

Location/Identification

MINFILE Number:	082ESW093		
Name(s):	<u>EMPIRE (L.611)</u>		
	EMPIRE MINE, EMPIRE CLAIM GROUP, MONARCH, RAM, EWE, SEARCH, LAMB 1-3		
Status:	Past Producer	Mining Division:	Osoyoos
Mining Method	Underground	Electoral District:	Boundary-Similkameen
Regions:	British Columbia	Resource District:	Okanagan Shuswap Natural Resource Distr
BCGS Map:	082E023		
NTS Map:	082E04E	UTM Zone:	11 (NAD 83)
Latitude:	49 12 00 N	Northing:	5452859
Longitude:	119 33 58 W	Easting:	313070
Elevation:	2032 metres		
Location Accuracy:	Within 500M		
Comments:	The approximate location of the Empire occurrence (Assessment Report 18397).		

Mineral Occurrence

Commodities:	Silver, Gold		
Minerals	Significant:	Unknown	
	Significant Comments:	Pyrite, galena, chalcopyrite, sphalerite, tetrahedrite and hessite occur at the nearby Standard occurrence (082ESW091).	
	Associated:	Quartz	
	Mineralization Age:	Unknown	
Deposit	Character:	Vein, Shear	
	Classification:	Hydrothermal, Epigenetic	
	Type:	I05: Polymetallic veins Ag-Pb-Zn+/-Au	

Host Rock

Dominant Host Rock:	Plutonic		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Jurassic	-----	-----	Oliver Plutonic Complex
Isotopic Age	Dating Method	Material Dated	
152 +/-3 Ma	Uranium/Lead	Zircon	
Lithology:	Garnet Muscovite Quartz Monzonite, Biotite Hornblende Quartz Monzonite, Porphyritic Biotite Quartz Monzonite, Hornblende Diorite		
Comments:	Refer to Fieldwork 1988, pages 19-25 for age data.		

Geological Setting

Tectonic Belt:	Omineca	Physiographic Area:	Thompson Plateau
Terrane:	Quesnel, Plutonic Rocks, Monashee		
Metamorphic Type:	Regional	Relationship:	Pre-mineralization
Grade:	Greenschist		

Inventory

Summary Production

		Metric	Imperial
	Mined:	586 tonnes	645 tons
	Milled:	0 tonnes	0 tons
Recovery	Silver	45,068 grams	1,449 ounces
	Gold	4,385 grams	141 ounces

Capsule Geology

The former Empire mine is located 3.25 kilometres southeast of Burnell Lake and 2.5 kilometres northwest of Oliver, BC.

Regionally, the area is principally underlain by medium- grained intrusive rocks that form the Jurassic Oliver Plutonic Complex. To the south, the complex cuts Carboniferous to Permian Kobau Group metasedimentary rocks. On its northern margin, the intrusive mass is in contact with Eocene volcanics and sediments of the Pentiction Group.

In the Empire occurrence area, the Oliver plutonic complex is composed almost entirely of quartz monzonite. Three distinct phases are evident. A central core of massive, medium- grained, garnet-muscovite quartz monzonite is surrounded by biotite-hornblende quartz monzonite north of the core and porphyritic biotite quartz monzonite to the south. Hornblende diorite occurs in several small areas to the immediate north.

The Empire mine is hosted by the garnet-muscovite quartz monzonite central phase of the Oliver Plutonic Complex. Nearby, a swarm of fine- to medium- grained quartz monzonite dikes cut this unit. The area has been extensively faulted and fractured. Regional hydrothermal alteration has resulted in epidote, which occurs in seams up to 2.5 centimetres wide.

No information could be found about the mineralogy of the veins. However, the mineralogy, in decreasing order of abundance at the Standard occurrence, consists of coarse patches of pyrite, chalcopyrite, galena, sphalerite, tetrahedrite and specks of hessite.

In 1934, two nearly parallel quartz veins, 0.45 to 1.37 metres wide, were exposed by a shaft and four open cuts. The veins are shear hosted.

Total recorded intermittent production between 1936 and 1942 from the former Empire mine was 586 tonnes mined. Recovery included 45,068 grams of silver and 4385 grams of gold.

Little is known about the discovery and early history of the Empire occurrence. By 1934, the Empire occurrence was part of the Empire claim group consisting of the Empire (Lot 611), Empire, Monarch and others. The claim group was owned by a Vancouver syndicate. Early development work on the Empire occurrence consisted of a 7.6-metre shaft and four open cuts. The nearby Standard occurrence (MINFILE 082ESW091) and surrounding area were sampled extensively between 1961 and 1962 by Norex Mines Ltd. and Continental Consolidated Mines Ltd. In the late 1970s, the Standard property was restaked as the Snowflake claim by B. Hegan and an option granted to Vermillion Resources Corp. In 1984, Vermillion Resources Corp. conducted exploration at the Standard occurrence. In 1986, Silver Saddle Mines Ltd. optioned the property. Millenium Resources Inc. optioned the Standard property in 1987. In 2013 and 2014, Hi Ho Silver Resources completed programs of rock and soil sampling, geological mapping and 38.0 line-kilometres of ground electromagnetic surveys on the area.

Bibliography

- EMPR AR *1934-D16; 1936-A34; *1939-37; 1941-25; 1942-26
 EMPR ASS RPT 12971, 15833, 18397, 33949, 34820
 EMPR BC METAL MM00346
 EMPR INDEX 3-195
 EMPR MAP 65, 1989
 EMPR MR MAP 7 (1934)
 EMPR OF 1989-2; 1989-5; 1992-1
 GSC MAP 6-1957; 341A; 538A; 539A; 541A; 15-1961; 1736A; 2389
 GSC MEM 38; 179
 GSC OF 481; 637; 1505A; 1565; 1969
 GSC P 37-21; 89-1E
 Amott, E.L. (1963): Mineralogy and Petrology of the Standard Mine, Oliver B.C., University of British Columbia, B.A.Sc. Thesis
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Raffle, K., Nicholls, S. (2013-08-14): Technical Report on the Fairview Gold Property, British Columbia, Canada.

Raffle, K., Bahrami, B. (2013-07-03): Assessment Report on the Fairview Gold Property, British Columbia, Canada.

Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	2020/07/08	Revised By:	Nicole Barlow (NB)	Field Check:	N