



Location/Identification

MINFILE Number:	082KSE032		
Name(s):	<u>DELPHINE (L.4334)</u>		
	616 (L.4333), EUREKA (L.4335)		
Status:	Past Producer	Mining Division:	Golden
Mining Method	Underground	Electoral District:	Columbia River-Revelstoke
Regions:	British Columbia	Resource District:	Rocky Mountain Forest District
BCGS Map:	082K048		
NTS Map:	082K08W	UTM Zone:	11 (NAD 83)
Latitude:	50 25 33 N	Northing:	5586149
Longitude:	116 24 07 W	Easting:	542481
Elevation:	1950 metres		
Location Accuracy:	Within 500M		
Comments:	Location of adit portal.		

Mineral Occurrence

Commodities:	Silver, Lead, Zinc, Copper
Minerals	Significant: Galena, Sphalerite, Tetrahedrite, Pyrite, Chalcopyrite
	Associated: Quartz, Carbonate
	Mineralization Age: Unknown
Deposit	Character: Vein, Shear
	Classification: Replacement, Hydrothermal
	Type: I05: Polymetallic veins Ag-Pb-Zn+/-Au

Host Rock

Dominant Host Rock:	Sedimentary		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Middle Proterozoic	Purcell	Mount Nelson	-----
Isotopic Age	Dating Method	Material Dated	
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Lithology: Dolomite

Geological Setting

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

Inventory

No inventory data

Summary Production

Metric	Imperial
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Mined:	170 tonnes	187 tons
Milled:	0 tonnes	0 tons

Recovery	Silver	614,315 grams	19,751 ounces
	Lead	46,880 kilograms	103,353 pounds
	Copper	3,025 kilograms	6,669 pounds

Capsule Geology

The Delphine property consists of three Crown grants (Lots 4333, 4334 and 4335). The Delphine mine is located on Lot 4334 which is on the southeast flank of Mount Catherine in the Golden Mining Division, at an elevation of 1950 metres above sea level.

Regionally, the area is underlain by Proterozoic clastic sedimentary rocks of the Purcell and Windermere supergroups and by lower Paleozoic strata of the Beaverfoot and Mount Forster formations (Geoscience Map 1995-1).

The Purcell Supergroup strata include the Aldridge, Creston, Kitchener, Dutch Creek and Mount Nelson formations. The Windermere Supergroup unconformably overlies the Purcell Supergroup rocks and includes the Toby Formation and Horsethief Creek Group (Paper 1990-1).

In the vicinity of the occurrence, rocks of the Kitchener and Dutch Creek formations have been further subdivided and assigned to the Van Creek and Gateway formations. The Van Creek Formation correlates with the Lower Kitchener Formation while the Gateway Formation is equivalent to the lower portion of the Dutch Creek Formation. The Mount Nelson Formation has been subdivided into seven discrete members, a lower quartzite, a lower dolomite, a middle dolomite, a purple dolomite, an upper middle dolomite, an upper quartzite, and an upper dolomite (Open File 1990-26).

Rocks of the Horsethief Creek Group, Beaverfoot and Mount Forster formations are folded and overthrust by rocks of the upper portion of the Dutch Creek Formation and the lower members of the Mount Nelson Formation. The sedimentary rocks have undergone regional metamorphism to at least greenschist facies.

The Delphine mine occurrence consists of a quartz-carbonate vein 0.3 to 1 metre wide within a normal fault. The fault strikes 150 degrees, dips 78 degrees northeast and cuts the middle dolomite member of the Mount Nelson Formation. Ore minerals include galena and tetrahedrite with minor sphalerite, pyrite and chalcopyrite (Open File 1990-26, page 32). The vein, where it has been stoped for 60 metres, had an average width of 1 metre and was of solid galena (Minister of Mines Annual Report 1898). Total production from the Delphine yielded 614,315 grams of silver, 3025 kilograms of copper and 46,880 kilograms of lead from 170 tonnes mined.

Bibliography

EMPR AR 1898-1041,1055; 1899-595,666; 1900-805; 1901-1013; 1902-135,303; 1903-97; 1904-113; 1905-145; 1906-248; 1909-100;
*1915-94,95; 1919-114; 1951-190; 1963-85, 1964-135

EMPR ASS RPT 2502, *18094

EMPR BC METAL MM00556

EMPR GEOS MAP 1995-1

EMPR INDEX 3-194

EMPR OF *1990-26, p. 32

EMPR PF (82KSE General File - Geology map by P. Billingsley, 1958)

GSC MAP 1326A

GSC MEM 148, p. 48; 369, p. 112

Pope, A.J. (1989): The Tectonics and Mineralization of the Toby- Horsethief Creek Area, Purcell Mountains, Southeast British Columbia, Canada, unpublished Ph.D. Thesis, University of London, England

EMPR PFD 840794, 840804, 840805, 843080

Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	1995/08/31	Revised By:	Gilles J. Arseneau (GJA)	Field Check:	Y