

Location/Identification

MINFILE Number:	082ESW089		
Name(s):	SMUGGLER POWIS (L.946), SMUGGLER MINE, SMUGGLER VEIN		
Status:	Past Producer	Mining Division:	Osoyoos
Mining Method	Underground	Electoral District:	Boundary-Similkameen
Regions:		Resource District:	Okanagan Shuswap Natural Resource Distr
BCGS Map:	082E012		
NTS Map:	082E04E	UTM Zone:	11 (NAD 83)
Latitude:	49 10 10 N	Northing:	5449575
Longitude:	119 36 40 W	Easting:	309675
Elevation:	1472 metres		
Location Accuracy:	Within 500M		
Comments:	The approximate location of the Smuggler adit (Assessment Report 12189).		

Mineral Occurrence

Commodities: Gold, Silver, Lead, Zinc

Minerals

Significant:	Pyrite, Chalcopyrite, Sphalerite, Lepidolite
Significant Comments:	Vein mineralogy variable and veins carry variable amounts.
Associated:	Quartz
Alteration:	Malachite, Chlorite
Alteration Type:	Oxidation, Chloritic
Mineralization Age:	Unknown

Deposit

Character:	Vein, Disseminated
Classification:	Hydrothermal, Epigenetic
Type:	I01: Au-quartz veins, I05: Polymetallic veins Ag-Pb-Zn+/-Au
	Strike/Dip: 090/90S
Comments:	Strike and dip inferred from underground workings.

Host Rock

Dominant Host Rock: Plutonic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Upper Paleozoic	Kobau	Undefined Formation	-----
Jurassic-Cretaceous	-----	-----	Fairview Intrusion
Jurassic	-----	-----	Oliver Plutonic Complex

Isotopic Age	Dating Method	Material Dated
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111 +/-5 Ma	Potassium/Argon	Biotite
152 +/-3 Ma	Uranium/Lead	Zircon

Lithology: Granodiorite, Quartzite, Mafic Schist

Comments: The Kobau Group is of Carboniferous to Permian age. Refer to Fieldwork 1988, pages 19-25 for age dates.

Geological Setting

Tectonic Belt:	Intermontane	Physiographic Area:	Thompson Plateau
Terrane:	Quesnel		

Metamorphic Type: Regional
Grade: Greenschist

Relationship: Pre-mineralization

Inventory

Ore Zone: SAMPLE
Category: Assay/analysis

Year: 1987
Report On: N
NI 43-101: N

Sample Type: Chip

Commodity	Grade
Silver	58.9000 grams per tonne
Gold	10.9000 grams per tonne
Lead	0.4000 per cent
Zinc	0.1200 per cent

Comments: Surface chip sample JDK-400.

Reference: Yuriko Resources Corp. (1988): Prospectus.

Summary Production

	Metric	Imperial
Mined:	137 tonnes	151 tons
Milled:	0 tonnes	0 tons
Recovery		
Silver	3,763 grams	121 ounces
Gold	2,643 grams	85 ounces
Zinc	174 kilograms	384 pounds
Lead	93 kilograms	205 pounds

Capsule Geology

The Smuggler occurrence is located at about 600 metres elevation, south of Togo Creek, in the historic Fairview mining camp. Oliver, British Columbia lies 4.5 kilometres to the east-northeast.

The Smuggler occurrence was discovered prior to 1899, by which time a main tunnel had been driven 9 metres. The ground was staked as the Powis claim, now a Reverted Crown grant. A full 10-stamp mill was erected on the property in 1901. Approximately 98 tonnes of ore from the Smuggler mine and another 492 tonnes of ore from the Stemmwind mine (082ESW007) were used to test the mill. Total underground development is reported to have consisted of a 107-metre adit with a 61-metre shaft connecting it to surface. Levels are reported north and south of the main adit at 15, 31 and 61 metres. Stopping was observed across about 1 metre at the shaft collar but the total length of stopping is unknown. Small amounts of ore have been mined intermittently in 1939, 1942, 1963 and 1973. In 1983, Lawrence Mining Corp. conducted geochemical soil sampling over the area of underground development on the Smuggler vein and reopened the No. 3 level. At this level the workings appeared to be only exploratory, as no significant gold-bearing veins were observed. Upper levels were inaccessible. Shangri-La Minerals Ltd. conducted an extensive exploration program in 1978 for Yuriko Resources Corp. In 1990, under option to Yuriko Resources Ltd., Fairbank Engineering Ltd. was hired to conduct a limited exploration program. In 2014 and 2019, Hi Ho Silver Resources Inc. completed minor programs of rock sampling and structural analysis on the area as the Fairview property.

The Smuggler occurrence lies within the Okanagan Terrane of the Intermontane tectonic belt. Polydeformed and regionally metamorphosed rocks of the Carboniferous to Permian Kobau Group dominantly underlie the area. Highly deformed, low grade metamorphic quartzite, phyllite, schist, greenstone and marble comprise the main units of a 1900-metre structure succession. Three phases of fold have been identified in the Kobau Group rocks. The initial phase of folding was coincident with pre-Jurassic regional metamorphism, whereas later phases of folding are related to intrusive activity. The main intrusions in the Fairview camp are the Jurassic Oliver granite and the Jurassic to Cretaceous Fairview granodiorite. The Oliver pluton is heterogeneous and is composed of biotite-hornblende granite, porphyritic biotite granite, garnet-muscovite granite, porphyritic quartz monzonite and syenite. Other intrusive phases cutting the Kobau Group metasediments and volcanics include aplite dikes, granitic, dioritic and mafic stocks, auriferous quartz veins related to Jurassic intrusions and Tertiary northeast-trending mafic dikes.

The Smuggler occurrence is hosted along the contact between quartzite (KQ1) of the Kobau Group and Fairview pluton (Fieldwork 1988, pages 19-25). The Kobau Group unit is composed of quartzite layers 1 to 5 centimetres thick separated by biotite-rich layers, some biotite-rich sections and lenses of mafic schist. Chlorite is common throughout. Low-grade greenschist facies metamorphic effects were noted near the Smuggler workings.

Little is known of the mineralization and structure of the Smuggler vein. No early records could be found containing this information. Limited information has been obtained from re-opening underground workings. Mineralization, in quartz veins, includes pyrite, sphalerite, chalcopyrite and galena. Malachite alteration is frequently associated with chalcopyrite. If the workings followed the trend of the vein, the vein strikes roughly east and dips near vertical.

In 1987, several surface samples near the upper workings yielded anomalous values. Grab sample JDK-505 yielded 19.3 grams per tonne gold, 34.9 grams per tonne silver, 0.15 per cent zinc and 0.11 per cent copper from massive white quartzite with chalcopyrite and malachite (Yuriko Resources Corp. (1988): Prospectus). Another chip sample, JDK-400, yielded 10.9 grams per tonne gold, 58.9 grams per tonne silver, 0.40 per cent lead and 0.12 per cent zinc from massive white quartz with pyrite, chalcopyrite and minor disseminated galena (Yuriko Resources Corp. (1988): Prospectus). A third sample taken from a short adit yielded 3.12 grams per tonne gold (Yuriko Resources Corp. (1988): Prospectus). A total of 110 metres of the main adit were sampled at 5-metre intervals. The highest values were from sample 730, which yielded 1.99 grams per tonne gold and 3.8 grams per tonne (Yuriko Resources Corp. (1988): Prospectus). The sample was taken from a drift north of the raise.

Preliminary lead isotope studies indicate the mineralization is associated with quartz veins is younger than or as young as the Oliver pluton (circa 155 Ma) (Fieldwork 1988, pages 19-25).

Total intermittent production from 1939 to 1973 from the Smuggler occurrence amounts to 137 tonnes from which 3763 grams of gold, 2643 grams of silver, 93 kilograms of lead and 174 kilograms of zinc were recovered.

Bibliography

EMPR AR 1894-map after 758; 1895-704; 1896-563,574; 1897-602; 1898-1116,1196; 1899-775; 1901-1155; 1939-37; 1942-26; 1965-165; 1973-A54

EMPR INDEX 3-214; 4-125

EMPR ASS RPT *12189, 19561, 19947

EMPR BC METAL MM00363

EMPR FIELDWORK *1988, pp. 19-25

EMPR MR MAP 7 (1934)

EMPR OF 1989-5

EMPR PF (*Yuriko Resources Corp. (1988): Prospectus)

GSC MAP 341A; 538A; 539A; 541A; 15-1961; 1736A; 2389

GSC MEM 38; 179

GSC OF 481; 637; 1505A; 1565; 1969

GSC P 37-21

Raffle, K.J. (2019-09-03): Technical Report on the Fairview Gold Property

EMPR PFD 823259, 823470

Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	2020/07/19	Revised By:	Karl A. Flower (KAF)	Field Check:	N