

Location/Identification

MINFILE Number:	082M 001	National Mineral Inventory Number:	082M1 Zn2
Name(s):	<u>RIVER JORDAN</u> JORDAN RIVER, KING FISSURE, COPELAND, DEBY, BON, CAMP FAULT, NORTH WEST LIMB, SOUTH LIMB, NORTH EAST LIMB		
Status:	Developed Prospect	Mining Division:	Revelstoke
Regions:	British Columbia	Electoral District:	Columbia River-Revelstoke
BCGS Map:	082M018	Resource District:	Selkirk Natural Resource District
NTS Map:	082M01W	UTM Zone:	11 (NAD 83)
Latitude:	51 07 30 N	Northing:	5664674
Longitude:	118 24 44 W	Easting:	401174
Elevation:	2133 metres		
Location Accuracy:	Within 500M		
Comments:	Location of sulphide layer on south limb of Copeland synform (Bulletin 57).		

Mineral Occurrence

Commodities:	Zinc, Lead, Silver		
Minerals	Significant:	Sphalerite, Pyrrhotite, Galena, Pyrite	
	Associated:	Quartz, Barite, Calcite	
	Mineralization Age:	Unknown	
Deposit	Character:	Stratabound, Disseminated, Massive	
	Classification:	Sedimentary, Syngenetic, Exhalative	
	Type:	S01: Broken Hill-type Pb-Zn-Ag+/-Cu, E14: Sedimentary exhalative Zn-Pb-Ag, E13: Irish-type carbonate-hosted Zn-Pb	
	Shape:	Tabular	Modifier: Folded
	Dimension:	2500x750x6 metres	Trend/Plunge: 150 15
	Comments:	A 1 to 6 metre thick sulphide layer in the limbs and hinge of the tight, south to southeast plunging Copeland synform is exposed over a 2500 by 750 metre area.	

Host Rock

Dominant Host Rock:	Metasedimentary		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Proterozoic-Paleoz.	-----	-----	Shuswap Metamorphic Complex
Isotopic Age	Dating Method	Material Dated	
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Lithology:	Calc-silicate Gneiss, Quartzite, Marble, Mica Schist, Pelitic Gneiss		
Comments:	Cover rocks of Frenchman Cap area.		

Geological Setting

Tectonic Belt:	Omineca	Physiographic Area:	Monashee Mountains
Terrane:	Monashee		
Metamorphic Type:	Regional	Relationship:	Post-mineralization
Grade:	Amphibolite		

Inventory

Ore Zone: MAIN **Year:** 1991
Category: Possible **Report On:** N
Quantity: 20,000,000 tonnes **NI 43-101:** N

Commodity	Grade
Silver	100 grams per tonne
Lead	7.5 per cent
Zinc	7.5 per cent

Comments:

Reference: Assessment Report 25173

Ore Zone: SOUTH LIMB (NO.1 LODGE) **Year:** 1961
Category: Measured **Report On:** Y
Quantity: 2,605,826 tonnes **NI 43-101:** N

Commodity	Grade
Silver	37.7000 grams per tonne
Lead	5.1000 per cent
Zinc	5.6000 per cent

Comments: Ten per cent dilution. A deep drillhole since this calculation was made indicates a much greater potential (Bulletin 57, page 48).

Reference: CIM Transactions 1961, page 272.

Capsule Geology

The River Jordan (King Fissure) deposit is located on the north eastern slopes of Mount Copeland, approximately 22 kilometres north west of Revelstoke.

The area lies on the southern flank of the Frenchman Cap Dome, which is part of a series of gneissic domal structures along the eastern margin of the Shuswap Metamorphic Complex. The core granite gneiss rocks are overlain by a heterogeneous paragneiss assemblage of calc-silicate gneiss, pelitic gneiss, quartzite and marble of probable Proterozoic or lower Paleozoic age. The paragneiss succession hosts the stratabound deposit.

The deposit generally consists of a layer of sulphides less than 1 metre to 6 metres in thickness within the calc-silicate gneiss. The sulphide-rich layer consists most commonly of a fine-grained intimate mixture of sphalerite and pyrrhotite with conspicuous eye-shaped lenses of grey, watery quartz and scattered grains of pyrite and galena. Locally it is well layered and includes minor pods and lenses of calc-silicate gneiss, schist, marble or barite (Hoy, 1982). The layers are folded and metamorphosed along with the country rock. Gem-quality green spinel is also reported in the area along with a carbonatite layer hosting minor light rare earth element values.

A number of mineralized zones have been identified over an area of approximately 2.5 kilometres long by 0.8 kilometre wide and include the Camp Fault zone, the North West Limb-Lake zone, the South Limb-Cliff zone, the North East Limb-Waterfall zone, the East zone, the West zone and the Peak zone.

The Camp Fault zone consists of a north-south- trending, east- dipping, dextral fault cutting bedded marble, gneiss, schists, calc-silicates, extrusive carbonatite tuffs and breccias with strata-form sulphides and barite. The zone has been intruded by Tertiary biotite lamprophyre dike swarms. The mineralization consists of coarse-grained, sheared galena with minor sphalerite and chalcopyrite associated with oxidization and silicification. In 1990, a grab sample (JLR-7) from a 30- centimetre wide pod of massive galena assayed 0.132 per cent zinc, 63.4 per cent lead and 461 grams per tonne silver (Assessment Report 20513). The following year, a grab sample (CF-1) assayed 79.20 per cent lead, 1.22 per cent zinc and 132.0 grams per tonne silver (Assessment Report 22029).

The North West Limb-Lake zone consists of a 30 to 50- centimetre thick extension of the sulphide horizon exposed over 400 metres in a calc-silicate marble layer in a micaceous porphyroblastic schist and associated lamprophyre dikes with ankerite stock works. Sulphide mineralization includes galena, sphalerite, gahnite and greenockite. In 1990, a grab sample (JLR-11) assayed 25.2 per cent lead, 15.2 per cent zinc and 357 grams per tonne silver (Assessment Report 20513). In 2008, a 1.0- metre channel sample assayed 3.02 per cent lead and 4.23 per cent zinc (Assessment Report 30374).

The South Limb-Cliff zone consists of a 1.5- metre to greater than 3- metre thick sulphide layer hosted in a contorted calc-silicate marble layer in grey schists and gneiss. Sulphides consist of massive pyrrhotite with lesser galena, sphalerite, pyrite and chalcopyrite with possible barite concentrated near the base of the unit. In 1990, a grab sample (JLR-14) assayed 19.7 per cent lead, 15.45 per cent zinc and 239 grams per tonne silver (Assessment Report 20513). The following year, a 1.0- metre chip sample (CZ-1) assayed 29.80 per cent lead, 25.70 per cent zinc and 324.0 grams per tonne silver (Assessment Report 22029). In 2008, a 3.5- metre channel sample assayed 9.06 per cent lead, 10.37 per cent zinc and 58 grams per tonne silver (Assessment Report 30374). In 2015, a diamond drill hole intercepted 4.01 per cent lead, 11.60 per cent zinc and 33.8 grams per tonne silver over 1.48 metres (Assessment Report 35931).

The North East Limb-Waterfall zone consists of three parallel sulphide layers 0.5 to 1 metre thick in a calc-silicate marble and schist. Sulphide mineralization includes galena, sphalerite and pyrrhotite associated with quartz, calcite and barite. In 1990, a grab sample (JLR-19) of coarse galena assayed 75.5 per cent lead and 663 grams per tonne silver, while another grab sample (JLR-17) from a shallow adit assayed 21.68 per cent lead, 5.47 per cent zinc and 82 grams per tonne silver (Assessment Report 20513). The following year, a 1.0- metre chip sample (NEZ-3) assayed 14.20 per cent lead, 0.19 per cent zinc, 78.8 grams per tonne silver and 43.53 per cent barium (Assessment Report 22029). In 2008, a 0.5- metre channel sample assayed 2.19 per cent lead, 2.75 per cent zinc and 19 grams per tonne silver (Assessment Report 30374). In 2008, a 2.4- metre channel sample assayed 12.79 per cent lead, 0.18 per cent zinc and 71 grams per tonne silver (Assessment Report 30374).

The East zone consists of massive sulphide layers from 0.5 to 1.0 metre thick. Sulphides include primarily sphalerite and galena with lesser pyrrhotite and pyrite in a siliceous matrix. In 1991, a 1.0- metre chip sample (EZG-4) assayed 46.70 per cent lead, 3.65 per cent zinc and 375.0 grams per tonne silver (Assessment Report 22029). In 2008, a 3.0- metre channel sample assayed 5.25 per cent lead, 0.99 per cent zinc and 43 grams per tonne silver (Assessment Report 30374).

The West zone consists of a 2 to 4- metre thick zone mineralized with galena, sphalerite, pyrite and pyrrhotite with quartz, calcite and barite in a contorted calc-silicate marble layer. In 1990, a grab sample (JLR-25) assayed 15 per cent lead, 2.43 per cent zinc, 89 grams per tonne silver and 23 per cent barium (Assessment Report 20513). In 1991, two chip samples (WZ-1 and WZ-2) assayed 1.20 and 8.10 per cent lead, 11.35 and 1.70 per cent zinc, 15.7 and 68.8 grams per tonne silver with 0.89 and 40.92 per cent barium over 2.0 and 2.6 metres, respectively (Assessment Report 22029). In 2008, a 5.0- metre channel sample assayed 3.4 per cent lead, 2.4 per cent zinc and 27 grams per tonne silver (Assessment Report 30374).

The Peak zone, consists of a 2.0- metre thick semi-massive to massive sulphide layer bounded by 1.0- metre wide gneissic layers hosting disseminated sulphides. In 2008, a 2.0- metre channel sample assayed 1.2 per cent lead, 4.5 per cent zinc and 14 grams per tonne silver, while another channel sample (802RGB108) a short distance to the west assayed 8.19 per cent lead, 21.46 per cent zinc and 91 grams per tonne silver over 1.0 metre (Assessment Report 30374).

In 1989, re-sampling of the No. 1 zone returned average values of 8.5 per cent zinc, 8.2 per cent lead and 72 grams per tonne silver from 18 samples (George Cross News Letter #226, 1989).

In 1961, a measured geological reserves of 2,605,826 tonnes grading 37.7 grams per tonne silver, 5.1 per cent lead and 5.6 per cent zinc at 10 per cent dilution was reported (Canadian Institute of Mining and Metallurgy Transactions 1961, page 272). A deep drill hole made since this calculation was made indicates a much greater potential (Bulletin 57, page 48). In 1991, a potential resource of 20,000,000 tonnes averaging 7.5 per cent lead, 7.5 per cent zinc and 100 grams per tonne silver was reported (Assessment Report 25173).

The area has been explored since the mid-1950s, in conjunction with the nearby Mount Copeland (MINFILE 082M 002) molybdenite mine. In 1955 and 1956, American Standard Mines completed a series of open-cuts on the area. In 1958, Bunker Hill Exploration completed a program of trenching, bulk sampling and metallurgical testing. In 1963, Jordan Mines and Bralorne Pioneer Mines completed five diamond drill holes, totalling 1478.7 metres. In 1965 and 1966, a further seven holes, totalling 3283.5 metres, were completed. In 1980, Brenda Mines prospected and soil sampled the area as the Bon claims. In 1990 and 1991, First Standard Mining completed programs of rock, soil and silt sampling, geological mapping and ground geophysical surveys on the area as the Copeland claims. In 1997, the area was prospected as the Riley claims by Canadian Sapphire Corporation. During 2008 through 2015, Silver Phoenix Resources completed programs of rock and soil sampling, geological mapping, a 3.8 line-kilometre ground electromagnetic survey, a 111.0 line-kilometre airborne electromagnetic survey and one diamond drill hole, totalling 494.0 metres, on the area.

Bibliography

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Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	2018/05/10	Revised By:	Karl A. Flower (KAF)	Field Check:	N