

Location/Identification

MINFILE Number:	092ISE005	National Mineral Inventory Number:	09217 Cu1
Name(s):	<u>BETHLEHEM (SNOWSTORM)</u> SNOWSTORM, HIGHLAND VALLEY COPPER		
Status:	Past Producer	Mining Division:	Kamloops
Mining Method	Underground	Electoral District:	Yale-Lillooet
Regions:	British Columbia	Resource District:	Kamloops Forest District
BCGS Map:	092I046		
NTS Map:	092I07W	UTM Zone:	10 (NAD 83)
Latitude:	50 29 39 N	Northing:	5595540
Longitude:	120 58 21 W	Easting:	643804
Elevation:	1513 metres		
Location Accuracy:	Within 500M		

Mineral Occurrence

Commodities: Copper, Molybdenum, Silver, Gold

Minerals

Significant:	Bornite, Chalcopyrite, Molybdenite, Malachite, Azurite		
Associated:	Quartz, Hematite		
Alteration:	Chlorite, Sericite, Epidote, Quartz		
Alteration Type:	Propylitic, Sericitic, Silicific'n		
Mineralization Age:	Lower Jurassic		
Isotopic Age:	199 +/- 8 Ma	Dating Method:	Potassium/Argon
		Material Dated:	Biotite
Deposit	Character:	Vein, Stockwork, Disseminated	
	Classification:	Hydrothermal, Porphyry	
	Type:	L04: Porphyry Cu +/- Mo +/- Au	
	Comments:	Age date sample is a mixture of magmatic and hydrothermal biotite from the Iona ore zone (092ISE006) (Canadian Institute of Mining and Metallurgy Special Volume 15, page 114).	

Host Rock

Dominant Host Rock:	Plutonic		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Triassic-Jurassic	-----	-----	Guichon Creek Batholith
Isotopic Age	Dating Method	Material Dated	
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Lithology:	Quartz Diorite, Granodiorite, Porphyritic Dike		
Comments:	Guichon variety, Highland Valley phase.		

Geological Setting

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

Inventory

No inventory data

Summary Production

		Metric		Imperial	
	Mined:	123	tonnes	135	tons
	Milled:	0	tonnes	0	tons
Recovery	Silver	24,540	grams	789	ounces
	Gold	249	grams	8	ounces
	Copper	34,815	kilograms	76,754	pounds

Capsule Geology

The Bethlehem (Snowstorm) deposit lies within the Early Jurassic-Late Triassic Guichon Creek batholith and is underlain by Guichon variety medium-grained quartz diorite and granodiorite. These rocks are intruded by northwest and northeast trending porphyritic dykes. Alteration consists of chlorite, sericite, epidote and quartz, which form crude zones paralleled by quartz, sulphide and hematite veinlets. Structure is an important ore control. The area is cut by northeast trending faults and zones of intense fracturing. Faulting is accompanied by kaolinitic gouge.

The Snowstorm "break" is a complex zone of fractures which strike from 360 to 075 degrees and dip moderately to the southeast. The rock along these fractures and subsidiary joints is propylitized and mineralized with bornite, chalcopyrite, molybdenite, malachite and azurite. In the Snowstorm workings, the mineralized zone is complex; three veins strike northwest to northeast. The main lode strikes 045 to 065 degrees and dips approximately 75 degrees to the southeast and is mineralized with bornite and chalcopyrite. The wallrock is strongly propylitized. The high-grade zone varies in width from 5 to 120 centimetres. Minor mineralization also occurs as stringers and on fractures in the quartz diorite. An age date from a sample of a mixture of magmatic and hydrothermal biotite from the Iona ore zone (092ISE006) returned 199 Ma +/- 8 Ma (Canadian Institute of Mining and Metallurgy Special Volume 15).

See Bethlehem mine (092ISE001) for production.

Bibliography

EMPR AR 1907-137; 1914-362; *1915-270-273; 1916-265; 1917-223; 1918-238; 1919-181-183; 1920-168,172
 EMPR ASS RPT 116
 EMPR BC METAL MM00034, MM00414
 EMPR BULL 56
 EMPR EXPL 1989-119-134
 EMPR MAP 30; 65 (1989)
 EMPR OF 1998-10
 EMPR PF (Drillhole location and plan maps, claim location maps, various memos, reports by S. Holland, 1944, M.S. Hedley, 1937 and P.B. Freeland, 1943)
 EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)
 GSC MAP 886A
 GSC MEM 249, p. 117
 GSC OF 980; 2167, pp. 99-114
 CIM Special Volume 15, pp. 105-119; 46, pp. 161-191
 Field Trip Guidebook (GAC-MAC-CGU Victoria, B.C. May 11-13, 1983), Trip 10, Porphyry Deposits of Southern British Columbia, pp. 85-104
 Placer Dome File
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 EMPR PFD 10100, 10101, 10102, 10103, 10104, 10109, 10110, 10111, 10117, 10118, 10119, 10120, 10121, 10122, 10127, 10132, 10775, 10777, 10778, 10782, 10783, 810718, 810752, 7866, 820314, 820907, 820931, 820932, 883958, 883959, 883986, 20630, 802036, 802050, 802425, 802091, 861783, 843004, 843008, 843009, 843010, 843011, 843012, 843013, 843014, 843015, 843016, 843022, 843025, 843027, 843029, 843037, 843155, 502425, 502434, 502966, 502987, 502988, 502989, 502990, 502992, 502993, 502995, 502999, 503850, 505980, 896318, 896327, 896330, 896432

Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	1988/03/16	Revised By:	Lori K. Walters (LKW)	Field Check:	N