

### Location/Identification

**MINFILE Number:** 082FSW189

**Name(s):** **PORTO RICO (L.2385)**  
 PUERTO RICO, SUNSHINE (L.2389), LIZZIE B (L.2386), BARBARA (L.2387), ALPHA (L.2388)

**Status:** Past Producer

**Mining Method:** Underground

**Regions:** British Columbia

**BCGS Map:** 082F034

**NTS Map:** 082F06W

**Latitude:** 49 19 03 N

**Longitude:** 117 19 31 W

**Elevation:** 1828 metres

**Location Accuracy:** Within 500M

**Comments:** Approximate location of workings on Lot 2385 (Assessment Report 7702).

**Mining Division:** Nelson

**Electoral District:** Nelson-Creston

**Forest District:** Arrow Boundary Forest District

**UTM Zone:** 11 (NAD 83)

**Northing:** 5462803

**Easting:** 476360

### Mineral Occurrence

**Commodities:** Gold, Silver, Copper, Lead, Zinc

**Minerals**

**Significant:** Arsenopyrite, Pyrite, Gold, Sphalerite, Galena, Chalcopyrite

**Associated:** Quartz

**Alteration:** Malachite

**Alteration Comments:** Propylitic alteration minerals are not specified.

**Alteration Type:** Propylitic, Oxidation

**Mineralization Age:** Unknown

**Deposit**

**Character:** Vein, Shear

**Classification:** Hydrothermal, Epigenetic

**Type:** L01: Subvolcanic Cu-Ag-Au (As-Sb), I05: Polymetallic veins Ag-Pb-Zn+/-Au

**Dimension:** 1x0x0 metres      **Strike/Dip:** 045/45N

**Comments:** The Porto Rico vein averages 0.8 metres in width.

### Host Rock

**Dominant Host Rock:** Volcanic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Lower Jurassic	Rossland	Elise	-----
Jurassic	-----	-----	Unnamed/Unknown Informal

Isotopic Age	Dating Method	Material Dated
-----	-----	-----
-----	-----	-----

**Lithology:** Augite Porphyry Sill, Plagioclase Augite Porphyritic Intrusive, Andesite, Andesitic Tuff, Basaltic Tuff, Pyroclastic, Breccia

**Comments:** Unit Je3 of the Elise Formation (Open File 1989-11). The Middle (?) to Late Jurassic porphyry is informally named the Mammoth Intrusions.

### Geological Setting

**Tectonic Belt:** Omineca      **Physiographic Area:** Selkirk Mountains

**Terrane:** Quesnel, Plutonic Rocks

## Inventory

No inventory data

## Summary Production

		Metric	Imperial
	<b>Mined:</b>	5,740 tonnes	6,327 tons
	<b>Milled:</b>	5,528 tonnes	6,093 tons
<b>Recovery</b>	Gold	178,470 grams	5,738 ounces
	Silver	46,405 grams	1,492 ounces
	Copper	322 kilograms	710 pounds
	Lead	138 kilograms	304 pounds
	Zinc	51 kilograms	112 pounds

## Capsule Geology

The Porto Rico (L.2385) occurrence is located on Barrett Creek, 15.5 Kilometres north-northwest of Salmo. Underground development began in 1896 and production is recorded for 1897.

The area is underlain by basaltic to andesitic lapilli tuff and pyroclastics (Unit Je3) of the Lower Jurassic Elise Formation, Rossland Group (Open File 1989-11). These are intruded by the Late to Middle (?) Jurassic Mammoth Intrusions comprising plagioclase augite porphyritic diorite (?).

The occurrence consists of a quartz-filled fissure that strikes northeast and dips about 45 degrees to the northwest. The host rock is comprised of an augite porphyry sill which intrudes andesitic volcanics. The quartz vein averages about 0.8 metre in width and hosts pyrite, gold, arsenopyrite and very minor galena, sphalerite and chalcopyrite.

In 1899, 3719 tonnes of ore was mined producing 108,083 grams of gold and 31,103 grams of silver. Production from the Porto Rico vein over 13 years, in the period 1897 to 1969, totalled 5740 tonnes which produced 178,470 grams gold, 46,405 grams silver, 138 kilograms lead, 51 kilograms zinc and 322 kilograms copper.

In 1979, mineralization was observed on the Sunshine (Lot 2389) claim. It occurs in an old shaft and consists of a 1.3-metre wide shear zone which strikes east-west and dips 55 degrees north. Pyrite and arsenopyrite occur in a breccia zone that is 0.5 metre wide. The sulphides cement irregular fragments of quartz and altered andesitic wallrock. The shear cuts porphyritic augite andesite which is stratigraphically below the augite porphyry sill in which the main vein on the Porto Rico claim is exposed. The andesitic volcanics show extensive propylitic alteration. Samples assayed 11.65 to 24.34 grams per tonne gold and 3.42 to 3.77 grams per tonne silver (Assessment Report 7702).

Northeast of the main vein, on the Lizzie B (Lot 2386) claim, malachite staining was found in mafic dyke material.

## Bibliography

- EMPR AR 1897-529,531; 1898-1160; 1899-597,692,713; 1900-847; 1904-126,135,144; 1905-168; 1914-510; 1915-445; 1919-158; 1922-207; 1934-A27; 1935-A27,G50; 1937-E27; 1941-26,66; 1946-35,144
- EMPR ASS RPT \*7702, 14886, 18286
- EMPR BC METAL MM01052
- EMPR BULL 1, p. 98; 10 p. 93; 10 (Rev.) p. 155; 41; 109
- EMPR EXPL \*1979-61; \*1980, p. 63
- EMPR FIELDWORK 1980, pp. 149-158; 1981, pp. 28-32, pp. 176-186; 1987, pp. 19-30; 1988, pp. 33-43; 1989, pp. 247-249; 1990, pp. 291-300
- EMPR GEM \*1972-51; \*1973-63
- EMPR MAP 7685G; RGS 1977; 8480G
- EMPR OF 1988-1; \*1989-11; 1991-16
- EMPR PF (Starr, C.C. (1930): Report of Preliminary Examination of the Porto Rico Mine, 4 p.)
- GSC ANN RPT 1897, Vol. 10, p. 32A
- GSC MAP 221; 1090A; 1091A; 1144A; 1145A
- GSC MEM 94, p. 128; 191, pp. 46,47; #308 p. 173
- Andrew, K.P.E. and Hoy, T. (1990): Structural Models for Precious Metal Deposits in Jurassic Arc Volcanic rocks of the Rossland Group, southeastern B.C.; abstract with program, G.A.C. - M.A.C. Annual Meeting, Vancouver, B.C., p. A3
- Hoy, T. and Andrew, K.P.E. (1988): Geology, geochemistry and mineral deposits of the Lower Jurassic Rossland Group, southeastern

British Columbia; abstract in Twelfth District 6 Meeting, Canadian Institute of Mining and Metallurgy, Fernie, B.C., pp. 11-12

<b>Date Coded:</b>	1985/07/24	<b>Coded By:</b>	BC Geological Survey (BCGS)	<b>Field Check:</b>	N
<b>Date Revised:</b>	1991/05/31	<b>Revised By:</b>	Dorthe E. Jakobsen(DEJ)	<b>Field Check:</b>	N