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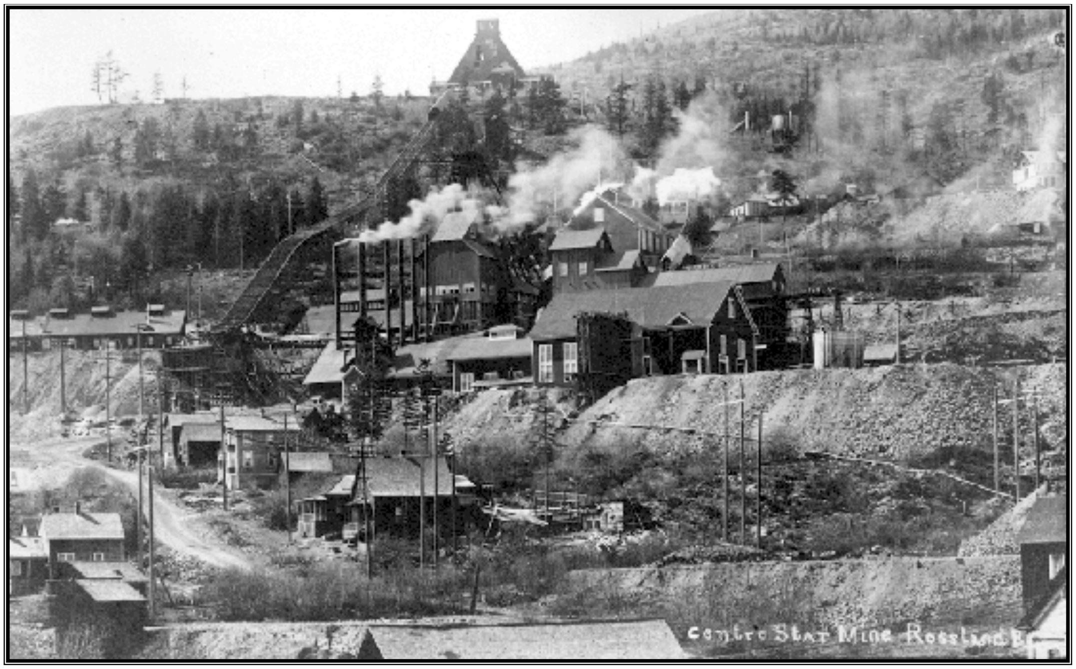
TECHNICAL REPORT ON

THE ROSSLAND PROJECT

Rossland Area, South-Central British Columbia, Canada



Centre Star Mine, Rossland, British Columbia (circa late 19th-early 20th century)

Prepared for:	**CURRIE ROSE RESOURCES INC.**
Registered office:	DuMoulin Black LLP 10th Floor, 595 Howe Street, Vancouver, BC V6C 2T5
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Prepared by: Avrom E. Howard, MSc, PGeo

Date: April 09, 2018

CERTIFICATE OF QUALIFIED PERSON

As author of this report entitled **"TECHNICAL REPORT ON THE ROSSLAND PROJECT, Rossland Area, South-Central British Columbia, Canada",** with an effective date of April 9, 2018 **(the "Technical Report")**, I, Avrom E. Howard, do hereby certify that:

1. I am a Professional Geoscientist and Principal of NEBU CONSULTING LLC, located at 72 Brandywine Drive, Williamsville, NY 14221, USA (Tel: 970-234-9757, Email: aeh@nebuconsulting.com).

2. I hold the following academic qualifications:
   - BSc, Geology, University of Toronto, 1979;
   - MSc, Geology, University of Colorado at Boulder, 1992;
   - Diploma in Gemology, Gemological Association of Great Britain, 2001.

3. I am registered as a Professional Geoscientist with the Association of Professional Geoscientists of Ontario (Membership # 0380).

4. I have worked as a geologist in the mining industry since 1979.

5. I am familiar with National Instrument ("NI") 43-101 and, by reasons of education, experience and professional registration, fulfill the requirements of a "Qualified Person" as defined in NI 43-101. My work experience encompasses several mineral commodities in a variety of geological settings around the world, containing gold, silver, copper, zinc, lead, nickel, tin, tungsten, rare earths, cobalt, manganese, vanadium, uranium, diamonds and colored gemstones.

6. I visited the Rossland Property (the "Property") between March 12 to 14, 2018.

7. I am responsible for the entire contents of this report.

8. I am independent of Currie Rose Resources Inc., as defined in Section 1.5 of NI 43-101.

9. I have had no previous involvement with the Property.

10. I have read NI 43-101 and have prepared this report in accordance with its requirements and guidelines.

11. As of the effective date of the technical report, to the best of my knowledge, information, and belief, the technical report contains all scientific and technical information that is required to be disclosed to make the technical report not misleading.

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DATE AND SIGNATURE PAGE

This report, entitled **"TECHNICAL REPORT ON THE ROSSLAND PROJECT, Rossland Area, South-Central British Columbia, Canada"**, is signed and sealed by its author, below.

Dated this 9th day of April, 2018

Avrom E. Howard, MSc, PGeo
Principal Geologist, NEBU CONSULTING LLC

CONTENTS OF THE TECHNICAL REPORT

LIST OF FIGURES & TABLES

LIST OF TABLES

List Of Terms & Abbreviations

Ag	silver
Au	gold
%	percent
BC	British Columbia
cm	centimeters
CGM	crown granted mineral claim
Co	cobalt
COE	Crown of Eleanor property
Cu	copper
GNB	Gertrude-Novelty-Blackbear property
gpt	grams per tonne (equivalent to ppm)
Ha	hectare(s)
kg	kilogram(s)
km	kilometer(s)
m	meter(s)
Ma	million years
Mo	molybdenum
Moz	million ounces
Mt	million tonnes (1 tonne or "metric ton" being equal to 2,200 pounds)
MTO	Mineral Titles Online
NSR	Net Smelter Royalty (or "Return")
Pb	lead
ppb	parts per billion
ppm	parts per million (equivalent to gpt)
opt	ounces per ton (2,000 pounds)
Property	the Rossland Project
REE	rare earth elements
sq km	square kilometer(s)
U	uranium
US or USA	United States of America

VLF	Very Low Frequency – geophysical survey method utilizing radio waves
Zn	zinc

1. SUMMARY

The Rossland mining camp is the second largest lode gold producing camp in British Columbia, with recovery of more than 85,900 kg (2,761,749 ounces) of gold, 109,500 kg (3,520,507 ounces) of silver and 71,502 kilograms (71 tonnes) of copper between 1894 and 1941. Vein deposits are in three main belts, referred to as the North Belt, Main Veins and South Belt. Of that, 98 percent came from the Main Veins, and 80 percent of this production came from deposits in a central core zone between two large north-trending Tertiary lamprophyre dikes. Deposits in this central zone include the Le Roi, Centre Star, Nickel Plate, Josie and War Eagle mines.

A clearly defined mineralogical and chemical zonation in the camp was first recognized in the 1960s, consisting of a central zone located along the western edge of the Rossland monzonite and into the Rossland sill, dominated by massive pyrrhotite with persistent but minor chalcopyrite; an 'intermediate' zone, peripheral to the central zone hosting veins that contain arsenopyrite, pyrite, cobalt, bismuth minerals and molybdenite in addition to pyrrhotite and chalcopyrite; and an outer zone south of the Rossland monzonite that is marked by veins containing galena and tetrahedrite. Veins of the North Belt are entirely within the intermediate zone whereas Main Veins extend westward from the intermediate zone into the central zone. Most veins of the South Belt are within the 'outer' zone. Mineralization in the Rossland camp also includes molybdenite deposits on the western slopes of Red Mountain and a number of high-grade gold-quartz veins in the Sheep Creek valley and on the eastern slopes of O.K. Mountain just west of Rossland, and an area hosting a number of gold-bearing quartz-carbonate veins west of Rossland at the western edge and just north of the western edge of Currie Rose's (henceforth referred to as the "Company") Project.

There is an abundance of historical data covering mining activities in the Rossland district, the heyday of which was between roughly 1891-1928, during which time virtually all significant production took place. Between 1929-1942 production was sporadic and limited and between then and today it has been either very limited in tonnage and duration or merely a matter of bulk sampling. In all cases, it has been focused on individual veins, individual historically productive mines, or individual mineralized zones, with but a few exceptions, but in no case has the district as a whole been acquired as a single venture and with a district scale focus, to the extent that ground was available for acquisition (i.e. excluding underlying historical crown mineral granted claims, the equivalent of patented claims that remain in the hands of their historical owners).

Whereas the geological history of the Rossland area is long and complex, and the origin of the various mineralized zones and deposits within not entirely well understood, it is clearly a well mineralized area only portions of which have been exhaustively exploited. Additionally, given that historical mining activities in the area ceased for reasons having to do with matters other than an absence of mineralization and depletion of all known resources, for the most part, there is a good argument to be made that there is a reasonable chance of delineating additional mineralized zones beyond the portions historically known and exploited, along strike and/or down-dip. This is the stated intention of the Company in terms of its planned exploration investment in the Rossland Project (the "Project"), one that the author of this report concurs with.

The Project overlies portions of the City of Rossland and covers areas to its north, west and south, including parts of the nearby Red Mountain ski resort, forming a rough "U" shape lying on its side facing east with Rossland sitting at the center of its trough. It comprises a contiguous group of individual mining claims, or "mineral titles", acquired under the current online mineral title acquisition protocol established in BC in 2005 ("Mineral Titles Online"). They overlie and surround a more irregularly distributed and oriented patchwork of earlier mining claims, some acquired between the 1950s and 2005 by traditional staking methods – the equivalent of unpatented mining claims, as well as claims dating back to the late 1880s referred to as "crown granted mineral claims" ("CGMs") – the equivalent of patented claims.

The Projects comprises twenty-three mineral titles ("MTOs") in one package covered in one acquisition agreement, and a twenty-fourth contiguous MTO covered in the second acquisition. The total surface area of the Property is 2,814.86 Ha; however, approximately 30 percent of the Property area is excluded by virtue of being within the city limits of Rossland, the Red Mountain ski resort to the immediate northwest, and/or being underlain by preexisting crown mineral grants or traditional staked claims belonging to one of three other entities.

The property has been acquired through two option agreements, scheduled to be signed on April 9, 2018 or shortly thereafter. Each agreement entails the same series of payments in cash and common shares of Currie Rose spread over a period of four years organized into three "Stages", along with a similar series of exploration expenditure commitments, the final one being to fund and complete a Feasibility Study. The last requirement may extend beyond the four-year schedule of obligations, but be that as it may, Currie Rose would be entitled to a 100% interest in that portion of the Property covered by its governing agreement upon fulfilling all its obligations. Whereas there are individual payment and expenditure obligations for each property, they are the same; however, only the funding of one Feasibility Study for the combined groups that constitute the Property will be required. Finally, there is a 2% NSR payable per agreement. In both cases, Currie Rose retains the right to buy back half of the NSR (i.e. 1%) for the price of $1 million. This option will remain in force from the end of Stage 3 of the agreement through its seventh anniversary, upon which it will expire.

Given the very large volume of historical data available and the complexity of numerous CGMs, a Phase One program focusing on data compilation and target confirmation should be completed over the planned six-month period (04/18-09/18), along with preliminary, limited surveying and sampling of targets in the field. Roughly $55,000 is the estimated cost of this Phase One program, covering both licenses.

Contingent upon a successful result in the Phase One program, a Phase Two program consisting of detailed field follow up consisting of mapping, sampling, geophysics and drilling, may be considered, to be completed over the following six-month period (10/18-03/19). A budget of roughly $950,000 is estimated for this program.

2. INTRODUCTION

The author, an independent Professional Geologist, was commissioned by Mr. Michael Griffiths, President & CEO of Currie Rose Resources Inc., a Canadian corporation with offices in Vancouver, British Columbia and Toronto, Ontario, to prepare a technical report on the two contiguous blocks of mineral claims it has entered into an agreement to acquire. It was requested of the author to carry out a review of the available data covering the area being acquired and make whatever recommendations appropriate and warranted regarding the property's potential and steps to be taken to test, confirm and advance it.

In the preparation of this report, the author utilized both British Columbia and Government of Canada geological maps, geological reports and claim maps. Information was also obtained from British Columbia Government websites such as Mineral Titles Online (www.mtonline.gov.bc.ca), as well as its mineral assessment files library (http://www.empr.gov.bc.ca/mining/geoscience/aris/Pages/default.aspx). Too, several company documents, published academic papers, historical news releases, and other related publicly accessible sources of information were utilized in this effort. All are listed in the References section of this report (Section 27).

The author visited the Rossland property on March 12-14, 2018. Although the area was snow-covered at the time rendering it impossible to examine outcrops in the field, given that the emphasis of Currie Rose's planned exploration program is to target the on strike and down-dip extension of known, historically mined narrow gold-bearing veins underground, this was not a matter of concern. A visit to the Rossland mining museum, host to a significant archive of historical maps and reports covering the Rossland area, including many target areas of interest to Currie Rose, was made. Long and detailed meetings were held with Mr. Dan Wehrle, a Professional Geoscientist who has lived and worked as a geologist in Rossland since 1988 and is a recognized source of information regarding the geology, mining history and mineralization in the area; he is also a principal of the two companies that Currie Rose has entered into agreement with (please refer to the following section of this report, "Reliance On Other Experts", for additional comments in this regard). The author also had the opportunity to review the layout of Rossland and the nearby ski resort in relation to the areas of exploration interest and confirm that there are no regulatory or otherwise known hindrances to exploring and developing them.

The author was retained to complete this report in compliance with National Instrument 43-101 of the Canadian Securities Administrators ("NI 43-101") and the guidelines contained in Form 43-101 F1. The author is a "Qualified Person" as defined in National Instrument 43-101. It is the author's understanding that Currie Rose intends to file this report with the securities commissions in one or more Canadian provincial jurisdictions.

The author has no reason to doubt the reliability of the information sourced online and from other publicly accessible sources, or provided by Currie Rose or anyone related to Currie Rose. The author reserves the right to revise any portions of this report including any conclusions or recommendations contained therein, if any additional information becomes known subsequent to the date of this report that would require, in the opinion of the author, that such changes be made.

3. RELIANCE ON OTHER EXPERTS

The author of this report has reviewed numerous company reports, assessment file reports, historical documents and related data and information obtained through government and other open sources online. Additionally, a visit to the Rossland area was carried out between March 12-14, which included a visit to the Rossland mining museum where much information pertaining to Rossland's mining history is displayed, and more is stored in the museum's archives. Whereas seasonal snow cover precluded the direct observation of outcrops in situ, historical mine waste dumps or historical underground mine workings, seeing the lay of the land particularly in respect to the position and extent of the town of Rossland and nearby ski resort relative to the enclosing and broader extent of the historical mine workings and current property that is the subject of this report, was most edifying.

Additional information was supplied by Daniel M. Wehrle, BSc, PGeo, a longtime resident of Rossland and owner of the claims that have been acquired by Currie Rose and are the subject of this report. An authority on the geology and mining history of the Rossland district, Mr. Wehrle supplied considerable historical, geological, regulatory and current land use information relevant to the property and its pursuable exploration potential. Additionally, the opportunity to review his collection of rock samples from the area, including various key lithologies and mineralization types collected from various locations across the Rossland area, was extremely informative. Although Mr. Wehrle is not an "arm's length" party, the author of this report is satisfied with his professional credentials and personal integrity, and has no reason to doubt or suspect the accuracy or quality of any information presented to him by Mr. Wehrle, whether verbal, printed or lithological (i.e. the aforementioned rock and drill core samples). The author of this report assumes full responsibility for the veracity of the information supplied by Mr. Wehrle.

4. PROPERTY DESCRIPTION AND LOCATION

Property Location

The Rossland property, henceforth referred to in this report as the "Project" is located over, north, west and south of the City of Rossland and nearby Red Mountain ski resort, forming a rough "U" shape lying on its side facing east with Rossland sitting at the center of its trough.

Property Description

The Project comprises a contiguous group of individual mining claims, or "mineral titles", acquired under the current online mineral title acquisition protocol established in BC in 2005 ("Mineral Titles Online"). They overlie and surround a more irregularly distributed and oriented patchwork of earlier mining claims, some acquired between the 1950s and 2005 by traditional staking methods – the equivalent of unpatented mining claims, as well as claims dating back to the late 1880s referred to as "crown granted mineral claims" – the equivalent of patented claims. Those claims from the earlier two generations that have been maintained in good standing by virtue of making the necessary annual payments in accordance with BC mining law, are excluded from the Project. In accordance with these same regulations, claims that have lapsed or may in the future lapse due to non-payment by their current owners, are automatically absorbed into any mineral title the boundaries of which surround that claim or any portion of that claim (hence, whereas the Project is currently comprises a set area, it may increase in the future simply by virtue of one of the traditional underlying claims within but excluded from the Project expiring due to non-payment by its owner of the annual fee).

The Project consists of twenty-three mineral titles in one package covered in one acquisition agreement, and a twenty-fourth contiguous mineral title covered in the second acquisition agreement (reviewed in greater detail below). These titles are of various sizes and shapes, but all with north-south and east-west boundary lines that fall along the boundaries of designated "cells" – areas that are 0.5 by 0.5 km in size, contiguous over the entire province, with each mineral title being assigned a specific title number and unique name. The outer Project boundary is reminiscent of the pattern formed by the letter blocks in a game of Scrabble, with lines heading north-south and east-west tying together the aforementioned twenty-four individual mineral titles. The total surface area of the Project is 2,814.86 Ha; however, approximately 30 percent of the Property area is excluded by virtue of being within the city limits of Rossland, the Red Mountain ski resort to the immediate northwest, and/or being underlain by preexisting crown mineral grants or traditional staked claims belonging to one of three other entities, Vangold Resources Inc., Teck Resources Ltd. and Donald J. Rippon. The list of mineral titles comprising the Property may be found in Table 1, below (after the two maps, also below).

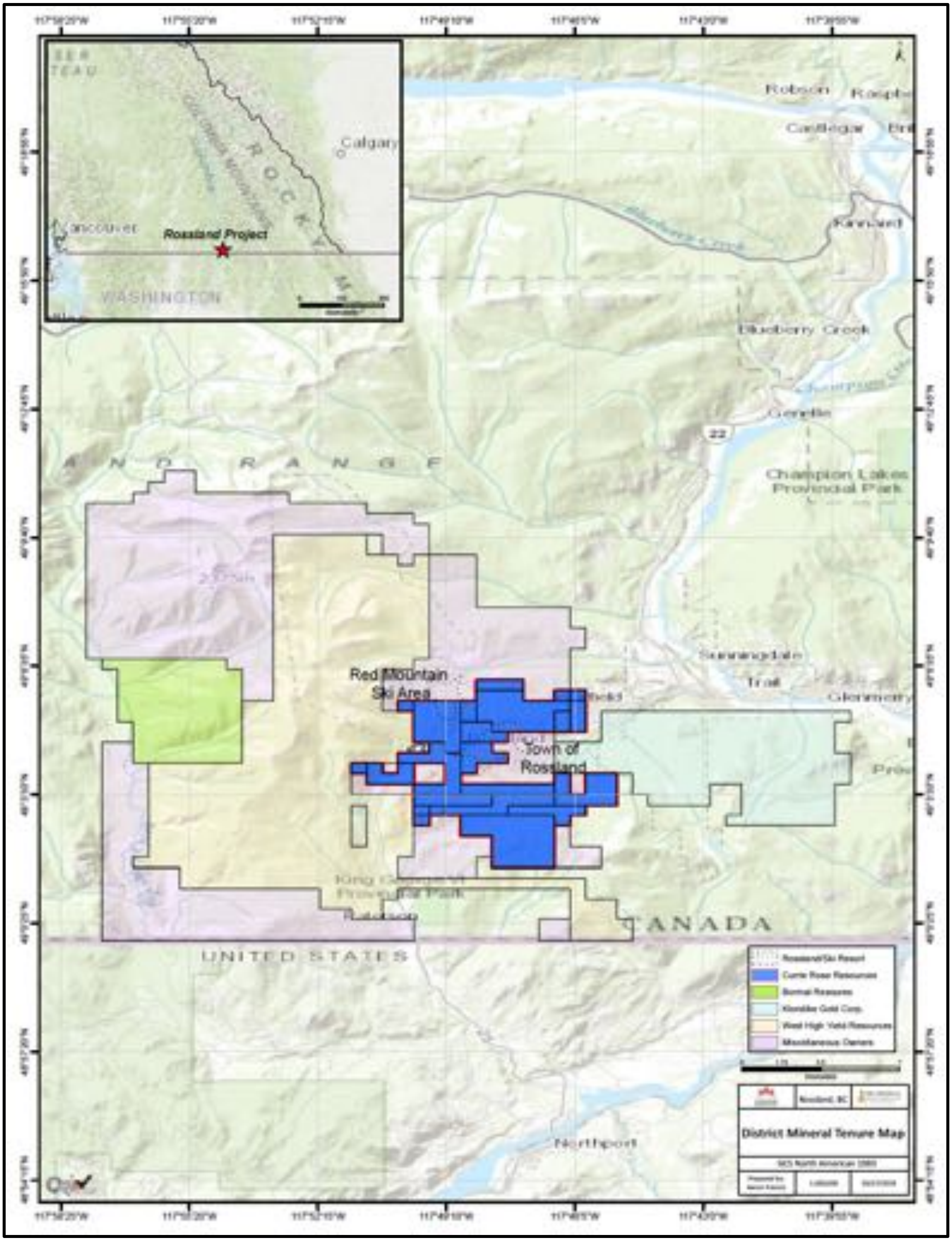


Figure 1: Regional claim map showing the Property and adjacent claim holdings

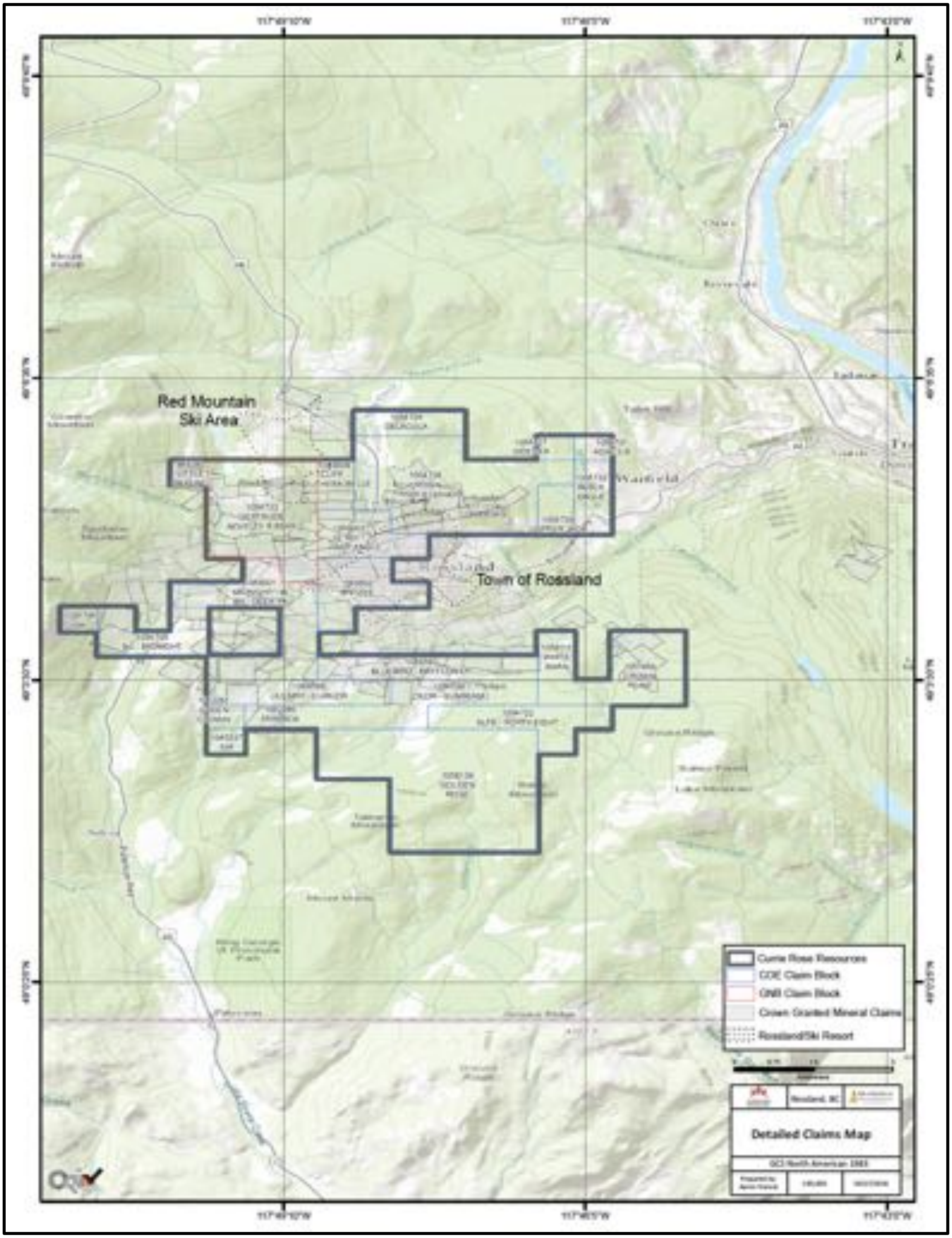


Figure 2: Detailed claim map of the Project area

Table 1: List of mineral titles comprising the Rossland Project

COE (Crown of Eleanor) Mineral Claim Group (2,539.82 hectares, or 6,276.03 acres)

Title Number	Claim Name	Owner	Title Type	Title Sub Type	Map Number	Issue Date	Good To Date	Status	Area (ha)
849280	LITTLE DARLING	128509 100%	Mineral	Claim	082F	2011/MAR/18	2018/OCT/10	GOOD	21.15
1042280	FAIRVIEW	128509 100%	Mineral	Claim	082F	2016/FEB/24	2018/OCT/10	GOOD	21.17
1042281	GREEN CROWN	128509 100%	Mineral	Claim	082F	2016/FEB/24	2018/OCT/10	GOOD	21.17
1045537	AIR	128509 100%	Mineral	Claim	082F	2016/JUL/24	2018/OCT/10	GOOD	21.17
1046593	BLUEBIRD - MAYFLOWER	128509 100%	Mineral	Claim	082F	2016/SEP/10	2018/OCT/10	GOOD	127.01
1046599	LILY MAY - CURLEW	128509 100%	Mineral	Claim	082F	2016/SEP/10	2018/OCT/10	GOOD	105.85
1046601	MIDNIGHT - W BR - DEER PK	128509 100%	Mineral	Claim	082F	2016/SEP/10	2018/OCT/10	GOOD	211.65
1046602	SPITZEE	128509 100%	Mineral	Claim	082F	2016/SEP/10	2018/OCT/10	GOOD	126.98
1046603	LE ROI - WAR EAGLE	128509 100%	Mineral	Claim	082F	2016/SEP/10	2018/OCT/10	GOOD	105.79
1046604	CLIFF - SOUTHERN BELLE	128509 100%	Mineral	Claim	082F	2016/SEP/10	2018/OCT/10	GOOD	42.31
1054704	OK	128509 100%	Mineral	Claim	082F	2015/SEP/15	2018/OCT/10	GOOD	21.16
1054705	IXL - MIDNIGHT	128509 100%	Mineral	Claim	082F	2017/SEP/10	2018/OCT/10	GOOD	105.82
1054709	ZILOR - SUNBEAM	128509 100%	Mineral	Claim	082F	2017/SEP/10	2018/OCT/10	GOOD	169.36
1054722	ALFE - FORTY EIGHT	128509 100%	Mineral	Claim	082F	2017/SEP/10	2018/OCT/10	GOOD	127.03
1054724	DELACOLA	128509 100%	Mineral	Claim	082F	2015/JUN/06	2018/OCT/10	GOOD	63.45
1054727	SIDECAR	128509 100%	Mineral	Claim	082F	2014/MAR/29	2018/OCT/10	GOOD	21.15
1054728	CROWN OF ELEANOR	128509 100%	Mineral	Claim	082F	2017/SEP/10	2018/OCT/10	GOOD	380.78
1054729	COPPER JACK	128509 100%	Mineral	Claim	082F	2017/SEP/10	2018/OCT/10	GOOD	42.31
1054731	AGNES B	128509 100%	Mineral	Claim	082F	2015/JUN/04	2018/OCT/10	GOOD	21.15
1054732	BLACK EAGLE	128509 100%	Mineral	Claim	082F	2017/SEP/10	2018/OCT/10	GOOD	63.47
1057856	CROWN POINT	128509 100%	Mineral	Claim	082F	2018/JAN/22	2019/JAN/22	GOOD	169.34
1058109	GOLDEN ROSE	128509 100%	Mineral	Claim	082F	2018/JAN/31	2019/JAN/31	GOOD	508.22
1058111	WHITE SWAN	128509 100%	Mineral	Claim	082F	2018/FEB/01	2019/FEB/01	GOOD	42.33

GNB (Gertrude Novelty Black Bear) Mineral Claim (275.04 hectares, or 679.64 acres)

1054733	GERTRUDE NOVELTY B BEAR	147299 100%	Mineral	Claim	082F	2017/SEP/10	2018/OCT/10	GOOD	275.04

TOTAL AREA OF COE AND GNB CLAIMS (ENCOMPASSED BY OUTER BOUNDARY): 2,814.86 HECTARES, OR 6,955.67 ACRES

BC Mineral Tenure Act & Its Requirements

In accordance with the BC *Mineral Tenure Act*, there are annual exploration work requirements measured on a dollar per hectare per year basis, with the dollar amount of exploration work required increasing on a yearly basis from $5/Ha for the first year to a maximum of $20/Ha by the seventh year and all years thereafter. Reports of work ("Assessment Reports") must be filed annually with the BC Ministry of Energy, Mines & Petroleum Resources, in a prescribed format describing the work done and results achieved, along with maps, cost summaries, and all relevant ancillary information. Annual exploration expenditure commitments are as follows:

Year 1 & 2:	$5/Ha
Years 3 & 4:	$10/Ha
Years 5 & 6:	$15/Ha
Subsequent years:	$20/Ha

Property Acquisition Agreement & Obligations

The property has been acquired through two option agreements, scheduled to be signed on April 9, 2018 or shortly thereafter. Each agreement entails the same series of payments in cash and common shares of Currie Rose spread over a period of four years organized into three "Stages", along with a similar series of exploration expenditure commitments, the final one being to fund and complete a Feasibility Study. The last requirement may extend beyond the four-year schedule of obligations, but be that as it may Currie Rose would be entitled to a 100% interest in that portion of the Property covered by its governing agreement upon fulfilling all its obligations. Whereas there are individual payment and expenditure obligations for each property, they are the same; however, only the funding of one Feasibility Study for the combined groups that constitute the Property will be required. Finally, there is a 2% NSR payable per agreement. In both cases, Currie Rose retains the right to buy back half of the NSR (i.e. 1%) for the price of $1 million. This option will remain in force from the end of Stage 3 of the agreement through its seventh anniversary, upon which it will expire.

A summary of the terms and obligations contained in both agreements may be found in below.

Stage 1

- Payment of $50,000;
- Payment of 1,000,000 common shares of Currie Rose;
- Expenditure of a minimum of $500,000 (within one year, the term of each Stage)
- Written notification of the intent to proceed to Stage 2 within 1 month of the anniversary date.

Stage 2

- Payment of $75,000;
- Payment of 1,500,000 common shares of Currie Rose;
- Expenditure of a minimum of $750,000;
- Written notification of the intent to proceed to Stage 3 within 1 month of the anniversary date.

Stage 3

- Funding and completing a Feasibility Study;
- Payment of $100,000 and 2,000,000 common shares of Currie Rose on the third anniversary;
- Payment of $100,000 and 2,000,000 common shares of Currie Rose on the fourth anniversary.

Net Smelter Royalty

- Payment of a 2% NSR;
- Option to purchase one-half (1%) of the NSR for payment of $1,000,000, valid between the end of Stage 3 and the seventh anniversary.

Permitting, Environmental Considerations, Liabilities Etc.

There are no environmental liabilities on the Project, neither as a result of historical activities nor from the owners from whom it is being acquired. An existing permit and posted reclamation bond of $5,000 on the COE portion of the Project remain in good standing; they were posted in 2012 to cover restoration work that was carried out on one of the historical portals within the COE portion of the Project. BC regulations require that prior to undertaking proposed exploration activities and pursuant to Section 10 of the Mines Act, a Notice of Work must be submitted to and evaluated by Ministry of Energy and Mines prior to exploration work being undertaken. The notice must include details specified in the Mines Act and Code, and any additional information as may be requested by the Ministry of Energy and Mines or an Inspector of Mines, along with maps and schedules of the proposed exploration activity, applicable land use designation, and tenure information, as well as details of actions designed to minimize any adverse impacts of the proposed activity, if applicable.

Work on a valid mineral claim that does not involve machinery or that is deemed low impact hand work surface disturbance, does not require a permit from the BC Ministry of Energy and Mines and the posting of a reclamation bond. For example, something like hand digging a trench of less than 1.5 m depth requires no permit, only proper notification of and negotiation with the surface landowner. Activities such as drilling, bulk sampling etc. all require the appropriate permits. Permits are tailored to the requested work and must first be discussed with Ministry inspectors who advise and direct the applicant to the proper work application. The application is then tailored to the type and scale of work under consideration, with increasingly larger activities requiring corresponding increases in the type and level of permitting.

There are no known First Nations or other land claims or obligations in the Project area but the Ministry of Energy and Mines and tenure holders are obliged to consider potential First Nations concerns.

5. ACCESSIBILITY, CLIMATE, LOCAL RESOURCES, INFRASTRUCTURE AND PHYSIOGRAPHY

The Rossland area is located in far south-central BC, barely 10 km from the USA border (with Washington State). It is a mountainous, sub-alpine terrain draped in coniferous forest, with elevation ranging from roughly 700 to 1,600 meters above sea level. The adjacent town of Rossland is located in one of the numerous inter-mountain valleys within the watershed of the Columbia River, located 6 km to the northeast. The area is moderately treed with some dense bushy areas, predominately alder, huckleberry and hazelnut. Interior Douglas fir and Lodgepole pine with localized stands of cedar are the predominant forest cover. Numerous stands of poplar and birch occur in the lower elevations and along drainages. The region has been affected by continental glaciation. Two ice directions have been recorded with the final advance being south to southwest. Consequently, glacial till averaging 1- 5 m thick blankets most of the Property area. Outcrop exposure is fair, approximately 10% with best exposures found on steeper mountain slopes, road cuts, near old workings and at the base of local uprooted and wind fallen trees. The towns of Warfield and Trail lie along this valley between Rossland and the Columbia River, the latter located along its western bank and host to the large smelter complex belonging to the former Cominco, now Teck Resources Limited, and the origins of which is directly linked to Rossland and its historical gold production.

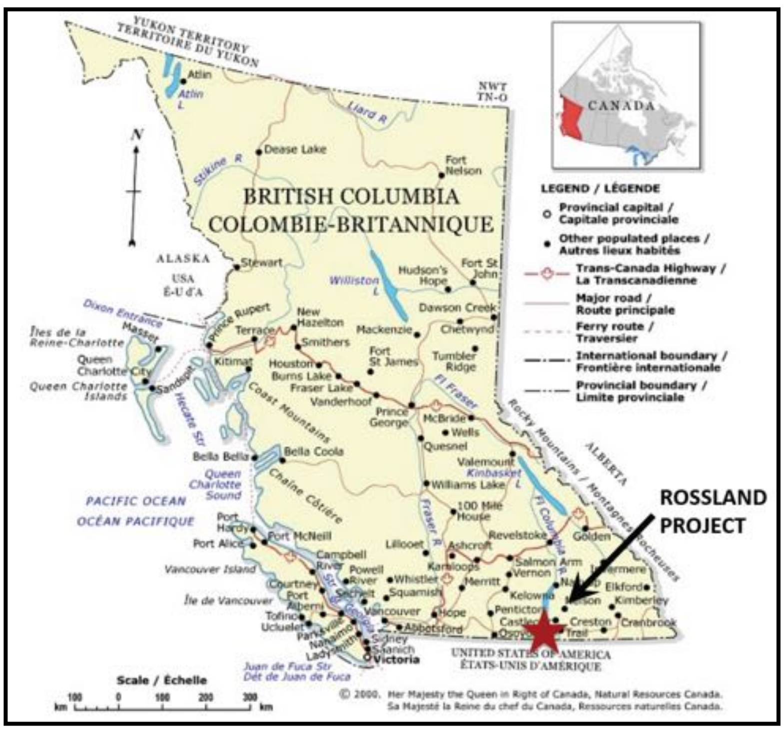


Figure 3: Rossland Project, location map

Access to Rossland is available from several directions on paved highways, including the east on Highway 22 coming from Trail, the south along the same Highway coming north from USA border, and from the north-northwest along Highway 3B, which then connects to Highway 3 that in turn leads southwest to the town of Grand Forks and northeast to the town of Castlegar where a regional airport is also located featuring several daily flights to and from Vancouver; there is a similar regional airport in Trail, as well, also offering flights to and from of Vancouver. A number of gravel roads originating from the aforementioned highways crisscross the property and surrounding area.

The climate of south-central British Columbia is characterized by warm, dry summers and cool to cold winters accompanied by abundant snow, occasionally heavy.

The City of Rossland lies in the middle of the Property area. Red Mountain ski resort is located just 3 km north of Rossland and partly overlies the northwest quadrant of the property. Whereas Rossland owes its roots to mining, similar to numerous other mountain towns across BC and the western USA, it currently thrives on recreation and tourism – skiing in the winter and mountain biking the rest of the year, and as a pleasant bedroom community for people employed at the Teck smelter or elsewhere in nearby Trail. The population of Rossland is roughly 3,300. Accommodations, food and basic supplies, fuel, power, and basic services are available there with the nearby, larger town of Trail offering more of the same. British Columbia is host to a robust mining industry, where all supplies and services necessary to the pursuit of mineral exploration, development and mining can be obtained.

Figure 4: View from Rossland, looking southeast

6. HISTORY

The history of the Rossland area dates back to July 1890, when prospectors discovered gold-copper mineralization outcropping at the southeast base of Red Mountain. This led to the development of the Le Roi mine (which is centrally located within the Property area, within a crown granted mineral claim currently owned by Teck, located within Rossland's city limits); the first ore was shipped in 1891. Transportation was a major challenge for the early operations, with ore packed by mule train to the Columbia River then on to a smelter in Butte, Montana, USA. In 1898, the Le Roi mine was sold to the British American Corporation for just over three million US dollars. Meantime, the population of Rossland exploded as gold fever attracted men from around the world. Rossland quickly became one of the largest cities in Western Canada and a major business center in North America. Many of the Rossland mines such as the Center Star, Le Roi, War Eagle, Josie, etc. became world famous.

Figure 5: Historical photo of the Le Roi mine, circa 1900
(source: Rossland Museum)

In 1895, land adjacent to the Columbia River was purchased to build a smelter to treat the Rossland gold-copper ores, and in 1898 it was expanded to include lead ores. With the success of the smelter, the adjacent small town of Trail grew, and in June of 1901 the City of Trail was incorporated. In 1906, the smelter, the Rossland Power Company, and the War Eagle, Center Star, and St. Eugene mines, were amalgamated to form the Consolidated Mining and Smelting Company of Canada Limited, subsequently known as Cominco (which merged with Teck Limited in 2001). Cominco purchased the Le Roi mine from the British American Corporation, as well. The giant Sullivan lead-zinc-silver was discovered soon after (in 1906 and purchased by Cominco in 1911), leading to a significant expansion of the Trail smelter and the growth of Cominco into a major mining company.

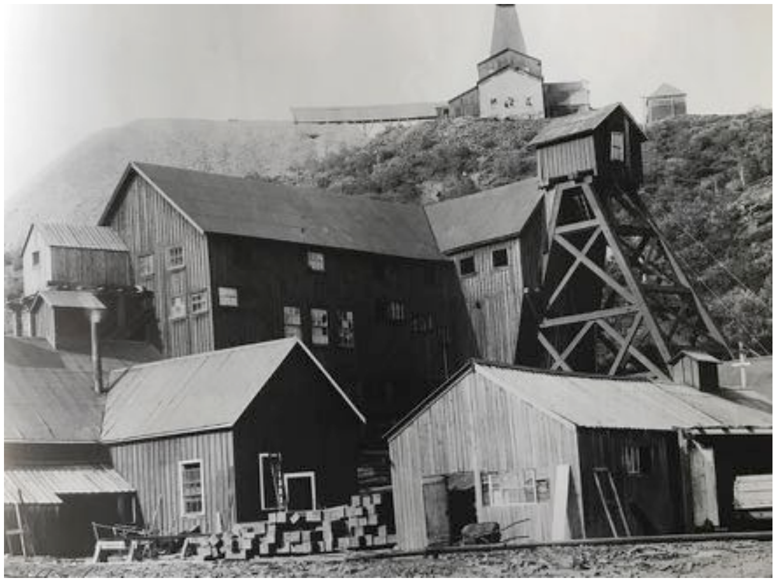


Figure 6: Historical photo of the Josie mine, located west of the Le Roi mine; the War Eagle mine is in the upper background (source: Rossland Museum)

In 1922, the Great Northern Railroad Company removed the rails of the Red Mountain Railway and, in 1927 and then again in 1929, fires laid waste to the business section of Rossland. Mining operations on Red Mountain ceased in 1928 and by 1930 Rossland had reached its lowest ebb. With a population reduced to 3,000 and faced with the Great Depression, the future of Rossland appeared dark. However, Rossland was saved from becoming a ghost town as the combination of improved road conditions and ongoing operations at the Trail smelter complex transformed Rossland from a mining community with local operations to a bedroom community for people employed in nearby Trail (a status it maintains to this day).

Historical records record that seven stopes averaging 1 opt gold were still being mined in the War Eagle mine alone in 1928, just prior to the Rossland mines closing down (Wehrle, 2016). In 1934, shortly after the price of gold jumped from US $21 to $35, mining activities resumed for a brief period pursuant to Cominco leasing their Rossland mines to miners who had formerly worked in them prior to obtaining employment at the Trail smelter when the mines closed, and who were now unemployed once again having been laid off from the smelter due to the depression. The uppermost four levels of the Le Roi mine complex on Red Mountain were reactivated, where it is estimated that approximately 250,000 ounces of gold were produced (Dan Wehrle, personal communication). In 1935, Cominco restricted production at each lease to 25 tons per year (short ton, as metric ton or "tonne" was not a term used at the time). Personal testimony from individuals who worked in the mines at this time stated that during the 1930's, only material estimated to be running 0.5 opt gold or better was shipped for processing, with anything thought to grade any lower being left behind (personal communication obtained by Dan Wehrle, in 1989, from former depression-era Rossland miners Mike Delich and Jack MacDonald). Operations waned and in 1942 were completely curtailed pursuant to implementation of that part of the Canadian War Measures Act pertaining to the reduction of non-essential industrial activities.

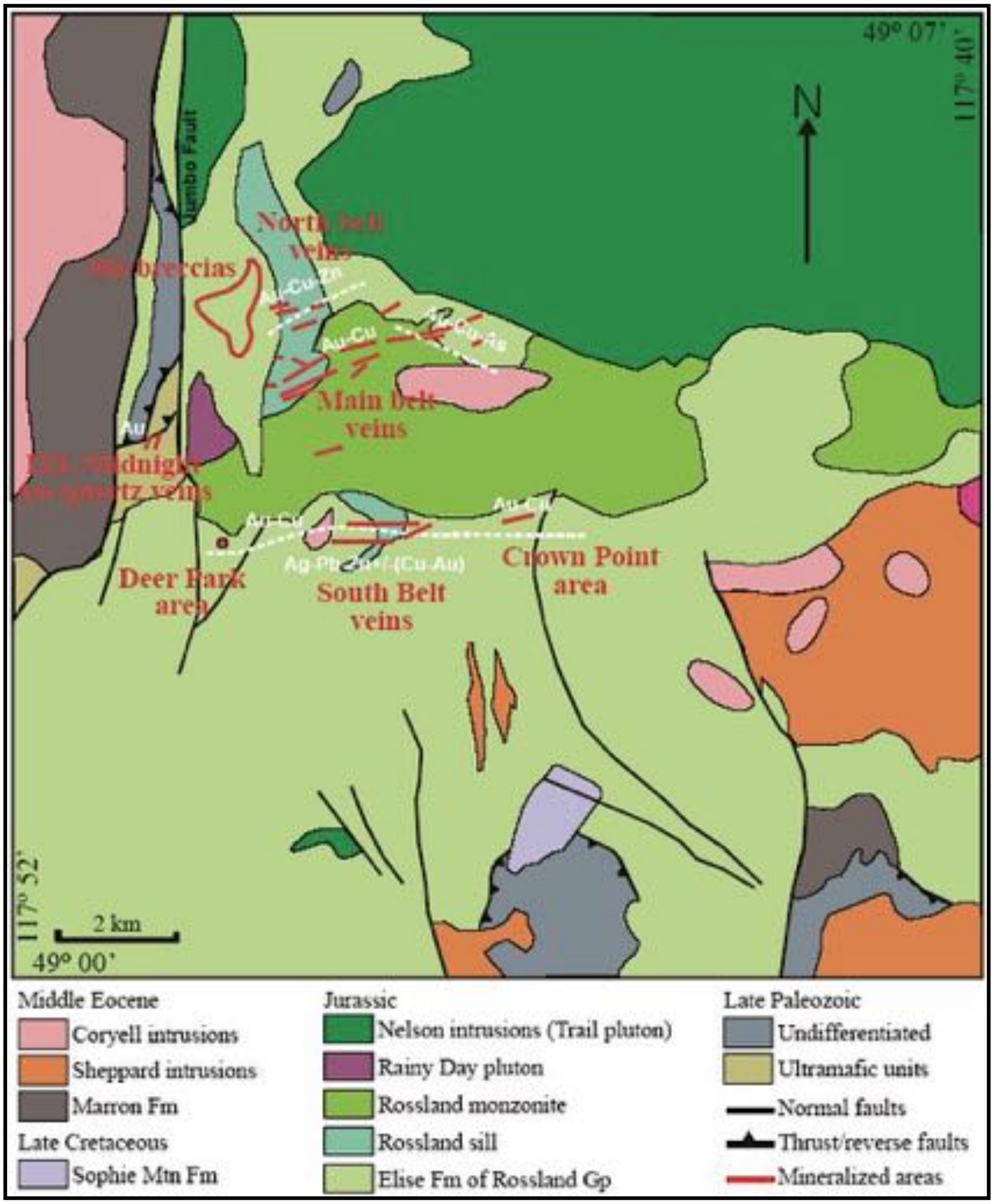


Figure 7: Simplified geology map highlighting the three main mineralized trends and related zonation (from Price, 2006)

Historical production from the Rossland "camp" as documented by the BC Ministry of Energy, Mines & Petroleum Resources (Open File 2003-05) is as follows:

- Ore mined or milled: 5,570,000 tonnes;
- Gold recovered: 2,768,960 ounces;
- Silver recovered: 3,527,680 ounces;
- Copper recovered: 76,660 tonnes (including minor lead and zinc)

Local and unverified local lore suggests that actual historical production was somewhat higher, for the following reasons:

- Early production i.e. pre-1900, was likely understated due to theft and/or unrecorded high-grading at Le Roi ore body by the original Spokane-based owners prior to the mine's sale to Mr. Whittaker Wright and the British America Company;
- The IXL-Midnight-OK mines were notorious for theft and understated production due to the very high-grade of the visible gold-bearing quartz veins found there;
- Depression era mining production was very poorly recorded;
- Theft of high-grade ore at the Trail smelter was supposedly common, especially during the Great Depression.

Figure 8: Historical claim map of the Rossland area showing crown granted mineral claims (circa 1900)

Between the 1940s through the late 1980s, activity in the Rossland area was sporadic. It picked up somewhat between then and 2005, after which there was very little activity until the present time other than minor exploration work by the present owners of the Property necessary to keep the MTO claims in good standing. A summary of the more prominent exploration activity during this more recent, intervening period may be found below, divided into that covering a zone of molybdenite mineralization located on the west side of Red Mountain, and the known gold-bearing mineralized zones historically mined. A table presenting a more complete list of activity along with links to references may be found in Table 3, at the end of this section of this report.

Molybdenum

A company named Torwest Resources began exploring for molybdenum in the Rossland area in 1962. The occurrence of molybdenite in the area was known in the early years of activity in the Rossland camp, and in 1963 Torwest drilled some of the known occurrences on the western slope of Red Mountain, located approximately 1 km west of the main Le Roi gold-copper vein system that was historically intensively mined half a century earlier. In 1966, Torwest drilled 17 holes delineating molybdenite mineralization in a breccia-skarn complex. Between 1966 to 1972, 1,035,509 tonnes of ore was mined from six open pits, producing 1,748,871 kilograms of molybdenum. Some of this material was reported to carry gold but estimates of the average grade could not be made from the data available (source: BC Ministry of Energy and Mines Minfile Record Summary, Minfile 082RSW110; http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW110).

Between 1972-1974, INCO (International Nickel Company of Canada) appears to have become involved in the area as they hired Minefinders Inc. of Denver, Colorado to carry out exploration work over this area in the hope of finding additional Mo resources. Geological mapping, geochemical and geophysical surveys were undertaken along with drilling throughout the entire area. However, no significant mineralization to the north of the area of the historical open pits was delineated. In 1980, most mining claims in the Red Mountain area were apparently sold to David Minerals Ltd., which in 1981 drilled 9 short holes south of the open pit area (on the Novelty claim). An estimate comprising 244,917 t averaging 0.22% Mo was subsequently published by this company. The source for this information is Deane, 2005, which in turn is referencing Fyles, 1984, and Hoy & Dunne, 2001; all three sources are listed in the References section of this report. The author is not in possession of any original data enabling an independent assessment of the reliability of these figures to be ascertained but does consider the government source that quotes these data to be reliable. However, should any new work be undertaken in this area, the historical reference should not be treated as a current mineral resource or relied upon in any fashion beyond the extent to which that it documents the presence of molybdenite mineralization in this location, mineralization that was partly historically exploited.

In 2004, by which time mining claims in this area had lapsed and then been acquired by a local Rossland partnership, the Gertrude, Novelty and Blackbear package of claims was optioned to Golden Chalice Resources Ltd. and in 2005 this company reported on three holes drilled, although a map from a report about this drilling indicates that six holes were drilled (see below). Results from this drilling were published in a news release dated July 13, 2005, and are summarized below). It is interesting to note – both from an academic/technical perspective and in light of the high level of interest in this metal at the present time as function of the revolution in energy storage technology currently underway, that cobalt results were reported, as well.

Table 2: Historical Drill Results, Golden Chalice Resources Inc., 2005 (news release, July 13, 2005)

DRILL HOLE	FROM (m)	TO (m)	LENGTH (m)	Au (gpt)	Mo (%)	Co (ppm)
Nov-05-01	7.0	7.9	0.9	11.9	0.10	1795
"	20.6	25.4	4.8	2.79	0.29	881
"	26.7	29.5	2.8	5.78	0.05	1859
Nov-05-02	12.2	14.2	1.0	5.43	0.19	1178
"	28.7	41.9	13.2	3.39	0.22	>652
"	38.9	41.9	3.0	5.48	0.18	1280
Nov-05-03	25.5	30.3	4.8	6.21	0.11	>1530
"	35.9	52.7	16.8	3.01	0.10	>826

Notwithstanding the positive results for molybdenum and gold, no further work was undertaken by Golden Chalice and the property reverted to its owners (0704723 BC Ltd.). It now comprises part of the Property (the GNB property).

<u>Gold</u>

Exploration activities for gold covers portions of the balance of the property, and involves numerous companies over an extended period of time. There are many, many reports in the assessment and related files of the BC Ministry of Energy, Mines & Petroleum Resources and the BC Geological Survey, the comprehensive review of which is beyond the scope of this report; most of the more significant ones are included in Table 3, at the end of this section of this report. A summary review of the prominent and more significant exploration activities follows.

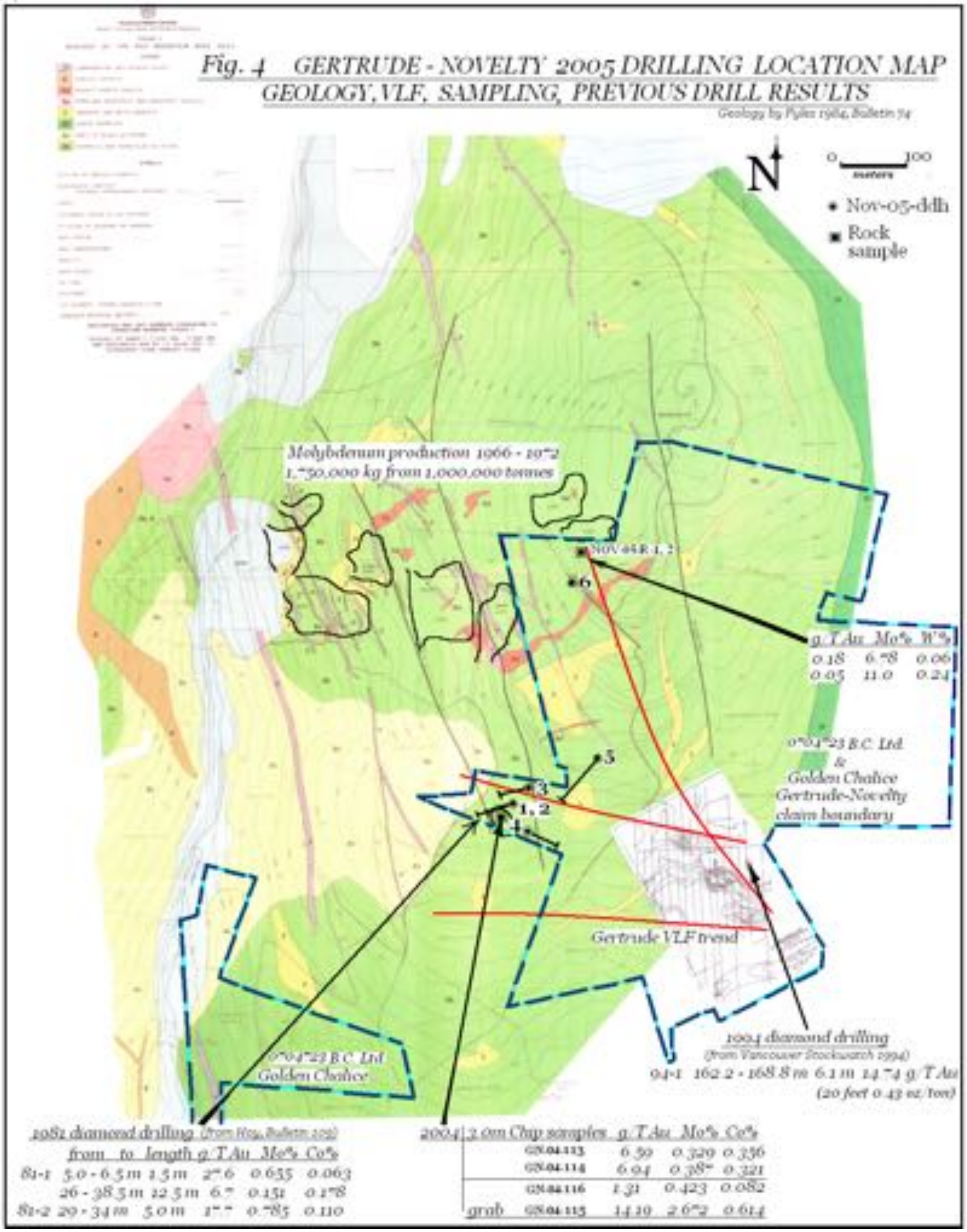


Figure 9: Map showing the location and results of Golden Chalice's drilling in 2005 (from Wehrle, 2006)

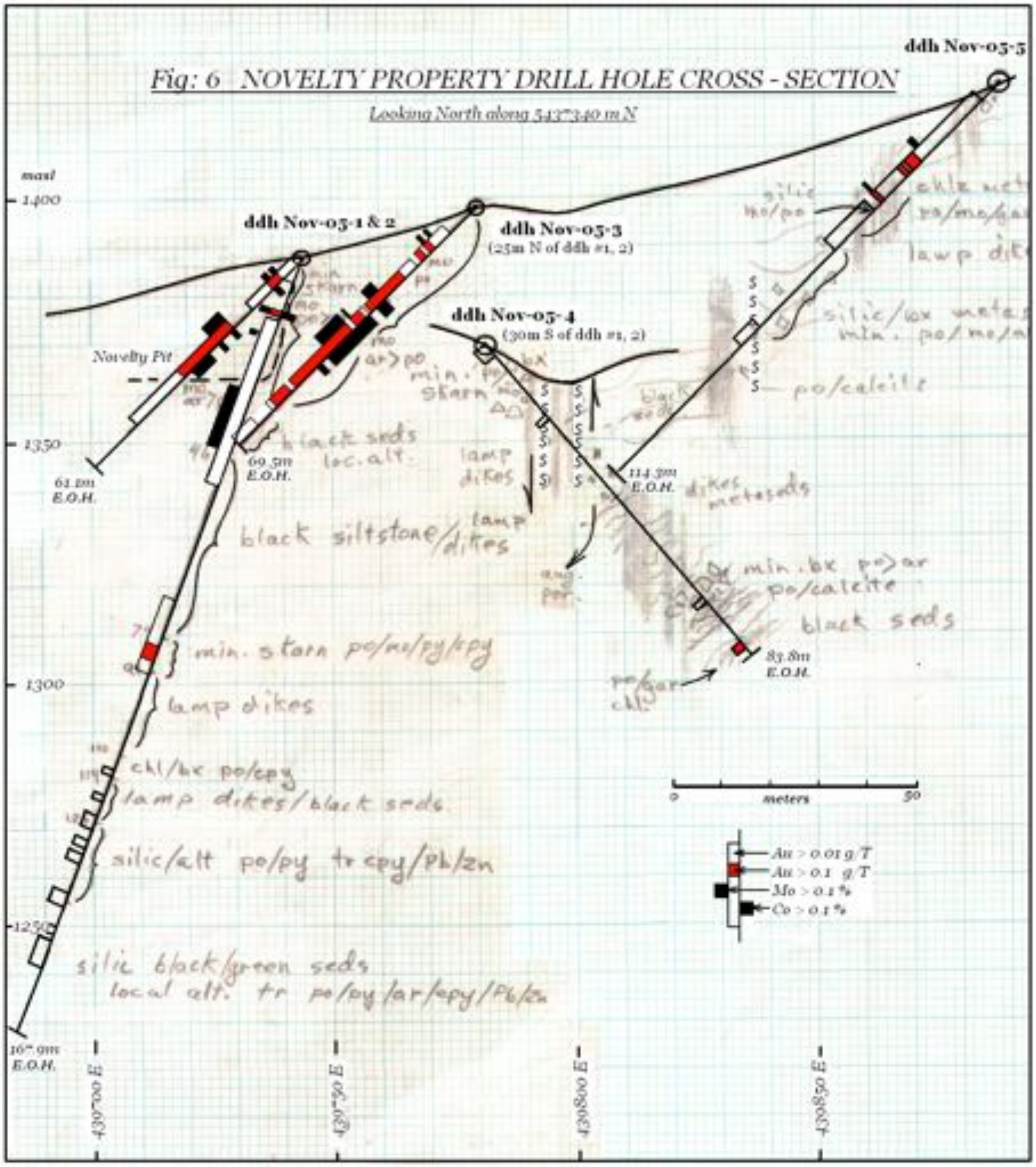


Figure 10: Drill section for Golden Chalice's 2005 drill holes 1-5 (from Wehrle, 2006)

<u>South Belt</u>

The Lily May silver-gold-bearing vein, located in 1887, was the first vein to be discovered in the Rossland camp. The Mayflower (1889), Homestake (1890) and Bluebird (1900) silver-gold-bearing veins were subsequently discovered. Production from most of these veins is limited, generally between tens to hundreds of tonnes. Bluebird, the largest producer, mined 7,239 tonnes, mainly in the middle to early 1970s producing a total of 3,911 kg silver (125,742 troy ounces), 12,857 grams (413 troy ounces) of gold, as well as lead, zinc and minor copper, which translates into an average mined grade of 17.37 opt (540.27 gpt) silver and 0.05 opt (1.78 gpt) gold. The separate CGMs of the South Belt were largely assembled by Rossland Mines Ltd. in 1947 and from then through to 1956 they underwent considerable exploration, underground development and some production from the Bluebird-Mayflower zone. Exploration in the 1960s included mainly geophysical work and soil surveys. From 1972-1980, Ross Island Mining Co., formerly Rossland Mines Ltd. leased the group of claims covering the South Belt veins, referred to as the Bluebird-Homestake claim group (source: http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Production_Detail.rpt&minfilno=082FSW145).

From 1981-1986, Bryndon Ventures Ltd. (previously Ross Island Mining Co. Ltd.) was founded by Bern Brynelsen, a geologist formerly with Rossland Mines Ltd., acquired rights to and established a grid on the Bluebird-Homestake claim group. Bryndon subsequently carried out a VLF electromagnetic survey, 530 meters of trenching and 631 meters of diamond drilling. Work continued in 1987-1988 under an option agreement with Antelope Resources Ltd., another company created by Mr. Brynelson and the project operator, Pacific Vangold Mines Ltd., with funding in part coming from the provincial government Mineral Exploration Incentive Program ("FAME" program). Limited diamond drilling on a number of the gold-bearing veins continued through the early 1990s by Antelope Resources or Pacific Vangold Mines in an attempt to define additional mineralized zones (source for this section: Yorke-Hardy et al, 1988).

ANTELOPE RESOURCES – SOUTH BELT (circa 1985-1988): Antelope carried out exploration work on the southern vein trend (the "South Belt", reviewed in greater detail in the Geology and related sections of this report) on the Bluebird and Mayflower claims (CGMs), located in the South Belt, starting in 1985 and continuing through 1988. In 1986, the joint venture completed the aforementioned 530 meters of trenching and 631 meters of diamond drilling on the Homestake-Gopher, Bluebird-Mayflower, and North shear zones (see map, below), where a new gold-pyrrhotite mineralized vein was discovered by trenching. Exploration work also included mapping, sampling and geophysical surveys.

A 1988 technical report prepared for Antelope Resources documents this drilling and related work, including drill logs, sections and assay tables; whereas sample numbers are recorded in the logs, the analytical results are only to be found in accompanying analytical tables where the sample numbers are recorded. Gold values are reported; however, in the absence of any information regarding collection methods, sample security, quality assurance – quality control, it is not possible to comment on their significance (source: Yorke-Hardy et al, 1988).

The report and map, below, also illustrate mineral zonation seen in this area, namely, from gold-base metals (copper) further north and closer to the contact with the Rossland monzonite, to silver-base metals (lead-zinc) further south and away from this contact (reviewed in greater detail in following sections of this report). Details of the VLF survey carried out over the area are included in this report, as well, comprising raw data and interpreted maps. Irrespective of the abundant data and positive results obtained in this program, there does not appear to have been any follow up. It appears as if this was due, at least in part, to a shift in focus to the North Belt of the Rossland area, summarized below.

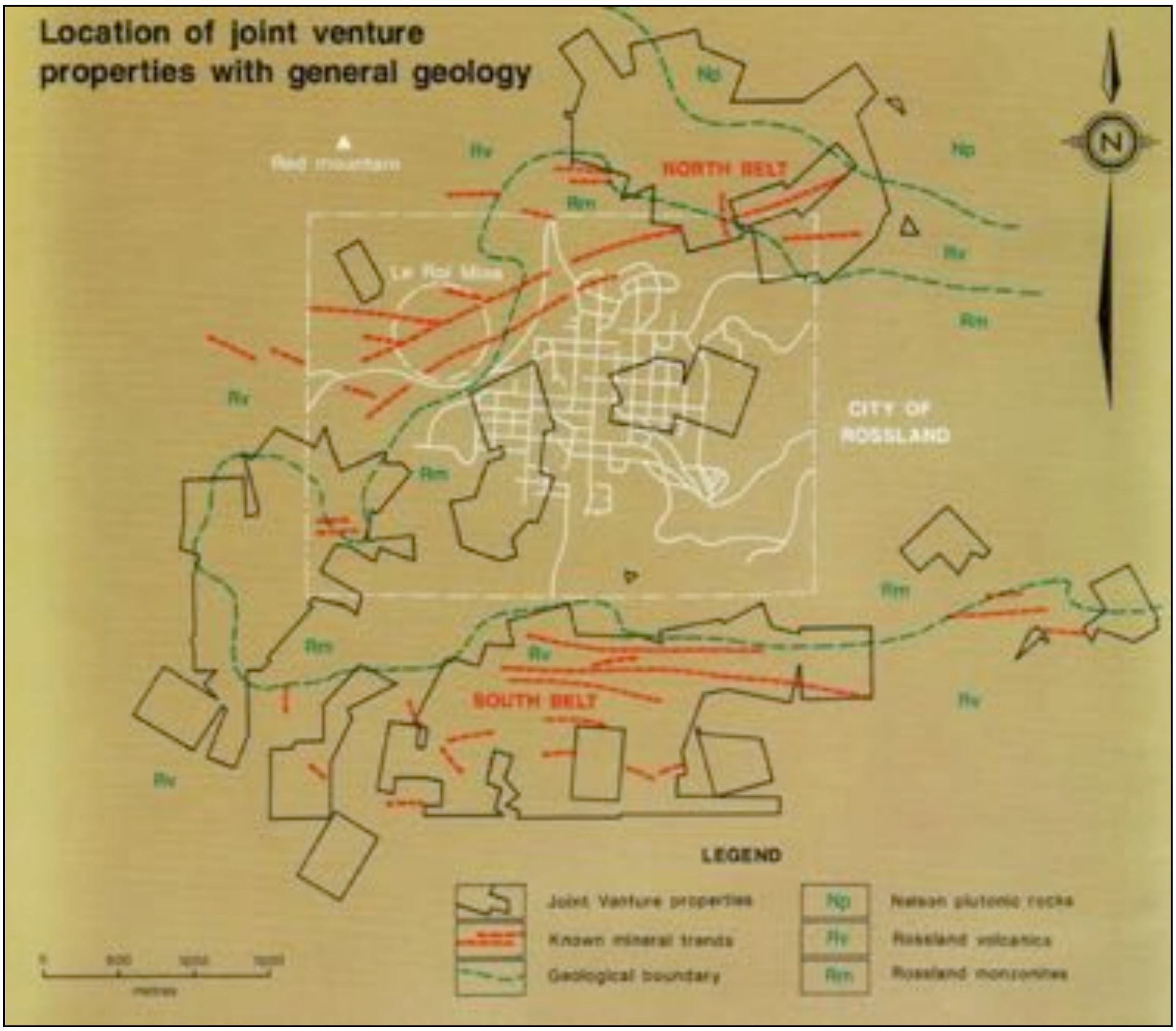


Figure 11: Map showing Antelope Resource's property position in the Rossland area, 1988 (Antelope Resources Annual Report, 1988)

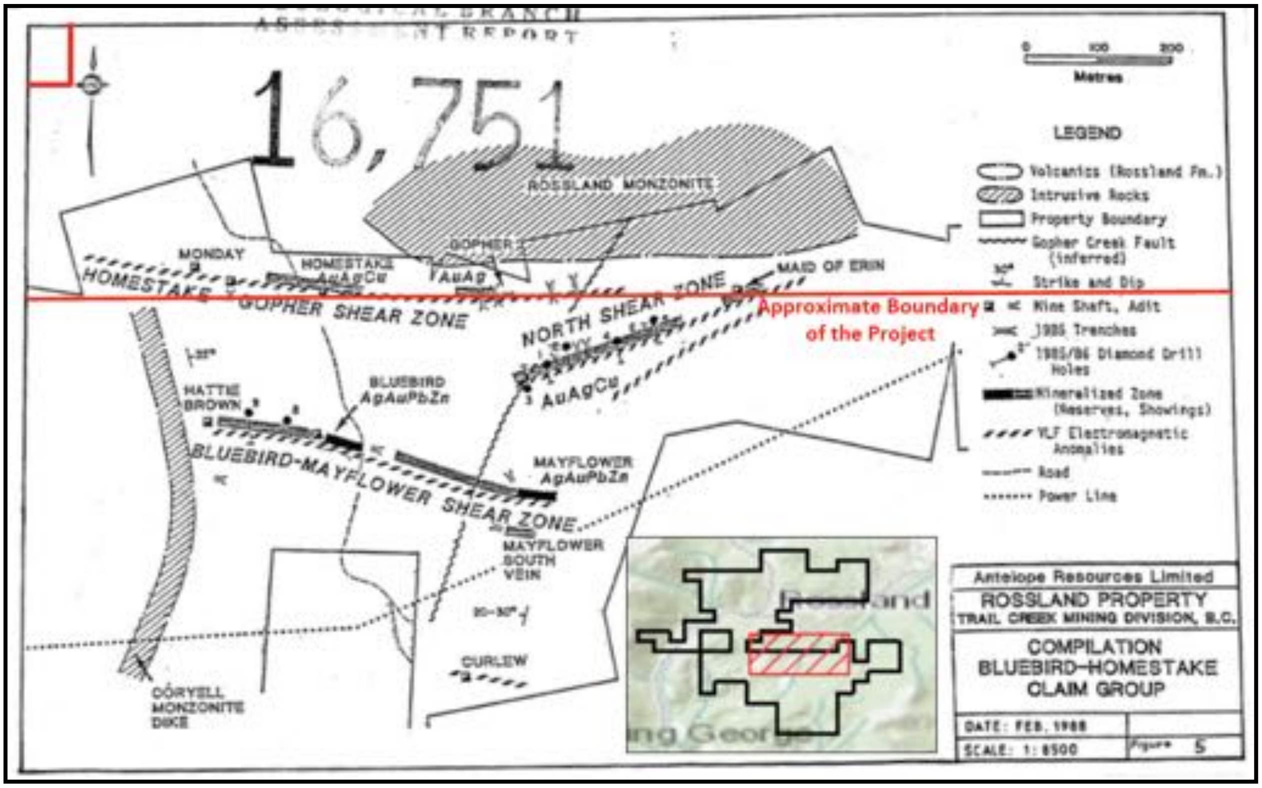


Figure 12: Compilation map of the South Belt area,
Antelope Resources, 1988 (from Fowler & Bonniwell, 1988)

<u>Main Veins & North Belt</u>

Cominco Ltd. optioned the Evening Star claim in 1980 and explored its potential as a low-grade gold stockwork deposit. However, the option was dropped after discouraging results in seven percussion drill holes. In the early 1980s, Gallant Gold Mines optioned claims covering a number of the eastern extensions of veins of both the North Belt and Main Veins and did considerable prospecting, mapping, rock-chip sampling and some geophysical surveying, and in 1986, conducted some diamond drilling. Exploration in the late 1980s by Antelope Resources included geological mapping, rock geochemical sampling, and electromagnetic geophysical surveys focused on the Evening Star, and Iron Colt and Georgia claims, located in the North Belt and Main Veins trends, respectively.

ANTELOPE RESOURCES – NORTH BELT (circa 1988-1989)

In 1988, Antelope refocused their efforts in the north part of the Rossland area, initially on the Evening Star vein trend and its extension to the northeast. Sampling of the underground workings was carried out in the walls of the old stopes, followed by the drilling of nearly two-dozen holes (see Figures 13 and 14, below). The drilling intersected thin, irregular veins and zones of mineralized and altered country rocks (source: Antelope Resource annual report, 1988).

Figure 13: Compilation map of the North Belt area displaying exploration activities, Antelope Resources, 1988 (Antelope Resources annual report, 1988)

Summary of 1988/89 drill results
Linear measurements in meters, grades in troy ounces per short ton.

Drill Hole	Depth	Width	Au
88-27	54.40-54.60	0.20	0.16
88-28	19.50-21.20	1.70	0.25
	27.60-28.20	0.60	0.64
	49.00-49.30	0.30	0.19
88-29	5.10-6.00	0.90	0.13
88-31	23.90-29.00	5.10	0.56
88-35	31.18-32.85	1.67	0.63
	41.80-42.50	0.70	0.24
88-37	37.30-42.13	4.83	0.97
	62.30-63.30	1.00	0.20
88-41	40.30-44.20	3.90	0.30
88-43	89.90-90.10	0.20	0.13
88-45	8.55-13.40	4.85	0.29
88-47	25.00-25.35	0.35	0.89
	56.90-57.00	0.10	0.24
88-49	38.20-38.90	0.70	0.10
	50.95-51.4	0.45	0.13
88-52	18.3-19.1	0.80	0.11
	20.5-20.6	0.10	0.13
88-53	28.7-33.7	5.00	0.25
	95.2-95.35	0.15	0.43
88-56	21.9-22.1	0.20	0.14
88-59	28.25-28.45	0.20	0.92
88-60	30.3-30.6	0.30	0.13
88-61	40.1-40.3	0.20	0.15
88-62	53.67-54.32	0.65	0.13
	56.0-56.2	0.20	0.17
	56.75-56.9	0.15	0.25
	62.7-63.65	0.95	0.13
88-63	63.6-63.9	0.30	0.13
	65.3-65.5	0.20	0.22
89-71	117.75-119.55	1.80	0.40
89-78	48.05-50.3	2.25	0.12
89-79	28.5-29.0	0.50	0.69
	66.3-68.9	2.60	0.10
89-80	77.6-78.0	0.40	0.17
	86.35-87.5	1.15	0.18
	90.9-91.55	0.65	0.18
	101.9-102.1	0.20	0.15

Figure 14: Summary of Antelope drill results, North Belt area, 1988-1989 (Antelope Resources Annual Report, 1988)

ANTELOPE RESOURCES – MAIN VEINS (circa 1989-1990)

In 1989, Antelope acquired an option on ground covering the Iron Colt, Georgia and related claims, along the eastern edge of the Main Vein trend. A ground VLF survey was carried out on surface to delineate the trace of the vein beyond the limit of historical mining in order to generate targets for drilling. An unknown number of holes were reportedly drilled with several veins and related mineralized zones intersected; however, reports covering this work could not be found.

VANGOLD RESOURCES – MAIN VEINS & NORTH BELT (1991-1996, 2007-2008)

Pacific Vangold, at some point shrinking its name simply to Vangold, became more involved in the partnership trio consisting of Bryndon, Antelope and Vangold, and in 1991 carried out exploration in both the Main Veins and North Belt areas, with geophysical surveys and some limited drilling, resulting in reported "reserves" in the Evening Star of 20,000 t grading 17 gpt gold (source: Wehrle, 1995). The author cautions that this figure does not represent a current mineral resource, that there are no mineral resources or reserves at this location, and that this figure cannot be relied upon beyond the historical documentation of mineralization in this area. A new program of drilling would be required in accordance with all current industry standards prior to any qualitative or quantitative estimate of mineralization at this location could be determined or further commented upon. Hole NB-91-11, located approximately 125 meters southwest of the main, mineralized zone, intersected 3.1 meters grading 27 gpt gold. Additional drilling in 1994 concentrated on this same area. Hole NB-94-5 intersected 1.5 meters grading 12 gpt gold "in a strongly altered zone containing pyrrhotite, pyrite, arsenopyrite and chalcopyrite", and NB-94-6, intersected roughly 3 meters grading 14 gpt gold. A vertical hole, NB-94-7, drilled to test the down dip extension of this zone intersected 4.6 meters grading 5 gpt gold at a depth of 72.3 meters (source: Wehrle, 1995),

Underground rehabilitation work in the Iron Colt vein got underway in 1991, with sampling confirming the presence of gold mineralization in at least two separate veins. A news release dated November 21, 1991, quotes intercepts of "8.4 feet of 7.1 opt gold, 8.9 feet of 5.0 opt gold and 6 feet of 1.1 opt gold on the Iron Colt main vein and 6.5 feet of 6.4 opt gold on the Iron Colt north vein", going on to state that these results confirm that the Iron Colt veins are the eastern (on-strike) extension of the Le Roi vein system, that which hosted the bulk of Rossland's historical gold production. A bulk sample was extracted from the Iron Colt via the No. 6 portal in 1995, producing 21,400 grams (688.1 troy ounces) of gold from 1,414 tonnes of rock, for a recovered grade of 0.487 opt gold (source: http://minfile.gov.bc.ca/report.aspx?f=PDF&r=Production_Detail.rpt&minfilno=082FSW100).

No work was reported between 1996-2004, limited work was undertaken in 2005, and in 2007 Vangold renewed exploration work in the South Belt. Exploration work continued in the South Belt in 2008, upon which Vangold terminated work in the area. Limited assessment work and tenement payments by Vangold led to a reduction of its property position to that which it holds to this day.

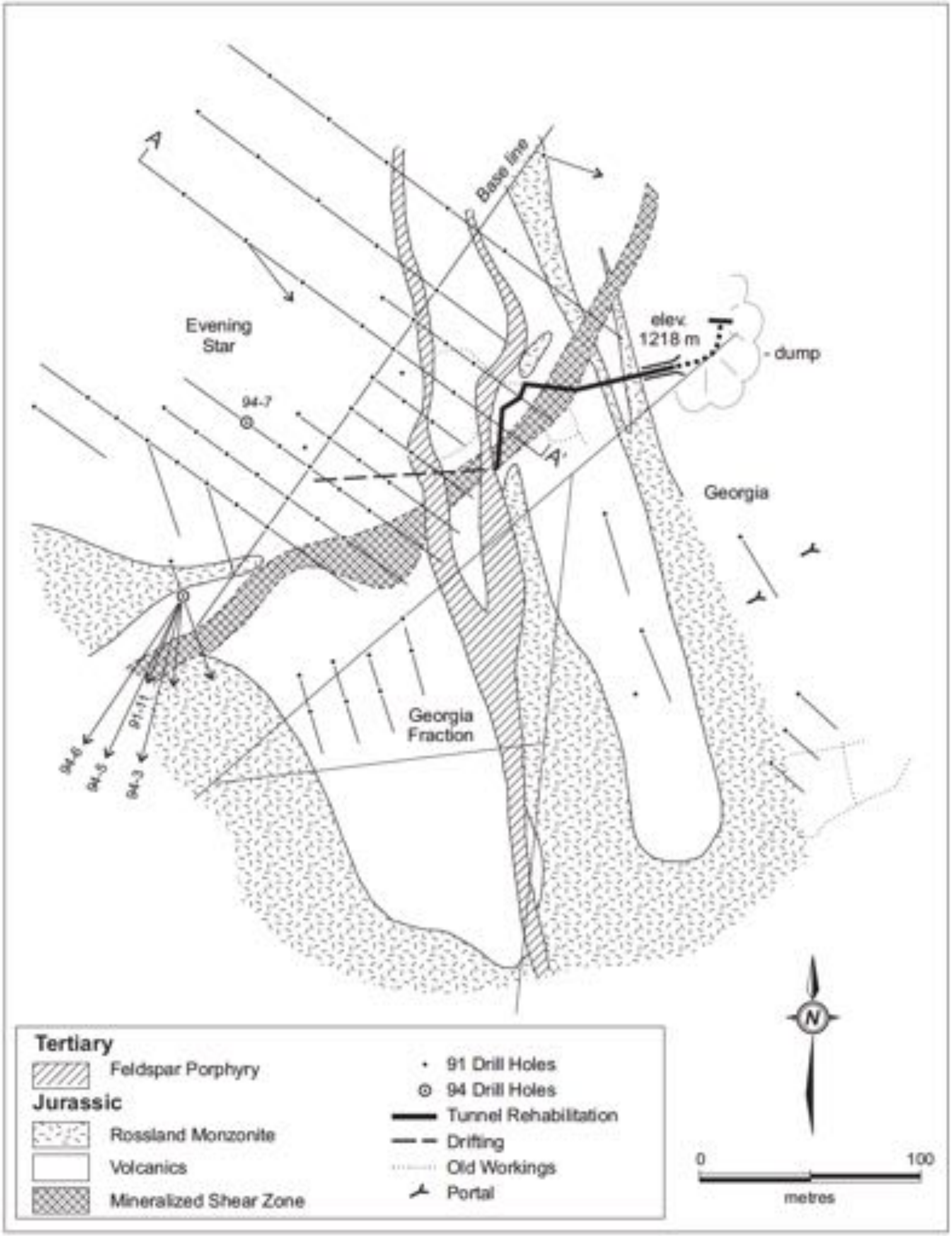


Figure 15: Historical drilling along the Evening Star vein, 1988-89, 1991 & 1994 (from Hoy & Dunne, 2001, after Wehrle, 1995)

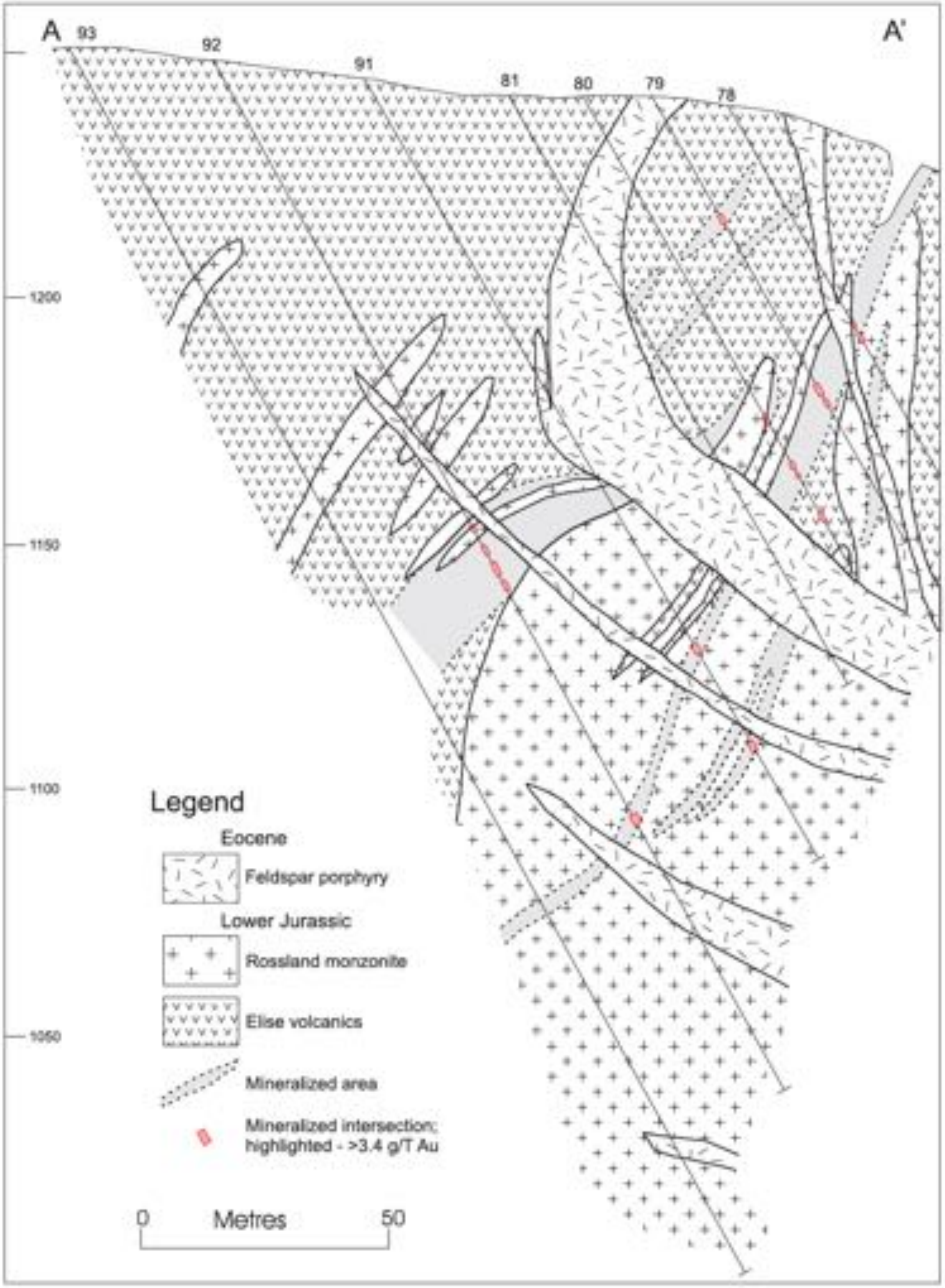


Figure 16: Vertical section through the Evening Star looking northeast, based on 1988-1989 drill data (from Hoy & Dunne, 2001, after Wehrle, unpublished data)

W.H.Y. RESOURCES – WEST EDGE OF THE ROSSLAND DISTRICT (2000-2009)

Starting in or around 2000, West High Yield ("W.H.Y.") Resources Ltd., a Calgary-based company, acquired a number of CGMs located at the far western edge of the Rossland district overlying gold-bearing quartz veins that were originally discovered in 1891, these being the I.X.L., O.K. and Midnight (W.H.Y.'s land position has increased considerably since then, and their focus has shifted from gold to magnesium). Recorded production for this area between 1899 and 1974 is 1,081,816 grams (34,785 troy ounces) of gold. Recorded production from the I.X.L. was 811,746 grams (26,101 troy ounces) of gold, with a recovered grade of 153 gpt (4.92 opt) gold; 245,311 grams from the Midnight with a recovered grade of 43 gpt (1.38 opt) gold. During the 1930s this work was done by a number of lessees. In 1969, work by Howe International and Cinola Tull Mines consisted of 1,766 meters of surface and underground drilling, 235 meters of development drifting and bulk sampling. Work on the Midnight Mine claim group in 1993-1994, which incorporated the past-producing crown-granted claims, included some geological mapping, geophysical work and drilling. This work continued through 1996 under option to Minefinders Corporation Ltd. with considerable underground rehabilitation, drilling and sampling being completed (source: Hoy & Dunne, 2001).

In 2006, W.H.Y. had B.J. Price Geological Consultants Inc. prepare a technical report on its land position, with a focus on exploring for extensions of historically mined veins in this area as well as possible previously unknown mineralized zones. Between 2006-2009, W.H.Y. drilled a total of 55 holes, with every hole intersecting gold mineralization in one or more intercepts. The plan map and cross section, below, illustrate the location of some of these drill holes (plan map) and convey an impression of the nature and distribution of gold mineralization in the area (cross section) (source: W.H.Y. website - http://whyresources.com, maps and news releases tabs).

For whatever reasons, W.H.Y. did not pursue this area any further, and in 2011 shifted focus to magnesium and a deposit it discovered roughly 4 km southwest of the area of gold mineralization, a deposit the company continues to develop to this day. In October, 2017, W.H.Y. reached an agreement to sell its gold claims to a USA based company for US $750 million; however, the deal fell through a month later.

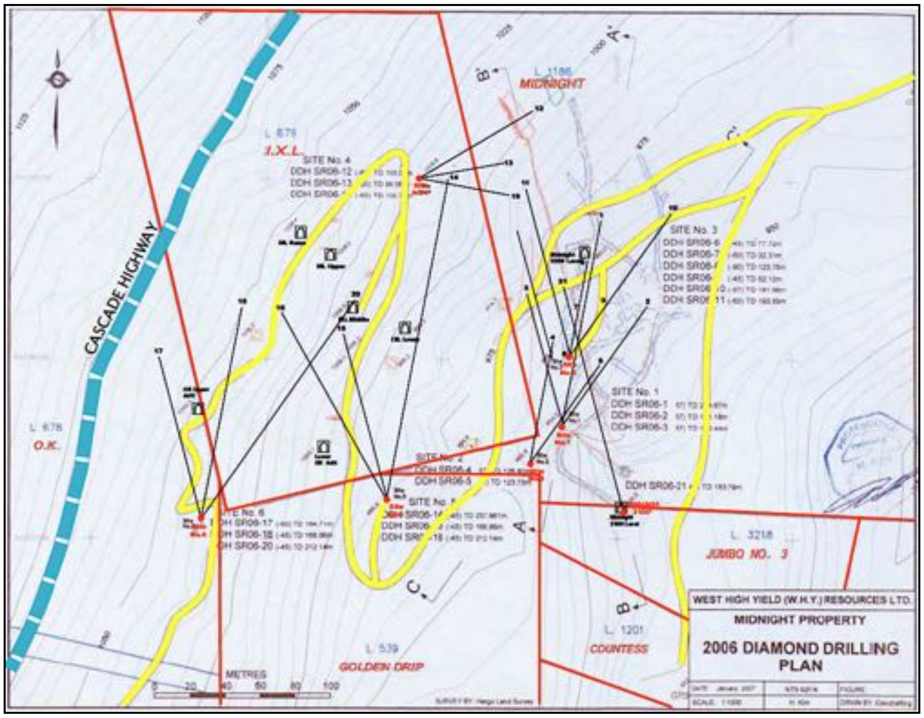


Figure 17: W.H.Y. Resources drilling plan map, 2006
(source: http://whyresources.com/_resources/reports/midnight_ixl.pdf)

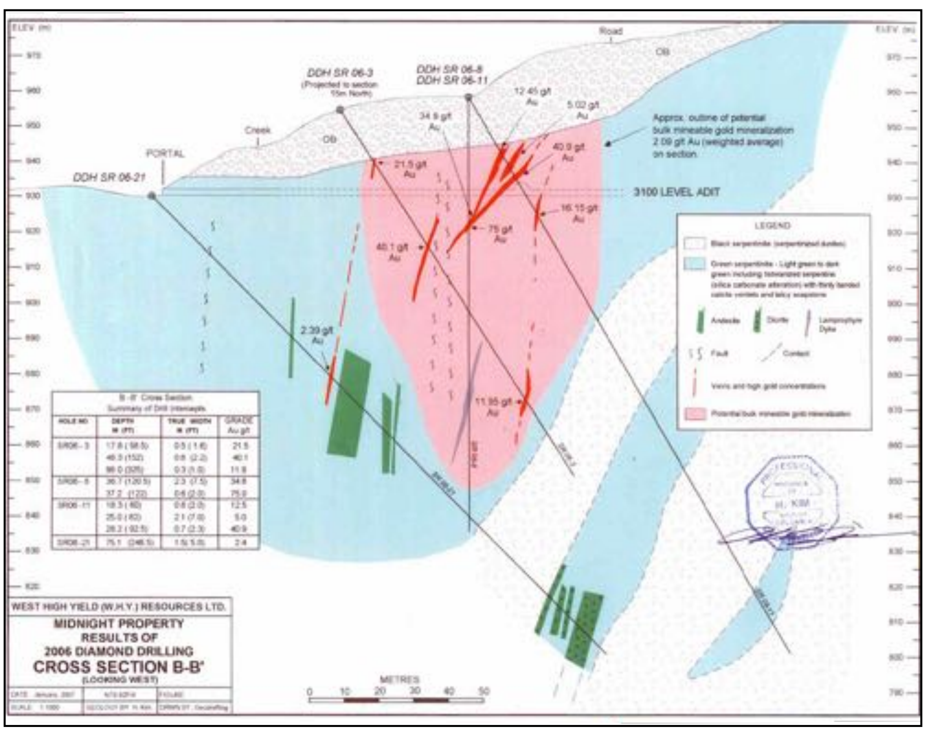


Figure 18: Cross-section B-B' (source:
http://whyresources.com/_resources/maps/midnight_property_results_of_2006_diamond_drilling_cross_section_B-B.pdf)

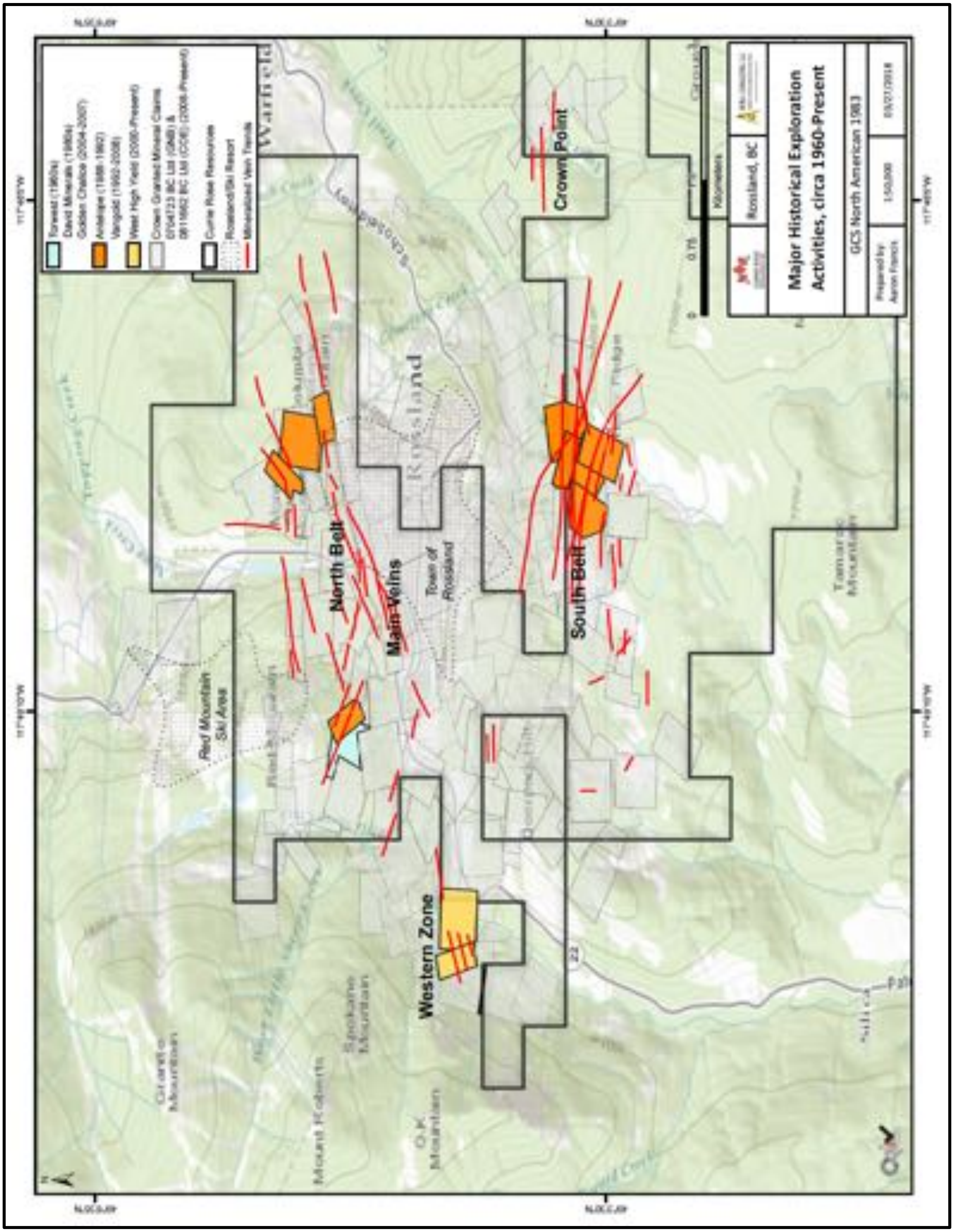


Figure 19: Map showing areas of major historical exploration activities, circa 1960-2005

Table 3: List of Exploration & Related Activities on the Property (first part)

COMPANY	YEARS	CLAIMS	WORK
W.H.Y. Resources Ltd. (West High Yield)	~2003-present	O.K. L. 678 I.X.L. L. 679 Midnight L. 1186 Golden Butterfly L. 1217 Golden Butterfly Fr. L. 1943 Golden Drip L. 539 *(CG = crown granted mineral claim, L. = Lot #)* 513794 HIDDEN VALLEY 514607 FRANK SR3 *(cell claims - tenure no.)*	*Gold – drilling, 2006-2010, west part of the Property.* O.K. http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW117 I.X.L. http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW116 Midnight http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW119 Golden Drip http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW118 *Magnesium – drilling to resource Record Ridge Southwest Rossland, 2007 – 2011.* Record Ridge http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW398
Bryndon Ventures Inc.	1985 - 1986	Mayflower L. 799 Gopher L. 1050 Maid of Erin L. 1293	*Gold - trenching and drilling New North vein in the South Belt.* Mayflower http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW146 Maid of Erin (New North) http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW128 Gopher http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW125
Bryndon Ventures Inc. & Antelope Resources Ltd. (Joint Venture)	1987 - 1992	Mayflower L. 799 Copper Queen L. 1210 Gopher L. 1050 Maid of Erin L. 1293 Blue Bird L. 1053 Homestake L. 936 Evening Star L. 801 Georgia Fr. L. 4668 Georgia L. 928 RCG Iron Colt L. 796 RCG Mascot L. 1344 RCG Gertrude L. 690 RCG *(RCG - reverted crown grant)*	*Gold – drilling New North, Blue Bird – Mayflower and Gopher – Homestake veins in Rossland South Belt and drilling Rossland North and Main Belt veins.* *Assessment work filed by the joint venture:* *https://aris.empr.gov.bc.ca/search.asp?mode=repsum&rep_no=16751* Bluebird, Copper Queen http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW145 Homestake http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW123 Evening Star http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW102 Georgia http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW149 Iron Colt http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW100 Mascot http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW195 Gertrude http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW108
Red Mountain Mines Ltd.	1966 - 1972	Coxey L.1221 RCG Nevada L. 966 RGC Mountain View L.682 RCG	*Drilling then mining of molybdenite in several open pits located on the upper west face of Red Mountain, with a milling and concentration facility on site.* Coxey http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW110 Mountain View http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW140

Table 3: List of Exploration & Related Activities on the Property (second part)

COMPANY	YEARS	CLAIMS	WORK
Antelope Resources Ltd. (to 1992) Vangold Resources Ltd. (to 1994) Pacific Vangold Mines Ltd. (joint venture with International Silver Ridge Resources Inc. - on the Iron Colt) Paccom Ventures Inc. (1999–2002) Vangold Resources Ltd. (2002-2017) Vangold Mining Corp. (2017 – present)	1991 - 2008	Copper Queen Fr. L. 14962 Mayflower L. 799 Copper Queen L. 1210 Gopher L. 1050 Maid of Erin L. 1293 Blue Bird L. 1053 Homestake L. 936 Evening Star L. 801 Georgia L. 928 RCG Georgia Fr. L. 4668 Iron Colt L. 796 RCG Mascot L. 1344 RCG Gertrude L. 690 RCG Giant L. 997 RCG (RGC = Reverted Crown Granted Mineral Claim, a legacy paper staked unpatented claim)	*1991 – 1994: Vangold carries out exploration work.* Assessment reports filed: https://aris.empr.gov.bc.ca/search.asp?mode=repsum&rep_no=20158 https://aris.empr.gov.bc.ca/search.asp?mode=repsum&rep_no=20888 https://aris.empr.gov.bc.ca/search.asp?mode=repsum&rep_no=21271 Bluebird, Copper Queen http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW145 Evening Star http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW102 Iron Colt http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW100 Gertrude http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW108 *1994-96: Pacific Vangold undertakes limited bulk sample mining initially from the Iron Colt and then Evening Star claims. The raw ore is shipped to the Kettle River mill at Republic, Washington.* Assessment reports filed: https://aris.empr.gov.bc.ca/search.asp?mode=repsum&rep_no=23879 https://aris.empr.gov.bc.ca/search.asp?mode=repsum&rep_no=23889 Evening Star http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW102 Iron Colt http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW100 *1996 – 2005: Hiatus in Vangold activities, some ground is dropped.* *2005 – 2006: Vangold Resources Ltd. performs limited exploration activities for assessment purposes:* https://aris.empr.gov.bc.ca/search.asp?mode=repsum&rep_no=28138 Giant http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW109 *2007 – 2008: Vangold carries out exploration work.* *2009 – present: Vangold completes minor assessment work, some legacy staked claims dropped*
David Minerals Ltd.	1981 - 1982	Novelty L. 958 RCG Golden Queen L. 994 RCG Giant L. 997 RCG St. Elmo L.923 RCG	*Drilling of molybdenite breccia on the upper west face of Red Mountain.* Novelty http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW107 Golden Queen http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW106 St. Elmo http://minfile.gov.bc.ca/Summary.aspx?minfilno=082FSW134
Golden Chalice Resources Inc.	2004 - 2005	As above	Confirmation drilling of David Minerals Ltd. 1981 drilling of gold–molybdenite–cobalt-REE mineralized breccia on the upper west face of Red Mountain (private report).
Dan Wehrle	1997 - present	Entire Rossland area	*Acquisition of staked mineral claims and then online cell claim acquisitions (since 2005).*

7. GEOLOGICAL SETTING AND MINERALIZATION

Author's note: significant sources of information for this section of the report are Hoy and Dunne, 2001, and Monger & Price, 2002, several excerpts of which have been included in part or in whole in this section of the technical report.

REGIONAL GEOLOGY

The Rossland area lies in the heart of the Canadian Cordillera, a relatively youthful mountain Belt but one with origins that extend back some 750 Ma to the episode of rifting that marked the first stages in the break-up and dispersal of "Rodinia", a Neoproterozoic supercontinent that had existed since about 1,000 Ma. The protracted evolution of the Canadian Cordillera is dominated by interactions between the margin of the old, stable North American continent and the oceanic lithosphere located outboard of it. The initial intra-plate continent-ocean boundary was analogous to that of the present boundary between eastern North America and the Atlantic Ocean basin. It persisted until the Middle Devonian (~390 Ma), when a convergent, inter-plate boundary formed, along which magmatic arcs were generated within the edge of the North American Plate by subduction of oceanic lithosphere beneath it. Arc magmatism has persisted to a greater or lesser extent until the present but has varied in character.

The Canadian Cordillera is divided into five morpho-geological Belts, that from east to west are the Foreland, Omineca, Intermontane, Coast, and Insular Belts. Each Belt is characterized by a distinctive combination of landforms, rock types, metamorphic grade and structural style. Each Belt reflects the sum of all processes that have shaped the Cordilleran region since the late Neoproterozoic (750 Ma), but each is dominated by structural features that formed during Middle Jurassic through early Tertiary mountain building, involving compressional deformation between ~185-60 Ma followed by extensional deformation between ~59-40 Ma. The match between physiography and bedrock geology is close, but not perfect, mainly because of late Tertiary and Quaternary differential vertical movements.

The Rossland Group in southeastern British Columbia comprises a mafic volcanic arc succession deposited along the eastern edge of the Quesnellia terrane in Early Jurassic time. The Rossland Group is in fault contact with rocks of the Kootenay terrane to the east and locally overlain by remnants of a post-accretionary late Cretaceous clastic succession, the Sophie Mountain Formation, or by mafic flows of the extension-related Eocene Marron Formation. The Rossland Group contains a variety of deposits typical of volcanic arcs. These include alkalic porphyry copper-gold deposits, numerous copper, gold and polymetallic veins, and copper and gold skarns. The gold-copper veins of the Rossland camp and silver-lead-zinc veins of the Nelson and Ymir camps have been major past producers of precious and base metals (mainly gold, with minor silver, zinc and lead). Red

Mountain Mines Ltd. at Rossland mined molybdenite between 1966-1972.

The southern part of the area is underlain mainly by volcanic rocks of the Early Jurassic Elise Formation. These rest unconformably on meta-sedimentary rocks of the late Paleozoic Mount Roberts Formation and are in apparent fault contact with underlying rocks of Unit Cs, interpreted to be mainly a siliciclastic assemblage of the Slide Mountain terrane. Locally, the Elise Formation is unconformably overlain by coarse conglomerates of the Late Cretaceous Mount Sophie Formation. A number of igneous suites intrude these rocks. The Rossland sill, a subvolcanic augite porphyry intrusion and the Rossland monzonite both host a considerable number of the productive mineralized veins of the Rossland camp. The intrusions are cut by the Middle Jurassic Trail pluton and by alkaline Coryell intrusions of Middle Eocene age. The Eocene Sheppard intrusions occur as stocks in the southeastern part of the area or form north-trending felsic dikes; they are also cut by the Coryell intrusions.

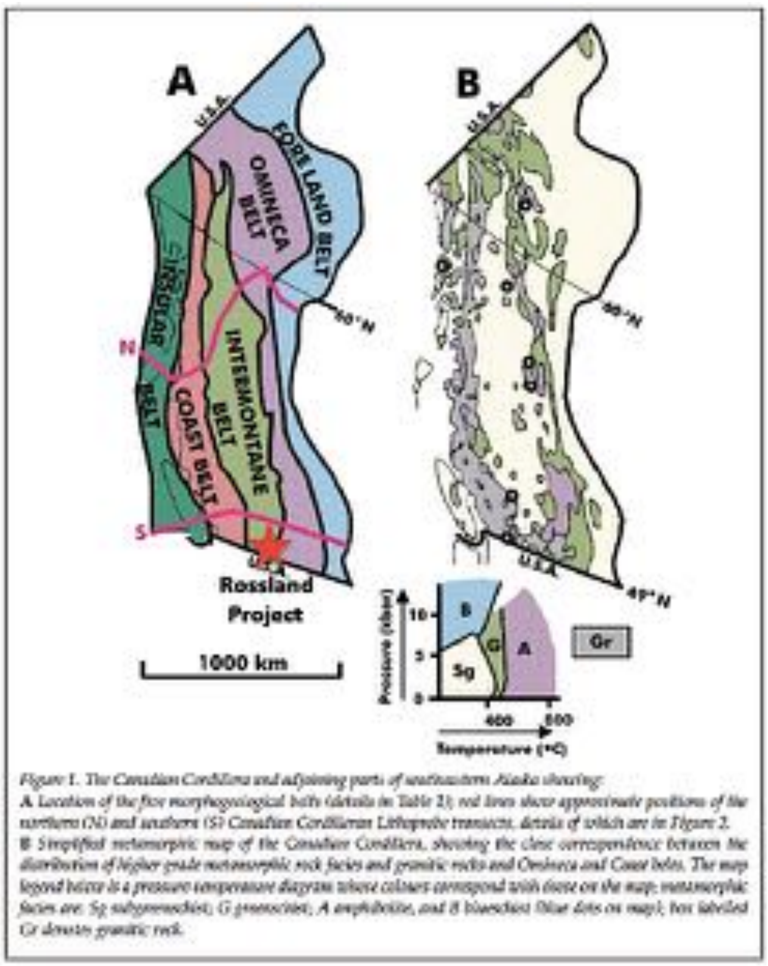


Figure 20: Morphological/tectonic Belts of the
Canadian Cordillera (from Monger & Price, 2002)

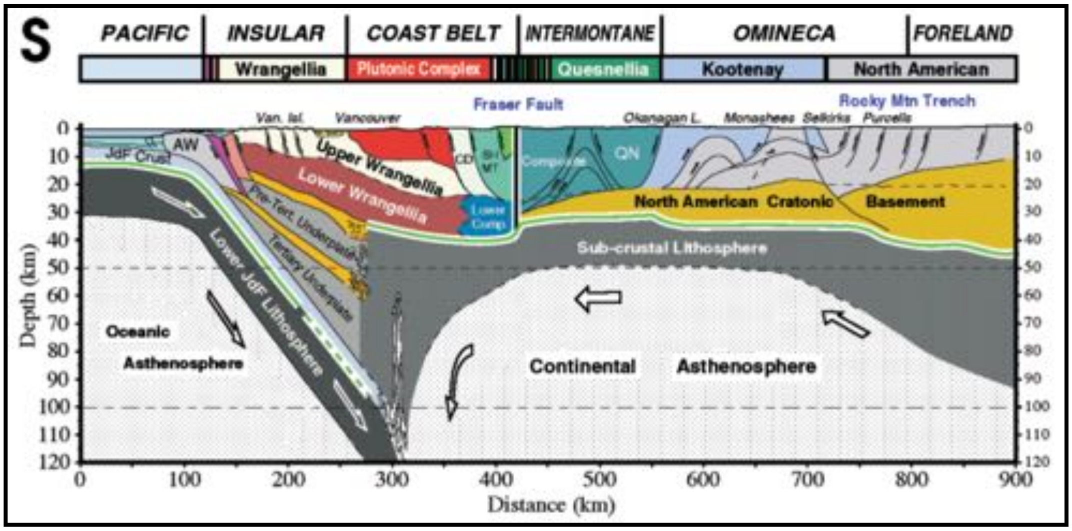


Figure 21: Interpreted cross-section of the southern Canadian Cordillera (from Monger & Price, 2002)

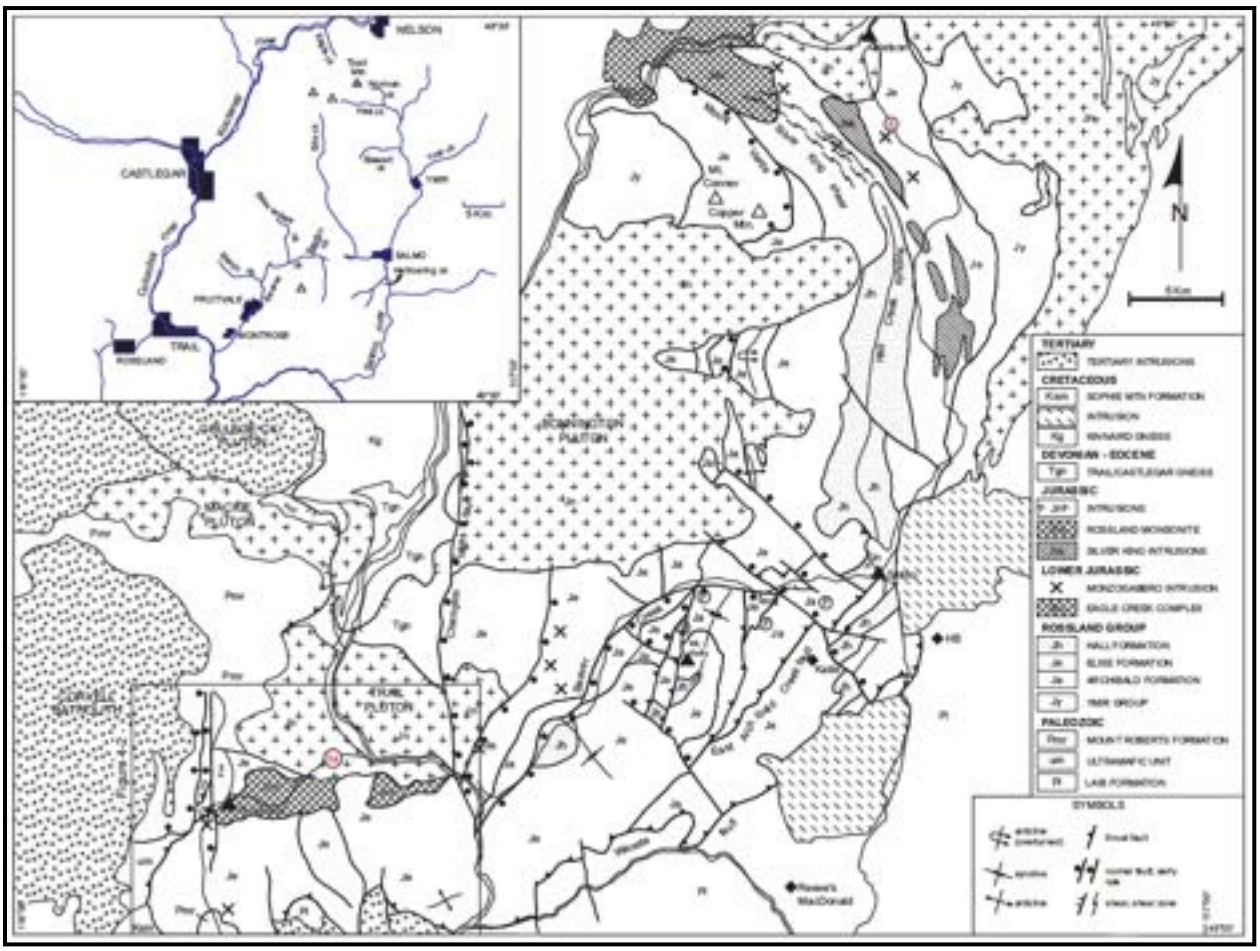


Figure 22: Regional geology map of the Rossland-Nelson area, showing the location of major mining districts (inset) (from Hoy & Dunne, 2001)

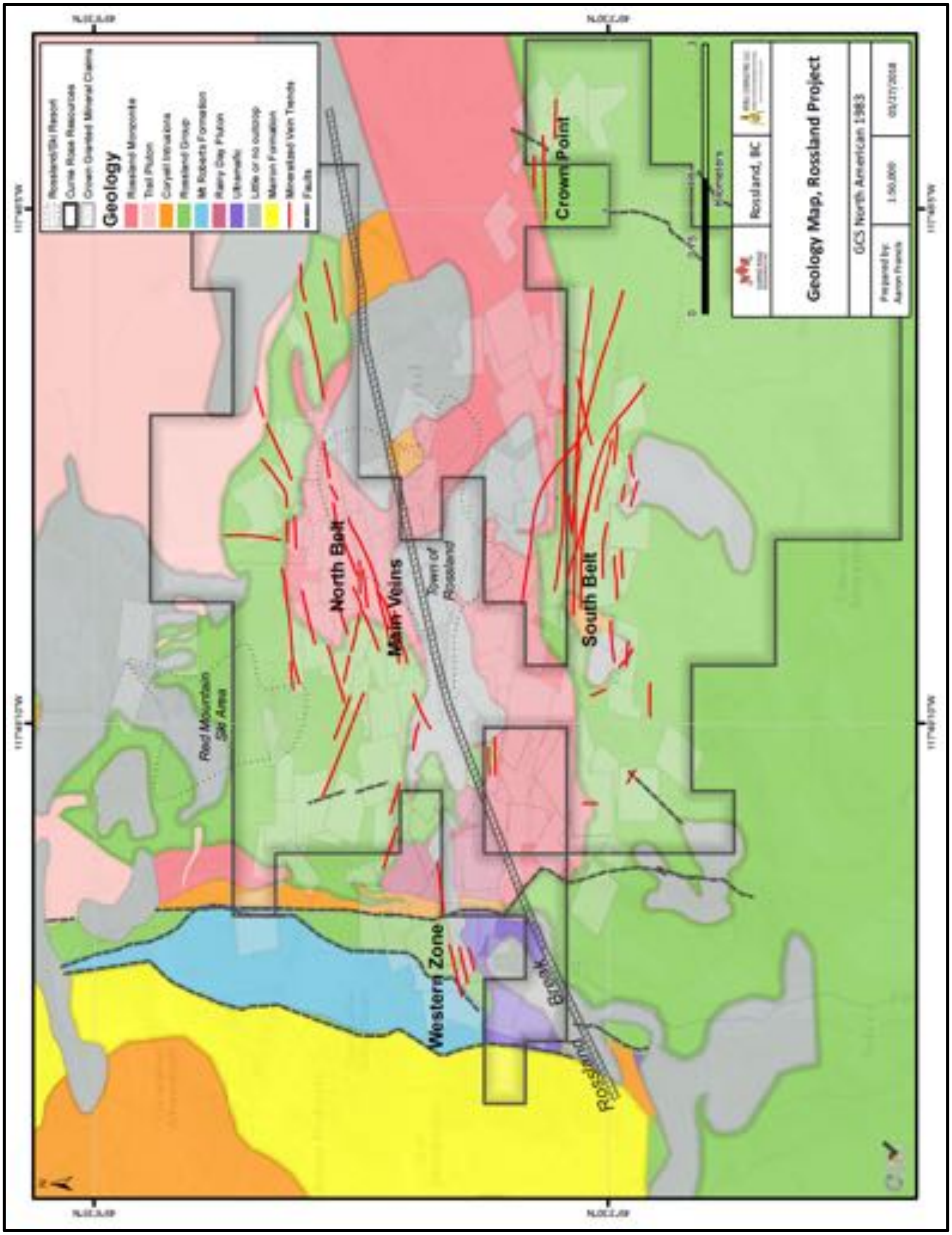


Figure 23: Geology Map, Rossland Area (composite sources)

LOCAL GEOLOGY

The Project area lies within an area of plutonic and dyke rocks that intrude Upper Paleozoic and Lower Jurassic volcanic and sedimentary rocks, the ages of which have been determined by fossils. The Jurassic Rossland Group is mainly andesitic volcanic breccia, lapilli tuff, volcanic sandstone and conglomerate, and lenses of grey to black siltstone. These rocks are variably metamorphosed and intruded by three principal groups of plutonic rocks: the Rossland monzonite, the Trail pluton, and the Coryell batholith. They are also cut by a large number of dykes including diorite, lamprophyre, and syenite.

The Project area overlies the Rossland break, a poorly defined ancient zone of movement that trends northeastward through the volcanic and sedimentary rocks. South of the break the dominant structures trend northeast, whereas north of it they trend north. Five km north of the break these northerly trending structures terminate against schistose rocks which dip at low angles to the south and southwest. The distribution of intrusive facies of the Lower Jurassic Rossland Group suggests that the break originated during or before the Rossland period of volcanism. Subsequently it became a locus for repeated intrusion and now contains the Rossland monzonite and a group of serpentinite stocks. The area is adjacent to the southwestern corner of the Trail pluton of granodiorite and quartz monzonite. The southern margin of the pluton dips beneath the main camp and irregular dykes, breccias, and stocks that occur to the west are also found in deep drilling beneath Red Mountain. The eastern margin of the Coryell batholith occurs 1 km west of Rossland and related dykes and irregular stocks are present within it. Each of these intrusions is surrounded by a zone of thermal metamorphism.

Mineralization in the area includes copper-gold and lesser lead-zinc-silver in veins (the North Belt, Main Veins and South Belt), molybdenum mineralization on the west side of Red Mountain, and gold-bearing quartz veins adjacent to serpentinite bodies within the Rossland break.

A summary of the main lithological units may be found below.

Mount Roberts Formation

The Mount Roberts Formation is a Pennsylvanian to Permian succession of grey siltstone, sandstone, greywacke, chert conglomerate, and minor limestone. It is exposed west and north of the Rossland district.

Elise Formation

The Elise Formation in the Rossland area comprises dominantly mafic to intermediate lapilli tuffs interlayered with prominent sections of tuffaceous siltstone and argillaceous siltstone. Mafic flows are subordinate and tuffaceous conglomerates are essentially restricted to the basal part of the succession. The Elise Formation in the Rossland area was deposited on a structural high that is exposed in the Patterson area and on the eastern slopes of Mount Roberts. The Elise Formation in the Rossland area represents one of the thickest successions recognized, in excess of 5000 meters. It is predominantly andesitic in composition and is exposed throughout the district. The Early Jurassic age is based on fossils in sedimentary units and a U-Pb date of ~197 Ma on zircon in tuff.

Sophie Mountain Formation

A small exposure of this Late Cretaceous formation is found south of the Project area. Regionally, this unit formed as conglomerate, siltstone and argillite deposits in small, structurally-controlled basins overlying the Elise Formation.

Marron Formation

Middle Eocene volcanic rocks of this formation unconformably overlie older rock types. These are exposed west and southeast of the district and comprise pyroxene and/or plagioclase porphyritic trachyandesite and andesite flows and tuffs.

Numerous intrusive rocks, ranging from batholithic bodies to small stocks and dikes, occur throughout the Rossland area. They range from Early Jurassic (possibly Late Paleozoic) to Eocene in age.

Augite Porphyry (Monzogabbro) Intrusions

The Rossland sill, exposed on the east slopes of Red Mountain and just south of the Rossland monzonite, hosts many of the western extensions of the Main Rossland veins and virtually all of the North Belt veins. It is an inequigranular to porphyritic augite porphyry, interpreted to be an Early Jurassic subvolcanic intrusion similar to many other, small Elise Formation-age, augite porphyry (monzogabbro) intrusions throughout the Rossland Group. These intrusions are fine to medium grained and generally porphyritic with 30-40% plagioclase and augite (pyroxene) phenocrysts in dark green-grey matrix. Farther east in the Nelson area, they host copper-gold porphyry mineralization. They are petrographically distinct from the Eagle Creek plutonic complex, Rossland monzonite and Silver King intrusions.

Rossland Monzonite

The Rossland monzonite underlies the city of Rossland and hosts several of the Main Veins of the Rossland district. It is a composite stock with coarse to fine-grained phases, and mafic-rich to intermediate (feldspar-dominated) phases; the more mafic phases tend to be more oxidized, in contrast to reduced, intermediate phases. More mafic monzodiorite rocks comprise 40-60% andesine, up to 25% orthoclase, and augite variably replaced by hornblende and biotite. Magnetite and apatite are ubiquitous accessory minerals, sphene is rare, and a small amount of quartz occurs as late, resorbed crystals. It can grade to a dark greenish black rock comprised dominantly of pyroxene and hornblende with abundant biotite. The age of the Rossland monzonite and its relationship to the Elise volcanics remain a matter of debate with one interpretation being that it is comagmatic with the Elise Formation, and another that it is somewhat younger.

Figure 24: Typical Rossland monzonite/monzodiorite

Figure 25: Diorite porphyry dike

Diorite Porphyry Dikes

Diorite porphyry dikes are common in underground workings in the area of the Main Veins. The similar orientation and their close proximity to the veins suggest a genetic link. Some historical workers believe these dikes to be phases of the Middle Jurassic Trail pluton, whereas others concluded that they grade into the Rossland monzonite and may be a dike or marginal contact phase thereof.

Rainy Day Pluton

The Rainy Day pluton is a small quartz diorite stock exposed along Highway 22 just west of Rossland. It is considered important in the metallogeny of the Rossland camp as it, and possibly associated dikes on Red Mountain are interpreted to have been the source of molybdenite mineralization found there. The pluton varies from a central, more massive quartz diorite to a marginal porphyritic zone. It comprises approximately 50% plagioclase, 15-20% quartz, 5-15% orthoclase microperthite, 10-15% biotite, 5% hornblende and 5% augite. Contacts with Elise Formation country rocks are generally sharp and irregular. The pluton is truncated to the west by the Coryell intrusion and is in sharp contact with the Rossland monzonite in the south. The Rainy Day pluton is highly fractured with a network of intersecting veinlets containing very fine-grained pyroxene, quartz, hornblende, biotite, chlorite, carbonates and sulfides (pyrite and molybdenite).

Red Mountain Quartz Diorite Dikes

Three dikes occur in the vicinity of the molybdenite mine on the western slopes of Red Mountain. The similarity in alteration and composition to the Rainy Day pluton suggests that they are part of a common magmatic suite. One of these dikes is intensely altered, brecciated and veined or replaced by molybdenite. The dikes generally strike east with steep dips; the largest is up to 100 meters in thickness and 600 m in length. Others are smaller and discontinuous, but several extend several hundred m in length.

Lamprophyre Dikes

A variety of lamprophyre dikes crosscut the Rossland area. They trend between 340-350 degrees, dip steeply, and range in thickness from a few cm to a few tens of m. They vary somewhat in composition but tend to be dark green in color and contain abundant small phenocrysts of biotite, potassic feldspar, olivine, augite, apatite and a number of accessory minerals in a porphyritic habit.

Ultramafic Rocks

West of the main Rossland area are exposures of a southwest-trending Belt of ultramafic intrusions dominated by serpentinized dunite and olivine wehrlite. These dark grey to black, fine-grained intrusions are the oldest in the district and typically have sharp to faulted contacts with adjacent rocks. It is believed that they were tectonically emplaced during a period of regional compression in Middle Jurassic time. Detailed studies of one of these, the O.K ultramafic body, located in the Little Sheep Creek valley just west of Rossland, describe it as mainly an olivine wehrlite with erratically distributed areas of dunite and pyroxene-bearing dunite. The O.K ultramafic body is in fault contact with surrounding host rocks. These surrounding volcanic rocks host a number of very high-grade gold-bearing quartz veins, including the IXL, O.K and Midnight deposits.

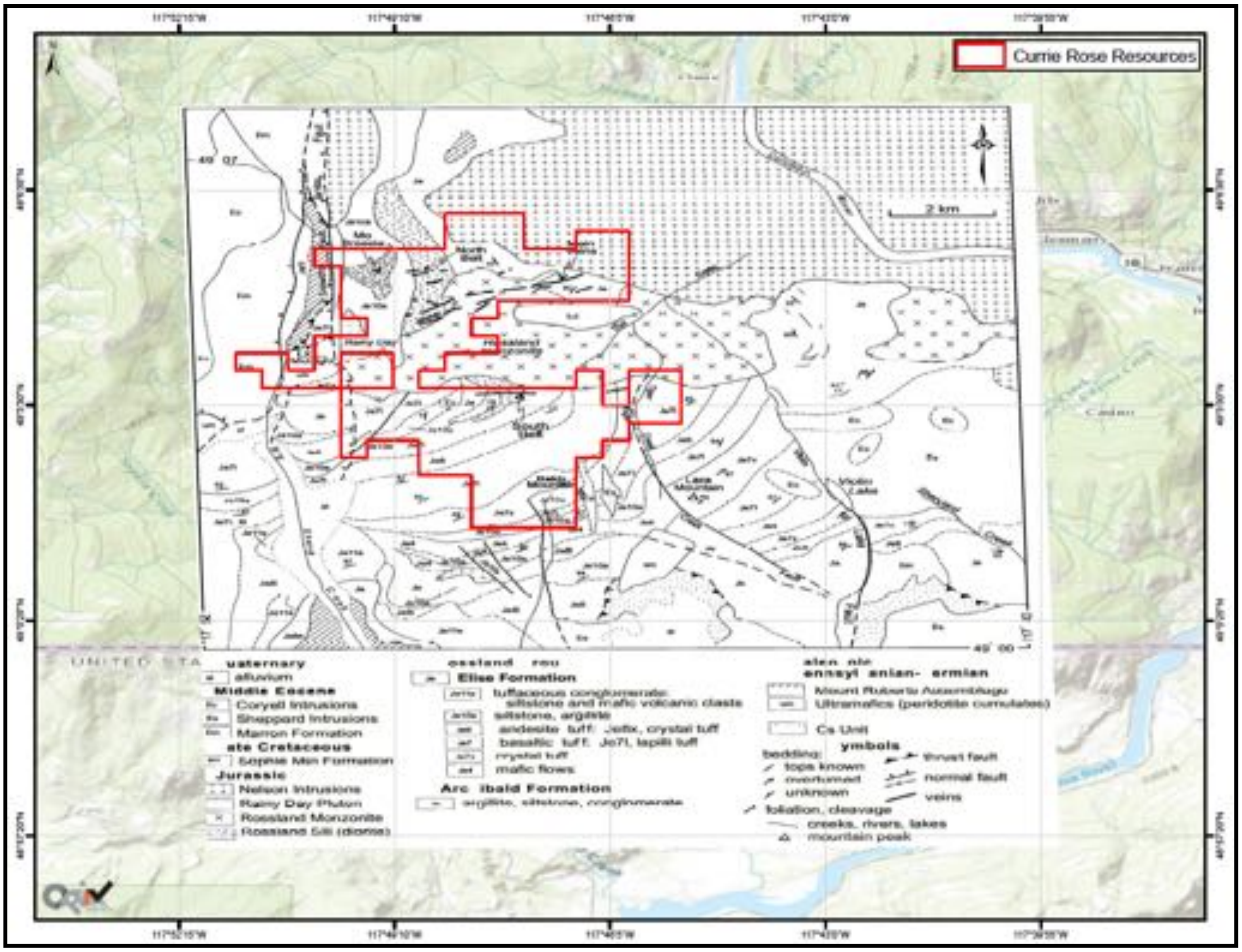


Figure 26: Local geology showing the Property boundaries (geographically registered and overlain onto topography; from Hoye & Dunne, 2001)

<u>STRUCTURAL GEOLOGY</u>

The structure of the Rossland area has been well described in various government and related studies. Fyles divided the area into two domains separated by the "Rossland break", described as an east-trending zone marked by a number of faults and intrusions, including the Rossland monzonite, Rainy Day pluton and serpentinites. Fyles suggested that the Rossland break is "a zone of structural weakness that may have originated when the Rossland Group was laid down" (Fyles, 1984). South of the break, structures trend northeasterly, whereas to the north they trend northerly. Detailed government mapping, concentrated south of Rossland has, in large part, confirmed the presence of these structures.

Three phases of deformation affecting Rossland-age rocks are recognized:

1. extensional tectonism during deposition of lower Rossland Group rocks in Early Jurassic time;
2. east-directed thrust faulting and associated minor folding before intrusion of Middle and Late Jurassic plutons;
3. normal faulting in Eocene time.

Paleomagnetic evidence indicates that the Rossland area has been tilted westward in excess of 30 degrees due to rotational movement on Eocene listric extensional faults that are interpreted to cut through the Coryell intrusion. This tilting has rotated earlier faults and also affected pre-Tertiary rocks, including the Rossland monzonite, and hence has allowed an oblique view through a major mineral deposit camp, with deeper structural levels exposed in the east and shallower levels farther west.

MINERALIZATION

The Rossland mining camp is the second largest lode gold producing camp in British Columbia, with recovery of more than 85,900 kg (2,761,749 ounces) of gold, 109,500 kg (3,520,507 ounces) of silver and 71,502 kilograms (71 tonnes) of copper between 1894 and 1941. Vein deposits are in three main Belts, referred to as the North Belt, Main Veins and South Belt (see Figure 27, below). Of that, 98 percent came from the Main Veins, and 80 percent of this production came from deposits in a central core zone between two large north-trending Tertiary lamprophyre dikes. Deposits in this central zone include the Le Roi, Centre Star, Nickel Plate, Josie and War Eagle mines.

A clearly defined mineralogical and chemical zonation in the camp was first recognized in the 1960s, consisting of Central zone located along the western edge of the Rossland monzonite and into the Rossland sill, dominated by massive pyrrhotite with persistent but minor chalcopyrite; an Intermediate zone, peripheral to the central zone hosting veins that contain arsenopyrite, pyrite, cobalt, bismuth minerals and molybdenite in addition to pyrrhotite and chalcopyrite; and an outer zone south of the Rossland monzonite that is marked by veins containing galena and tetrahedrite. Veins of the North Belt are entirely within the Intermediate zone whereas Main Veins extend westward from the Intermediate zone into the Central zone. Most veins of the South Belt are within the Outer zone. Mineralization in the Rossland camp also includes molybdenite deposits on the western slopes of Red Mountain and a number of high-grade gold-quartz veins in the Sheep Creek valley and on the eastern slopes of O.K. Mountain just west of Rossland.

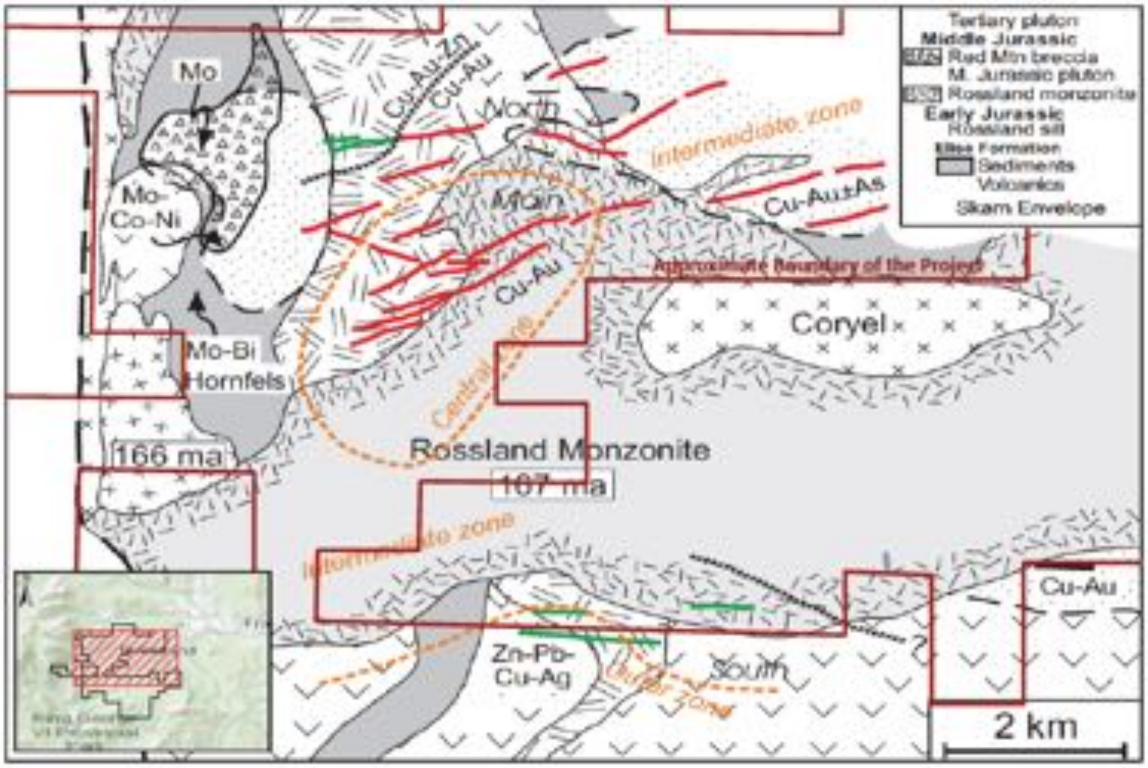


Figure 27: Simplified geological map of the Rossland district with approximate boundaries of the Project overlain (from Hoy & Dunne, 2001)

Red Mountain Molybdenite Deposits

Molybdenum deposits on Red Mountain produced about 1.75 million kilograms of molybdenum from approximately 1 million tonnes of ore between 1966 and 1972. Molybdenite occurs dominantly in quartz veins and veinlets cutting a coarse breccia complex in a west-dipping and facing, hornfelsed and skarned siltstone succession. The molybdenite and host quartz diorite intrusive breccias have been dated at 162-163 Ma by Re-Os and U-Pb methods respectively, which is younger than the Rossland monzonite and associated gold-copper veins.

Molybdenite and related mineralization is found within a skarn-intrusive breccia complex on the western slopes of Red Mountain west of and structurally above the gold-copper veins of the Rossland district. The breccia complex is largely developed in fine-grained metasedimentary rocks of the Elise Formation, but is also intimately associated with quartz diorite breccia dikes. Molybdenite occurs with locally high concentrations of scheelite (tungsten) and anomalous uranium, lanthanum, cerium and neodymium. Gold and copper contents are low, except in rare crosscutting pyrrhotite-chalcopyrite veins. In southern portions of the breccia complex, gold content is high and mineralization comprises molybdenite and arsenopyrite with high nickel, cobalt, bismuth, barium and selenium. Within the central part of the complex, molybdenite and arsenopyrite predominates;

tungsten and copper-gold values are low. The most western and structurally highest exposures consist of brecciated endoskarns with molybdenite and locally high barium.

Molybdenite occurs within a breccia-skarn complex that contains irregular, generally north-striking intrusive breccia dikes. The breccia complex trends roughly north-south, with a maximum exposed length of 2,700 m and a width up to 1,200 m. It is developed in fine-grained metasediments near the top of the exposed Elise Formation. The Rossland sill intrudes the Elise Formation just east of the molybdenite deposits and is, in turn, intruded by the Rossland monzonite. Numerous north-trending dikes cut the monzonite, the Rossland sill and the Elise Formation rocks in the vicinity of the molybdenite breccia complex.

Late mineralized veinlets contain quartz, calcite, pyrrhotite and chalcopyrite. Government analyses of a number of samples from some of the pits in the mineralized complex revealed unusually high concentrations of a number of elements, including uranium, lanthanum, cerium, and neodymium. Toward the southern portions of the complex nickel content is higher along with cobalt; cobalt bloom (erythrite) is commonly observed on fracture surfaces in this area. Bismuthinite was identified, as well. Gold content, generally low throughout the molybdenite breccia complex, is higher toward the southern end.

Figure 28: Cobalt bloom on surfaces of molybdenite-mineralized breccia Red Mountain molybdenite deposit

Molybdenite is generally associated with the intense skarn alteration. Mineralization is present as coarse molybdenite, with variable but generally minor pyrrhotite, arsenopyrite,

pyrite, and locally minor chalcopyrite, bismuth, bismuthinite and variable amounts of scheelite. The molybdenite occurs in the skarn matrix or in sulfide veins cutting skarn. Typical alteration paragenesis includes early biotite hornfelsing with a purple-brown coloration, followed by prograde skarn diopside, quartz and minor molybdenite mineralization, then chlorite- amphibole- molybdenite veining with bleached envelopes, and finally late thin carbonate-epidote veins.

Figure 29: Epidote alteration in pyrrhotite-molybdenite -mineralized breccia, Red Mountain molybdenite deposit

Porphyry dikes within the breccia complex similar to those associated with the Rossland monzonite are overprinted by skarn alteration and molybdenite mineralization. This supports a model of early Cu-Au vein mineralization followed by brecciation, skarn alteration and molybdenite mineralization. The most current government research on the Red Mountain molybdenite mineralization concludes that there are several periods of intrusive activity, and two main periods of sulfide mineralization and alteration:

- deposition of Elise Formation, followed by intrusion of Rossland sill (circa 195-197 Ma);
- early andesite dike emplacement;
- intrusion of the Rossland monzonite diorite porphyry dikes and gold-copper vein mineralization (circa 167 Ma);
- coeval, or slightly younger, intrusion of Rainy Day pluton, skarn alteration, some molybdenite mineralization (circa 166 Ma);
- Red Mountain dike emplacement brecciation, intense skarn alteration and molybdenite mineralization (162-163 Ma).

<u>Copper-Gold Mineralization</u>
Drysdale (1915) divided the veins of the Rossland camp into three main Belts, termed the North Belt, Main Veins and South Belt. All veins trend east-west, with variable but generally steep northerly dips. The veins cross the western exposures of the Rossland monzonite, the Rossland sill, and metavolcanic and metasedimentary rocks of the structurally higher Elise Formation to the west.

NORTH BELT
The North Belt comprises a zone of discontinuous veins that extend west from Monte Cristo Mountain to the northern ridge of Red Mountain. The veins trend east and dip north from 60-70 degrees. Veins in the North Belt consist mainly of pyrrhotite with chalcopyrite in a gangue of altered rock with minor lenses of quartz and calcite; individual mineralized veins extend for upwards of 100 meters in length. Toward the east, veins contain considerable arsenopyrite and, locally, trace molybdenite, scheelite and cobalt minerals, whereas to the west sphalerite and galena are common.

The Evening Star vein, a significant past producer in the North Belt, is located mainly within metasediments of the Elise Formation along the north edge of the Rossland monzonite. It was in production intermittently from 1896-1908 and 1932-1939, with recovery of 56.7 kg (1,823 troy ounces) of gold, 21.5 kg (691 troy ounces) of silver and 1,276 kg (2,807 pounds) of copper from 2,859 t of ore, representing a recovered gold grade of 19.83 gpt. This production was mainly from a wide and irregular northeast-striking vein containing arsenopyrite, pyrrhotite, pyrite and chalcopyrite The veins have a high cobalt content with danaite (iron arsenic sulfide), a cobaltiferous arsenopyrite, and samples of pyrrhotite containing 1.58% cobalt and 0.67% nickel oxide (source, Hoy & Dunne, 2001, quoting Drysdale, 1915).

The vein system consists of irregular, discontinuous veins within altered Elise metasediments and underlying Rossland monzonite. Veins in the Rossland monzonite were generally not as rich nor have the pronounced alteration envelopes as those in the metasediments. The veins are parallel to and within numerous diorite porphyry dikes that extend, at depth, into the main mass of the Rossland monzonite. As with other veins in the Rossland district, their strong structural control is indicated by the prominent regional as well as local preferred orientations, and the prominent shearing both within and along the margins of some of the vein. This structural control is also apparent in the parallel orientation of some Rossland monzonite dikes. Late, north-trending, steeply dipping feldspar porphyry dikes, of probable Eocene age, cut the veins, associated alteration and the Rossland monzonite.

Figure 30: Feldspar porphyry, Rossland area

The mineralogy of the Evening Star veins consists mainly of pyrrhotite and arsenopyrite; chalcopyrite is intimately intergrown with pyrrhotite or occurs as finely dispersed grains. Pyrite, typically after pyrrhotite, and minor sphalerite, molybdenite and magnetite, and trace danaite (iron arsenic sulfide), bismuthinite and erythrite, have been identified. Gangue minerals in the veins include calcite, a dark green amphibole, chlorite, quartz, fine-grained biotite and minor epidote. Alteration assemblages are zoned, with more proximal skarn alteration and distal biotite hornfelsing. Sulfides form massive to semi-massive elongate pods and lenses within a medium to dark green skarn assemblage of mainly hornblende, chlorite, epidote, diopside, garnet and plagioclase. An envelope of siliceous, biotitic hornfels, commonly cut by thin hornblende-sulphide veins, surrounds the skarn assemblage. The distal, biotite hornfels grades laterally into regional, propylitically altered metasediments.   Thin quartz-calcite-pyrite veins cut all other assemblages. This mineralogical zonation is reflected in a local chemical zonation as well, with proximal sulphide-Fe-Mg rich assemblages and distal potassic alteration.

In contrast to the Evening Star veins, the Monte Cristo veins strike west-northwesterly and are mainly within the Rossland monzonite. The margins of the vein are generally sheared, and late calcite veinlets extend into the country rock. The Monte Cristo vein consists mainly of massive pyrrhotite with less chalcopyrite and magnetite in a dark green gangue. Chalcopyrite occurs intergrown with pyrrhotite, in calcite-quartz-chlorite stringers and disseminated in the gangue. Pyrite occurs in late veinlets with chlorite and carbonate. In addition to copper, molybdenum, zinc and cobalt have been documented in the veins. In general, wall-rock alteration of the Monte Cristo veins is not as pervasive as at Evening

Star, probably reflecting the intrusive host.

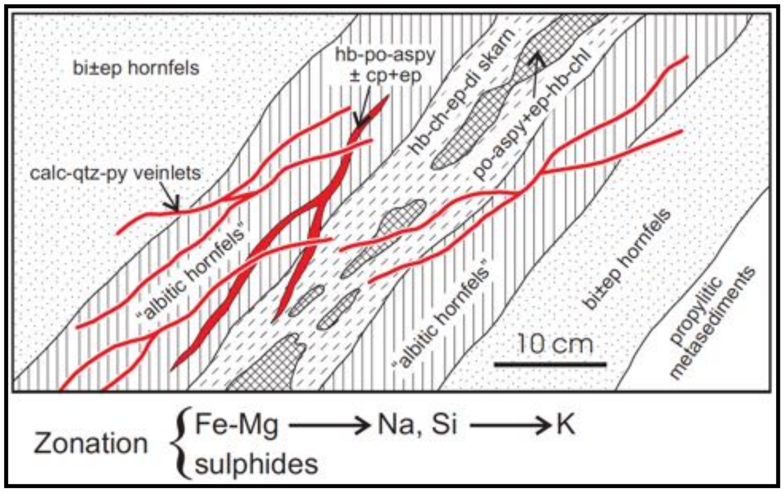


Figure 31: Diagram illustrating alteration assemblages along the margins of Evening Star veins (bi-biotite; ep-epidote; calc-calcite; qtz-quartz; hb-hornblende; po-pyrrhotite; chl-chlorite; di-diopside; aspy-arsenopyrite; cp-chalcopyrite) (from Hoy & Dunne, 2001)

A simplistic model for the North Belt veins is shown in Figure 32, below. The veins trend westward. The Evening Star veins cut Elise metasediments and the northeastern fringes of the Rossland monzonite. The Monte Cristo veins cut the Rossland monzonite; other, related veins are in the Rossland sill and in the overlying Elise metasediments, and the most western, veins cut the fringes of the alteration halo around the molybdenite breccia complex near the summit of Red Mountain. A number of features indicate that eastern portions of the North Belt veins developed at deeper structural levels.

To the west, skarn alteration is less intense, due only in part to less reactive host rocks. The mineralogy and tenor of the North Belt vein system also changes progressively to the west. Massive pyrrhotite, arsenopyrite and chalcopyrite, dominant in the east, give way toward the west to mainly pyrrhotite, pyrite, chalcopyrite and sphalerite, then pyrite, pyrrhotite and sphalerite with only minor chalcopyrite, and finally mainly pyrite and pyrrhotite. Too, the eastern veins contain high cobalt and nickel; these and the intermediate veins contain bismuth, and western veins have increasing silver content and silver/gold ratios. Molybdenite in host rocks of the western veins and possibly scheelite, may not be related to Rossland vein mineralization, but may more likely be associated with the molybdenite breccia complex to the west. Gold content is highest in the eastern part of the vein system, and appears to generally decrease to the west. Copper content is highest in the central part where the veins cross the Rossland sill, somewhat less in the structurally deeper Evening Star vein, and least in most western exposures. These values are also reflected in the zonation of Au/Cu ratios, which show a general decrease towards the northern lobe of the Rossland monzonite. The Rossland veins were developed prior to westward tilting of the area in Eocene time, hence the Rossland veins, including those of the North Belt, provides a partial cross-section through a vein system featuring deeper structural levels in eastern exposures and more shallow exposures farther west.

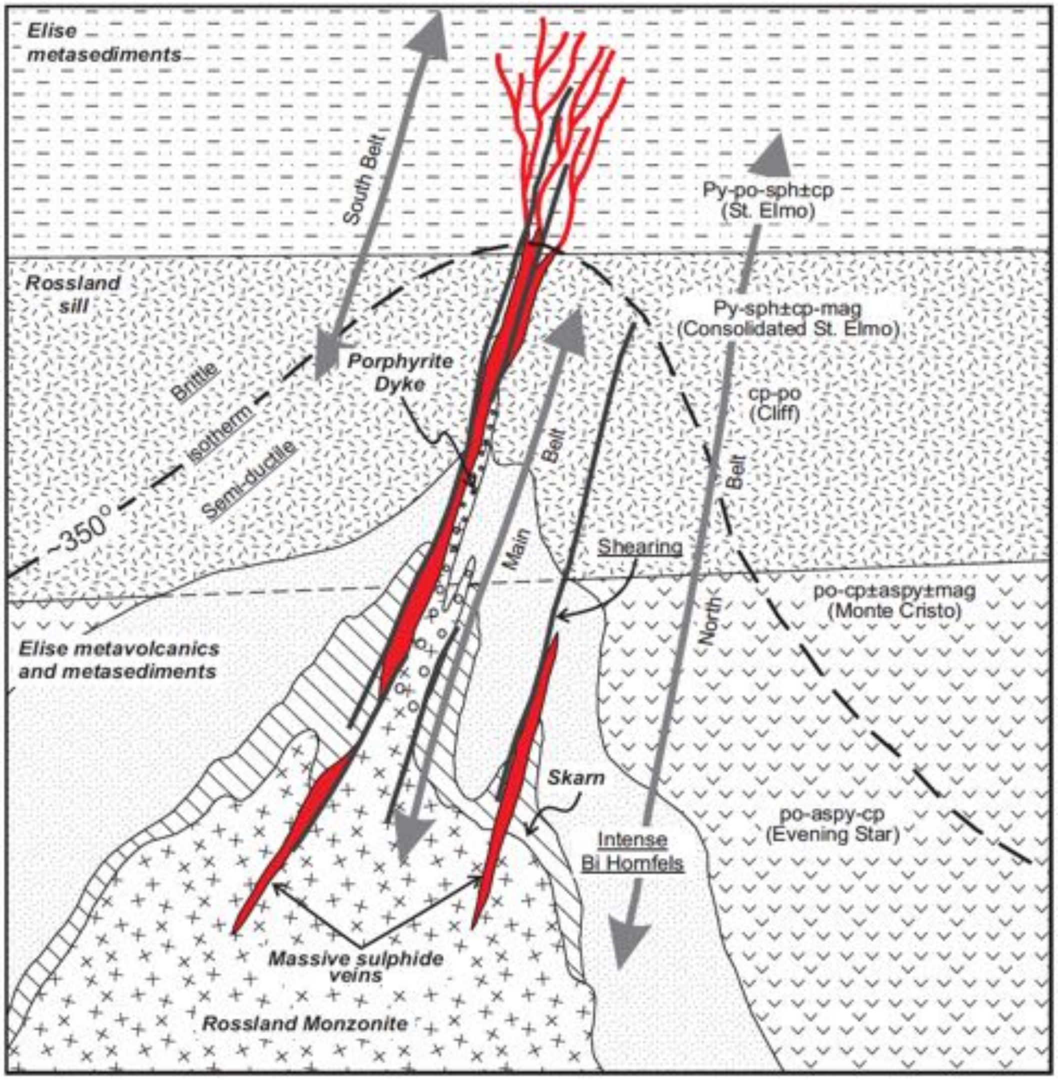


Figure 32: Schematic cross-section through the Rossland district showing the distribution, tenor and alteration assemblages of veins found within (from Hoy & Dunne, 2001)

MAIN VEINS

The Main Veins extend west-southwest from the eastern slopes of Columbia-Kootenay Mountain to the southern slopes of Red Mountain. In the War Eagle and Centre Star veins, mineralization consists dominantly of massive pyrrhotite and chalcopyrite with minor molybdenite; gangue content is minor, mainly calcite and quartz. The veins parallel well-defined fractures that trend between 60-70 degrees (Centre Star - Le Roi) and 120 degrees (War Eagle, and generally dip 60-80 degrees to the north. Other less pronounced mineralized fractures trend approximately east-west and also dip to the north. The veins lie within the Rossland monzonite in the east and continue west into augite porphyry of the Rossland sill. Veins are more diffuse and less well developed in the Elise Formation metasediments, further to the west.

Many of the veins follow the margins or are within diorite porphyry dikes that extend westward from the Rossland monzonite into the Rossland sill. These dikes are altered and mineralized, as well as locally sheared. Elsewhere, and commonly along strike or down dip, veins are along the margins of the Rossland monzonite and in shear zones in the monzonite or the Rossland sill. The veins are commonly truncated by north-trending structures, including two large lamprophyre dikes of Tertiary age. Some of the district's researchers believe that the ore was post-emplacement of these dikes because shoots of the Main Veins usually stop abruptly against the dikes; mineralization was observed to commonly thicken against the dike contacts and send off minor branches along them, and that there is some mineralization in many places, or a stringer representing the vein, within the dikes themselves. Alternatively, other workers believe that the dikes may parallel older north-trending structures that controlled vein distribution, and that sulfides may have been locally remobilized during Tertiary deformation and magmatism.

The Centre Star - Le Roi vein is the largest and most historically productive vein system in the Rossland district. It extends westward within the Rossland monzonite then follows the southern edge of a tongue of Rossland monzonite into the Rossland sill. The vein was mined almost continuously over this length, a strike distance of nearly 1 km. Although the veins are typically depicted as continuous, they are actually comprised of a series of shoots more or less en echelon in strike and dip. The veins are a series of shoots of no great width or strike length, with their greatest dimension along dip. On dip, they usually die out gradually, either through loss of width or loss of metalliferous content. Along strike the same may occur, but more commonly they end abruptly against a dike or other cross structure. Shearing of the vein is common, with mineralized zones forming discontinuous lenses within a through-going shear.

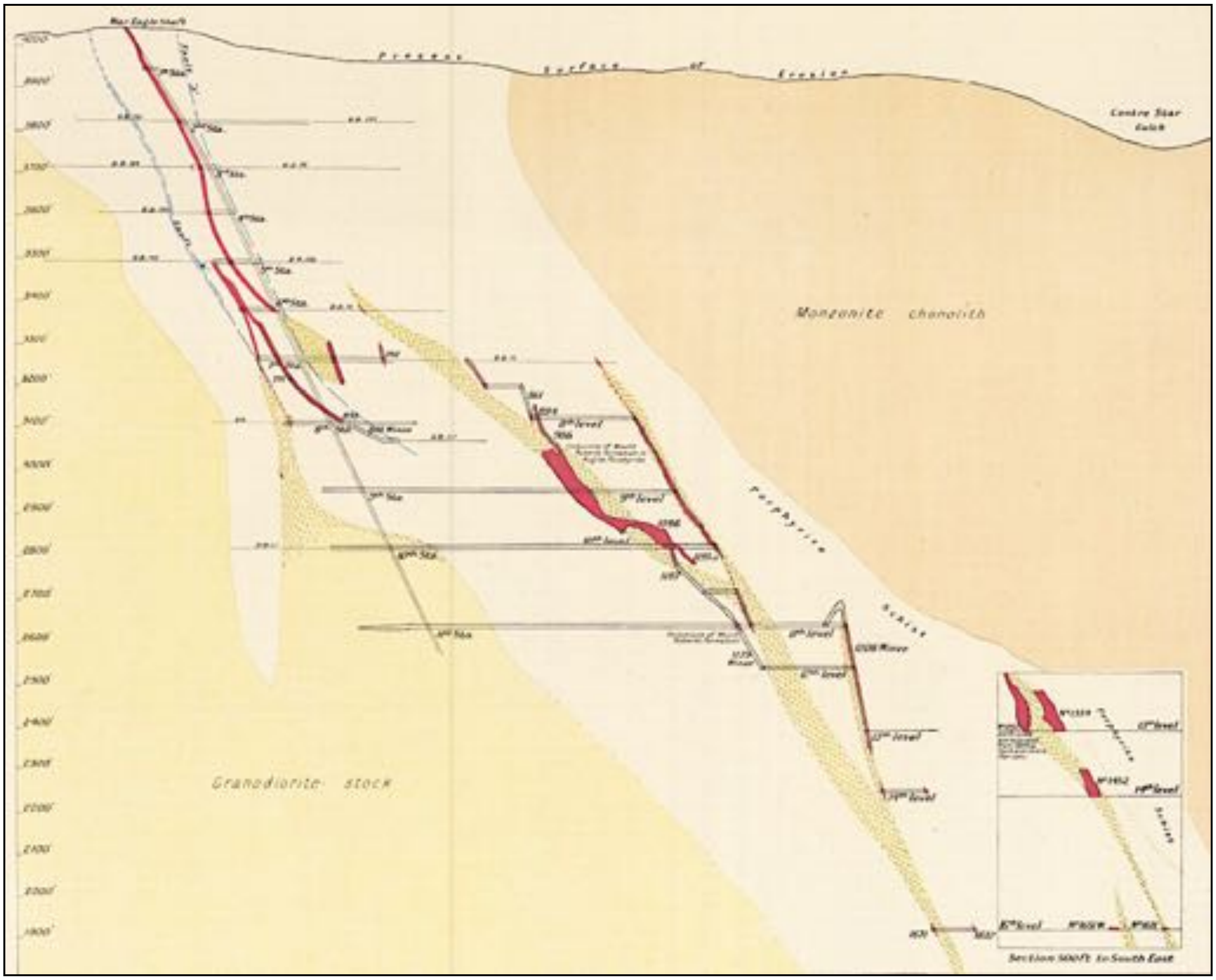


Figure 33: Cross-section through the War Eagle mine
(from Geological Survey of Canada, circa 1915)

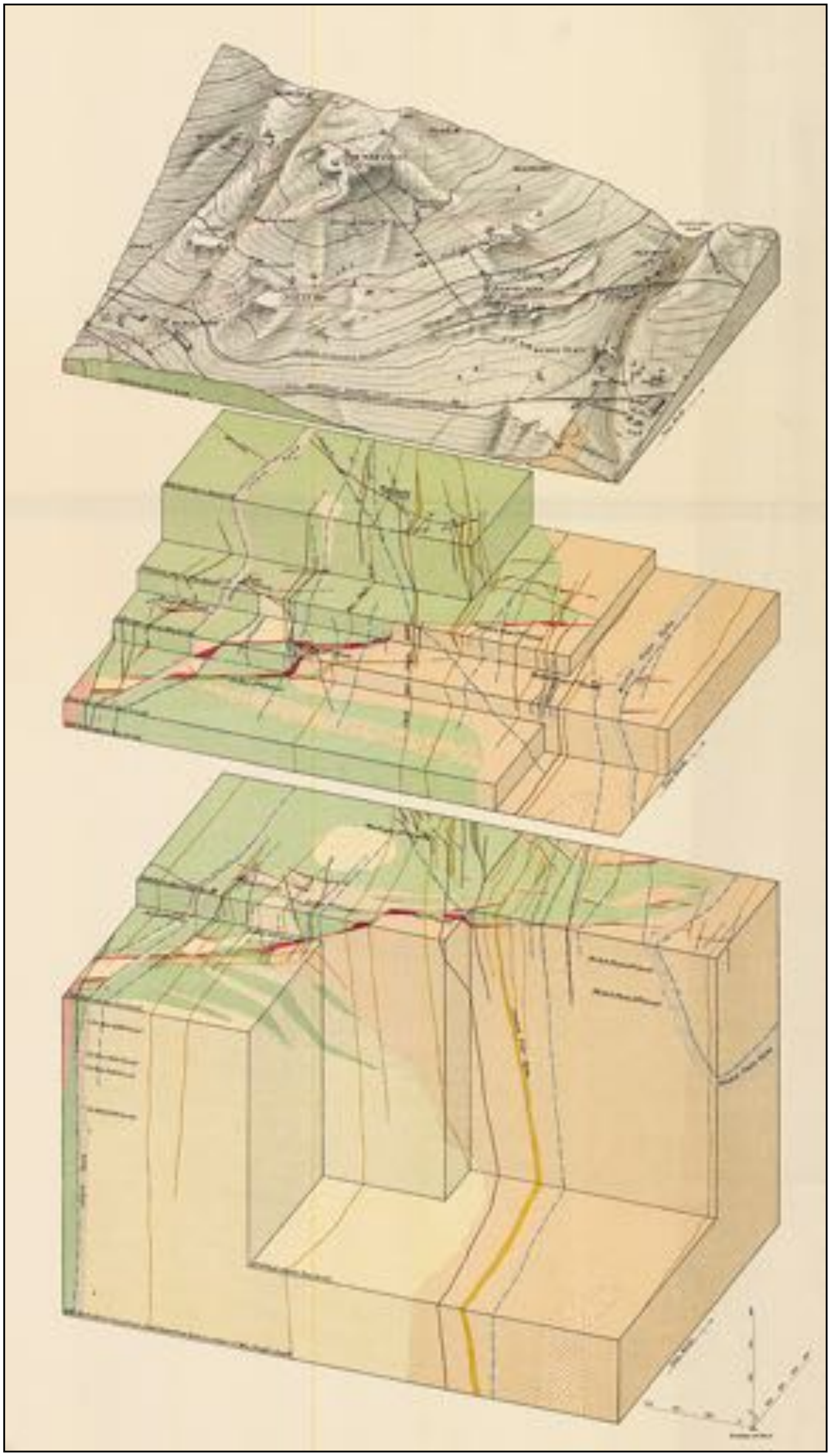
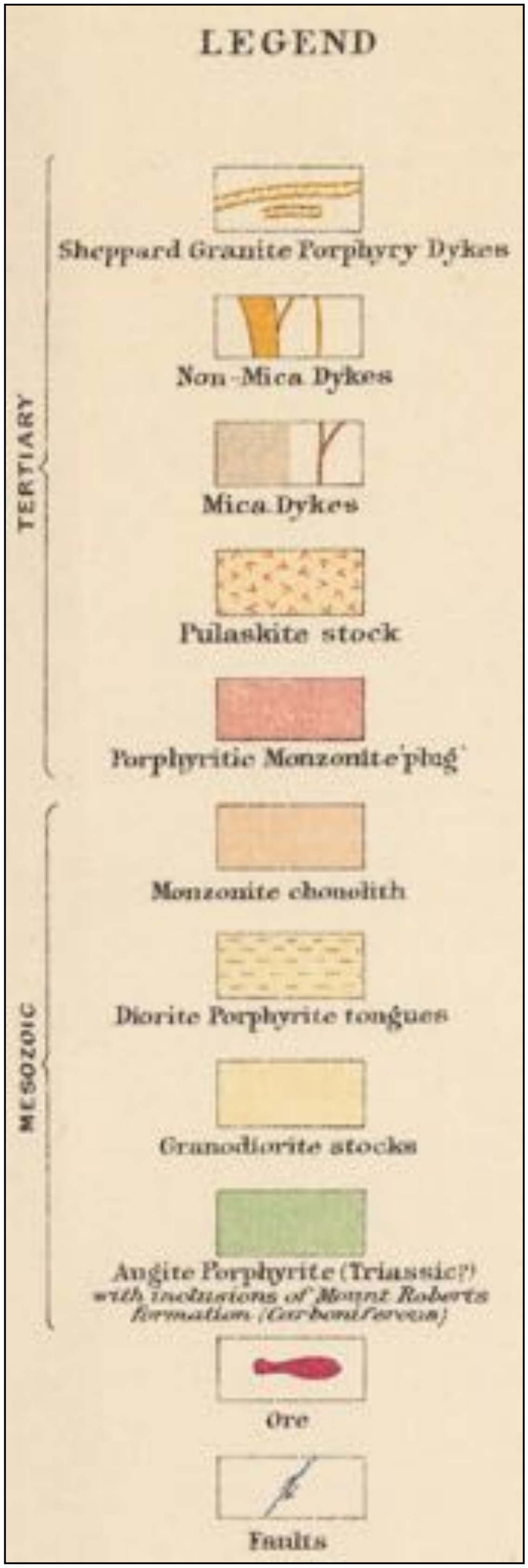


Figure 34: Block model of the Le Roi vein system
(from Geological Survey of Canada, circa 1915)



Legend for Figure 34, above

The Centre Star - Le Roi vein system has simple mineralogy in contrast to the more complex ores of the South and North Belts. The vein comprises massive pyrrhotite, less chalcopyrite and traces of native silver and molybdenite. There is a close correlation between copper content and total silver + gold content, with total metal values increasing to the west in the Le Roi deposit. Massive sulfides are mainly pyrrhotite with irregular patches of pyrite, minor chalcopyrite and scattered grains of magnetite. Gangue is generally minor, comprising calcite, less quartz, and minor actinolite, chlorite, biotite and plagioclase. Immediate host rocks are biotite-hornfelsed and silicified Rossland monzonite or hornblende porphyrite.

The Le Roi - Centre Star vein continues to increasing depths as a shear zone and mineralization dies out into a broad band of silicified granodiorite containing calcite, chlorite, biotite, epidote, and pyrite but without important ore shoots.

Drysdale (1915) noted that in contrast with the sheared and irregular Le Roi vein system, the War Eagle No. 1 vein generally had a well-defined hangingwall and footwall, and is typically fairly uniform in width and gold grades. The War Eagle had a surface strike length of at least 600 m; the main stope is approximately 150 m in length with a pitch length of 250 m and an average width of 2.5 m. It commonly followed the contacts of hornblende porphyrite dikes and the Rossland sill. At intersections with north-trending structures the vein could thicken substantially. Mineralized shoots in small north-trending veins locally occurred along the lower contact of cross-cutting biotite lamprophyre dikes. The War Eagle vein consisted mainly of massive pyrrhotite and chalcopyrite with minor quartz-calcite gangue. Locally, the vein displayed a crude sulfide banding. Sphalerite was uncommon; trace amounts of molybdenite, native silver and native gold have also been reported. Adjacent to the vein, the host augite porphyry of the Rossland sill is commonly altered to a texture-destructive assemblage of mainly plagioclase, actinolite, biotite, minor sphene and trace apatite.

The Columbia-Kootenay is the eastern extension of the Main vein system. It is located 1.6 km northeast of Rossland on the east slope of Columbia Kootenay Mountain. The mineralized vein system trends northeast and dips from 45-75 degrees northwest. Surface exposures at the portals comprise mixed metasediments and volcaniclastics of the Elise Formation. Drysdale (1915) described the vein at a contact between biotite-bearing monzonite in the hangingwall - presumably the Rossland monzonite, and augite porphyrite of the Elise Formation. No diorite porphyrite dikes, typical of vein contacts farther west, were noted. Mineralization, often laminated consisted of mainly massive pyrrhotite with minor arsenopyrite and trace native bismuth and bismuthinite. Vein gangue mineralogy includes calcite, diopside, quartz, plagioclase, minor K-feldspar and biotite, and secondary actinolite. Host rocks to the veins are commonly altered to diopside-garnet skarn, and may contain disseminated sulfides.

The Iron Colt lies due west of the Columbia-Kootenay extension of the Main Veins system. Limited production, mainly in 1995, recovered 21,586 grams (694 troy ounces) of gold. Mineralization consists mainly of massive to semi-massive pyrrhotite with minor arsenopyrite and chalcopyrite in a calcite-quartz-albite(?) gangue; limited government sampling detected high levels of As and Co in addition to gold.

The Iron Horse vein is located due west of Iron Colt vein. There is little available information on this segment of the Main Veins trend. It reportedly consisted of massive sulfides with low gold grades; in 1903, limited production recovered 746 grams (24 troy ounces) of gold from 27 tonnes of ore (recovered grade of 0.88 opt gold). Sulfide-rich samples on a dump include massive to semi-massive pyrrhotite with minor chalcopyrite and late pyrite. Calcite and quartz occur as gangue.

The distribution of veins in the Main Veins trend is schematically shown in Figure 27 (above). They extend westward from within the Rossland monzonite into the Rossland sill, commonly following the contact of monzonite and sill, or the margins of porphyrite dikes. The pronounced metal and mineralogical zoning in North and South Belt veins is less apparent in the Main vein system. However, in common with these other veins, more eastern Main Veins formed at deeper structural levels than those in the west. More eastern exposures, such as the Iron Colt, have more intense alteration in the host rocks, with dispersed pyrite and more pronounced carbonate alteration and biotite hornfelsing. At depths, carbonate and silica alteration as well as biotite hornfelsing increase in the Le Roi vein. Too, small wispy sulfide veins extend into the country rock, in contrast to the better-defined and more continuous veins in western exposures, such as at the War Eagle. Shearing along veins is more pronounced in the more western Le Roi - Centre Star vein than in eastern veins. Farther west, these sheared veins diffuse into less coherent metasediments of the Elise Formation. Although the Main Veins are dominated by massive pyrrhotite and chalcopyrite, gold content appears to vary with either structural depth or host lithology. Eastern veins, though still mainly massive sulfide, typically have lower gold content than those in the more western Main Veins. Arsenopyrite, more common in eastern exposures in the North Belt, is also found in the Iron Colt, the most eastern portion of the Main Veins.

SOUTH BELT

The principal veins in the South Belt trend approximately east-west and dip steeply north. They are hosted within siltstones, lapilli tuff and augite porphyry of the Rossland Group several hundred m south of the Rossland monzonite. More northern and eastern veins in the South Belt are similar to the typical copper-gold mineralization of the Main Veins and

North Belt, whereas western and southern veins contain appreciably more lead, zinc and silver, and are within the outer zone depicted in Figure 27, above. Figure 35 (below) illustrates the geology of the South Belt vein area, and distinguishes the main vein types.

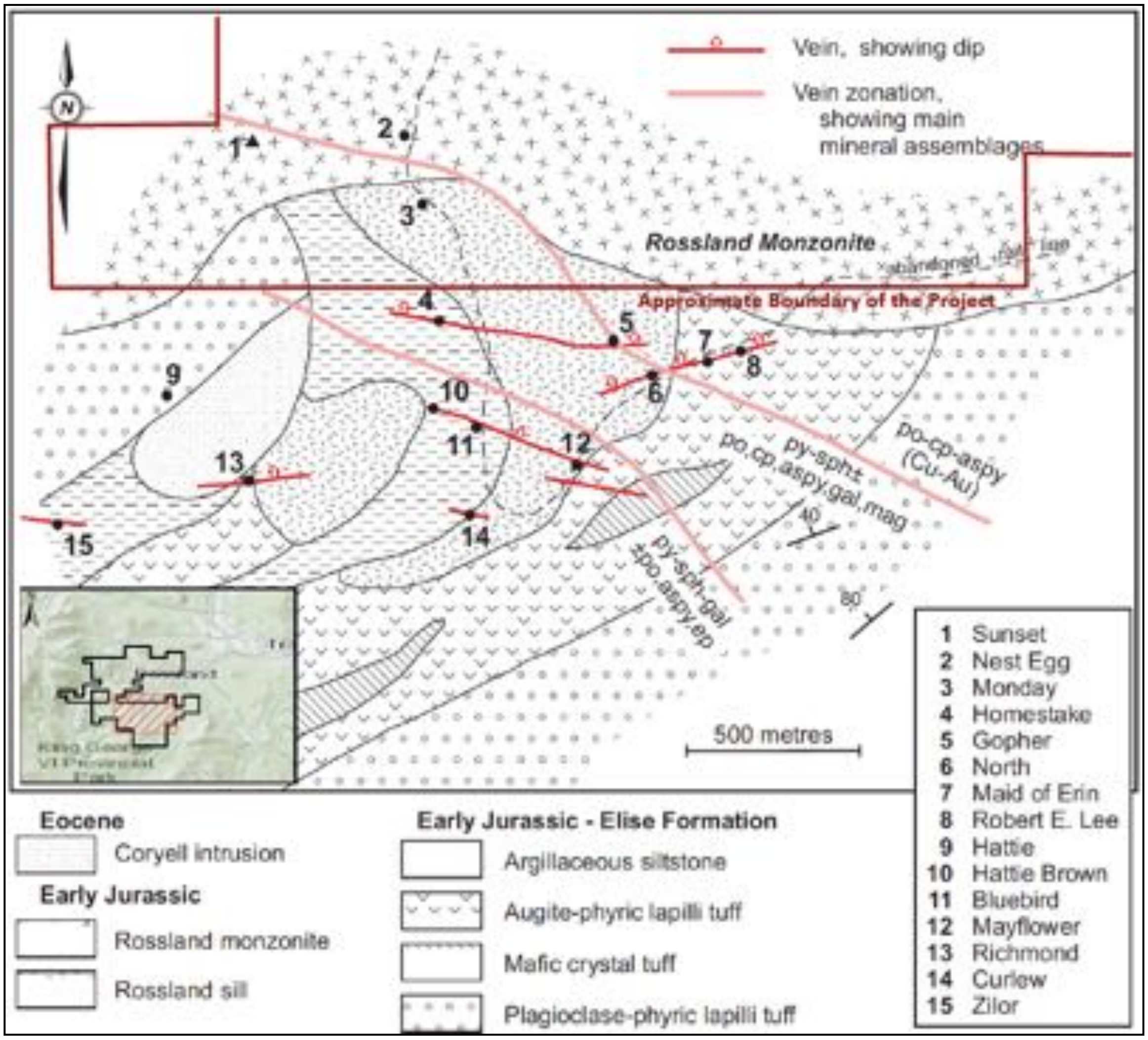


Figure 35: Simplified geology of the South Belt vein system (from Hoy & Dunne, 2001)

The Lily May, located in 1887, was the first vein to be discovered in the Rossland camp. The Mayflower (1889), Homestake (1890) and Bluebird (1900) were subsequently discovered. Production from most of these veins is limited, generally between tens to hundreds of tonnes; Bluebird, the largest producer, mined 7,239 tonnes, mainly in the middle to early 1970s producing a total of 3,911 kg (125,756 troy ounces) silver, 12,857 grams (413.4 troy ounces) of gold, as well as lead, zinc and minor copper.

Three main vein zones are recognized in the South Belt. The most northern, the Homestake-Gopher vein zone trends east-west and parallel to the southern margin of the Rossland monzonite; the North shear zone, located immediately to the east, trends east-northeast; the Bluebird-Mayflower vein zone parallels the Homestake-Gopher vein system 200-300 m farther south. Shearing along vein margins and brecciated ore textures indicate that the veins follow fault zones.

The Homestake-Gopher vein zone strikes approximately 100 degrees and dips steeply north. It has been traced along strike for 650 meters, from the Gopher in the east to the Homestake further west. In the early 1900s, 236 tonnes of ore were mined from the Homestake with a recoverable grade of 317 gpt (10.2 opt) silver and 3.9 gpt (0.12 opt) gold. The Homestake vein is located mainly within the Rossland sill, close to its western contact with the Elise Formation. The sill adjacent to the vein is altered to chlorite; epidote-amphibole skarn and quartz-carbonate veins are seen, as well.

The Homestake vein reaches up to 2 m in width and contains pyrite with variable sphalerite and pyrrhotite, and lesser chalcopyrite, arsenopyrite, galena and magnetite. Pyrrhotite is apparently early, and is locally pervasively altered to marcasite. Sulfides are streaked due to shearing, and locally recrystallized producing porphyroblasts of arsenopyrite and pyrite. Gangue minerals include quartz, epidote, biotite and actinolite. Sericite with biotite, tourmaline, chlorite and carbonate were observed in many veins, as well. The eastern extension of the Homestake vein is known as the Gopher vein, and is similar to the Main Rossland veins. It consists mainly of pyrrhotite, chalcopyrite, sphalerite and minor arsenopyrite, bismuth and bismuthinite in quartz-calcite gangue.

The Bluebird and its probable eastern extension, Mayflower, are located several hundred meters south of the Homestake-Gopher vein zone. This vein zone trends approximately 120-130 degrees and dips to the north at 50-65 degrees; however, within this zone, some individual vein shoots strike east-northeast, towards the North-Maid of Erin vein zone. The vein zone can be traced or extrapolated for at least 600 meters, from the Mayflower in Rossland sill in the southeast to the Bluebird in argillaceous siltstones in the northwest. The Bluebird vein consists mainly of pyrite, sphalerite, galena and pyrrhotite with variable arsenopyrite and minor to trace chalcopyrite, boulangerite (lead-antimony sulfide) and stibnite in a quartz-calcite gangue. Pyrrhotite is early, occurring as relict grains or inclusions in other sulfides. Vein boundaries are sharp, in contrast to wispy or disseminated vein textures noted in deeper level vein deposits. Vein textures vary from brecciated, with quartz cutting sulfides, to massive or less commonly crudely banded or streaked sulfides. Angular hornfelsed siltstone clasts and grains occur in sulfide matrix, yielding brecciated textures. These fragments are typically altered to fine-grained sericite, carbonate and quartz. Late calcite-quartz veinlets cut the sulfide vein. The grade recovered during historical mining was 540 gpt (17.36 opt) silver and 1.8 gpt (0.06 opt) gold.

The Mayflower vein is a rich massive sulfide vein located along the abandoned rail line southeast of Bluebird. Although the vein/shear structure trends towards Bluebird, individual sulfide veins within it trend to the northeast; it is possible that these ore shoots are dilation or extensional veins within a left-lateral shear zone that trends easterly or east-southeasterly. The Mayflower vein is located within the Rossland sill near its eastern contact with dominantly augite phyric flows of the Elise Formation. The vein strikes north 60 degrees east and hosts mineralization very similar to the Bluebird mine but more massive. Pyrite, sphalerite, pyrrhotite, minor arsenopyrite and galena comprise the sulfide mineral assemblage, which in places is well banded. Magnetite and tetrahedrite have been documented. Boulangerite also occurs in the Mayflower vein, as it does in all the South Belt veins other than Homestake. Dominant gangue minerals are quartz and carbonate, with minor chlorite. In contrast to vein textures at the Bluebird, sulfides in the Mayflower vein are typically finer grained and commonly crudely banded or sheared.

A systematic mineral and metal zoning is apparent in veins of the South Belt. In general, veins farther from the Rossland monzonite contain mainly galena, sphalerite and pyrite in contrast to pyrrhotite-chalcopyrite-sphalerite in veins closer to the intrusion. Furthermore, veins change in both tenor and texture toward the west. The Robert E. Lee and Gopher, the most easterly veins, are fairly typical of the Main Rossland gold-copper veins, although both contain minor sphalerite. Pyrite becomes more prominent to the west and is the dominant sulfide mineral west of Homestake. Similarly, the Bluebird-Mayflower vein changes systematically to the west.

These changes are comparable to those noted in the North Belt veins, although developed at higher structural levels largely within a brittle regime. They support a model that involves westward tilting of the Rossland vein system so that deeper levels are now exposed farther east and shallower levels, associated with brittle faulting, in more western exposures. These differences also suggest that mineralization is related to the Rossland monzonite, as the transition between brittle and ductile shearing tends to parallel the southern margin of the intrusion. Sulfides in many veins of the South Belt are healed/silicified shear veins, often producing banded textures. This is most evident in more eastern exposures, such as at the Mayflower, but is common in most galena and sphalerite-bearing veins that developed or were deformed in a semi-ductile regime. Galena typically forms textures referred to as "steel galena" while other less ductile sulfides such as pyrite and pyrrhotite become finely granulated. At higher structural levels, brittle brecciated textures develop. These textures imply vein deposition prior to shearing.

WESTERN ZONE

A number of high grade gold- bearing quartz veins are concentrated in the Little Creek valley just west of the town of Rossland. The veins are mainly within fault-bounded massive greenstone and ultramafic rocks that trend north in the Little Sheep creek valley just west of Rossland. The ultramafic rocks are mainly variably serpentinized diorite and wehrlite, and are inferred to have been tectonically emplaced along east-directed thrust faults. The age of this thrust faulting is not known but is correlated with Middle Jurassic compressive deformation recognized in more eastern exposures of the Rossland Group. The thrust Belt is the loci for late normal faults and intrusion of Eocene dykes, intrusive plugs and mafic volcanic rocks of the Marron Formation. These faults have been reactivated to produce steeply-dipping late faults with inferred west-side-down movement.

The gold-bearing quartz veins are located on the I.X.L, Midnight and Dominion CMG claims. They were discovered in 1891 and experienced relatively continuous but minor production between 1899 and 1974, totaling 1,081,816 grams (34,785 troy ounces) of gold.

The veins consist of quartz-ankerite-gold veins that typically range from a few cm to 0.5 m but locally up to 2 m in width; mineralized parts of the veins pinch and swell and change attitude. They are commonly discontinuous with total length and down-dip extensions of the more pronounced shoots/zones of less than 100 m. The principal vein on the Midnight trends 160 degrees and dips 65 degrees to the west. The sulfide mineral content of the veins is variable though generally minor, consisting of pyrite, galena, sphalerite and minor chalcopyrite. Reported gangue minerals include quartz, ankerite, calcite and, in one sample, prehnite.

The gold-quartz veins in Little Sheep Creek are located west-southwest of, and on direct strike with the Main Veins of the Rossland camp. They are in a structural block that is down-dropped relative to the Main Veins. This has led government geologists to speculate that they may be an upper extension of the same or a similar mineralizing system as the copper-gold-bearing veins of the Main Veins trend. Relatively low-temperature sulfide assemblages, dominant quartz-carbonate gangue with locally prehnite, and brecciated textures support the interpretation that these Western zone veins are lower temperature than the Rossland Main Veins, supporting a model for higher level emplacement. The age of these veins is not known but can be reasonably deduced to be a similar age as the Main Veins. As the Rossland area veins are hosted in shear zones within the Rossland monzonite, shearing must have continued after intrusion of the monzonite. Hence, it is probable that the gold-quartz veins are late synkinematic, post-intrusion of the Rossland and Rainy Day plutons.

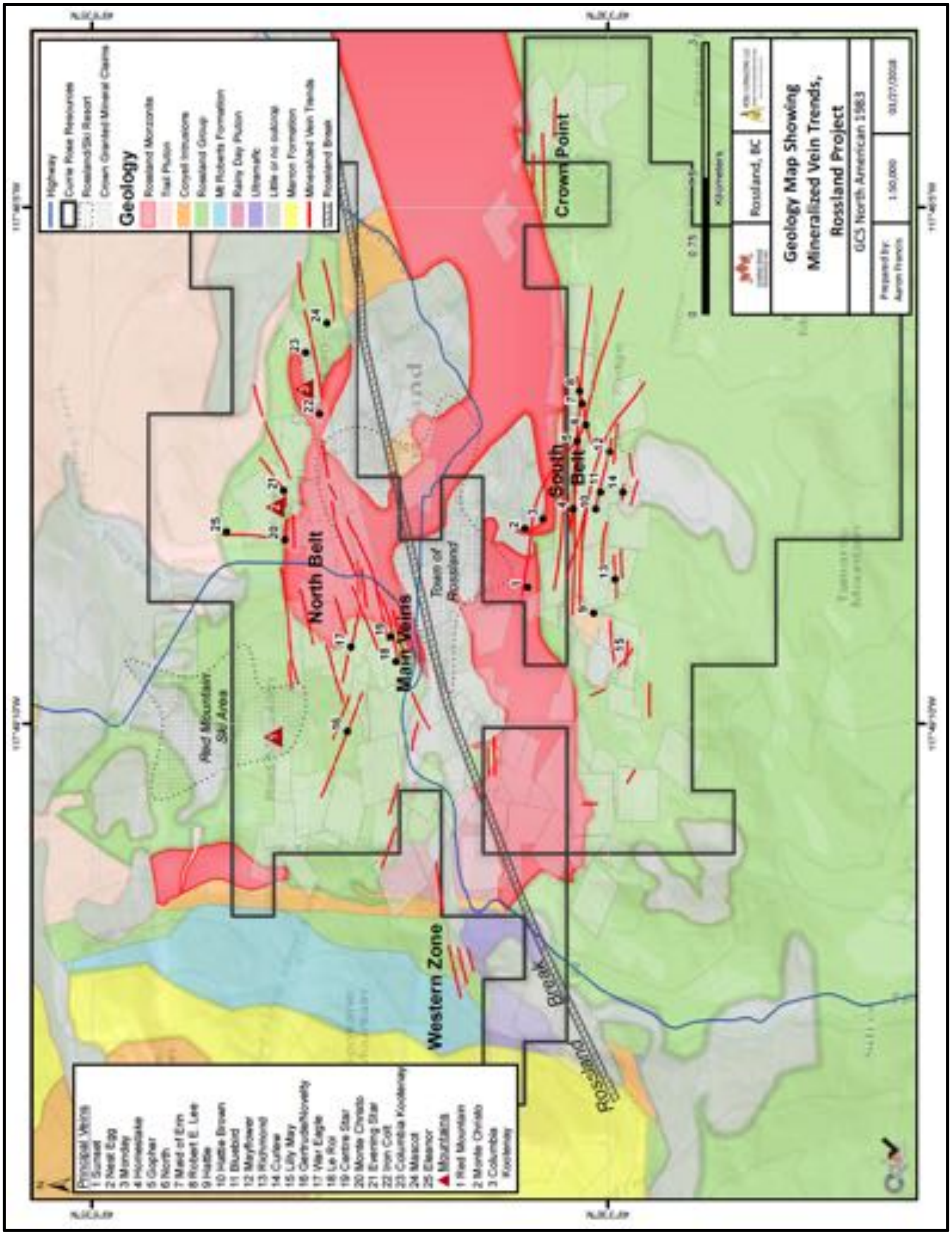


Figure 36: Main mineralized vein trends and veins (from multiple sources)

8. DEPOSIT TYPES

The term "deposit type" is a taxonomic term, the product of an effort to categorize rock masses hosting a significant concentration and volume of mineralization, in other words, a "mineral deposit", within the context of a specific documented geological setting and specific metallogenic process that produced it. The past several decades have witnessed exceptional progress in this regard, with a tremendous advance in recognizing various metallogenic settings and the different deposit types found within. However, to paraphrase a well-used trope, 'the science is not settled'. In other words, not all mineralized districts or individual mineral deposits fall clearly within a single mineral deposit "type". An undue focus on seeing a mineralized zone within the strict confines of a specific deposit type can sometimes blind one to subtle features that might be telling a different story, leading to a misunderstanding of the mineralization, a misdiagnosis that can have negative ramifications both at the exploration and development-mining stages.

Previously unknown or mistakenly categorized deposit types such as volcanic-hosted massive sulfide ("VMS" or "VHMS") deposits were previously thought to be vein systems, but are now very well understood to be something completely different, and this understanding has assisted the discovery of many more. Likewise, iron oxide-copper-gold "IOCG") systems were totally unrecognized until their somewhat accidental discovery in the 1980s, in Australia (i.e. Olympic Dam), since which time several more IOCG deposits have been discovered. In fact, the multiplicity of features now included as within the IOCG "deposit type" including different geological settings, suggests that this deposit type may in fact represent an entire family of deposit types united by some underlying, fundamental features and/or processes.

In the case of mineralization seen in the Property itself and the Rossland district as a whole, a variety of mineralization styles, structural styles, alteration styles, and metallic associations are seen. The spatial and temporal association with the Rossland monzonite along with the combination of molybdenum, copper and gold, is suggestive of a porphyry deposit type setting; however, several significant features diagnostic of the porphyry setting are absent. Structurally-controlled gold-bearing quartz-carbonate veins featuring a variety of secondary metals such as silver and zinc are reminiscent of the orogenic gold setting yet outside of certain portions of certain veins in the North Belt and Main Veins trend, there is no bona fide orogenic gold deposit.

Likewise as pertains to the veins in the Western zone where features associated with epithermal gold vein deposits have been documented, and the South Belt where Pb-Zn-Ag-rich veins are reminiscent of intermediate sulfidation epithermal vein deposits. Throughout the district, elements such as Co, Ni, As, REEs and U have been documented, as has the iron-bearing mineral magnetite, elements and a mineral that comprise one of the hallmark signatures of IOCG systems.

In brief, the varied styles and metallic compositions of mineralized zones and deposits documented and historically exploited in the Rossland district, within the current Property area and beyond, are the manifestation of the long and complex geologic history of the Quesnellia terrane within the Canadian Cordillera, most likely representing a number of mineralizing episodes, in one or more cases possibly including subsequent remobilization and redeposition of metals, zoned as a function of temperature, pressure, wallrock interactions, and variably exposed as a function of tectonics and erosion. That being said, government research and mapping in the area has documented a clear spatial association peripheral to the Rossland monzonite, manifested both laterally and vertically, which due to the documented western tilting of the entire complex and consequent erosion has provided a partial cross section through the system both laterally and vertically. This has possible significant exploration implications given that mineralization found in the roughly east-west trending veins exposed at and near surface toward the eastern portion of the district may also exist further west at unknown depth in the western portion of the district.

From an exploration perspective, recognizing and documenting the various controls on mineralization and diagnostic features associated with each deposit area – mineralogical, alteration and structural (and geophysical, if applicable), is perhaps more important then focusing strictly on defining the deposit "type" they represent, as this is the key to finding more. It is a safe assumption that there is more than one phase or episode of mineralization manifested in the Rossland district and that more than one metallogenic setting or mineral deposit type may be involved, as well.

In terms of attempting to unite these diverse mineralized occurrences and deposits into a unified system, useful insight can be derived from some recent work by the United States Geological Survey ("USGS"), which is listed in the References section of this report (Hitzman et al, 2017). The figure depicted below (Figure 37) portrays a simplified cross section through an idealized IOCG system wherein different metal groups and deposit styles, along with different deposit controls and alteration features, are found at different locations above and around an IOCG deposit at greater depth. The figure portrays but one manner in which this zoning could be manifested, with individual cases differing as a function of different host rocks and other geological/metallogenic events that preceded and/or followed it. Whereas the author is not arguing for the presence of an IOCG system at depth in the Rossland area, it is certainly a possibility given the geological history of this portion of the Canadian Cordillera, more so given some of the features documented in the area, as summarized above.

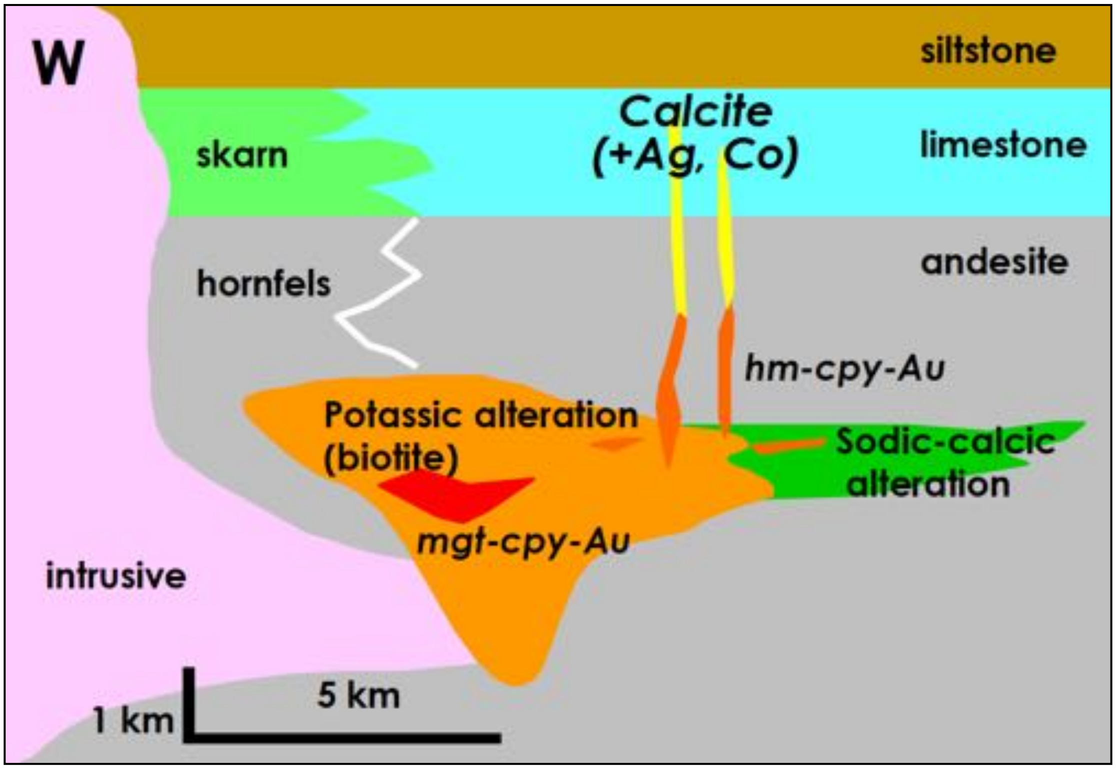


Figure 37: An idealized cross-section through the Candelaria district, Chile – a model to tie together IOCG, metasedimentary-hosted cobalt-copper-gold mineralization, and five element vein deposits (from Hitzman et al, 2017)

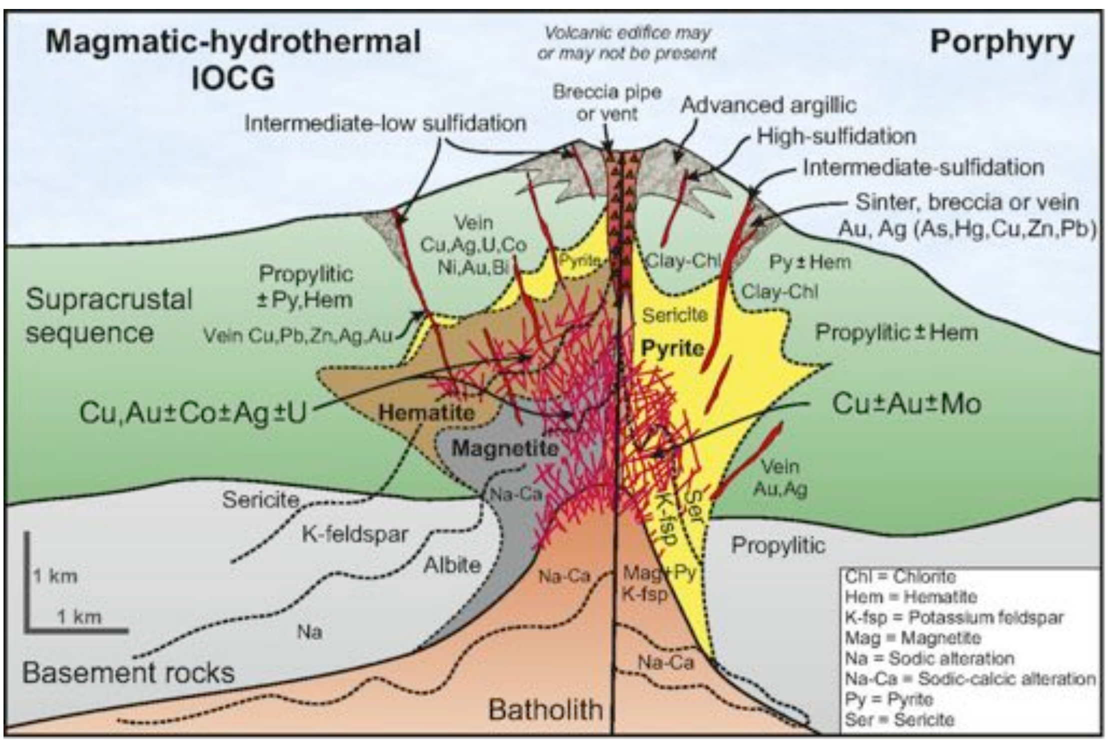


Figure 38: Idealized cross-sections comparing IOCG to porphyry systems (source: http://smyrnia.blogspot.com/2014/10/)

In conclusion, several deposit types are documented in the Rossland area, which may be related to a single, underlying mineral system or, more likely, the manifestation of a number of metallogenic events in turn the product of the long and complex geologic history of this portion of the Canadian Cordillera, including several episodes of intrusive and related hydrothermal activity, compressional and extensional tectonic activity in both ductile and brittle regimes. An underlying IOCG system is one possible interpretation to account for the various mineralized and related features documented in the district; however, a failed porphyry and later remobilized vein model might work equally well.

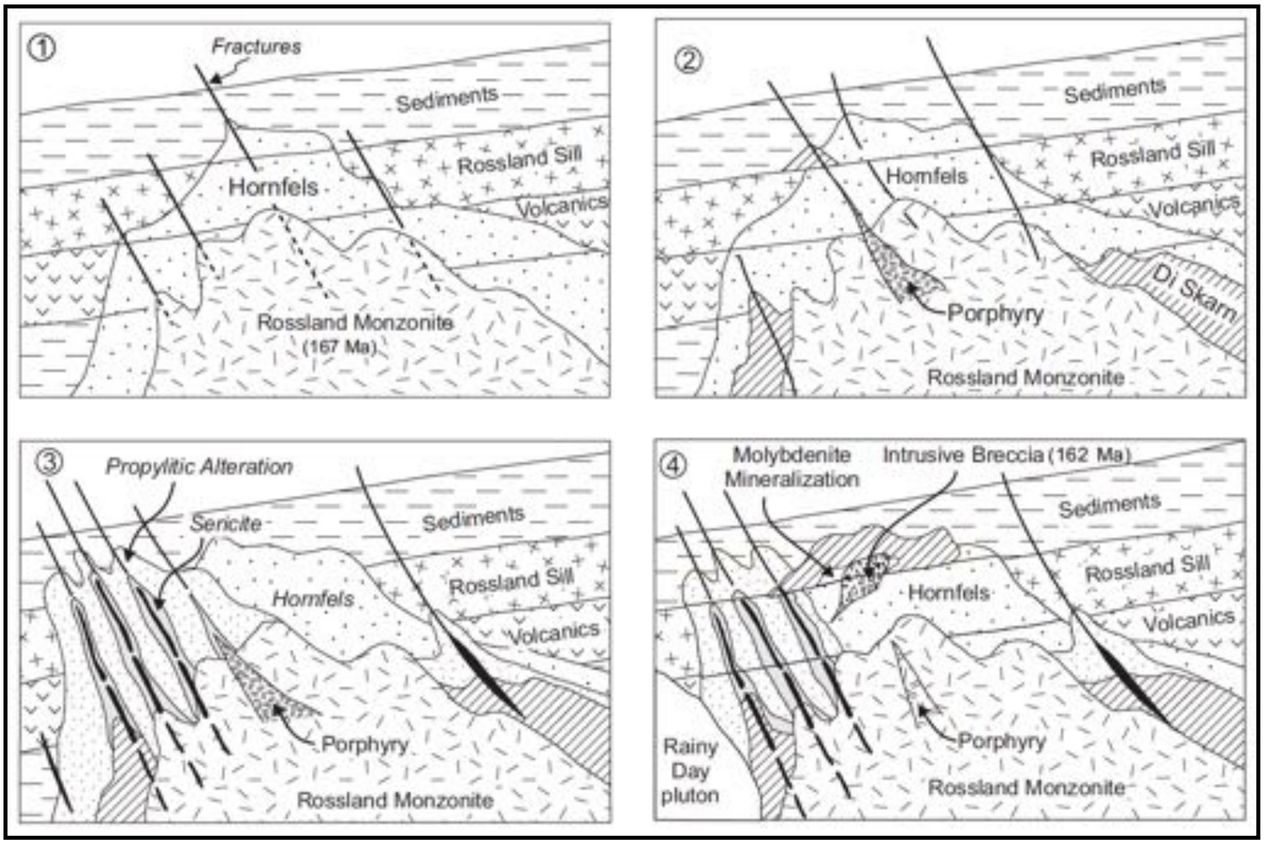


Figure 39: Model showing proposed evolution of gold-copper, and polymetallic veins, and molybdenite breccia/skarn deposits of the Rossland district, related to the intrusion of the Rossland monzonite and diorite porphyry at circa 167 Ma (frames 2 & 3) and molybdenite to intrusion of the circa Rainy Day pluton and associated dikes at 162-163 Ma (frame 4) (from Hoy & Dunne, 2001)

9. EXPLORATION

The Company has not carried out any exploration work on the Project, to date.

10. DRILLING

The Company has not carried out any drilling on the Project, to date.

11. SAMPLE PREPARATION, ANALYSES AND SECURITY

The Company has not done any sampling on the Project, to date. However, it is the intention of the Company that any sampling undertaken during its planned exploration work would be done in accordance with industry standards in respect of sampling, sample preparation, sample security, the choice of analytical laboratory(ies), and quality assurance-quality control protocols including the insertion of duplicates, blanks and standards into the sample stream.

12. DATA VERIFICATION

There is no data produced by the Company, to date.

13. MINERAL PROCESSING AND METALLURGICAL TESTING

There are no defined resources or reserves on the Project, to date, and consequently nothing requiring study as pertains to mineral processing or metallurgical testing.

14. MINERAL RESOURCE ESTIMATES

There are no defined mineral resources on the Project, to date.

23. ADJACENT PROPERTIES

There are a number of companies holding mineral rights both within and adjacent to the Project. Those holding claims within the Project are not currently active, these being Vangold Resources and Teck Resources; a map illustrating these land holdings may be found in Figure 40, below. Neither company is currently active in the Project area. A map illustrating adjacent and surrounding claim holders may be seen in Figure 1, above. To the west of the Project, W.H.Y. Resources is currently developing a magnesite deposit, information about which may be obtained at their website: http://whyresources.com.

24. OTHER RELEVANT DATA AND INFORMATION

There are no other relevant technical data and information pertaining to the Project that the author is aware of.

No environmental studies, permitting and social or community impact studies have been undertaken on the Project, to date. However, given that the Project encompasses a historic mining area that overlies and surrounds both a developed urban area and major ski resort, an area where outdoor recreation activities continue year-round and extend far and wide, it will be imperative for the Company to aggressively pursue a comprehensive environmental monitoring and remediation program along with a comprehensive and continuous program of communication with the people of Rossland, management and patrons of the Red Mountain ski resort, and all other related groups. These studies and programs must keep in mind that the Rossland area has been affected by historical mining activities including extensive underground and surface disturbances some of which are only partly remediated and that there will necessarily need to be a distinction made between these historical disturbances and any new ones that would be a function of the Company's future activities.

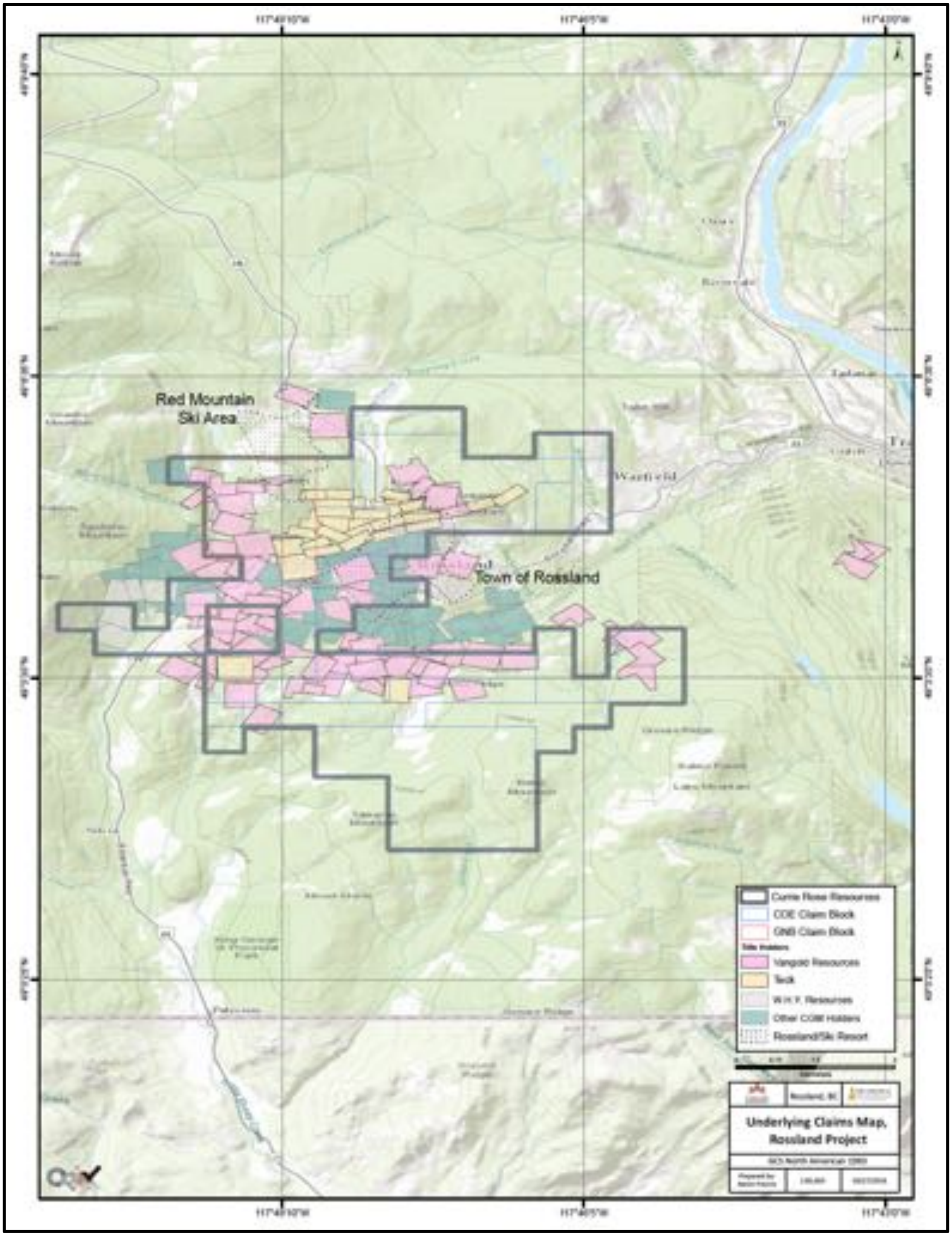


Figure 40: Map showing underlying claim ownership

25. INTERPRETATIONS AND CONCLUSIONS

The Project encompasses nearly the entire historical (and historic) Rossland mining district, where significant production of high-grade gold-bearing veins took place toward the end of the 19th and early in the 20th centuries. Although central portions of this historical mining district within the boundaries of the Project are held by other owners and not accessible to the Company at present, and to a large extent mined out, there are sufficient data and related evidence to suggest that there may be more mineralization of the type (i.e. shape, size and grade) historically mined to be found in extensions of these historically productive gold-bearing structures along their trend on-strike and down-dip/plunge. This includes both the gold-dominant precious and base metal-bearing veins that characterize the Main Veins and North Belt trends, as well as the lead-zinc-silver-dominant base and precious metal-bearing veins that characterize mineralized vein trends of the South Belt; this applies to the southern portions of the molybdenite-mineralized breccia-skarn zone that lie beyond the boundaries of the Red Mountain ski resort, as well as portions of the gold-bearing quartz-carbonate veins found in the Western zone at the far western end of the Project.

Mineralization in the Rossland district has been documented to be zoned both laterally and vertically in relation to its proximity/distance to/from the Rossland monzonite, along with other factors such as pressure, temperature, magmatic versus meteoric water input etc. that could influence mineral zoning. This fact is of consequence from an exploration perspective in terms of what mineralization could reasonably expected along and down any of the known mineralized structural trends in the Project area. Likewise, given the documented tilting of the entire mineralized system to the west, there is the possibility of finding mineralization similar to that found at more shallow levels to the east, at deeper levels to the west.

The ultimate source, or sources, of these mineralized trends and the mineralized system as a whole is not known with absolute certainty and may in fact be a function of more than one metallogenic event and underlying geological setting, a function of the long and complex geological history of this portion of the Canadian Cordillera. To the extent that a greater understanding of this (or these) source (or sources) could assist in better directing exploration efforts, its pursuit is worthwhile. Meantime, there are a sufficient number of unquestionable exploration targets immediately at hand, the successful testing of which would help ensure the Company's ability to establish a secure position in the area and with increasing expertise exploit the full remaining potential of the Project and whatever additional, acquirable targets may be identified in the immediate area. Whether this potential, immediate and/or ultimate, can be sufficiently defined so as to justify development, and then be exploited to economic advantage either with processing and refining facilities developed on site or by shipment to a facility that can do so on a custom basis, are issues that can only be answered upon successful discovery of additional mineralized zones and follow up assessment of their economic potential.

26. RECOMMENDATIONS

The project retains exploration potential at three levels: first the obvious, namely testing the extensions of historically known and exploited mineralized veins and trends along strike and down-dip/plunge; second, exploration for additional, similarly mineralized veins and trends that may have been missed by historical workers for whatever reason (such as lack of clear exposure at surface and/or a complex structural array not previously recognized or detected); third, and keeping in mind recent advances in the understanding of the IOCG setting as manifested in metallogenetically and tectonically complex orogenic Belts such as the Canadian Cordillera, exploring for the possible source of mineralization exposed in the structurally controlled deposit setting at and near surface (i.e. those that comprise the Rossland mineral district as it is known today).

Given the very large volume of historical data available and the complexity of numerous CGMs, a Phase One program focusing on data compilation and target confirmation should be completed over the planned six-month period (04/18-09/18), along with preliminary, limited surveying and sampling of targets in the field. Roughly $55,000 is the estimated cost of this Phase One program, covering both licenses.

Contingent upon a successful result in the Phase One program, a Phase Two program consisting of detailed field follow up consisting of mapping, sampling, geophysics and drilling, may be considered, to be completed over the following six-month period (10/18-03/19), through to the first anniversary of the two option agreements. A budget of roughly $950,000 is estimated for this program.

Figure 41, below, displays a selection of targets based upon existing information including both historical mining reports as well as exploration work carried out during the most recent period of exploration activity in the Project area, roughly between 1985-2008. It includes seven targets in the COE claim block and one in the GNB claim block. In the case of each target, the appropriate exploration tools should be employed given the particulars of the specific target in question and what may already be known about it, including: surface lithological/alteration/structural mapping, sampling (soils and/or rock), pitting and/or trenching, ground geophysics (VLF and/or other methods) and, ultimately, drilling.

<u>COE Claim Block</u>

Seven targets have been identified on data assessed to date. Target areas 1-4 are designed to test the potential strike extensions to the known Main Veins gold-copper-mineralized trends as well as the potential for additional mineralized veins associated with crosscutting structures and/or vein sets. Target areas 5 and 6 focus on the South Belt where there was less historical production, and generally more moderate gold but higher silver and base metals, and where there are many mineralized vein trends that retain potential along strike beyond the portions that were historically tested and exploited. Target area 7 is focused on the potential of the Western zone veins down-dip of where they were historically documented and partially exploited.

GNB Claim Block

The GNB target area ("A") comprises a single exploration area of interest that encompasses several discrete and possibly overlapping targets: the southern, gold-bearing portion of the molybdenite breccia/skarn complex beyond the boundaries of the ski resort (i.e. that can be explored and developed); the down-tilted western extension of the Main Veins trend that was intensively historically exploited (i.e. the Le Roi and War Eagle vein trends, and the Gertrude trend that was not historically exploited); un-tested targets defined by historically delineated VLF anomalies (that historically successfully traced mineralized veins/structures elsewhere in the Project area).

The recommended should proceed on a success-contingent basis, in a logical progression starting with continuing data compilation and construction of a comprehensive GIS digital data base, followed by field work that should consist of assessing the various priority target areas that have already been delineated meanwhile developing greater insight into structural and other controls on mineralization in the area, perhaps leading to the delineation of hitherto undetected targets. This should be followed by whatever additional surface survey, mapping and/or sampling work as may be necessary in order that specific drill targets can be delineated. A drill program sufficient to complete initial testing of these first priority targets and within the budget designated for this purpose can then follow.

Table 4, below, presents a budget for Phase One and, should results of this work prove successful, work may proceed with Phase Two, the success-contingent budget for which may be found below, as well.

Table 4: Budget

PHASE ONE BUDGET		
PERIOD	BUDGET CATEGORY	AMOUNT (C$)
04/18-09/18	Sample analysis	$5,657
	Geophysics	$0
	Program management	$18,000
	Field work	$7,000
	Geology, data compilation	$6,800
	Data management	$5,000
	Travel	$8,000
	Contingency (10%)	$5,046
	TOTAL (PHASE ONE)	**$55,503**
PHASE TWO BUDGET IS CONTINGENT UPON SUCCESS IN PHASE ONE		
PHASE TWO BUDGET		
Period	**BUDGET CATEGORY**	**AMOUNT (C$)**
10/18-04/19	Drilling	$446,000
	Sample analysis	$50,000
	Geophysics	$141,300
	Program management	$18,000
	Field Work	$105,000
	Geology, data compilation	$50,000
	Data management	$25,000
	Travel	$32,000
	Contingency (10%)	$85,868
	TOTAL (PHASE TWO)	**$953,168**
	TOTAL PHASE ONE & TWO	**$1,008,671**

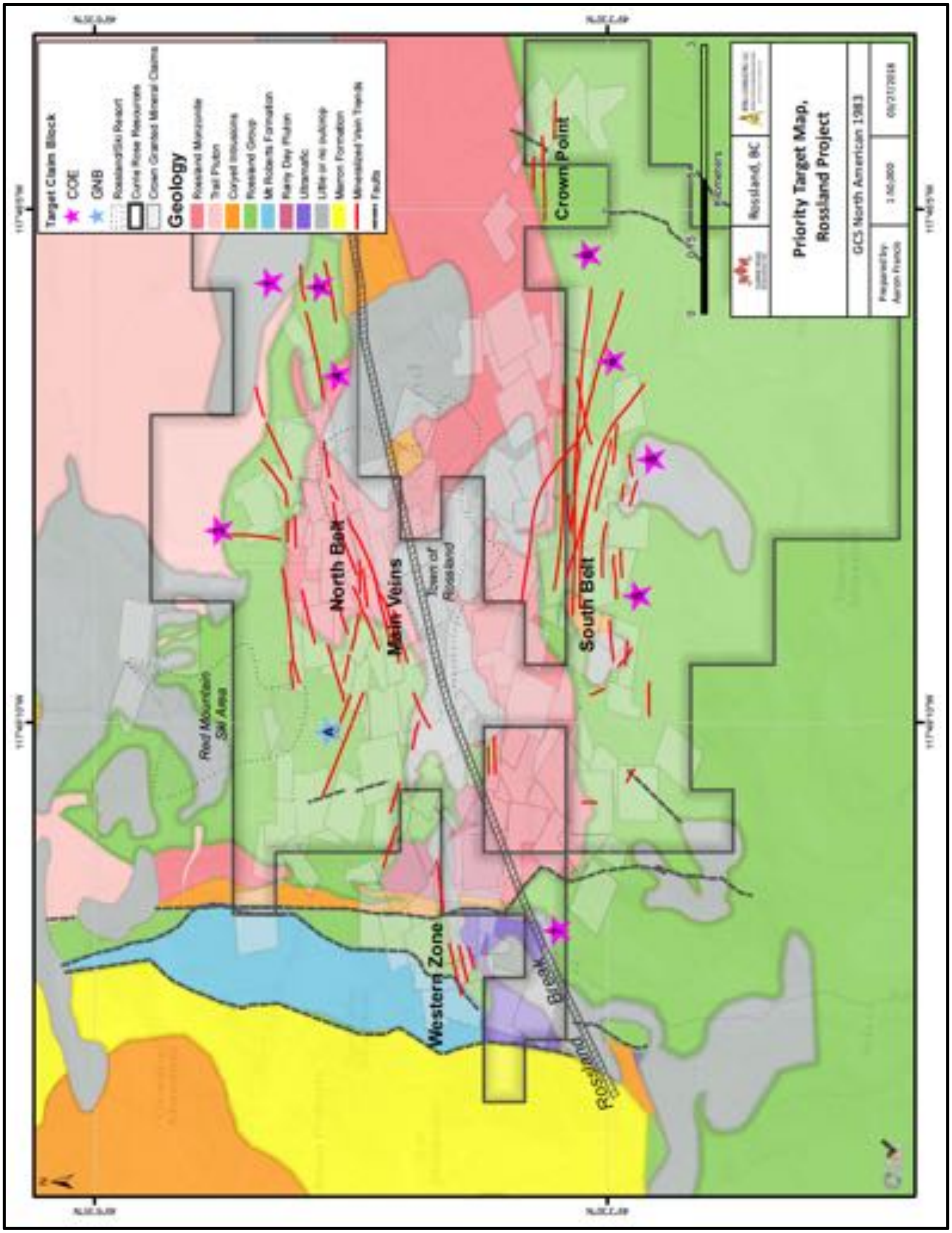


Figure 41: Exploration targets, Project area

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