

### Location/Identification

<b>MINFILE Number:</b>	092ISE004	<b>National Mineral Inventory Number:</b>	09217 Cu1
<b>Name(s):</b>	<b><u>BETHLEHEM (HUESTIS)</u></b> HUESTIS, HIGHLAND VALLEY COPPER		
<b>Status:</b>	Past Producer	<b>Mining Division:</b>	Kamloops
<b>Mining Method</b>	Open Pit	<b>Electoral District:</b>	Yale-Lillooet
<b>Regions:</b>	British Columbia	<b>Resource District:</b>	Kamloops Forest District
<b>BCGS Map:</b>	092I046		
<b>NTS Map:</b>	092I07W	<b>UTM Zone:</b>	10 (NAD 83)
<b>Latitude:</b>	50 29 36 N	<b>Northing:</b>	5595398
<b>Longitude:</b>	120 59 53 W	<b>Easting:</b>	641995
<b>Elevation:</b>	1458 metres		
<b>Location Accuracy:</b>	Within 500M		
<b>Comments:</b>	Open pit		

### Mineral Occurrence

<b>Commodities:</b>	Copper		
<b>Minerals</b>	<b>Significant:</b>	Chalcopyrite, Bornite	
	<b>Alteration Type:</b>	Sericitic, Propylitic, Pyrite, Oxidation	
	<b>Mineralization Age:</b>	Lower Jurassic	
<b>Isotopic Age:</b>	199 +/- 8 Ma	<b>Dating Method:</b>	Potassium/Argon
		<b>Material Dated:</b>	Biotite
<b>Deposit</b>	<b>Character:</b>	Breccia, Disseminated	
	<b>Classification:</b>	Hydrothermal, Porphyry	
	<b>Type:</b>	L04: Porphyry Cu +/- Mo +/- Au	
	<b>Shape:</b>	Regular	<b>Modifier:</b> Fractured
	<b>Comments:</b>	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

<b>Dominant Host Rock:</b>	Plutonic		
<b>Stratigraphic Age</b>	<b>Group</b>	<b>Formation</b>	<b>Igneous/Metamorphic/Other</b>
Triassic-Jurassic	-----	-----	Guichon Creek Batholith
<b>Isotopic Age</b>	<b>Dating Method</b>	<b>Material Dated</b>	
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<b>Lithology:</b>	Quartz Diorite, Granodiorite, Dacite Dike, Quartz Latite Dike, Breccia		
<b>Comments:</b>	Bethlehem phase.		

### Geological Setting

<b>Tectonic Belt:</b>	Intermontane	<b>Physiographic Area:</b>	Thompson Plateau
<b>Terrane:</b>	Quesnel		

### Inventory

No inventory data

## Capsule Geology

The Bethlehem (Huestis) property lies within the Early Jurassic-Late Triassic Guichon Creek batholith and straddles an intrusive contact where younger Bethlehem phase quartz diorite and granodiorite forms an irregular embayment in older Guichon variety granodiorite. The majority of the Huestis orebody occurs in Bethlehem quartz diorite which is medium grained and ranges from equigranular to hornblende-biotite porphyry. These rocks are cut by northeast trending, steeply dipping dacite and quartz latite dykes ranging in width from less than 1 metre to 60 metres.

Ore controls are intrusive contacts, north trending faults and closely-spaced fracturing. The Huestis deposit is a true crackle breccia-type porphyry copper deposit where the host rock has been highly fractured and mineralization is widespread and fairly evenly distributed. The orebody is arcuate and exhibits a peripheral zone of propylitic alteration with an inner zone of sericitization. A distinct pyrite halo of restricted size surrounds the orebody. The main copper mineral is chalcopyrite with lesser amounts of bornite. The majority of the deposit's oxide cap has been removed by glaciation. 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).

The Huestis pit was mined from 1970 to 1976 when production was switched over to the Iona pit (092ISE006). See Bethlehem mine (092ISE001) for production statistics.

## Bibliography

EMPR AR 1962-47; 1964-88; 1968-179

EMPR ASS RPT 116

EMPR BULL 56

EMPR EXPL 1989-119-134

EMPR GEM 1970-331; 1971-357; 1972-170; 1973-179; \*1974-146

EMPR MAP 30; 65 (1989)

EMPR PF (see 092ISE001 for numerous reports, maps, etc.)

EMR MP CORPFILE (Bethlehem Copper Corp. Ltd.)

GSC MEM 249

GSC OF 980; 2167, pp. 99-114

CIM Special Volume \*15, pp. 105-119; 46, pp. 161-191

GAC FIELDGUIDE \*1, 1985

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

Falconbridge File

EMPR PFD 10101, 10102, 10103, 10104, 10109, 10110, 10111, 10117, 10118, 10119, 10120, 10121, 10122, 10124, 10127, 10132, 10172, 810718, 810719, 810752, 820314, 820907, 820931, 820933, 883958, 883959, 883986, 802036, 802050, 802425, 802091, 843160, 502966, 502987, 502988, 502989, 502990, 502992, 502993, 502995, 502999, 503850, 505980, 896316, 896318, 896327, 896330, 896432

<b>Date Coded:</b>	1985/07/24	<b>Coded By:</b>	BC Geological Survey (BCGS)	<b>Field Check:</b>	N
<b>Date Revised:</b>	1988/03/15	<b>Revised By:</b>	Lori K. Walters (LKW)	<b>Field Check:</b>	N