

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)]: Technical - Prospecting and Geological

TOTAL COST: \$6676.82

AUTHOR(S): Alexander Hirtz, Benjamin Firmston **SIGNATURE(S):** _____

NOTICE OF WORK PERMIT NUMBER(S)/DATE(S): _____ **YEAR OF WORK:** 2012

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

PROPERTY NAME: Cannonball

CLAIM NAME(S) (on which the work was done): Cannonball, Tenure 1013104

COMMODITIES SOUGHT: Au, Ag,Cu, Pb, Zn

MINERAL INVENTORY MINFILE NUMBER(S), IF KNOWN: 082ESE094

MINING DIVISION: Greenwood **NTS/BCGS:** NTS 082E01E, BCGS 082E009

LATITUDE: 49 ° 5 '8N " **LONGITUDE:** 118 ° 12 '7W " (at centre of work)

OWNER(S):
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MAILING ADDRESS:
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Po Box 1471, Grand Forks, BC, V0H1H0

PROPERTY GEOLOGY KEYWORDS (lithology, age, stratigraphy, structure, alteration, mineralization, size and attitude):
Gold Skarn, Copper Skarn, Nelson Intrusive, Mount Roberts Formation

REFERENCES TO PREVIOUS ASSESSMENT WORK AND ASSESSMENT REPORT NUMBERS: EMPR ASS RPT 2371, 3054

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	_____	_____	_____
Other	_____	_____	_____
DRILLING (total metres; number of holes, size)			
Core	_____	_____	_____
Non-core	_____	_____	_____
RELATED TECHNICAL			
Sampling/assaying	0.012 Sq. Km	6	\$6676.82
Petrographic	_____	_____	_____
Mineralographic	_____	_____	_____
Metallurgic	_____	_____	_____
PROSPECTING (scale, area)		_____	_____
PREPARATORY / PHYSICAL			
Line/grid (kilometres)	_____	_____	_____
Topographic/Photogrammetric (scale, area)	_____	_____	_____
Legal surveys (scale, area)	_____	_____	_____
Road, local access (kilometres)/trail	_____	_____	_____
Trench (metres)	_____	_____	_____
Underground dev. (metres)	_____	_____	_____
Other	_____	_____	_____
		TOTAL COST:	\$6676.82

BC Geological Survey
Assessment Report
34437

Cannonball Property

Technical Report for Work Performed on Claim between 1 October 2012 and 15 November 2012

Tumaco Group

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Introduction

This report outlines technical work performed on the Cannonball Claim (Tenure #1013104) in the Christina Skarn Belt, currently held by the Tumaco Group. The Cannonball target may be classified as a gold skarn associated with arsenopyrite. It is located near the southeast shore of Christina Lake in the Greenwood Mining Division of British Columbia. Please note that much of the general information contained within this report is also included in Tumaco Group's submitted assessment report for the Golden Goose claim (no publication at time of this writing), which was concurrently explored with Cannonball.

During the late 19th century, a major mining boom occurred in Southern British Columbia's Boundary, Okanagan, Similkameen, and Kootenay districts. Dozens of mining towns popped up; the gold and silver rush produced more ore than in California in the same period. Some of these populated areas have become ghost towns, others have flourished into tourist attractions, while most have vanished in the wilderness. Famous mines like Phoenix, the Union Mine, the Mother Lode, the Blue Bell Mine and hundreds more are now closed, while companies which have made their wealth in these areas, like Cominco, are now big producers elsewhere (See Map 1).

Thousands of miners were drawn to the Kootenays in search of El Dorado to load their mules with high grade ore, mainly gold, silver and copper, which had to be transported by train to nearby smelters.

Currently, most of these famous historic mining districts are blanketed by myriad claims, but the immensity of the Kootenay territory still allows for the discovery of potential large area plays—particularly for lower grade ore which was not attractive in the past. Now, the combination of high metal prices, improved access, and advanced detection technology opens up a whole new horizon of lucrative possibilities.

In the past three decades, most companies have moved to exploring in poorer countries, where other world class deposits have been discovered. However, they almost invariably encounter complex political and social problems, putting their investments in great risk.

The Tumaco Group has considered it convenient to explore the mining potential in the Kootenay district in areas that appear to have been temporarily attractive to prospectors in the past and remain open ground for prospection in the present (See Map 2).

350000

400000

Map 1 Boundary District Historic Mining Features

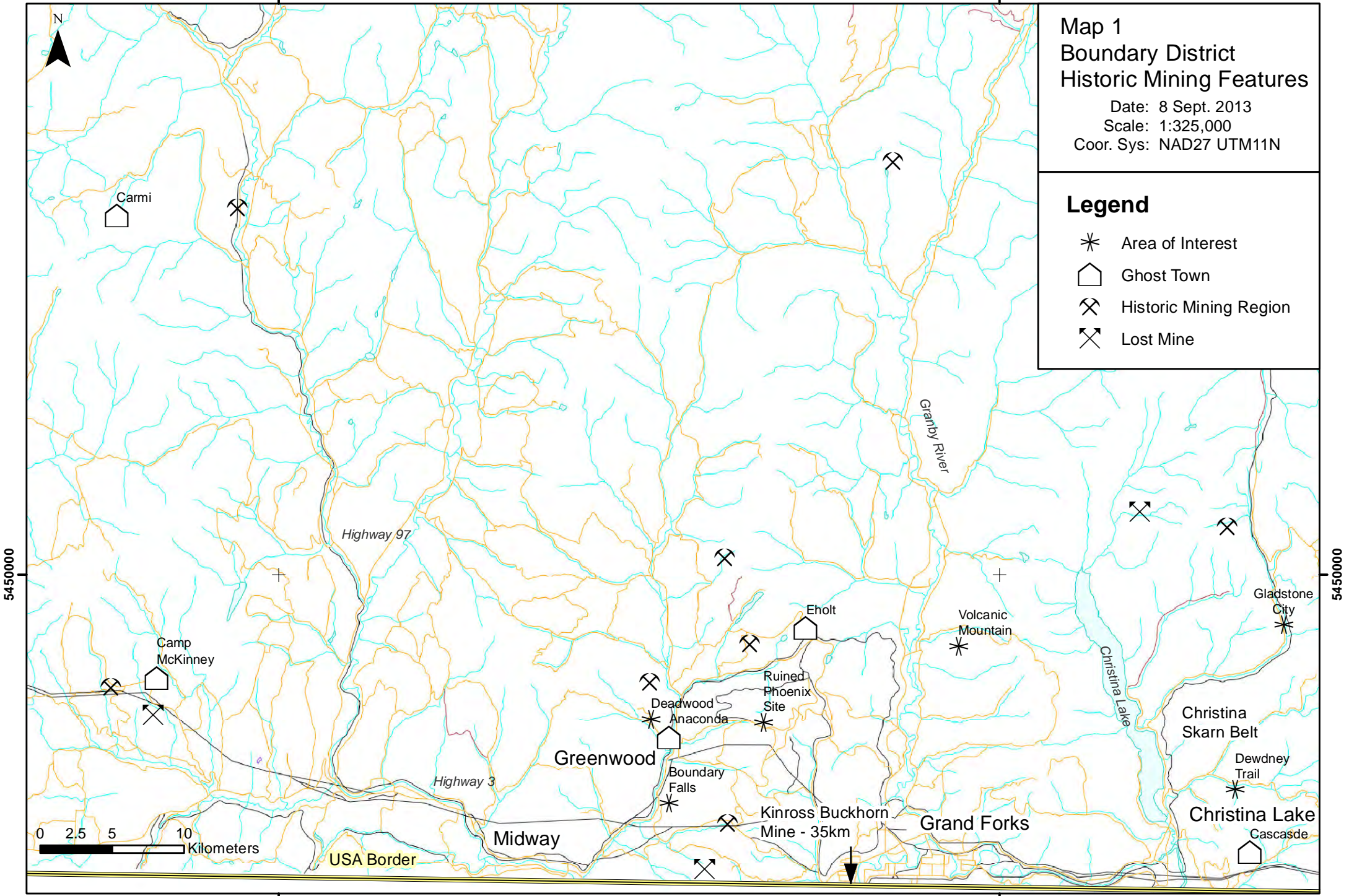
Date: 8 Sept. 2013

Scale: 1:325,000

Coor. Sys: NAD27 UTM11N

Legend

-  Area of Interest
-  Ghost Town
-  Historic Mining Region
-  Lost Mine



5450000

5450000

0 2.5 5 10
Kilometers

350000

400000

USA Border

Midway

Greenwood

Deadwood
Anaconda

Boundary
Falls

Kinross Buckhorn
Mine - 35km

Grand Forks

Eholt

Volcanic
Mountain

Christina
Lake

Christina
Skarn Belt

Dewdney
Trail

Christina Lake

Cascade

Gladstone
City

Carmi

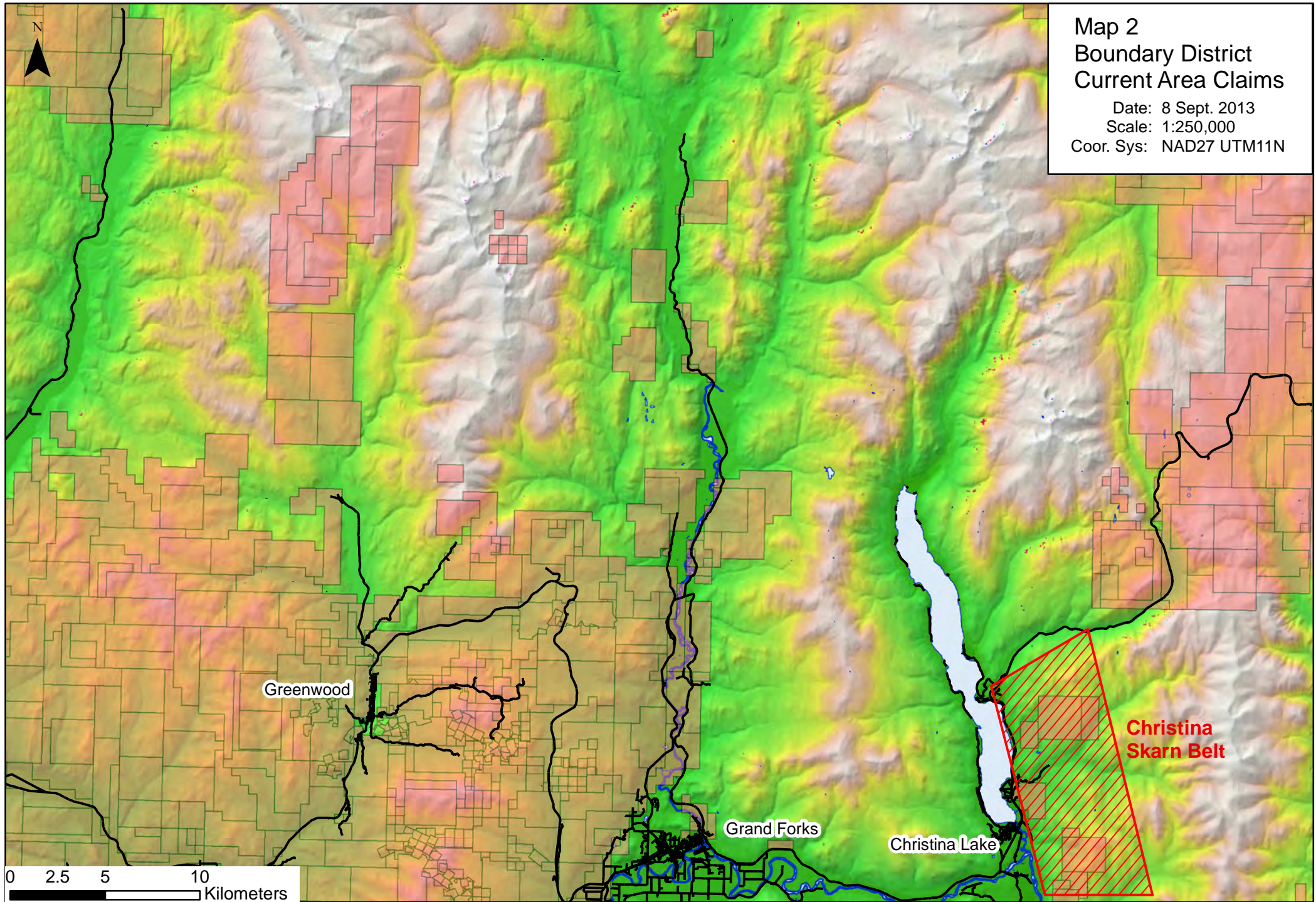
Highway 97

Highway 3

Granby River

Map 2
Boundary District
Current Area Claims

Date: 8 Sept. 2013
Scale: 1:250,000
Coord. Sys: NAD27 UTM11N



Greenwood

Grand Forks

Christina Lake

**Christina
Skarn Belt**

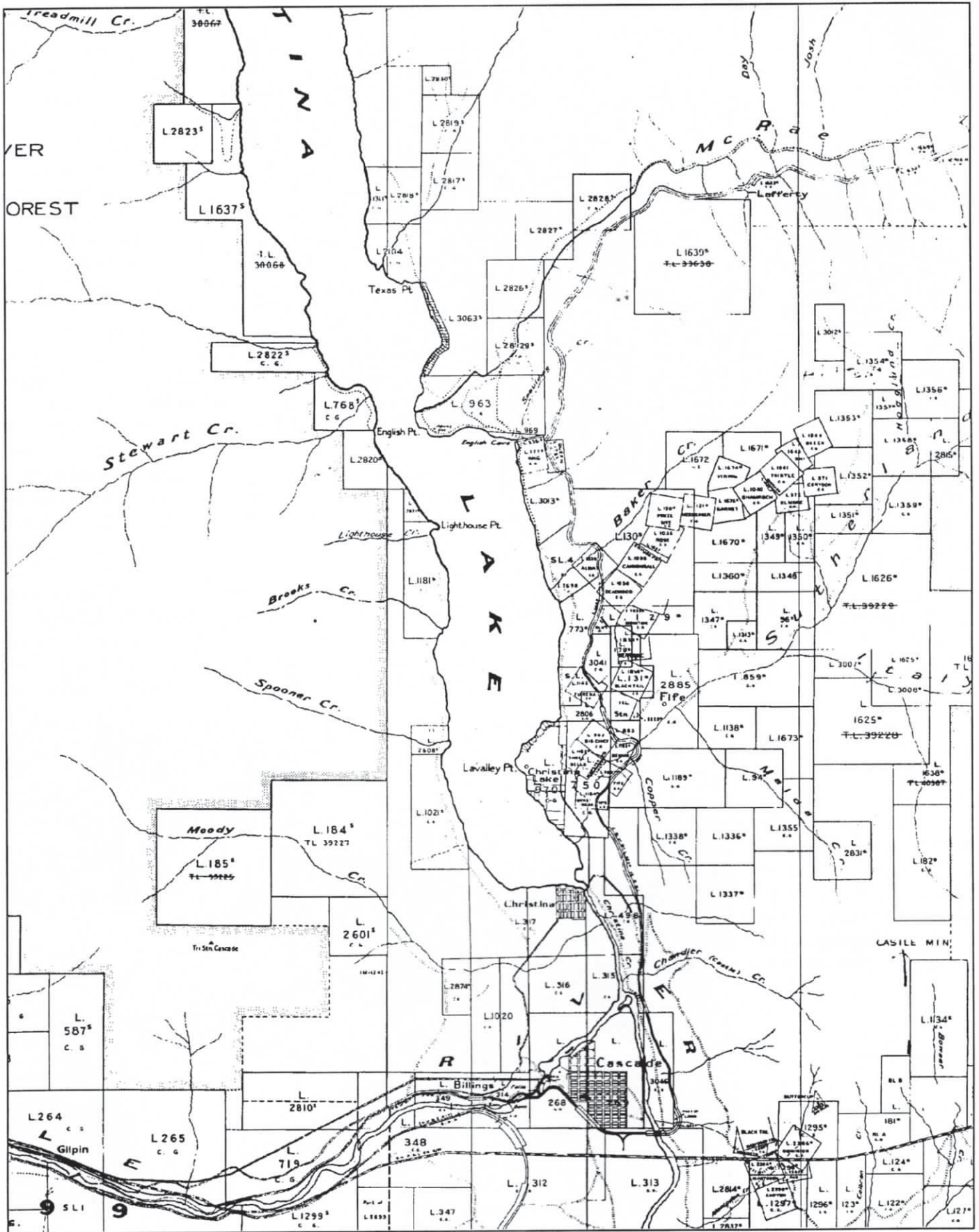
0 2.5 5 10
Kilometers

Tumaco Group chose to examine the eastern flank of Christina Lake, where the geologic setting is very favourable for skarn deposits. Between Christina Lake and the Columbia River to the east are mountain ranges mainly composed of granodiorite and quartz diorite intrusives. The greatest skarn discoveries were made at the contact on the east flank of these intrusives with sedimentary calcarious sediments around Rossland, Trail and Castlegar, where the whole district is currently blanketed with claims. On the contrary, there are almost no claims on the western flank of these intrusives, even though at the turn of the century many hundreds of claims covered this belt (See Maps 3a, 3b, and 3c).

Maps 3a and 3b
Historic Claims in Christina Skarn Belt
1900s



Map 3c
Historic Claims in Christina Skarn Belt
1900s



The Tumaco Group made several reconnaissance trips around the forestry roads in this area, investigating historic claims and taking samples for analysis.

As mentioned, old claim maps from the turn of the century show abundant claims all along this belt, particularly bordering the drainages of streams. However, with the exception of some small exploratory workings, no major mine had developed.

A cursory prospection along this belt indicates a pervasive contact metamorphism where the calc sediments have been altered to hornfels flooded with silica and disseminated pyrite. A closer look at historic information indicates a number of showings related to skarns listed from north to south: the Big Iron, Beech, Crackerjack, Iron Mountain, Elmore, Garnet, Cannonball, Alma, the Fife Limestone, the Fife Mine, Castle Mountain Nickel, Mastodon, Mammoth, etc. With the exception of the chrome-nickel targets on Castle Mountain, all these mineralized showings are related to various types of skarns (See Map 4).

410000

415000

420000

N

MANITOU

EVA BELL

HALIFAX

CORYELL

GARNET

KING

MESSENGER

PRIZE NO. 2

ELMORE

ALMA

CANNON BALL

FIFE LIMESTONE

EUREKA

FIFE

CALEDONIA

Christina Lake

CASTLE MOUNTAIN NICKEL

Legend



MINFILE



Watercourse



Trail (other)



Railway

Roads



loose



paved



rough

Map 4 Christina Skarn Belt Mineralized Showings

Date: 8 Sept. 2013

Scale: 1:70,000

Coor. Sys; NAD27 UTM11N

0 0.5 1 2 3 Kilometers

410000

415000

420000

5445000

5445000

5440000

5440000

5435000

5435000

5430000

5430000

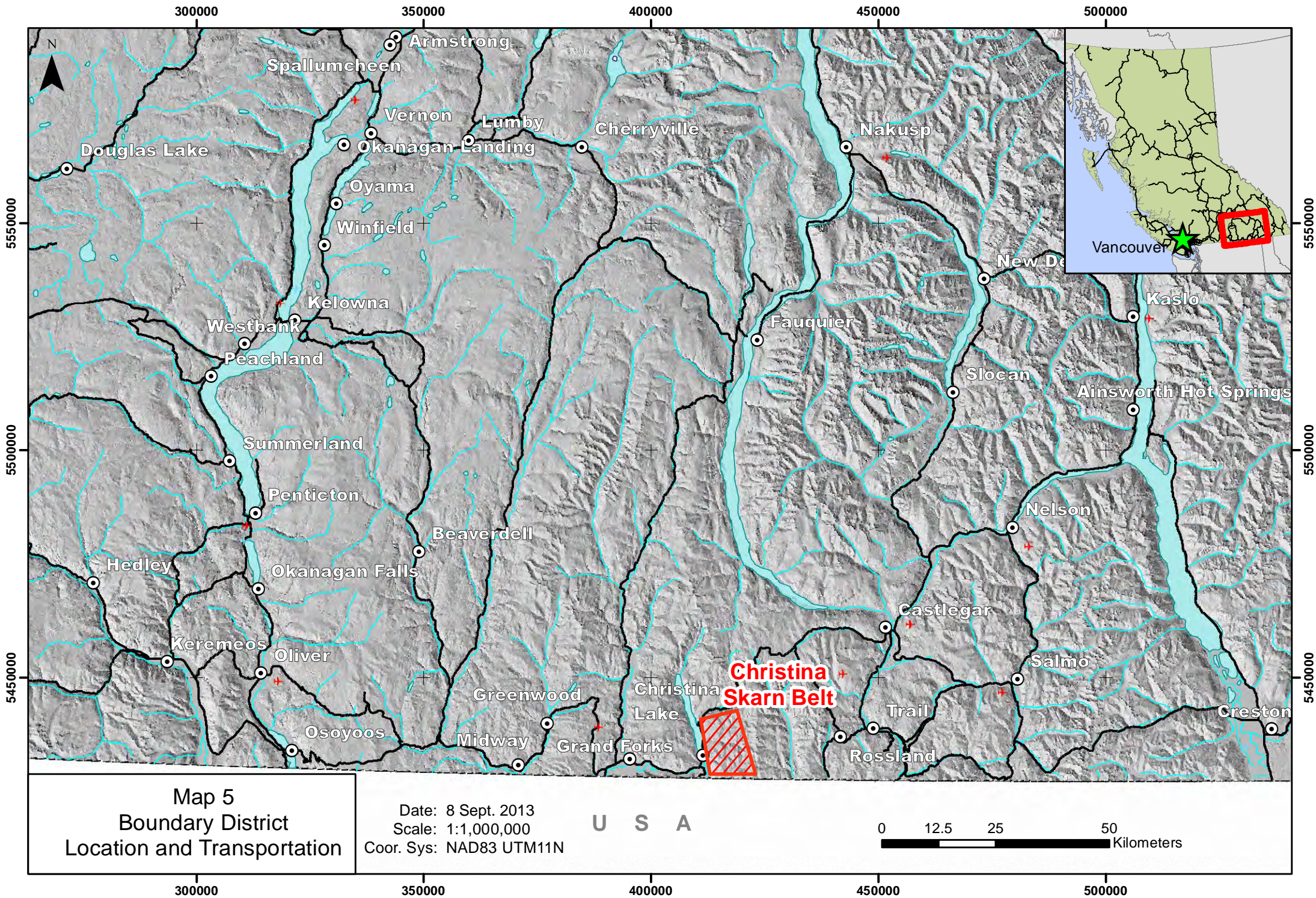
In 1970 an option agreement was signed between Imperial Oil Enterprises Ltd. and Boundary Exploration Ltd. The option covered 106 contiguous claims and three crown grants (approximately 5000 acres), about one mile from the east shore of the Christina Lake, covering the potential targets for copper skarns. The exploration program consisted of 47 miles of cut lines, 1200 soil samples, 422 stream sediment samples and a 40 kilometer ground magnetometer survey. The program resulted in very favourable recommendations to follow-up with more exploration. However, further work never developed at the time, likely because of the depressed market in copper prices. The exploration report's conclusion points out the possibilities for skarn-type ore bodies, and it also indicates the possibility of large-scale copper porphyries in the intrusives (Scott & Sommerville, 1970; Kermeen, 1970).

The work executed by Imperial Oil does not discuss any of the old workings like the Cannonball. The report only contains references in their geology map to scattered showings of outcrops with pyrite or chalcopyrite. In our scouting along this belt, we have encountered various mining works of trenches, shafts, and tunnels. However, these discoveries do not necessarily match the description of the old workings found in the literature. It should be noted that these workings are mostly over a century old; what may have been major operations then, are now almost entirely concealed by a hundred years of forestry growth.

Property Location and Access

The Christina Skarn Belt (and Cannonball claim) is located on the eastern side of Christina Lake, between McRae Creek in the north and Chandler Creek in the south.

The town of Christina Lake is located at the southern tip of the lake, 26 km east of Grand Forks on B.C. Highway 3. The highway continues northward following the eastern shore of Christina Lake and turns east at McRae Creek, continuing on to Castlegar and Nelson. The former Highway 3, which followed the historic gold rush era Dewdney Trail from Christina Lake to Rossland, is still accessible via Santa Rosa road at Christina Lake. Southwards from the lake, the old Dewdney Trail cuts the southern end of the Christina Skarn Belt along Chandler Creek. Canadian Pacific Railway, now part of the Trans Canada Trail, passes through the middle of the skarn belt. Numerous logging roads crisscross the belt, facilitating access to most of the targets (See Map 5).



Physiography, Climate and Infrastructure

The Christina Skarn Belt is located in a gently contoured tree-covered, mountainous region with areas of locally steep topography. Relief varies from 450m above sea level at Christina Lake to a maximum of 1300m atop Castle Mountain. The belt is drained by Baker, Sutherland and Chandler Creeks and their tributaries. Bedrock is obscured by overburden over perhaps 90% of the belt. In the valleys and lower parts of slopes the overburden probably includes glacial debris up to several tens of feet thick.

Vegetation consists of thick secondary growth forest, with dense undergrowth. The forest is mixed, with cedar, larch, spruce, pine and fir all present. Recent logging has resulted in a number of large clear cuts.

The climate is moderately dry, with hot summers and only minor rainfall. Snowfall is typically in the order of 2.5 - 3 metres annually, and the property is generally snow free from early May to mid-November. Water is available for drilling from nearby creeks or from several small ponds.

Infrastructure is very accessible from the nearby towns of Christina Lake, Grand Forks, Trail (Teck-Cominco Smelter), Rossland, Castlegar and Nelson. The properties are also less than 10km from the highway USA border crossing at Cascade/Laurier.

Regional Geology

The Christina Skarn Belt is situated within the Boundary District of southern British Columbia and northern Washington State in the Grand Forks Map Sheet (082E/01). The following geological description is largely borrowed from Caron (2003 and 2005).

The Boundary District is a highly mineralized area straddling the Canada-USA border and including the Republic, Belcher, Rossland and Greenwood Mining Camps. The Boundary District has total gold production exceeding 8 million ounces (Schroeter et al, 1989; Hoy and Dunne, 2001; Lasmanis, 1996). The majority of this production has been from the Republic and Rossland areas. At Republic, about 2.5 million ounces of gold, at an average grade of more than 17 g/t Au, has been produced from epithermal veins (Lasmanis, 1996). In the Rossland Camp, 2.8 million ounces of gold at an average grade of 16 g/t Au was mined from massive pyrrhotite-pyrite-chalcopyrite veins (Hoy and Dunne, 2001). Recent exploration in the Boundary District has resulted in the discovery of a number of new deposits. During the period 1990-2001, Echo Bay Mines produced a combined total of 1.07 million ounces gold from six of these deposits (Echo Bay Mines Annual Reports, 2001 & 2002). Kinross Gold Corp. purchased the Buckhorn mine in 2003, which began production in October 2008, and produced 27,036 gold equivalent ounces at an average cost of \$344 per ounce in 2008.

The Boundary District is situated within Quesnellia, a terrane which accreted to North America during the mid-Jurassic. Proterozoic to Paleozoic North American basement rocks are exposed in the Kettle and Okanogan metamorphic core complexes. These core complexes were uplifted during the Eocene, and are separated from the younger overlying rocks by low-angle normal (detachment) faults. The distribution of these younger rocks is largely controlled by a series of faults, including both Jurassic thrust faults (related to the accretionary event), and Tertiary extensional and detachment faults.

The oldest of the accreted rocks in the district are late Paleozoic volcanics and sediments. In the southern and central parts of the district, these rocks are separated into the Knob Hill and overlying Attwood Groups. Rocks of the Knob Hill Group are of dominantly volcanic affinity, and consist mainly of chert, greenstone and related intrusives, and serpentinite. The serpentinite bodies of the Knob Hill Group represent part of a disrupted ophiolite suite which have since been structurally emplaced along Jurassic thrust faults. Commonly, these serpentinite bodies have undergone Fe-carbonate alteration to listwanite, as a result of the thrusting event. Serpentinite is also commonly remobilised along later structures. Unconformably overlying the Knob Hill rocks are sediments and volcanics (largely argillite, siltstone, limestone and andesite) of the late Paleozoic Attwood Group. The Paleozoic rocks are unconformably overlain by the Triassic Brooklyn Formation, represented largely by limestone, clastic sediments and pyroclastics. Both the skarn deposits and the gold-bearing volcanogenic magnetite-sulfide deposits in the district are hosted within the Triassic rocks. In the western part of the district, the Permo-Triassic rocks are undifferentiated and grouped together as the Anarchist Group, while in the east (Rossland area) the Triassic section is largely missing and the Carboniferous-Permian sequence is referred to as the Mount Roberts Formation. The Mount Roberts Formation is comprised of greywacke, greenstone, limestone and paragneiss. Hoy and Dunne (1997) note that in northern Washington, early Triassic rocks of similar lithologies are included within the Mount Roberts Formation.

Volcanic rocks overlying the Triassic Brooklyn Formation in the Greenwood, Danville and Chesaw areas may be part of the Brooklyn Formation, or may belong to the younger Jurassic Rossland Group. In the Rossland area, the lower Jurassic Rossland Group is comprised of a thick sequence of intermediate to mafic volcanic rocks and associated coarse to fine clastic rocks. The Rossland Group hosts a variety of styles of mineralization, including the auriferous massive pyrrhotite veins at Rossland, alkalic copper-gold porphyries, gold-copper skarns and shear related mineralization (Hoy and Dunne, 1997).

At least four separate intrusive events are known regionally to cut the above sequence, including the Jurassic-aged alkalic intrusives (i.e. Lexington porphyry, Rossland monzonite, Sappho alkalic complex), Triassic microdiorite (i.e. Brooklyn microdiorite, Josh Creek diorite), Cretaceous-Jurassic Nelson intrusives, and Eocene Coryell (and Scatter Creek) dykes and stocks.

In the Greenwood area, Fyles (1990) has shown that the pre-Tertiary rocks form a series of thrust slices, which lie above a basement high grade metamorphic complex. A total of at least five thrust slices are recognised, all dipping gently to the north, and marked in many places by bodies of serpentine. There is a strong spatial association between Jurassic thrust faults and gold mineralization in the area.

Eocene sediments and volcanics unconformably overlie the older rocks. The oldest of the Tertiary rocks are conglomerate and arkosic and tuffaceous sediments of the Eocene Kettle River Formation. These sediments are overlain by andesitic to trachytic lavas of the Eocene Marron Formation, and locally by rhyolite flows and tuffs, such as in the Franklin Camp. The Marron volcanics are in turn unconformably overlain by lahars and volcanics of the Eocene Klondike Mountain Formation. Epithermal gold mineralization, related to Eocene structural activity, has been an important source of gold in the Boundary District.

The known gold deposits within the Boundary District can be broadly classified into six deposit types, including skarn deposits, gold (+ silver, lead, zinc) veins, epithermal gold deposits, Jurassic alkalic intrusives with associated copper, gold, silver and/or PGE mineralization, gold mineralization associated with serpentinite, and gold-bearing volcanogenic magnetite-sulfide deposits (i.e. Lamfoot-type) (Caron, 2005).

A granodiorite just east the town of Christina Lake, inferred to be part of the Nelson suite, is cut and offset by two of the thrust faults, and a small granitic plug just north of the Washington border, also correlated with the Nelson suite, appears to be truncated by two splays of the southern thrust fault. The thrust faults are generally truncated by Eocene Coryell intrusive rocks, providing an upper age limit to faulting. However, in the very southeastern part of the map area, the most eastern thrust fault produces minor shearing and alteration in the Coryell batholith. As offset of the Coryell was not noted, it is probable that this represents only minor reactivation along the older thrust fault.

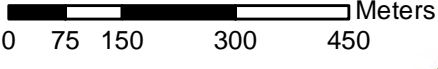
The Kettle River fault is not well exposed to the west of the Christina Skarn Belt. Throughout most of its length its trace is beneath Christina Lake or covered in overburden south of the Town of Christina Lake. Farther south in northern Washington, the fault separates amphibolite- grade rocks of the Kettle complex (the southern extension of the Grand Forks complex) from lower metamorphic grade rocks to the east (Cheney, 1980). Northeast of Christina Lake, Preto (1970) placed the fault at the contact of high grade gneissic rocks with Nelson granitic rocks. However, Parrish et al. (1988) place the fault farther east, thereby including foliated and metamorphosed rocks that are correlated with the Nelson granite in the Grand Forks Complex (Hoy and Jackman).

The general geology for the Cannonball Claim may be seen on the included geology map (Map 6), which has been reinterpreted and digitized from Imperial Oil's Assessment report 3047.

412500

413000

413500



Legend

- Faults
- ~ Watercourse

Roads

- loose
- paved
- rough

Geological Units

- 1a - Greywacke
- 1b - Limestone
- 1b(s) - Limestone Skarn
- 2a - Granite
- 2b - Diorite
- 2c - Gabbro
- 3a - Syenite
- 3b - Syenite / Ferric Gabbro



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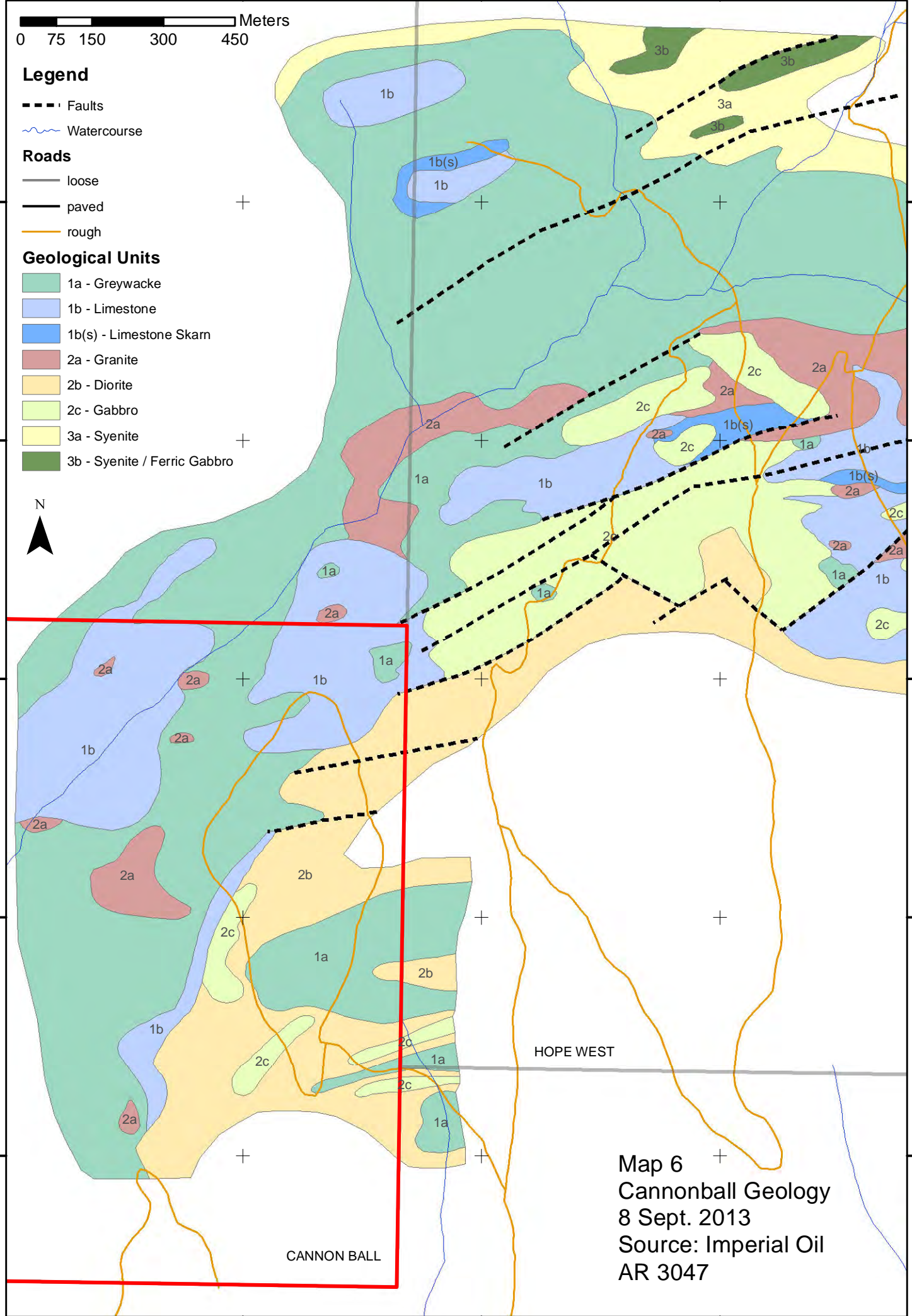
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HOPE WEST

CANNON BALL

Map 6
 Cannonball Geology
 8 Sept. 2013
 Source: Imperial Oil
 AR 3047



Types of Potential Economic Ore Deposits

The Christina Skarn Belt lies between the Rossland area in the east and the Greenwood area in the west. Exploration in the Republic District of northern Washington, southwest of Christina Lake, has led to the discovery of several copper-gold skarns and epithermal gold deposits, and recent prospecting northeast of Christina Lake has also identified several epithermal gold targets that appear to be related to Eocene Coryell intrusive rocks. Both the Rossland and Greenwood camps are historical gold producers that are currently undergoing renewed interest and exploration, as is the Franklin gold camp northwest of Christina Lake and in Burnt Basin, northeast of Christina Lake. The Tumaco Group has focused to the east of Christina Lake, in part due to the similarities in styles of mineralization, lithologies and structures that characterize the Rossland and Greenwood camps, and the Republic district. Numerous zones of mineralization are known to occur within the Christina Skarn Belt, as shown on Map No. 4. The known showings belong to eight main styles of mineralization, described as follows:

1) Auriferous massive sulfide mineralization

Stratigraphically controlled massive pyrrhotite-pyrite lenses occur in limey meta-sediments of the Mount Roberts Formation. Within these rocks, a number of small, highly silicified lenses of sulfide ore containing good gold values are known to occur. Several massive sulphide occurrences in meta-sediments just north of Sunderland Creek, east of Christina Lake, have similarities to the massive sulphide veins at Rossland. Preliminary investigation of these suggests that they are structurally controlled and related to a mafic intrusion, and have skarn envelopes and a mineralogy dominated by pyrrhotite, chalcopyrite and magnetite, which correlates with the major discoveries at Rossland.

2) Copper-Gold skarns

In the Christina Skarn Belt, the main target for this type of mineralization is located in the Elmore Showing. The Tumaco Group has recently identified the following potential economic gold skarns: the Fife Mine (Golden Goose), the Cannonball, and certain outcrops in the Elmore property. Gold –Copper skarns have been the most important type of mineral deposits in the Omineca Belt, with the famous mines Phoenix, Motherlode, Emma, B.C., Oro Denoro, Queen Victoria, Second Relief, Dividend, and Lakeview, among many others.

3) Magnetite-Pyrrhotite Pb-Zn-Ag Mineralization

Massive to disseminated galena, sphalerite, magnetite and pyrrhotite mineralization is associated with limestone and banded limey argillaceous hornfels sediments of the Mount Roberts Formation. Lenses of mineralization are frequently associated with contacts between the sediments and dykes or sills of Coryell syenite, and ore zones are said to be difficult to follow due to the presence of numerous dykes. Limited garnet and garnet-epidote skarns are present.

4) Iron Skarns

Several iron skarns and iron heads are reported in the Christina Skarn Belt and its surroundings. The main objective to study these iron skarns in more detail is their potential for economic gold plus copper, silver and magnetite as by-products, considering the current metal market prices, which, of course, were of little economic interest in the previous century.

5) Au-Ag Quartz Veins

Fissure type gold-bearing quartz veins occur near the contact with the large body of Nelson granodiorite, as well as within the intrusion. Several structural panels of Elise metavolcanic rocks in the Christina Skarn Belt are similar to host rocks of many of the Rossland veins, which enhances the

potential for Rossland- type veins. The veins contain minor sulfides, including pyrite, galena, sphalerite and minor chalcopyrite.

The Cannonball mine would likely fit into this type of mineralization, but with the added presence of abundant arsenopyrite (see Photo 1). Examples of this style of mineralization include the Mother Lode and Contact showings.

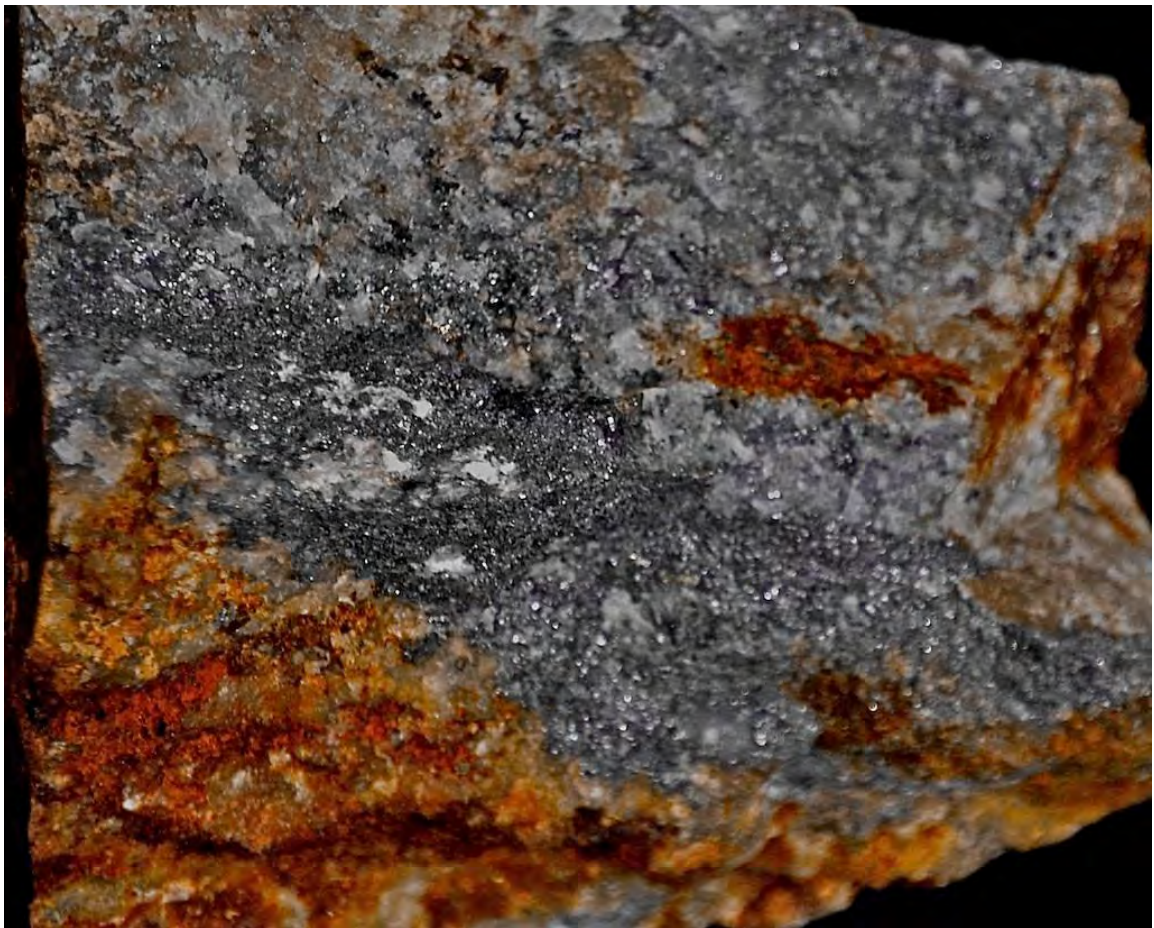


Photo 1

6) Epithermal Gold Deposits

Some recent exploration, particularly north and east of the Christina Skarn Belt, has focused on epithermal-style mineralization. This is due, in part, to the successful exploitation by Echo Bay Mines (now Kinross Gold Corp.) of the K-2 gold deposit in the Republic Graben in northern Washington State and to the recent successful drill results from the Emanuel Creek deposit. These are structurally controlled low-sulphidation epithermal gold deposits that appear to be related to an unconformity at the top of the Eocene Sanpoil Formation.

Similar north-trending structures extend into southern British Columbia and have been the focus of considerable exploration. Epithermal style gold mineralization is recognized in the Franklin gold camp, located along the Granby Fault northwest of the Christina Skarn Belt. Farther west, the Dusty Mac and Vault deposits, both low-sulphidation epithermal deposits, are within the White Lake basin along the north-trending Okanagan fault system. North of Christina Lake, in the Lower Arrow Lake area, prospecting has focused on north-trending structures and on Eocene age intrusive and volcanic rocks and has led to the discovery of several new occurrences with characteristics typical of epithermal gold mineralization.

A new thrust belt has been identified east of Christina Lake that is probably related to thrust faulting that has been documented at the Rosslund and Greenwood camps. The thrust faults in the Christina Lake area locally extend through Eocene Coryell rocks resulting in zones of widespread sericite-silica alteration and dispersed pyrite mineralization. This Eocene reactivation of earlier faults, associated hydrothermal activity, and Coryell host has similarities to epithermal mineralization that is currently being investigated at Lower Arrow Lake (Kootenay Gold Corp.). Hence, it is suggested that the large exposures of Coryell intrusive rock to the north, generally considered a barren host for mineralization, warrant further prospecting and exploration (Hoy, T. and Jackman, W., 2005).

7) Copper-Gold porphyries

The most important copper anomalies in stream sediments discovered by Imperial Oil are located in the Nelson granodiorite and in the Josh Creek diorite; considering that the values are highly anomalous over the length of the "M" tributary to Baker Creek, it is more likely the source is a copper porphyry rather than copper veins, an opinion shared in the report by Imperial Oil (Scott & Sommerville, 1970; Kermeen, 1970).

Technical Data and Interpretation

Cannonball & Alma: The Cannonball and Alma were examined in 1922 when it was stated that little had been done since 1900. Development consisted of many open cuts and pits near an oxidized iron-capped location. Also, two shafts were driven; one about 15 metres deep and following a stringer of ore carrying galena and pyrite, the other about 27 metres deep (about 23 metres from the first). A drift was run about 23 metres from the deepest shaft, but no ore was discovered. The area is underlain by sedimentary rocks of the Upper Paleozoic Mount Roberts Formation, which are intruded by syenite of the Eocene Coryell Plutonic Suite and gabbro.

The Tumaco Group discovered in the Cannonball property a shaft with a square outline, probably to hold a joist or elevator (Photo 2). The dump only shows marble with occasional disseminated pyrite, but most of the dump was covered by snow. Samples taken from the dump display clear mineralization. Nearby is a 20 metre long trench with very good samples of mineralized ore rich in quartz, galena, sphalerite, arsenopyrite and gold grading from 1.2 ppm to 5.5 ppm Au (Photo 3). Next to the dump, a 2 metre tall smelter or furnace was found (Photo 4). The other shaft described for the Cannonball mine was not located, nor a nearby iron-capped location; thus, it is suspected that the described Cannonball mine has yet to be found. About 500 metres away and downhill from these workings, several small trenches and small shafts were seen, but no visible sulphides were found to justify those operations. Another shaft was discovered about 500 meters to the south with anomalies of copper in the 0.1% range.

The Alma showing was part of the Cannonball group in 1900 which was being worked on at that time. The Alma was Crown-granted in 1900.

In 1970 and 1971, Imperial Oil Enterprises operated the FFC group of claims which included the Cannonball (Lot 1036). They collected 1200 soil samples and conducted a 40 kilometre ground magnetometer survey. They concluded that the contact between the limey sediments and the Nelson Granodiorite is favorable for skarn-type copper deposits. Their recommendation was to continue with more detailed exploration.



Photo 2



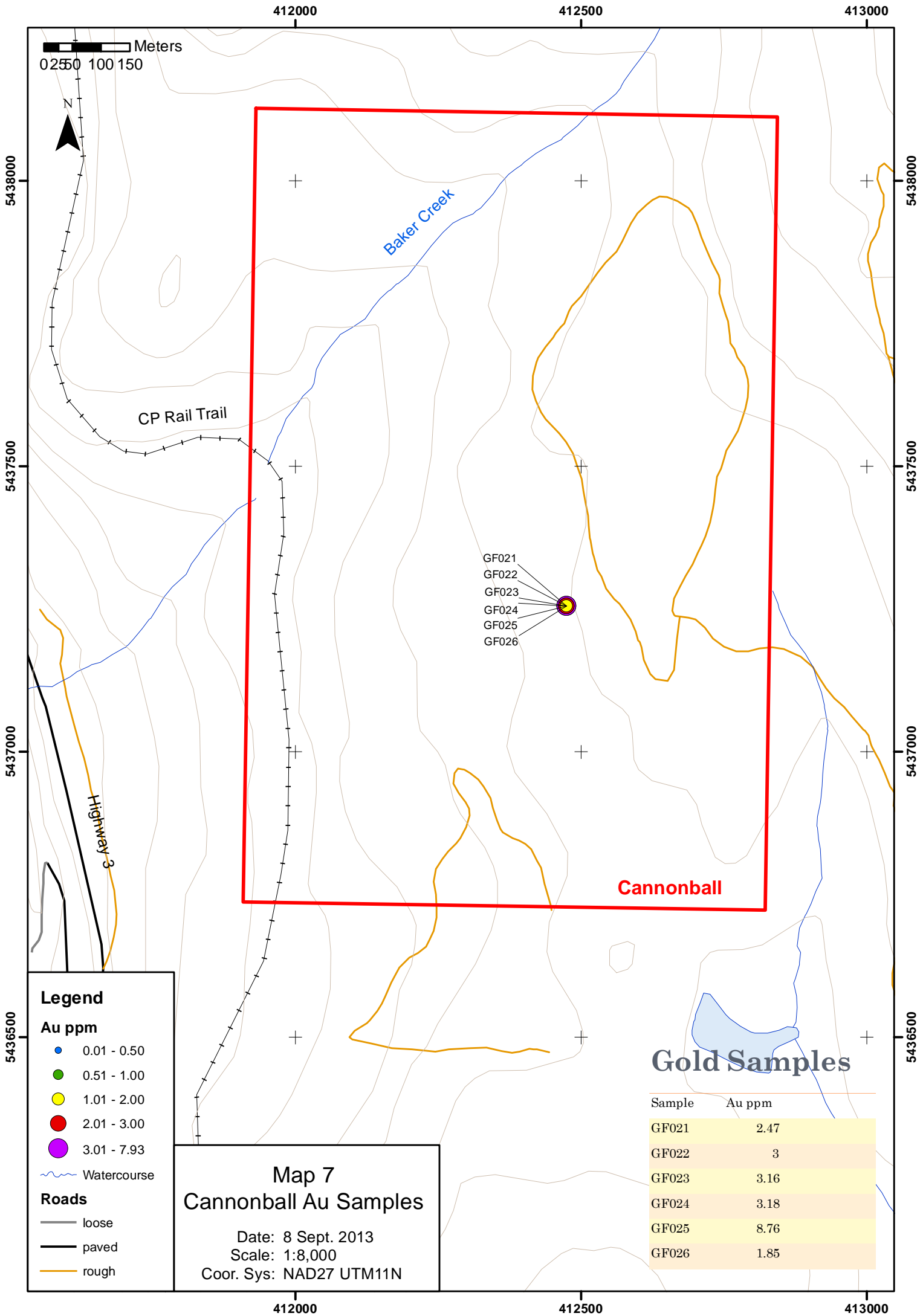
Photo 3

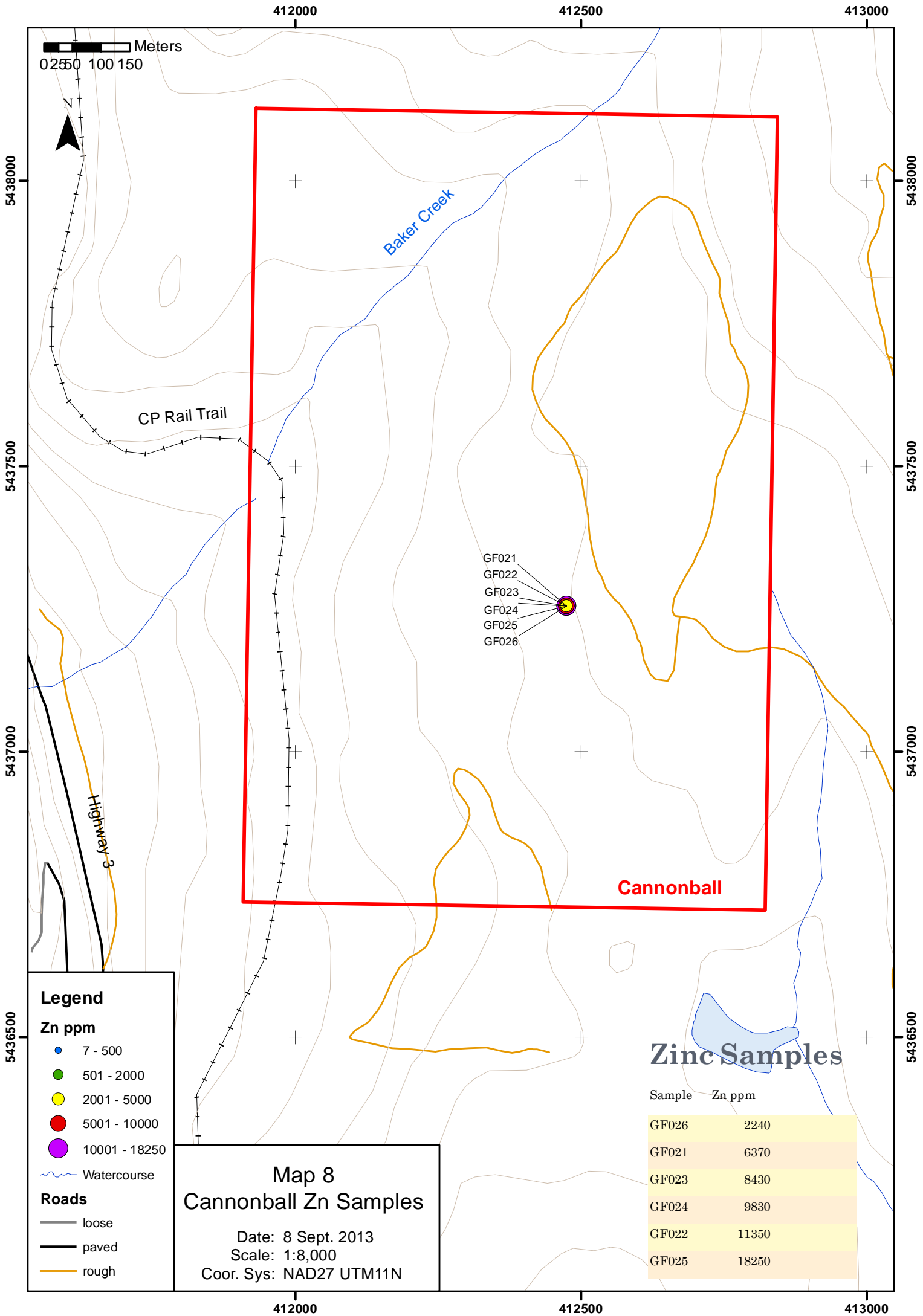


Photo 4

Maps 7 and 8 show (respectively) gold and zinc assays, the best of which run GF025 with 8.76 ppm Au and 18250 ppm Zn; GF024 with 3.18 ppm Au and 9830 ppm Zn; and GF022 with 3.0 ppm Au and 11350 Zn.

From the various selected chip samples which were grouped by the main sulphides, there is clearly a direct relationship between the gold and the arsenopyrite. With geophysics, the associated presence of the magnetic component of the arsenopyrite could outline new drill targets in the mineralized skarn belt.





Sample	Description	Au ppm	Ag ppm	Cu ppm	Fe %	Pb ppm	Zn ppm
GF021	Composite chip samples quartz or silica flooded in marble, dump north end of 20m trench; 20% fine grained or platy arsenopyrite related mineral.	2.47	5.3	385	5.97	480	6370
GF022	Composite chip samples from north end of dump from 20m long trench of hornfels with disseminated arsenopyrite, galena and some pyrite.	3	16.3	323	3.56	7470	11350
GF023	Composite chips from vuggy rocks with quartz veining and some pyrite, arsenopyrite and iron staining from dump on side of trench.	3.16	12.3	217	3.35	4210	8430
GF024	Composite chip samples from dump on side of trench; silicified hornfels with abundant arsenopyrite related mineral.	3.18	6.5	249	5.36	1710	9830
GF025	Composite chip samples from dump on one side of trench; quartz vein with visible galena, arsenopyrite, pyrite	8.76	17.7	310	4.21	9640	18250
GF026	Chips from silicified zone inside trench with little sulphides	1.85	9.2	128	5.03	2590	2240

Recommendations

There is no question that the Christina Skarn Belt is underexplored and that this belt may conceal important economic ore bodies, particularly gold-copper skarns, silver-lead-zinc skarns and possibly copper-gold massive sulphides and porphyries. The mineralized areas re-discovered by the Tumaco Group in old mining works or related mineralized outcrops are to be considered only as windows or flags for the potential discovery of possible large scale hidden ore bodies in the Christina Skarn Belt.

Considering that most of the belt is covered by overburden, to visually locate these targets is nearly impossible. The current advantage for the discovery of these ore bodies in the Christina Skarn Belt are the new sophisticated geophysical tools, because most of the targets are associated to massive magnetite, pyrrhotite and pyrite. These ore bodies may be located with magnetics, conductivity, resistivity and IP, which at the same time will also outline the contacts between the meta-sediments and the intrusives.

1) A detailed geologic map should be drawn, based on the outcrops mainly located along the C.P.R. railroad, the paved highways, the logging roads and outcrops along the creeks. This outcrop map can be combined with the existing magnetic maps to delineate the contacts of the various formations and improve on the geology maps made by Imperial Oil.

2) Scout drilling should be undertaken around known mineralized targets, like the Fife Mine (Golden Goose) or the Cannonball mine.

3) Geophysical survey should be undertaken over these targets, with detailed magnetics, conductivity, resistivity and IP including down-hole geophysics.

4) Encountered mineralization should be correlated between the drill data and geophysical data to improve on the geophysics and discover additional or greater ore bodies in the Christina Skarn Belt.

5) Drill the new targets outlined by geophysics in the remainder of the belt.

6) A closely spaced soil grid should be sampled in areas where the main mineral appears to be high grade arsenopyrite with gold association (for example, the Cannonball mine). In these cases, arsenic would be an excellent pathfinder.

Cost Statement

The cost of the exploration program has been broken into three components: Geology, GIS, and Sample Analysis. Due to the nature of the work, samples from other non-adjacent claims were submitted concurrently with samples from this technical work program. As such, laboratory invoices show more samples than are accounted for in this report. For cost purposes, the percentage of samples taken at Cannonball property was used in the determination of value spent on this work program.

Geologist Alexander Hirtz

- Preparation work—previous assessment report research, sample planning (1 day)
- Onsite exploration, prospecting and sample selection, site photography (2 days)
- Sample preparation (1 day)
- Assay analysis and geological interpretation (1 day)
- Technical report (1 day)

Total Geology Work: 6 Days * \$800 = \$4800

GIS Technologist Benjamin Firmston

- Research and compilation of existing maps from assessment reports (1 day)
 - Georeferencing scanned maps
- Digitizing historic maps
- Digitizing Geology map (1 day)
- Four regional digital maps accompanying the report (Previously accounted for—Golden Goose report)
- Cannonball Samples maps (1 day)
- Report compilation and formatting (1 Day)

Total GIS Work: 4 days * \$400 = \$1600

Sample Analysis

Invoice	Cannonball	Total Samples	Cannonball %	Total Cost	Applicable cost
VA12276606	6	19	23.076	876.6	276.82
Total					276.82

Technical Work totals:

GIS Work	\$1600
Geology Work	\$4800
Sample Analysis	\$276.82
Totals	\$6676.82

Author Qualification

Ing. Alexander Hirtz holds a Geology Engineering Degree from Colorado School of Mines.


Present Activity

- o Transandes Servicios Mineros S.A., Quito-Ecuador, president, 2005-present
- o Ferrocom. S.A., Paraguay
- o Penschaw Peru, 20010-present
- o Tumaco Group, British Columbia, 2012 – Present

A handwritten signature in black ink, appearing to read "Alexander Hirtz", enclosed within a large, horizontal, oval-shaped flourish.

Benjamin Firmston has a Certificate in Geographic Information Systems awarded by SAIT in 2009;

he also has a Diploma in Professional Writing awarded by MacEwan University in 2010.

A handwritten signature in black ink, appearing to read "Ben Firmston", written in a cursive style with a long horizontal flourish extending to the right.

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Minfile; www.em.gov.bc.ca/Mining/GeolSurv/Minfile

082ESE097 (Five Mine); 082ESE093 (Alma, Cannonball); 082ESE238 (Five Limestone); 082ESE091 (Castle Mountain Nickel, Madstodon, Mammoth, Dominion, Pan, Canyon, Chromex Nickel).

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Software Used

The following software packages and services were used in the preparation of this report:

- Adobe Illustrator CS3
- ArcGIS 10
- BC Mineral Titles Online Map Viewer
- iMapBC
- Microsoft Office Suite 10 (Word, Excel)