 km diameter basic intrusive south of Morice River. The stock was identified as being
   chemically similar to the Goosley basic intrusive.
- In 1972, Perry, Knox, Kaufman & Associates optioned the ground from prospectors who had staked on the basis of Dr. Church's mapping. Field work by P.K.K. confirmed the earlier geochemical anomalies of arsenic-zinc, but mercury was not confirmed due to analytical difficulties. A Turam EM survey by Scintrex located a 1,000 metre strike length north-easterly trending, steeply dipping conductor.
- In 1973, two 90 m diamond holes were drilled to test the conductor. The drilling failed to intersect conductive material.
- By 1977, the property was picked up by Aquitaine Company of Canada Ltd. They reinterpreted the 1973 Turam data and recognized that the conductive body probably dips to the north-west and thus the 1973 drill holes had been drilled in the wrong direction. Aquitaine re-logged the core and found that Hole 73-1had intersected a highly altered zone with I-2% sulphides in fractured, fine grained tuffs. In March 1977, Aquitaine commissioned a Max-Min I1 survey on three 100m spaced NW-SE lines, running across the area of the original Turam conductor, and located a moderately conductive anomaly striking north-easterly and dipping to the north-west. In October 1977, the Scintrex airborne HEM 801 system was flown across the property and Aquitaine also drilled the Turam conductor from the north-west. Hole 77-1 (154.6m) intersected both massive and fracture filling pyrite with an aggregate thickness of 8m over a 31 metre core length. Several sections of the pyrite were assayed, with the best result being a 60cm zone which assayed 11.6g/t Ag, trace Au, 0.17% As and 0.005% Cu.

In 1978 Max-Min EM and magnetic surveys located another deep seated conductor (on the Fry claim) but drill testing of this hole intersected a fault zone interpreted as the cause of the conductor and intersected a few pyrite stringers.

In 1979, the claim group was optioned by the Catre-Ben JV, who commissioned an Aerodat airborne EM survey, resulting in six conductors which appear to be on trend to the south-west of the 1973 Turam anomaly, and on the northern flank of the Gabbroic stock. Follow-up ground geophysics consisting of Max-Min and magnetometer surveys were carried out in 1980.

Additional work including geochemical sampling and geological mapping plus trenching located one quartz stringer in outcrop from which a sample assayed 2.03% Cu, 3.7g/t Ag and 0.06g/t Au.

In 1983 Zastavnikovich conducted programs of geochemical stream sediment sampling and outcrop rock chip sampling.

By 1984, the property was controlled by Petrostone Resources. Over the next few years Petrostone conducted sporadic exploration programs of geochemistry, heavy minerals, compilation, and litho-geochemistry.

In 1989 four diamond drill holes were drilled with moderately positive results in two of the holes (1.75m grading 0.98% Zn and 0.86% Pb and 2.0m grading 1.23% Cu and 40g/t Ag. Since 1990 a number of smaller exploration programs, including another Max-min survey (Candy, 1997) and soil and heavy mineral surveys but no further drilling.

#### Fenton (including Code claims):

The exploration history of the Fenton property was recently summarized by Ronning (2008) who relied on information from Church (1972) and from company reports. It is summarized below:

- o 1965. Julian Mining Company located a block of 20 claims in response to the discovery of silver-lead-zinc geochemical anomaly on Code Creek.
- 1966 to 1971. Anaconda American Brass Ltd. explored the property using numerous geochemical, geophysical and geological techniques. Physical work included line cutting, bulldozer trenching and construction of access roads. The latter are now largely unusable.
- o 1972. Helicon Explorations Ltd. picked up where Anaconda left off with geophysical and geochemical surveys. Helicon concluded with a 25 hole drilling program that exceeded 3,350 meters.
- 1977. Mattagami Lake Exploration Ltd. began exploration that was to last several years and included various types of geophysical surveys and a soil survey. A small drilling program was done in 1978.
- 1980 to 1981. Vital Mines Limited and Mattagami Lake Exploration did a 1,691 meter core drilling program.
- o 1983. Mattagami terminated its involvement in the project and a new option agreement was reached between Vital, Anaconda and Cominco Ltd.
- o 1984. Cominco did induced polarization, magnetic and electromagnetic surveys and did 1,411 meters of percussion drilling in 22 holes.
- o 1985. Vital did soil sampling, magnetometer and VLF electromagnetic surveys, and drilled six core holes aggregating 824 meters.

- o 1986 to 1994. Baril Developments Ltd., a company associated with Electrum Resource Corporation, did various geophysical and geochemical programs for the purpose of assessment work.
- 1995. Consolidated Samarkand Resources Inc. entered into an option agreement with Baril Developments. Samarkand did a geological reconnaissance program (Cheng, 1996) that consisted of data compilation and field work.
- o 1996. Samarkand did a 61-kilometer line cutting program, and collected 3,254 soil samples (Brown, 1998a).
- 1997 to 1998. Samarkand continued compilation work, processed and interpreted geochemical data, collected 24 additional soil samples and 8 rock samples (Brown, 1998b).
- o 2008. Electrum Resource Corp. conducted relatively large soil geochemical survey on the northeastern part of the Fenton Claim (Ronning, 2008)
- 2012. Copper Mountain carried out a mapping and prospecting program resulting in a re-interpretation of the geology (more along the lines of Church's interpretation) and determined that the rhyolite flow-dome complex together with past exploration results supported the potential for bulk tonnage epi-thermal silver-gold mineralization similar to that of the Blackwater deposit.

### 1.5 Work Program

The objective of the current work was to evaluate the area of the Code claims to host similar mineralization to that indicated on the Fenton claim area. Two geologists spend two days looking for outcrop and collecting soil and silt samples. This work was relatively cost effective in that geochemical results tied into the geochemical surveys completed on the Fenton claim block, supporting a westerly glacial smearing of geochemical anomalies. However, the decreasing intensity of the geochemical anomalies suggest that the Code claim area is of lower priority for further exploration, in spite of confirmation that felsic volcanic rocks appear to underlie at least the northeastern part of the Code claims.

## 2. Geology and Mineralization

## 2.1 Regional Geological Setting

The project area is situated on the eastern flank of the Coast Range in the southern part of the Skeena arch, an 'uplifted' area of Mesozoic to Tertiary volcanic rocks, related intrusions, and derived sedimentary rocks, that forms a wedge shaped area within the west-central part of the Stikinia tectonic terrane. Tectonic deformation in early Cretaceous time resulted in extensive block faulting of the Skeena Arch with principle directions of breakage along northeast and northwest trends. These faults appear to have been defined, at least in part, by airborne magnetics as illustrated in the regional geological map and regional magnetics as taken from BC Map Place. There is significant

variation between geological nomenclature in the literature and the 2005 geological compilation found at Map Place. The main rock groups of the property areas are considered to be:

- subaerial, with lesser submarine calc-alkaline volcanic, volcani-clastic and sedimentary rocks of the early to middle Jurassic Hazelton Group, particularly the Telkwa Formation of the Hazelton group
- late Cretaceous to Tertiary calc-alkaline continental volcanic rocks and derived sediments of the Kasalka, Ootsa Lake and Goosly Groups, and coeval plutonic rocks.





Figure 2.1: Regional Geology

Volcanic nomenclature in the property area is somewhat confusing due to different naming conventions by different mappers in different areas. Most of the more detailed mapping in the region was undertaken by Church (1972, 1973) and Church and Barakso, (1990). Church (1972) correlates the non-Hazelton rocks of the property with the Eocene Buck Creek Assemblage whereas the compilation by GeoScience BC available on Map Place, included above as Figure 2.1, indicates the rocks as being Kasalka Group andesite with a small Eocene intrusion to represent the Fenton rhyolitic suite, and the underlying Telkwa Formation located to the north of the property. It is our view that the rocks on the property that are younger than Telkwa Formation are most likely part of single volcanic event and therefore are either Ootsa-Kasalka or younger Tip Top Hill or Buck Creek formations

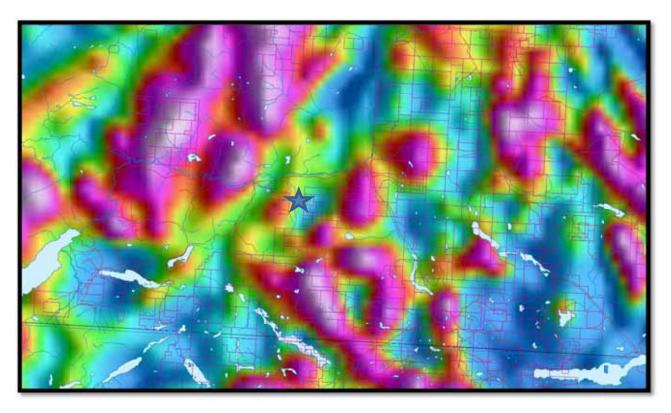


Figure 2.2 Regional Airborne Magnetic Image. Note the strong linear features oriented in northeast and northwesterly directions. The Fenton property is located in the center of the image as denoted by the star.

## 2.2 Regional Metallogeny

A considerable amount of exploration work has taken place in the region, driven primarily by the discovery and mine development of the Nadina (Silver) Queen mine by Owen Lake, 19km to the southeast; the Equity Silver (Sam Goosley) mine, 45km due east; the Poplar Lake porphyry Cu-Mo deposit, 20km to the south (figure 2.1) as well as a number of Cu-Mo porphyry deposits to the southwest, with the most prominent example being the Huckleberry mine, 55km to the southwest. Perhaps of somewhat lesser significance, are small deposits and historical silver

workings in the Telkwa Range, 30km to the north-northwest. There are a number of gold-silver prospects and deposits associated with Tertiary felsic volcanism within the region, of which the most significant is the Blackwater deposit, which is located 168km to the southeast.

Porphyry copper (+/- Mo, Au, Ag etc.) deposits in the area are commonly associated with the Bulkley Intrusive suite (Carter, et al, 1995) a wide-spread group of intrusions of Late Cretaceous age. The closest known porphyry deposit is the Poplar Lake deposit (Indicated resource of 171 million tonnes grading 0.28% Cu, 0.008% Mo, 0.08g/t Au and 2.3g/t Ag and Inferred resource of 209 million tonnes grading 0.23% Cu, 0.004 Mo, etc. (Giroux, 2011)) which is located 20km due south of the Fenton property. The deposit is hosted by a biotite, feldspar-phyric monzonite which intruded Hazelton volcani-clastic rocks including a large component of clastic sedimentary rocks. Alteration consists of a potassic core and a large propyllitic halo with only minor argillic alteration (House and Ainsworth, 1995). The deposit was discovered by prospecting as mineralization is exposed at surface and soil geochemistry was also effective. The host intrusion appears to be a vertical to inclined cylinder with surface dimensions of 1 x 2km. A number of subordinate intrusions are also present nearby.

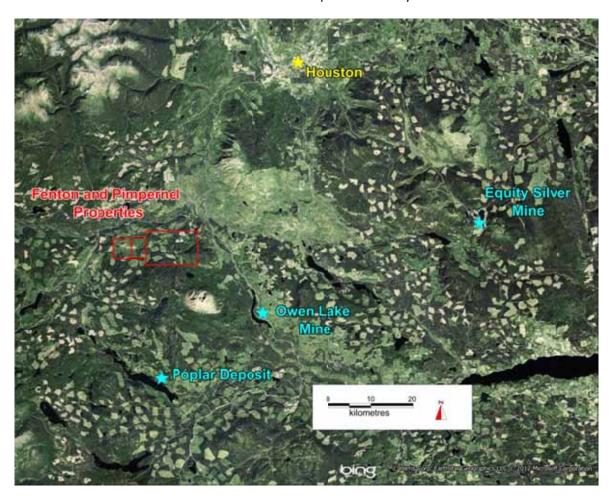


Figure 2.3: Location of most significant deposits in project vicinity.

The Equity Silver deposit is somewhat unique, both in form and content, being an intrusive related, polymetallic, disseminated to massive sulphide replacement, deposit. The origin of the deposit is not without controversy and will not be discussed here in detail. The mine, which closed in the late 80's, had pre-mining published reserves of 39.5 million tonnes grading 0.89g/t Au, 95.4g/t Ag, 0.33% Cu, 0.085% Sb (Church and Barakso, 1990) as well as undefined but abundant As and some Zn. The deposit was mined in two parts: the Southern Tail ore body and the main zone ore body. Mineralization in the Southern Tail is relatively high-grade and coarser grained sulphide mineralization in a zone 900m long and 40m wide with a moderate dip to the northwest; this zone was mined to a depth of 60m, although mineralization extends deeper, and produced 6.8mt grading 1.3g/t Au, 121g/t Ag, 0.48% Cu and 0.085% Sb. The Main zone deposit located about 500m to the northeast of the Southern Tail, is an ovoid shaped zone of fine grained disseminated sulphide mineralization with abundant small lenticular zones of very fine-grained massive sulphide. Mineralization is hosted by moderately dipping sedimentary strata adjacent to syeno-monzonite-gabbro (Goosly) intrusion(s) of Tertiary (~50Ma) age. The sedimentary host rocks are part of the Hazelton Group exposed in an erosional window within extensive Tertiary volcanic material. Both mineralization and alteration appear to be multiepisodic and the alteration suite of minerals is indicative of relatively high temperature.

The Nadina (Silver) Queen deposit is an epithermal vein deposit with a number of vein systems hosted by the Mine Hill microdiorite which is suspected of being a subvocanic feeder for the Upper Cretaceous Tip Top Hill andesite (Church and Barakso, 1990). The above authors also point out that the Tip Top Hill rocks overlie rhyolite pyroclastic beds that are thought to be correlative to rocks dated at 78.1 Ma in the Bob Creek area, and therefore different from the rhyolite at Fenton Creek with a date of 48.9Ma. Mineralogy of the Silver Queen veins includes sphalerite, pyrite, chalcopyrite, tetrahedrite and galena in a gangue of microcrystalline silica, carbonates, particularly rhodochrosite, and some barite. Vein grades, as published in reserves in 1988, were 1.72 million tonnes carrying 2.7g/t Au, 328g/t Ag, 6.19% Zn (older reserve statements also included ~1.5% Pb and 0.5% Cu at similar precious metal grades). Alteration peripheral to the veins is variable but can be locally be intense sericite (+/- clay) and carbonate development that extends up to a few metres away from the vein contact (Marsden, 1987).

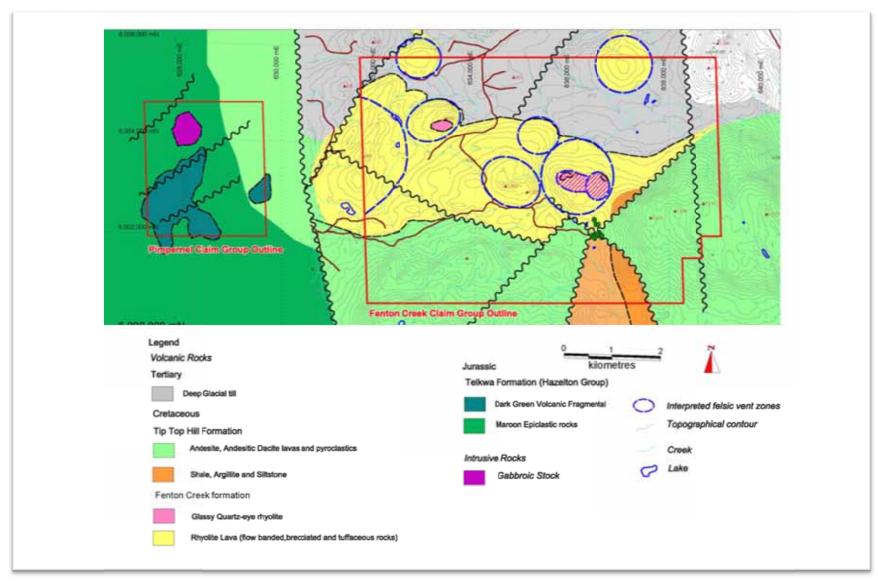


Figure 2.4 Interpreted Geological Plan Fenton and Pimpernel Properties

### 2.3 Property Geology

Overall, outcrop in the project area is less than 8% and geological contacts are seldom, if ever, exposed. Matching rock descriptions from historical reports with field observations is difficult, primarily because most of the earlier workers did not recognize or had limited experience with un-metamorphosed felsic extrusive rocks. It is also difficult to match the rock units into Formations and the nomenclature used by regional mappers due to the similarity between many of the younger volcanic sequences documented to the east (Church 1972).

There appears to be three main rock groups in the project area. The oldest rocks are most likely part of the Telkwa Formation of the Hazelton Group and occur on the western part of the Pimpernel claim area. The next group is a rhyolite flow-dome complex that is best exposed in the central part of the Fenton claim area, termed the Fenton volcanics by Church. The flowdome complex is very similar to other occurrences to the south and in the Whitesail map sheet where they are mapped predominately as Ootsa Lake Group volcanic rocks, they also appear to be physically similar to rocks that Church as placed as the base of the Francois Lake Group in his map of the Buck Creek Tertiary Outlier. The last unit and thought to be the youngest rocks are mafic to felsic (trachy-andesite and dacite) volcanic flow and pyroclastic and/or epiclastic rocks that closely match the Church's description of the Tip Top Hill Formation. This sequence of rocks would make a nice fit into the western edge of Church's (1990) map, except for the reported age of 49Ma for the Fenton Ck. rhyolite (Church, 1990), which makes it much younger than the ~70Ma rhyolite mapped at Owen Lake. Church points out that the Fenton Creek rhyolite is comparable in age and chemistry to latite dykes that are part of the Goosly intrusive suite; this would either indicate the Fenton flow-dome complex is intrusive into the Tip Top Hill volcanic rocks or that all of the rocks exposed on the Fenton property may actually be correlative with the Goosly Lake Formation.

A major feature of the project area is topographic preservation of volcanic vents, domes and possibly even calderas. Four major topographic/geological features to the northeast, east, southeast and south of the project area are: the Owen Hill, a granitic dome; Tsalit Mtn. which appears to be a volcanic neck/vent; Nadina Mountain, and Pimpernel Mtn., which appears to be a volcanic vent with a small lake in the collapsed center. In between these features is a large partially truncated structure that appears to be a caldera structure with gentle collapse towards the center. The northern edge of the outer ring of this feature forms the southern part of the Fenton claim area and small scarps provide the best outcrop of trachyandesite flows and related volcanic rocks.

Numerous small circular features are evident in the Fenton rhyolite unit (figure 2.2) which provide good locations for outcrop, and are interpreted to be vent features in an intrusive-extrusive flow-dome complex. Additional subdued circular features extend to the north of the Pimpenel claim, but such features are not present in areas mapped as Telkwa Formation.

A more detailed description of the observed rocks is as follows:

- 1) Telkwa Formation: the western part of the Pimpernel claim is underlain by these rocks where, both dark green fragmental rocks, commonly with chloritic alteration and some outcrops of faintly bedded dark maroon tuffaceous rocks. One of the earliest workers on the property (Salat, 1978) mapped out a contact between these units which appears reasonable and implies an almost horizontal bedding contact. Additional, but similar, lithologies can be seen in float or subcrop but source of this material is uncertain. Drill logs for the area are a bit perplexing and taken at face value seem to suggest that some of the units from further east 'stray' over into the drilled area, however there are some significant lineaments between the Fenton and Pimpernel claims that we have interpreted as faults which separate the geology of the two areas although the upper volcanic unit occurs on both properties. The upper unit appears much "fresher" and is less indurated than the Telkwa units and lacks what appears to be low-grade (prehnite-pumpellite facies) metamorphic character observed in the presumed Telkwa rocks.
- 2) Fenton Creek Rhyolite: Our view of these rocks is where we part company with most of the past workers, other than Church. All the rocks of this unit are grouped together as a flow-dome complex. There are a number of small exposures of this unit in roads and road cuts and road quarries but the best exposures are in the small hills (Mineral hill, Silicic hill, Black Quartz hill) that appear to be vent zones. Although each of these hills is slightly different, they all have generally cylindrical zones of more massive, glassy, quartz eye rhyolite poking up through flow banded, and flow- top brecciated rhyolite. 'Black Quartz' and 'Silicic' hills appear to have three possible generations of vents. At mineral hill a small zone (30 x 75m) of dark brown, pyritic, quartz eye rhyolite is intrusive into flow banded and brecciated rhyolite. Flow banding is semi-vertical along the southern edge of the "chocolate" rhyolite but only gently dipping to flat on top of the hill and steepens away from the hill top in all directions. Brecciated rhyolite along the south-east face of the hill could represent a vent breccias but it could also be flow-top breccia (created by breaking up of the cooling and hardening surface) that has been steepened adjacent to the intrusion. Flow top breccias can have either angular or rounded fragments depending upon the velocity of the underlying flow.

Rhyolite of the flow-dome complex can have a large range of textures and colours depending upon whether it was fully extruded and exposure to atmosphere, water, acidic gases etc. There is some evidence of tuffaceous material as to the south of

Mineral hill, at the road intersection, a small guarry for road material has been blasted into rusty weathering, pale brown quartz-feldspar crystal tuff (?) with 1% finely disseminated pyrite. No other occurrences of this rock type were found. In some outcrop very fine crystals of biotite can be observed, elsewhere the flowbanded rhyolite can contain disseminated pyrite. Outcrop along the road and within the central claim area commonly displays excess quartz which forms micro veins and microbreccia veins with dark grey siliceous matrix, sometimes with visible sulphide mineralization (pyrite and sphalerite). These siliceous zones appear to fade in and out and seem to be a natural occurrence within the rhyolite, particularly where there are no quartz crystals. Similarly, much has been made of the "argillic alteration" within the rhyolite, which is the interpretation of the weak argillization of felspathic layers in the rhyolite. This is a common feature of almost all of the large rhyolite exposures in the region and we believe that it is a formational feature, as opposed to alteration related to porphyry style mineralization, possibly due to the presence of acidic steam that may accompany rhyolitic extrusion. It may also be locally enhanced by the weathering of pyrite. Weak alteration is also likely as heated meteoric water percolates through the system during cooling of the molten rock (rhyolite dome) that did not make it to surface, which is distinct from the development of later, possibly, metal-bearing hydrothermal systems.

3. Tip Top Hill of Goosly Lake Formation (?): This 'unit' was only examined on talus slopes below some scarps along the southern part of the Fenton claims, where very fine-grained dark grey-brown rock, interpreted to be andesite (but no geochemical or mineralogical evidence beyond a weak magnetism) flow material occurs. The rock appears unaltered and relatively fresh. Weakly weathered surfaces suggest that fine trachytic feldspar laths are present. Mowat (1982) carried out a reasonably detailed examination of the rocks forming southwestern corner of the Fenton claim and we have incorporated some of her lithological contacts in this area. Of interest is the fault-bounded shale unit that appears to underlie the basalt to andesite flow rocks. Mowat mapped pink granite (Nanika intrusions) intruding the shale rock. Other reports have this area as sandstone. A few traverses could probably sort this area out which would be helpful in terms of defining the geological history of the area. The swampy area where all of these units come together, presumably in fault contact, is the site of some 12 shallow percussion drill holes that were conducted by Stokes (1976), sadly, the results of the drilling were not included in the Assessment Report. Drilling logs from holes drilled within the rhyolite unit commonly indicate the presence of "andesite" or other mafic volcanic rocks. It is not clear whether these are indeed mafic or just dark coloured felsic rocks. If they are actually mafic rocks and are interlayered with the rhyolite this would be further evidence that all the younger volcanic rocks are part of single volcanic event and would provide strong evidence that most of the project area is underlain by Goosly Lake sequence.

4. An additional map unit included on Figure 2.2 is 'deep glacial deposits'. The glacial material consists of boulder till as well as glacial-fluvial sand. The till contains 50% boulders up to metre size and includes an assortment of weathered granitic rocks suggesting a source in the Coast Mountains. Pits for road construction and a deeply incised creek with till banks, suggest that this material can be very deep (+10m to +30m) and therefore interpretation of soil geochemistry and to a lesser extent, geophysics needs to take this into account. Some to the drill logs also indicate up to 30m of overburden.

## **3 Exploration Program**

## 3.1 Geochemical Soil Survey

A number of geochemical soil surveys and a wide variety of techniques have been carried out on both properties. It was an anomalous silt geochemical sample on Code Creek that brought Julian Mining Company into the area in 1965. In 1966, Anaconda American Brass Ltd. carried out soil geochemical surveys (in addition to other exploration), and subsequent groups including Helicon Exploration, Mattagami Lake Exploration (Noranda), Vital Mines, Baril Developments, Consolidated Samarkand, and most recently, Electrum Resource Corporation. Although the surveys were sometimes conducted in different areas of the property there is a fair bit of overlap between the surveys. In general, the geochemical surveys are in relative agreement with one another in that the same elements are usually anomalous in the same areas of the property although Mowat (1980) conducted a detailed orientation survey and determined that soil samples collected from organic rich material in low-lying and swampy areas were enriched in Ag and to a lesser extent, Zn and Pb relative to other soils and that the B and C horizons below the organic rich material were not anomalous indicating that the organic material was concentrating metals that were being dispersed by ground water. Never-the-less, most of the surveys, on the Fenton Creek area identified somewhat co-incident geochemical anomalies that form 2.5 by 0.8 km zone oriented in an east-west trend approximately centered just south of Mineral Hill (Figure 3.1)

Contours of the three anomalous elements in the Fenton Creek area, Zn, Pb, and Ag do have slightly different outlines but are more or less overlapping, which would be expected based on the nature of the mineralization intersected in the Anaconda and Mattagami drill holes. However, the drilled mineralization occurs on the eastern side of the anomalies which indicates that either the most recent glacial transport direction was from east to west, or that there is an, as of yet, unknown source for the geochemical anomalies on the western edge of the anomalous area. To investigate this further a two day program of prospecting and soil sampling was carried out on the Code claims just to the west of the Fenton claims.

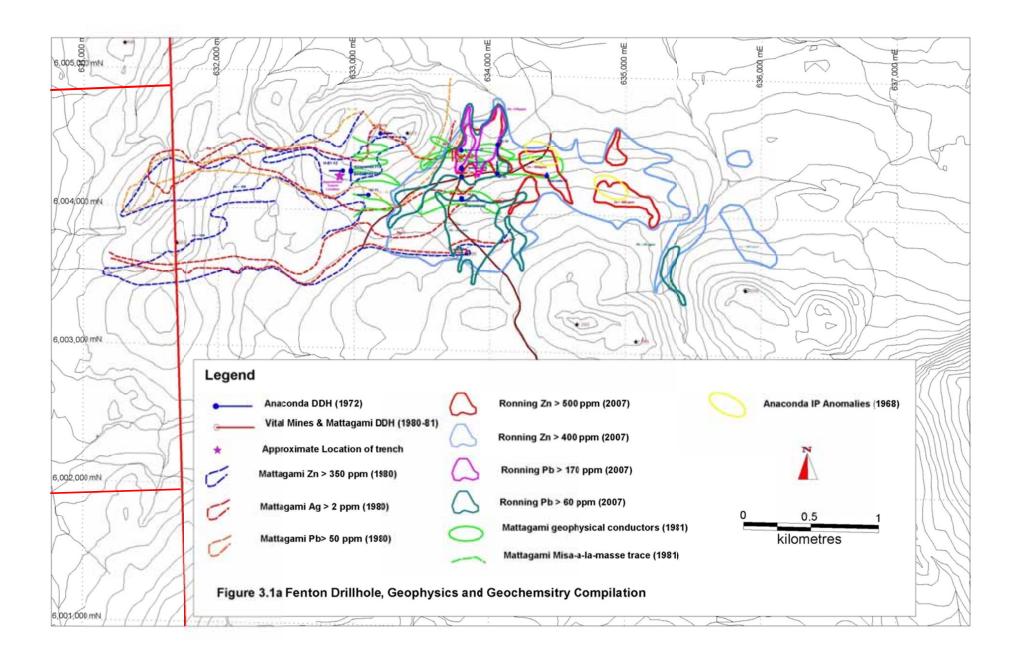
## 3.2 Methodology

Old logging roads provide both access into the area and pathways through the area, (although growth of alder trees on some of the old roads rendered them less than useful). Sample stations were established at approximate 250m intervals along the roads. Sample locations were usually 5 to 10m off the roads and preferably in ground that was undisturbed by logging or road building. The original intent of the program was to collect both A and B horizon samples at each station but due to ground disturbances most of the A horizon was deemed either compromised or unavailable and with so few A samples available they were saved as back-up samples and not analyzed. Almost all stations provided good quality B horizon material (field notes are included in Appendix IIIb). Geochemical analyses were carried out by Acme Labs. All samples taken from the field and delivered to Acme's preparation lab in Smithers, where they were dried and sieved to recover the -80mesh fraction, from which a 0.5g subsample is takne and leached/digested with hot (95 °C) Aqua Regia and analyzed by ICP-MS methods.

#### 3.3 Results

Analytical results are tabulated in Appendix IIIa along with the analytical certificates in Appendix IV. Sample locations and the key elements, Zn, Pb, and Ag are plotted on figures 3.2 to 3.6.

A geochemical and exploration compilation map from the Fenton claim area is presented below (Fig. 3.1) and illustrates the east-west orientation of the historical results. The strongest geochemical anomalies are approximately located between UTM coordinates of 634,000m east and 635,000m east, and centered on 6,004,000m north; with slightly weaker anomalies extending for an additional 2,500m to the west and appear to terminate just onto the Code claim area. The current sampling area is on the Code and Pimpernel claim areas immediately to the west of the Fenton claim boundary. The geochemical results, as illustrated in figures 3.4 to 3.6 indicate that weakly anomalous values occur within the easternmost samples but values are below the contour levels of the Fenton anomalies. It appears clear that if lower level contours were drawn then the westerly trending anomalous zone would extend into the center part of the Code claims and would be consistent with westerly fading anomalies. Overall the new data lends support to the concept that the geochemical anomalies have their source to the east and have been smeared to the west by glacial action.



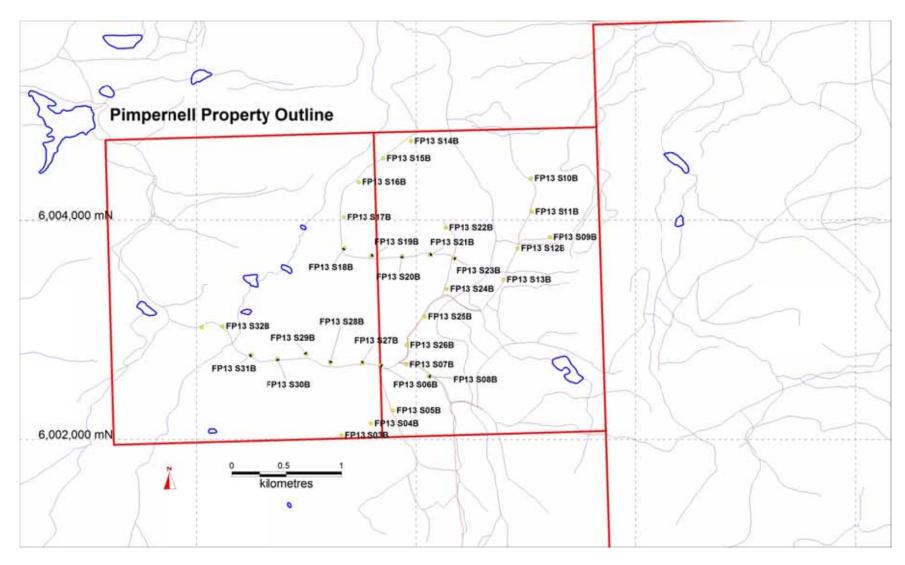


Figure 3.2: Sample locations.

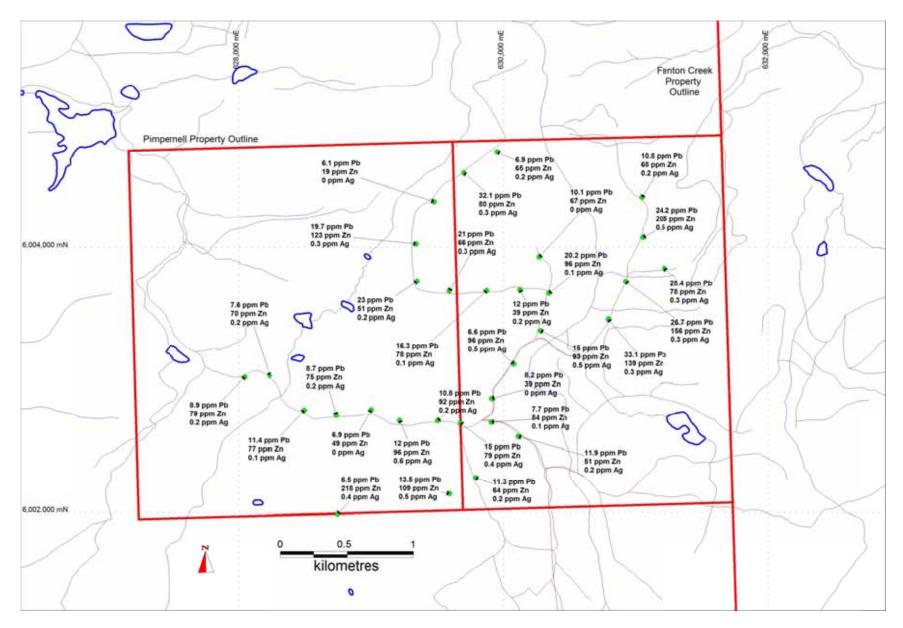


Figure 3.3: Summary of Pb, Zn and Ag geochemical results plotted at sample location.

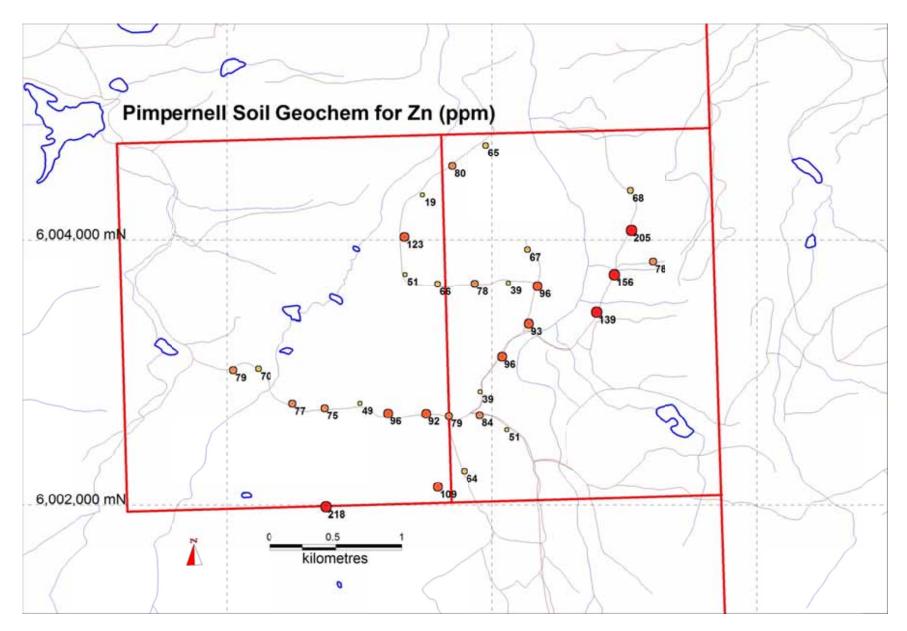


Figure 3.4: Element map for Zn.

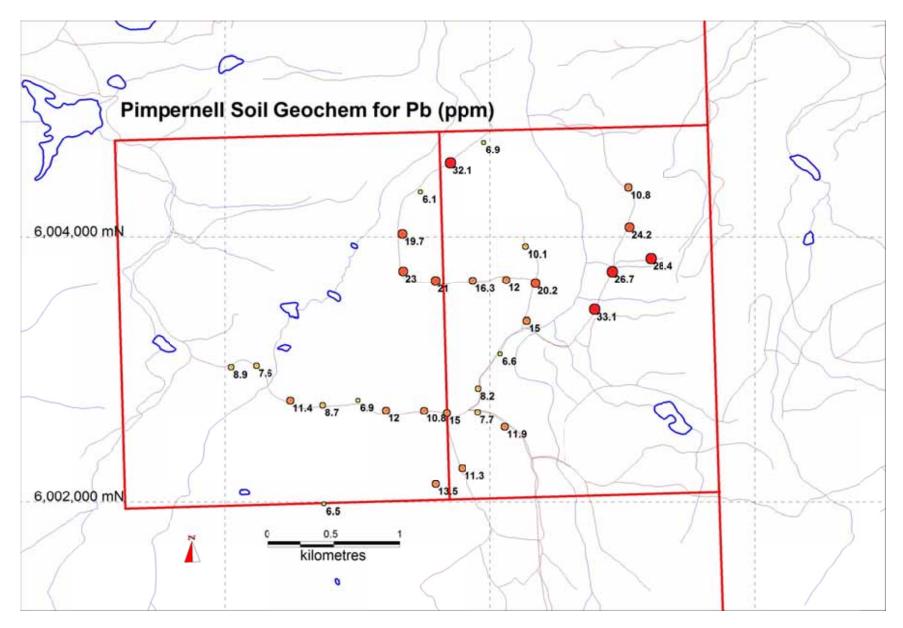


Figure 3.5: Element map for Pb.

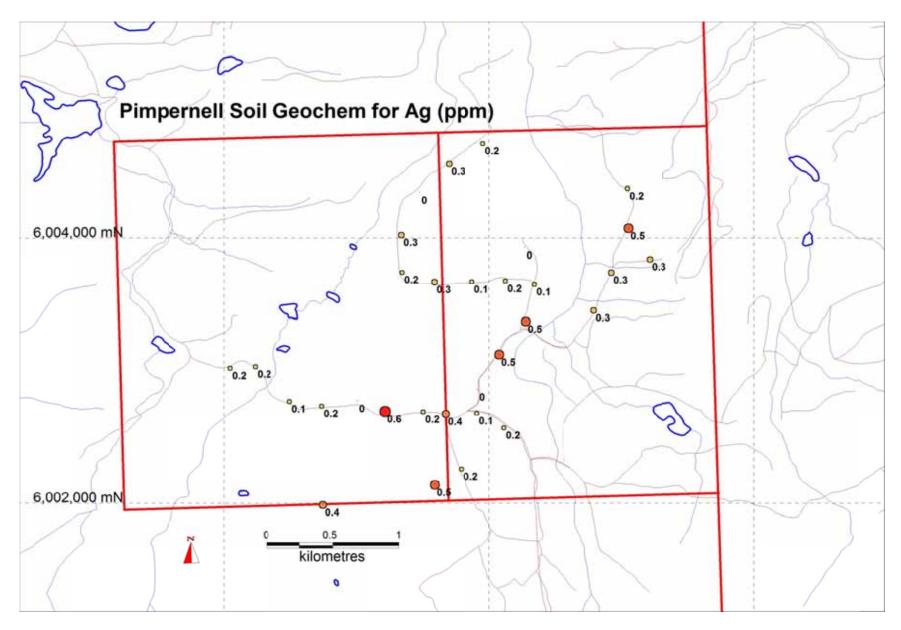


Figure 3.6: Element map for Ag.

#### 4. Conclusions and Recommendations

Intermittent exploration has been carried out on the Fenton and Pimpernel claims for almost 50 years. Workers were initially attracted to the area due to stream geochemical samples, in Code Creek that were anomalous in zinc, silver and lead. The discovery and production of metals at the Equity Silver deposit and Owen Lake area provided additional impetus for exploration within the district. Over the years there have been many programs of geology, geochemistry and geophysics, with a majority of the work occurring in the 1970's. The results of this work have been generalized and compiled on Figure 3.1a. There is a positive correlation between geochemical anomalies, geophysical highs and drill results. However, the area of geochemical enrichment is much greater than the area of geophysical anomalies which are, in turn greater than the area of positive drill results.

The large geochemical anomalies are attributed to glacial smearing of overburden from an east to west direction. However, this interpretation doesn't completely discount the potential for discovery of mineralization in other areas.

The mineralization on the Fenton claim is epithermal in style but carries significant base metals (Zn + Pb) and is relatively low, but still enriched in the typical epithermal indicator elements (As, Sb, Hg, etc.). Mineralization occurs in 'low-pressure' siliceous vein stockwork within probably highly porous rocks and does not appear to be associated with significant pyritization or alteration, and thus would typically have a weak or limited response to most geophysical methods. Sparsely disseminated pyrite is ubiquitous within the flow-banded rhyolite and locally significant within the more massive 'intrusive' rhyolite which would likely produce large but weak IP anomalies as obtained by Anaconda. Samples collected from the intrusive rhyolite with higher pyrite contents do not have an elevated geochemical response for elements of interest. Therefore, it would seem that although some additional mineralization could exist to account for the large extent of geochemical anomalies, it is either in locations not covered by historical geophysics or not as conductive as the areas that were previously outlined.

Massive sulphide mineralization of the Equity type or similar to the massive sulphide float located within a trench on the west side of Mineral Hill, would likely have a strong geophysical response to some or all of the methods carried out on the properties and would also have likely produced some geochemical response for Cu and As and therefore it would seem a reasonable conclusion that there is a very low probability for discovery of this type of mineralization, at least in the near surface area, given the extensive amount of geochemical and geophysical work completed on the property to date.

A felsic flow dome complex is generally a favourable environment for epithermal style mineralization and the mineralization discovered to date has some significance within this setting. Previous workers

may have, for the most part, misinterpreted volcanic textures and lithologies on the property and many of the theories and models of epithermal mineralization post-date the majority of work on the property and therefore exploration programs may have been misdirected and exploration results may not have been correctly interpreted. There are, at least superficially, some significant similarities between Zn-Ag mineralization in rhyolitic rocks at Fenton and those at Young-Davidson and Blackwater projects. Future exploration work should consider there is any relationship between Zn-Pb-Ag mineralization and potentially related but off-set gold mineralization. It is interesting to note that the Blackwater project began as a zinc-silver stream geochemical anomaly associated with felsic volcanic rocks and initial drilling discovered widespread low grade Ag-Zn-Pb mineralization.

Recommended future work would include a deep penetration, inverted IP survey followed by drill testing, if warranted. All core should be analyzed as gold mineralization can be very cryptic in these systems and may be physically offset from silver (+/- base metals) mineralization. Pima analysis of core and surface samples may also be helpful to determine alteration zones.



Figure 4.1: Rusty (pyrite bearing) rhyolite on the Code 1 claim.

#### **Bibliography**

- Brown, Robert F., 1998a: Report on the Fen Property, Gold Analysis of Soil Samples. B.C. AR 25507 1998b: Report on the Fen Property, Rock and Soil Sampling and Analysis. BC AR 25909.
- Cheng, Charlie X., 1996: Report on the Geological Reconnaissance Program on the Fen Property. BC AR 24359
- Church, B.N., 1972: Code, Fen, in Geology, Exploration and Mining in British Columbia, 1972, pp 373 379. British Columbia Department of Mines and Petroleum Resources.
- Church, B.C. and Barakso, J.J., 1990: Geology, lithogeochemistry and mineralization in the Buck Creek area, British Columbia (93L). British Columbia Ministry of Energy, Mines and Petroleum Resources, paper 1990-2.
- Dawson, J.M., 1985: Report on diamond drilling on the Code-Fen property, Omineca Mining Division, British Columbia, unpublished report for Vital Pacific Resources Ltd.
- Helsen, J., 1981: Diamond Drilling Report; Red and Code Claims. BC AR 10003.
- Helsen, J., 1982: Diamond Drilling Report; Red and Code Claims. BC AR 10156.
- Holbek, P.M., and Joyes, R., 2012. 2012 Exploration Program on the Fenton and Pimpernel properties. BC AR.
- House, G.D., and Ainsworth, B., 1995. The Poplar copper-molybdenum-gold porphyry deposit, central British Columbia. CIM Spec. Vol. 46. Pp 397-401.
- Leitch, C.H.B., Cheng, X.L., Hood, C.T. and Sinclair, A.J., 1991: Structural character of en echelon polymetallic veins at the Silver Queen Mine, British Columbia, CIM Bulletin, 84(955); pp 57-66
- Leitch, C.H.B., Hood, C.T., Cheng, X.L. and Sinclair, A.J., 1992: Tip Top Hill Volcanics: Late Cretaceous Kasalka Group rocks hosting Eocene epithermal base- and precious-metal veins at Owen Lake, west-central British Columbia. Can. J. Earth Sci. 29, pp 854-864.
- Marsden, H., 1987. Geology and Mineralization of the Nadina Queen deposit. Unpub. BSc. Thesis, The University of British Columbia.
- Massey, N.W.D., MacIntyre, D.G., Haggart, J.W., Desjardins, P.J., Wagner, C.L. and Cooney, R.T., 2005-5: Digital Geology Map of British Columbia: Tile NN8-9 North Coast and Queen Charlotte Islands/Haida Gwaii, B.C. Ministry of Energy and Mines, Geofile 2005-5, scale 1:250,000.
- Mercer, W., 1981: Diamond Drill Report, Red, Code 6, Code 7, Code 21FR Claims; BC AR 9605.
- Mercer, W., and Sutherland, D.B., Exploration Report on the Code and Fen Claims, BC AR

Mowat, U., 1982: Report on Soil Sampling Program on the Fenton Claims. BC AR 10725

Ronning, P.A., 1995: 1994 Exploration Program on the Fenton Creek Property. B.C. AR 23769

Ronning, P.A., 2008: Exploration Program on the Fenton Creek Property. B.C. AR 29792

Rutter, N.W., 1979: Airphoto interpretation, Red Claim, Record No. 315, Omineca Mining Division, BC AR 7821.

Simpson, R. G., 2011: 43:101 Technical Report Blackwater Gold Project, Richfield Ventures Corp. Technical report available on Sedar.

Simpson, R. G., Welhener, H.E., Borntraeger, B., Lipiec, I., Reyes, R.M., 2012: 43:101 Technical Report Blackwater Project, New Gold Inc. Technical report available on Sedar.

Sutherland, D.B., 1980: Helicopter Electromagnetic and Magnetic Survey, Houston Area, British Columbia; BC AR

Sutherland, D.B. 1981 Report on the Induced Polarization and Resistivity Survey, Rec Claim #1, Code Claim#6, Morice River area BC AR 10860

Tipper, H.W. and Richards, T.A., 1976: Geological Survey of Canada Open File 351;

Zastavnikovich, S and Bzdel, L.M. 1991: Geochemical and Geophysical AR on the Fen 1-4 and Tsalit 4-8 Mineral Claims; BC AR 19478

# **Appendix I**

## **Statement of Expenditures**

Prospecting/Reconnaissance Soil Geochemical Survey: Oct 1-2, 2013

	Anja Wiess 2.3	1 days at \$400/day	\$ 840.00
	Mathias West	ohal 2 Days@\$475/day	\$ 950.00
	Mileage 415kr	n@ \$0.55/km	\$ 228.25
	Analytical:	31 samples @ 11.70	\$ 362.70
	Report Prepar	ation (Peter Holbek and Richard Joyes)	\$ 900.00
Total			 \$3281.00

## **Appendix II: Certificate of Qualifications**

- I, Peter M. Holbek with a business address of 1700 700 West Pender Street, Vancouver, British Columbia, V6C 1G8, do hereby certify that:
- 1. I am a professional geologist registered under the <u>Professional Engineers and Geoscientists Act</u> of the Province of British Columbia and a member in good standing with the Association of Professional Engineers and Geoscientists of British Columbia.
- 2. I am a graduate of The University of British Columbia with a B.Sc. in geology 1980 and an M.Sc. in geology, 1988.
- 3. I have practiced my profession continuously since 1980.
- 4. I am Vice President, Exploration for Copper Mountain Mining Corp. having a business address as given above.
- 5. I supervised the work program on the Fenton and Pimpernell properties, and prepared this report.

Signed
Peter Holbek, M.Sc., P.Geo.

#### **Certificate of Qualifications**

- I, Richard J Joyes with a business address of 1700 700 West Pender Street, Vancouver, British Columbia, V6C 1G8, do hereby certify that:
- 1. I am a graduate of The University of Tasmania with a B.Sc. in geology 2000
- 2. I have practiced my profession continuously since 2000.
- 3. I am an exploration geologist, for Copper Mountain Mining Corp. having a business address as given above.
- 4. I assisted in supervising the work program on the Fenton and Pimpernell properties, and assisted in preparing this report.

Signed	
Richard J Joyes B.Sc Geo	

# **Appendix IIIa: Analytical results**

ACME ANALYTICAL LABORATORIES LTD. Final Report

Client: Copper Mountain Mining Corporation

17-Oct-2013 File Created: SMI13000341 Job Number:

Number of Samples: 31 Project: Fenton

X 1DX
S Ga
% PPM
5 1
7
8
6
5
5
5
3
4

# **Appendix IIIb: Field Notes**

Fenton/Co	de/Pimpernel		
Easting	Northing	sample name	comments
628747	6001992	FP13-S1A	logged area, black A;
		FP13-S1B	brown/greyB;
629019	6001992	FP13-Silt1	tiny stream;
629060	6001974	FP13-S2A	area w/ hazel bushes;
629317	6002038	FP13-S3A	dark grey soil w/ pebbles under humus, unlogged, fir trees and cranberry bushes
629591	6002143	FP13-S4A	dark grey ?paleosoil? (30cm)A, secondary growth (about 25 years)
		FP13-S4B	brown B
629792	6002263	FP13-S5A	secondary growth, pine and fir
		FP13-S5B	
629675	6002679	FP13-S6A	secondary growth
		FP13-S6B	
629909	6002684	FP13-S7B	after 1cm humus into B, lots of pebbles
630112	6002575	FP13-S8A	secondary growth
		FP13-S8B	
630362	6002328	no sample	no humus, no soil, straight into pebbles, clearcut area, no undisturbed soil
631216	6003844	FP13-S9A	picture 4333 looking west onto the rhyolite cliff
		FP13-S9B	
631046	6004381	FP13-S10B	straight into B, secondary growth (30 years)
631053	6004076	FP13-S11B	no A, secondary growth (30 years)
630925	6003743	FP13-S12B	3cm humus, into B w/ pebbles, secondary growth (30 years)
630793	6003458	FP13-S13B	2cm humus, into B w/ pebbles
630625	6003225	creek bed	rhyolite blocks in creek bed
630699	6003225	no sample	clearcut area, no undisturbed soil
630077	6003735	FP13-R1	handspecimen from rhyolite outcrop: reddish/grey/brown fine grained w/ 1mm qz xtals, feldspars to 2mm and feldspars to 4mm (picture 4338 and 4337)
629954	6004722	FP13-S14B	poor soil, trees are skinny and tall, secondary growth (30-40 years)
629701	6004564	FP13-S15B	brown/grey B w/ pebbles, secondary growth
629476	6004349	FP13-S16B	brown/grey B, secondary growth
629340	6004027	FP13-S17B	2cm humus, then into brown B
629346	6003745	FP13-S18B	charcoil pieces on top of brown B, secondary growth, thin pines
629590	6003673	FP13-S19B	charcoil pieces on top of brown B
629873	6003674	FP13-S20B	
630004	6003677	FP13-R2	grab sample from roadcut slope, GEOCHEM, picture 4340
630052	6003711	west end outcrop	
630110	6003837	east end outcrop	pictures 4341-4343 along outcrop
630123	6003680	FP13-S21B	
630268	6003932	FP13-S22B	directly into brown B (picture 4344), mainly skinny pines and hazel bushes
630342	6003656	FP13-S23B	grey/brown B, not logged: pines, spruce and aspen
630277	6003373	FP13-S24B	directly into brown/beige B, secondary growth - mainly pine
630077	6003122	FP13-S25B	straight into brown/beige B, secondary growth - skinny trees
629913	6002862	FP13-S26B	beige B, secondary growth (about 40 years)
629503	6002696	FP13-S27A	dark grey A
		FP13-S27B	brown B, secondary growth (about 40 years)

629217	6002697	FP13-S28A	dark A
		FP13-S28B	dark grey ?paleosoil? B
629002	6002776	FP13-S29B	straight into brown/beige B, secondary growth (30 years)
628738	6002738	FP13-S30A	dark A
		FP13-S30B	brown/grey B, secondary pine
628497	6002774	FP13-S31B	straight into beige/brown B
628235	6003033	FP13-S32B	grey B, secondary growth, poor soil, skinny trees
628070	6003050	tuff outcrop	outcrop on road: maroon andesitic tuff w/ up to 2cm ireg qz vns
628046	6003022	FP13-S33A	dark brown A
		FP13-S33B	beige/greyB

# **APPENDIX IV - Assay Certificates**



Acme Analytical Laboratories (Vancouver) Ltd. 9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA PHONE (604) 253-3158 Client: Copper Mountain Mining Corporation

1700 - 700 West Pender St. Vancouver BC V6G 1G8 CANADA

Submitted By: Peter Holbek
Receiving Lab: Canada-Smithers
Received: October 01, 2013
Report Date: October 17, 2013

Page: 1 of 3

## **CERTIFICATE OF ANALYSIS**

## SMI13000341.1

#### **CLIENT JOB INFORMATION**

Project: Fenton

Shipment ID: P.O. Number

Number of Samples: 31

#### SAMPLE DISPOSAL

PICKUP-PLP Client to Pickup Pulps

DISP-RJT-SOIL Immediate Disposal of Soil Reject

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

Invoice To: Copper Mountain Mining Corporation

1700 - 700 West Pender St. Vancouver BC V6G 1G8

CANADA

### SAMPLE PREPARATION AND ANALYTICAL PROCEDURES

Procedure Code	Number of Samples	Code Description	Test Wgt (g)	Report Status	Lab
Dry at 60C	31	Dry at 60C			SMI
SS80	31	Dry at 60C sieve 100g to -80 mesh			SMI
1DX1	31	1:1:1 Aqua Regia digestion ICP-MS analysis	0.5	Completed	VAN

#### **ADDITIONAL COMMENTS**



CC:

This report supersedes all previous preliminary and final reports with this file number dated prior to the date on this certificate. Signature indicates final approval; preliminary reports are unsigned and should be used for reference only. All results are considered the confidential property of the client. Acme assumes the liabilities for actual cost of analysis only. Results apply to samples as submitted.

"\*" asterisk indicates that an analytical result could not be provided due to unusually high levels of interference from other elements.



Acme Analytical Laboratories (Vancouver) Ltd. 9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA PHONE (604) 253-3158

Client: **Copper Mountain Mining Corporation** 

1700 - 700 West Pender St. Vancouver BC V6G 1G8 CANADA

Project: Fenton

Report Date: October 17, 2013

2 of 3 Part: Page: 1 of 2

CERTIFICATE C	CERTIFICATE OF ANALYSIS														SIV	11130	000341.1					
	Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	
	Analyte	Мо	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	Р	La	
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm	
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1	
FP13 501B Soil		0.9	17.2	6.5	218	0.4	15.4	13.7	330	2.74	3.7	<0.5	2.1	23	0.2	<0.1	0.1	49	0.14	0.288	8	
FP13 504B Soil		0.7	43.6	13.5	109	0.5	22.6	13.0	936	4.30	7.5	<0.5	1.1	132	0.5	<0.1	0.1	69	0.91	0.104	20	
FP13 505B Soil		0.6	24.9	11.3	64	0.2	13.6	17.9	1032	2.47	6.3	0.7	0.7	56	<0.1	0.1	0.1	50	0.30	0.053	13	
FP13 506B Soil		1.0	34.5	15.0	79	0.4	16.1	23.0	1440	2.74	10.3	<0.5	0.6	104	0.3	0.3	0.1	55	0.68	0.081	26	
FP13 507B Soil		1.1	15.1	7.7	84	0.1	15.6	8.0	330	3.01	15.6	<0.5	1.4	26	0.2	0.3	0.1	61	0.20	0.063	5	
FP13 508B Soil		0.5	20.0	11.9	51	0.2	11.4	7.3	368	2.04	5.4	<0.5	1.1	55	0.1	0.2	0.1	44	0.47	0.062	10	
FP13 509B Soil		0.7	7.6	28.4	78	0.3	4.7	4.3	423	1.47	10.8	3.5	0.2	20	0.6	1.0	0.3	32	0.17	0.045	5	
FP13 510B Soil		0.4	7.1	10.8	68	0.2	7.1	4.1	217	1.73	3.2	0.7	0.6	22	0.1	0.2	<0.1	38	0.20	0.065	5	
FP13 511B Soil		0.5	16.8	24.2	205	0.5	8.9	5.1	564	1.91	14.9	0.6	0.4	27	1.1	1.1	0.3	38	0.23	0.050	10	
FP13 512B Soil		0.6	5.5	26.7	156	0.3	3.3	3.3	408	1.64	6.5	<0.5	0.5	24	3.0	0.6	0.3	34	0.23	0.090	5	
FP13 513B Soil		0.9	15.8	33.1	139	0.3	8.7	7.2	880	2.18	31.1	<0.5	1.0	41	0.5	2.4	0.4	41	0.39	0.070	9	
FP13 514B Soil		0.3	9.4	6.9	65	0.2	7.5	5.2	543	1.81	4.5	<0.5	0.3	24	<0.1	0.3	<0.1	40	0.24	0.040	7	
FP13 515B Soil		0.5	11.5	32.1	80	0.3	6.4	4.7	641	1.66	6.3	<0.5	0.2	25	0.5	0.4	0.2	34	0.22	0.068	11	
FP13 516B Soil		0.2	1.9	6.1	19	<0.1	1.2	8.0	48	0.72	1.4	<0.5	0.2	12	0.1	0.2	<0.1	20	0.13	0.010	3	
FP13 517B Soil		0.7	7.0	19.7	123	0.3	7.1	8.5	971	1.86	10.0	<0.5	0.3	14	0.3	0.5	0.2	38	0.13	0.054	4	
FP13 518B Soil		0.6	4.5	23.0	51	0.2	3.2	3.8	537	1.56	5.9	<0.5	0.5	14	0.2	0.3	0.2	38	0.12	0.051	4	
FP13 519B Soil		0.4	6.1	21.0	66	0.3	3.6	4.2	603	1.18	5.9	<0.5	0.3	24	0.5	1.3	0.1	28	0.23	0.052	7	
FP13 520B Soil		0.4	11.0	16.3	78	0.1	7.9	4.7	353	1.81	13.6	<0.5	0.9	20	0.2	1.3	0.2	40	0.21	0.026	8	
FP13 521B Soil		0.4	3.1	12.0	39	0.2	1.8	1.1	76	0.89	2.4	<0.5	0.4	15	0.1	0.2	0.2	25	0.16	0.019	4	
FP13 522B Soil		0.4	21.2	10.1	67	<0.1	9.8	6.4	382	2.24	8.4	<0.5	1.7	33	<0.1	0.5	0.1	49	0.35	0.060	9	
FP13 523B Soil		0.6	13.5	20.2	96	0.1	8.7	6.2	491	1.98	13.6	<0.5	1.4	29	0.2	0.9	0.2	42	0.29	0.047	8	
FP13 524B Soil		0.6	11.6	15.0	93	0.5	6.6	4.6	603	1.66	7.8	<0.5	0.3	36	0.3	0.4	0.2	34	0.26	0.046	8	
FP13 525B Soil		0.5	14.8	6.6	96	0.5	10.3	5.5	520	1.79	5.5	<0.5	0.9	34	0.2	0.2	0.1	34	0.23	0.050	8	
FP13 526B Soil		0.5	13.2	8.2	39	<0.1	10.9	6.8	366	1.97	7.3	<0.5	1.9	43	<0.1	0.3	<0.1	45	0.35	0.060	11	
FP13 527B Soil		0.6	19.3	10.8	92	0.2	12.3	7.7	706	2.49	11.7	0.6	1.1	58	0.3	0.3	0.2	50	0.55	0.106	8	
FP13 528B Soil		1.0	44.4	12.0	96	0.6	22.1	11.7	752	3.50	9.4	<0.5	1.0	120	0.9	0.2	0.2	58	0.87	0.102	25	
FP13 529B Soil		0.4	9.1	6.9	49	<0.1	7.4	5.2	321	1.57	4.7	1.9	0.7	29	<0.1	0.4	<0.1	40	0.27	0.036	6	
FP13 530B Soil		0.4	21.0	8.7	75	0.2	11.8	7.9	543	2.15	5.6	<0.5	0.5	48	0.2	0.2	0.1	47	0.36	0.048	11	
FP13 531B Soil		0.9	16.6	11.4	77	0.1	12.0	9.5	790	2.45	9.8	<0.5	0.6	39	0.2	0.3	0.1	52	0.37	0.101	8	
FP13 532B Soil		0.5	12.6	7.6	70	0.2	8.0	5.5	598	1.73	4.1	<0.5	0.6	36	0.2	0.2	0.1	38	0.24	0.044	8	



Acme Analytical Laboratories (Vancouver) Ltd. 9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA PHONE (604) 253-3158

Client: **Copper Mountain Mining Corporation** 

1700 - 700 West Pender St. Vancouver BC V6G 1G8 CANADA

Project: Fenton

Report Date: October 17, 2013

2 of 3 Part: 2 of 2 Page:

# CERTIFICATE OF ANALYSIS

# SMI13000341.1

	Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	Analyte	Cr	Mg	Ва	Ti	В	ΑI	Na	K	w	Hg	Sc	TI	s	Ga	Se	Те
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
FP13 501B Soil		21	0.34	163	0.035	<20	2.78	0.008	0.11	<0.1	0.07	4.1	<0.1	<0.05	7	<0.5	<0.2
FP13 504B Soil		27	0.64	302	0.007	<20	2.77	0.018	0.07	<0.1	0.06	6.5	<0.1	<0.05	8	<0.5	<0.2
FP13 505B Soil		18	0.41	184	0.016	<20	1.97	0.013	0.06	<0.1	0.03	3.1	<0.1	<0.05	6	<0.5	<0.2
FP13 506B Soil		19	0.41	294	0.012	<20	2.35	0.016	0.05	<0.1	0.08	4.3	0.2	<0.05	5	<0.5	<0.2
FP13 507B Soil		16	0.34	151	0.046	<20	1.79	0.008	0.05	<0.1	0.02	3.3	<0.1	<0.05	5	<0.5	<0.2
FP13 508B Soil		16	0.36	182	0.015	<20	1.71	0.015	0.07	<0.1	0.06	4.5	0.1	<0.05	5	<0.5	<0.2
FP13 509B Soil		8	0.14	75	0.022	<20	0.67	0.006	0.05	0.2	0.04	1.3	0.1	<0.05	3	<0.5	<0.2
FP13 510B Soil		11	0.19	101	0.036	<20	1.15	0.007	0.05	<0.1	0.03	2.0	<0.1	<0.05	4	<0.5	<0.2
FP13 511B Soil		11	0.32	138	0.024	<20	1.22	0.010	0.05	<0.1	0.03	2.9	0.2	<0.05	4	<0.5	<0.2
FP13 512B Soil		9	0.11	149	0.026	<20	0.74	0.007	0.05	<0.1	0.02	1.6	<0.1	<0.05	4	<0.5	<0.2
FP13 513B Soil		10	0.31	127	0.026	<20	0.92	0.012	0.08	<0.1	0.03	3.7	0.2	<0.05	3	<0.5	<0.2
FP13 514B Soil		10	0.34	109	0.034	<20	1.17	0.007	0.03	<0.1	0.02	2.7	<0.1	<0.05	4	<0.5	<0.2
FP13 515B Soil		8	0.19	147	0.021	<20	0.90	0.007	0.06	<0.1	0.05	1.9	<0.1	<0.05	3	<0.5	<0.2
FP13 516B Soil		4	0.06	32	0.031	<20	0.28	0.007	0.02	<0.1	0.01	1.0	<0.1	<0.05	2	<0.5	<0.2
FP13 517B Soil		10	0.22	89	0.026	<20	1.21	0.007	0.05	<0.1	0.03	1.8	<0.1	<0.05	4	<0.5	<0.2
FP13 518B Soil		8	0.13	59	0.031	<20	0.76	0.007	0.04	<0.1	0.01	1.7	<0.1	<0.05	4	<0.5	<0.2
FP13 519B Soil		7	0.13	101	0.027	<20	0.63	0.008	0.04	<0.1	0.04	1.8	<0.1	<0.05	3	<0.5	<0.2
FP13 520B Soil		11	0.29	69	0.051	<20	0.83	0.010	0.07	<0.1	0.02	3.3	<0.1	<0.05	3	<0.5	<0.2
FP13 521B Soil		5	0.07	44	0.026	<20	0.45	0.007	0.04	<0.1	0.02	1.1	<0.1	<0.05	3	<0.5	<0.2
FP13 522B Soil		15	0.37	148	0.041	<20	1.26	0.016	0.05	<0.1	0.05	5.9	<0.1	<0.05	4	<0.5	<0.2
FP13 523B Soil		12	0.33	113	0.037	<20	1.07	0.011	0.05	<0.1	0.02	3.5	0.1	<0.05	3	<0.5	<0.2
FP13 524B Soil		10	0.26	142	0.023	<20	1.20	0.010	0.05	<0.1	0.03	2.2	0.1	<0.05	4	<0.5	<0.2
FP13 525B Soil		14	0.37	139	0.030	<20	1.74	0.014	0.06	<0.1	0.05	3.3	0.1	<0.05	5	<0.5	<0.2
FP13 526B Soil		15	0.34	151	0.044	<20	1.17	0.016	0.05	<0.1	0.02	4.0	<0.1	<0.05	4	<0.5	<0.2
FP13 527B Soil		14	0.37	205	0.034	<20	1.53	0.011	0.06	<0.1	0.03	3.8	0.1	<0.05	4	<0.5	<0.2
FP13 528B Soil		24	0.54	265	0.009	<20	2.62	0.019	0.09	<0.1	0.09	6.7	0.1	<0.05	7	<0.5	<0.2
FP13 529B Soil		11	0.35	87	0.048	<20	0.95	0.014	0.05	<0.1	0.02	2.6	<0.1	<0.05	4	<0.5	<0.2
FP13 530B Soil		14	0.46	158	0.025	<20	1.65	0.014	0.06	<0.1	0.04	4.0	<0.1	<0.05	5	<0.5	<0.2
FP13 531B Soil		15	0.38	144	0.030	<20	1.48	0.011	0.08	<0.1	0.03	3.5	<0.1	<0.05	4	<0.5	<0.2
FP13 532B Soil		12	0.29	115	0.045	<20	1.05	0.011	0.06	<0.1	0.03	2.5	<0.1	<0.05	4	<0.5	<0.2



Acme Analytical Laboratories (Vancouver) Ltd.

FP13 533B

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA

www.acmelab.com

Client:

**Copper Mountain Mining Corporation** 

1700 - 700 West Pender St. Vancouver BC V6G 1G8 CANADA

Project:

Fenton

Report Date:

October 17, 2013

PHONE (604) 253-3158 3 of 3 Page: Part: 1 of 2 CERTIFICATE OF ANALYSIS SMI13000341.1

Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX							
Analyte	Мо	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Са	Р	La
Unit	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm							
MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Soil	0.7	7.0	8.9	79	0.2	5.1	3.0	1265	1.97	6.9	<0.5	0.2	40	0.2	0.2	0.1	39	0.38	0.144	4



**Copper Mountain Mining Corporation** 

1700 - 700 West Pender St. Vancouver BC V6G 1G8 CANADA

Project: Fenton

Client:

October 17, 2013

Report Date:

Acme Analytical Laboratories (Vancouver) Ltd.

9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA PHONE (604) 253-3158

3 of 3 Page:

Part: 2 of 2

# **CERTIFICATE OF ANALYSIS**

# SMI13000341.1

	Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	Analyte	Cr	Mg	Ва	Ti	В	Al	Na	K	W	Hg	Sc	TI	s	Ga	Se	Te
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
FP13 533B	Soil	9	0.14	170	0.028	<20	0.92	0.007	0.06	<0.1	0.09	1.9	<0.1	<0.05	5	<0.5	<0.2



Acme Analytical Laboratories (Vancouver) Ltd. 9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA PHONE (604) 253-3158

Client: **Copper Mountain Mining Corporation** 

1700 - 700 West Pender St. Vancouver BC V6G 1G8 CANADA

Project: Fenton

Report Date: October 17, 2013

Page: 1 of 1 Part: 1 of 2

QUALITY CONTROL REPORT SMI13000341.1															1						
	Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	Analyte	Мо	Cu	Pb	Zn	Ag	Ni	Co	Mn	Fe	As	Au	Th	Sr	Cd	Sb	Bi	V	Ca	Р	La
	Unit	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	%	ppm	ppb	ppm	ppm	ppm	ppm	ppm	ppm	%	%	ppm
	MDL	0.1	0.1	0.1	1	0.1	0.1	0.1	1	0.01	0.5	0.5	0.1	1	0.1	0.1	0.1	2	0.01	0.001	1
Pulp Duplicates																					
FP13 523B	Soil	0.6	13.5	20.2	96	0.1	8.7	6.2	491	1.98	13.6	<0.5	1.4	29	0.2	0.9	0.2	42	0.29	0.047	8
REP FP13 523B	QC	0.7	13.0	20.1	91	0.1	9.3	6.1	511	1.92	13.9	<0.5	1.3	28	0.2	1.0	0.2	42	0.27	0.046	8
Reference Materials																					
STD DS10	Standard	14.8	159.3	158.1	364	2.3	75.7	13.4	848	2.80	46.7	60.5	7.6	67	2.5	7.5	12.3	46	1.02	0.076	18
STD OREAS45EA	Standard	1.3	623.0	13.6	27	0.3	337.3	49.8	360	22.72	9.1	52.8	10.0	4	<0.1	0.2	0.2	269	0.04	0.026	7
STD DS10 Expected		14.69	154.61	150.55	352.9	1.96	74.6	12.9	861	2.7188	43.7	91.9	7.5	67.1	2.48	9.51	11.65	43	1.0355	0.073	17.5
STD OREAS45EA Expected		1.39	709	14.3	28.9	0.26	381	52	400	23.51	9.1	53	10.7	3.5	0.02	0.2	0.26	303	0.036	0.029	6.57
BLK	Blank	<0.1	<0.1	<0.1	<1	<0.1	<0.1	<0.1	<1	<0.01	<0.5	<0.5	<0.1	<1	<0.1	<0.1	<0.1	<2	<0.01	<0.001	<1



Acme Analytical Laboratories (Vancouver) Ltd. 9050 Shaughnessy St Vancouver BC V6P 6E5 CANADA PHONE (604) 253-3158

Client: **Copper Mountain Mining Corporation** 

1700 - 700 West Pender St. Vancouver BC V6G 1G8 CANADA

Project: Fenton

Report Date: October 17, 2013

Page: 1 of 1 Part: 2 of 2

# **QUALITY CONTROL REPORT**

## SMI13000341.1

	Method	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX	1DX
	Analyte	Cr	Mg	Ва	Ti	В	Al	Na	K	W	Hg	Sc	TI	S	Ga	Se	Те
	Unit	ppm	%	ppm	%	ppm	%	%	%	ppm	ppm	ppm	ppm	%	ppm	ppm	ppm
	MDL	1	0.01	1	0.001	20	0.01	0.001	0.01	0.1	0.01	0.1	0.1	0.05	1	0.5	0.2
Pulp Duplicates																	
FP13 523B	Soil	12	0.33	113	0.037	<20	1.07	0.011	0.05	<0.1	0.02	3.5	0.1	<0.05	3	<0.5	<0.2
REP FP13 523B	QC	12	0.33	111	0.039	<20	1.06	0.009	0.05	<0.1	0.02	3.8	<0.1	<0.05	3	<0.5	<0.2
Reference Materials																	
STD DS10	Standard	55	0.74	392	0.087	<20	1.01	0.062	0.32	2.6	0.30	2.7	4.9	0.28	4	2.6	4.8
STD OREAS45EA	Standard	745	0.10	139	0.094	<20	2.76	0.021	0.05	<0.1	<0.01	68.3	<0.1	<0.05	11	1.1	<0.2
STD DS10 Expected		54.6	0.7651	349	0.0817		1.0259	0.0638	0.3245	3.34	0.289	2.8	4.79	0.2743	4.3	2.3	4.89
STD OREAS45EA Expected		849	0.095	148	0.0875		3.13	0.02	0.053			78	0.072	0.036	11.7	0.6	0.07
BLK	Blank	<1	<0.01	<1	<0.001	<20	<0.01	<0.001	<0.01	<0.1	<0.01	<0.1	<0.1	<0.05	<1	<0.5	<0.2