



MINFILE Detail Report
BC Geological Survey
Ministry of Energy, Mines and Petroleum Resources

Location/Identification

MINFILE Number:	082FNE043	National Mineral Inventory Number:	082F15 Pb12
Name(s):	<u>BLUEBELL</u> BLUE BELL, RIONDEL, BLUE BELLE, KOOTENAY CHIEF, COMFORT		
Status:	Past Producer	Mining Division:	Slocan
Mining Method	Underground	Electoral District:	Nelson-Creston
Regions:	British Columbia	Resource District:	Kootenay Lake Forest District
BCGS Map:	082F076		
NTS Map:	082F15W	UTM Zone:	11 (NAD 83)
Latitude:	49 45 45 N	Northings:	5512234
Longitude:	116 51 39 W	Easting:	510023
Elevation:	766 metres		
Location Accuracy:	Within 500M		
Comments:	Riondel Peninsula.		

Mineral Occurrence

Commodities:	Silver, Zinc, Lead, Copper, Cadmium, Gold		
Minerals	Significant:	Galena, Sphalerite, Pyrrhotite, Pyrite, Chalcopyrite, Arsenopyrite, Marcasite	
	Associated:	Quartz, Calcite, Magnetite, Siderite, Knebelite, Chlorite	
	Alteration:	Chlorite, Carbonate, Serpentine	
	Alteration Comments:	Alteration of knebelite (chlorite, carbonate, serpentinite).	
	Mineralization Age:	Tertiary	
Isotopic Age:	19.2 +/- 5.6 Ma	Dating Method:	Rubidium/Strontium
		Material Dated:	Fluid inclusion
Deposit	Character:	Vein, Stratabound, Discordant, Massive	
	Classification:	Replacement, Epigenetic, Hydrothermal	
	Type:	J01: Polymetallic manto Ag-Pb-Zn	
	Shape:	Irregular	Modifier: Fractured
	Comments:	Deposit consists of three irregular ore zones along the Riondel Peninsula.	

Host Rock

Dominant Host Rock:	Metasedimentary		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Lower Cambrian	Undefined Group	Badshot	-----
Isotopic Age	Dating Method	Material Dated	
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Lithology:	Limestone, Quartzite, Argillite		

Geological Setting

Tectonic Belt:	Omineca	Physiographic Area:	Purcell Mountains
Terrane:	Ancestral North America		
Metamorphic Type:	Regional	Relationship:	Pre-mineralization
Grade:	Greenschist		

Inventory

Summary Production

		Metric		Imperial	
	Mined:	4,820,029	tonnes	5,313,172	tons
	Milled:	4,774,123	tonnes	5,262,569	tons
Recovery	Silver	221,011,383	grams	7,105,681	ounces
	Gold	8,864	grams	285	ounces
	Zinc	249,022,008	kilograms	548,999,552	pounds
	Lead	233,800,528	kilograms	515,441,933	pounds
	Copper	2,855,381	kilograms	6,295,038	pounds
	Cadmium	1,141,943	kilograms	2,517,553	pounds

Capsule Geology

In 1825, a botanist discovered sulphide ore at the Bluebell site. In later years, Hudson Bay Company trappers used galena from this site to make bullets. The site was staked by R.E. Sproule in 1882. The Bluebell occurrence consists of three main zones approximately 500 metres apart along strike of the Lower Cambrian Badshot Formation marble. The Comfort zone (082FNE044) occurs at the north end of Riondel Peninsula, the Bluebell zone in the centre, and the Kootenay Chief (082FNE042) at the south end. The zones are localized along steep cross-fractures that trend west-northwesterly and dip 80 to 90 degrees north. Within the zones are tabular ore shoots that are transverse to the bedding and plunge westward following the intersection of the fractures with the marbles. The ore occurs as replacement deposits along steep cross fractures in the marbles. Bedding planes and minor structures tend to localize the deposit. The ore consists of galena, sphalerite, pyrrhotite, pyrite, arsenopyrite, and chalcopyrite. The gangue occurring with the sulphides consists of carbonates, coarsely-grained quartz and knebelite. Oxidation of the deposit has occurred to depths well below lake level.

The large surface showing was known to early fur traders and was brought to the attention of mining capital as early as 1865. The first claims were located in 1852 and development work was begun two years later. By 1891 about 70 claims had been staked in the surrounding area. From 1888 to 1896 the mine was operated by the Kootenay Mining & Smelting Co. Ltd.

In 1906 the property was taken over by the Canadian Metal Co. Ltd. Due to financial difficulties the company was reorganized in 1911 under the name of the New Canadian Metal Co. They worked the property intermittently for about 20 years. There are three known centres of mineralization in the mine, spaced at approximately 457 metre intervals along the strike of the limestone. These three ore zones are known from north to south as the Comfort, the Bluebell, and the Kootenay Chief. At the time the mine closed an inclined shaft had been sunk on the Comfort ore zone and an adit driven on the Kootenay Chief claim.

The Consolidated Mining and Smelting Company of Canada Ltd. acquired the property in 1931 and did some exploration work on the Bluebell, Comfort and Kootenay Chief claims, however the mine was not reopened. Further diamond drilling was done in 1942 but the results were not encouraging. In 1947 diamond drilling was done along about 1524 metres of limestone outcrop and the three orebodies mentioned above were outlined. The mine was reopened the following year.

Since 1947 an inclined shaft, located between the Bluebell and Kootenay Chief ore zones, has been sunk for 572 metres to a vertical depth of 247 metres. Development work has been carried out on all levels from 69 to 267 metres. A large volume of water enters the lower workings of the mine.

Development work during 1961-62 consisted of 3500 metres of drifting and crosscutting, 2,413 metres of raising and 10,394 metres of diamond drilling.

The mine closed in December 1971 due to depletion of the Ore reserves.

Approximately 500,000 tons of mill tailings containing zinc, lead and silver were dumped on the shore of Kootenay Lake in the early 1900s. Most of this material eventually slid to the bottom of the lake, 128 metres deep and 290 metres offshore. (Mining Magazine, December 1983, p. 446)

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Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	1988/09/22	Revised By:	Georges L. Beaudoin (GLB)	Field Check:	Y