

### Location/Identification

<b>MINFILE Number:</b>	092L 149	<b>National Mineral Inventory Number:</b>	092L2 Au32
<b>Name(s):</b>	<b>MAJOR</b> ZEBALLOS DOME, ZEBELLA BELLE, EVERGREEN, ROYAL FLUSH		
<b>Status:</b>	Past Producer	<b>Mining Division:</b>	Alberni
<b>Mining Method</b>	Underground	<b>Electoral District:</b>	North Island
<b>Regions:</b>	British Columbia, Vancouver Island	<b>Forest District:</b>	Campbell River Forest District
<b>BCGS Map:</b>	092L007		
<b>NTS Map:</b>	092L02E	<b>UTM Zone:</b>	09 (NAD 83)
<b>Latitude:</b>	50 01 59 N	<b>Northing:</b>	5544749
<b>Longitude:</b>	126 44 30 W	<b>Easting:</b>	661730
<b>Elevation:</b>	488 metres		
<b>Location Accuracy:</b>	Within 500M		
<b>Comments:</b>	Lower vein location from Geological Survey of Canada Summary Report 1932, Part A II, page 44, 9.5 kilometres northeast of Zeballos, east of Nomash River. The Zeballos Dome Group consists of the Zebella Belle 3-24, Evergreen 1-3 and Royal Flush 1-4 (Starr, 1938).		

### Mineral Occurrence

<b>Commodities:</b>	Copper, Gold		
<b>Minerals</b>	<b>Significant:</b>	Chalcopyrite, Pyrite, Magnetite, Bornite	
	<b>Significant Comments:</b>	Gold mineralogy not known.	
	<b>Associated:</b>	Quartz	
	<b>Alteration:</b>	Garnet, Epidote, Chlorite, Serpentine	
	<b>Alteration Comments:</b>	Garnet, epidote at volcanic-limestone contact; chlorite, serpentine on vein borders.	
	<b>Alteration Type:</b>	Skarn, Serpentin'zn	
	<b>Mineralization Age:</b>	Unknown	
<b>Deposit</b>	<b>Character:</b>	Vein, Massive	
	<b>Classification:</b>	Replacement, Epithermal	
	<b>Type:</b>	I06: Cu+/-Ag quartz veins, K01: Cu skarn	
	<b>Shape:</b>	Tabular	<b>Modifier:</b> Sheared
	<b>Dimension:</b>	150x0x0 metres	<b>Strike/Dip:</b> 350/
	<b>Comments:</b>	Strike of lower vein is 350 degrees; width is 1.5 metres.	

### Host Rock

<b>Dominant Host Rock:</b>	Volcanic		
<b>Stratigraphic Age</b>	<b>Group</b>	<b>Formation</b>	<b>Igneous/Metamorphic/Other</b>
Upper Triassic	Vancouver	Karmutsen	-----
Upper Triassic	Vancouver	Quatsino	-----
Eocene	-----	-----	Catface Intrusions
<b>Isotopic Age</b>	<b>Dating Method</b>	<b>Material Dated</b>	
230 Ma	Fossil	Gymnotropic ammonites	
225 Ma	Fossil	Juvarite ammonites	
38 +/- 14 Ma	Potassium/Argon	Biotite	
<b>Lithology:</b>	Feldspar Porphyry Dike, Limestone, Greenstone		
<b>Comments:</b>	Karmutsen ammonites-Hisnit Island; Quatsino ammonites-Alice Lake; Catface biotite-South Zeballos pluton (GSC Paper 74-8).		

## Geological Setting

**Tectonic Belt:** Insular  
**Terrane:** Wrangell, Plutonic Rocks  
**Physiographic Area:** Vancouver Island Ranges  
**Metamorphic Type:** Contact  
**Grade:** Greenschist

## Inventory

**Ore Zone:** VEIN  
**Category:** Assay/analysis  
**Year:** 1940  
**Report On:** N  
**NI 43-101:** N  
**Sample Type:** Grab

Commodity	Grade
Gold	16.0000 grams per tonne

**Comments:** Reported as 18 dollars per tonne on selected samples.  
**Reference:** Geological Survey of Canada Paper 40-12, page 36.

## Summary Production

	Metric	Imperial
<b>Mined:</b>	1 tonnes	1 tons
<b>Milled:</b>	0 tonnes	0 tons
<b>Recovery</b>		
Gold	93 grams	3 ounces
Copper	2 kilograms	4 pounds

## Capsule Geology

The occurrence lies 3 kilometres east of the Zeballos pluton of the Eocene Catface Intrusions, near the contact between Karmutsen Formation greenstone and overlying Quatsino Formation limestone, both of the Upper Triassic Vancouver Group.

At the occurrence, 2 veins are present. The upper vein at elevation 685 metres has been traced for 90 metres along its 025 degree strike.

The vein is less than 30 centimetres wide and carries chalco- pyrite, bornite and pyrite in quartz with fragments of volcanic rocks. The lower vein at elevation 488 metres has been traced for 150 metres and was explored by trenches and a 7.5 metre adit. It is contained within a 6 to 12 metre wide feldspar porphyry dyke striking 350 degrees and is up to 1.5 metres wide. Locally pyrite and chalcopyrite are present in the quartz vein. A selected sample assayed 18 dollars per tonne (16.00 grams per tonne) (GSC Paper 40-12, page 36). At the adit, the vein is 60 centimetres wide with 23 to 36 centimetre chloritic gouge borders. The feldspar porphyry dyke is strongly fractured and contains numerous smaller quartz veins. Production in 1939, of 1 tonne containing 93.0 grams of gold, was from selected material.

Additional mineralization is reported in Geological Survey of Canada Paper 40-12 (page 36) along the limestone-greenstone contact where a 1.5 metre wide garnet-epidote-magnetite-pyrite zone carries small amounts of chalcopyrite. Below the contact the mafic volcanics are sheared and altered to serpentine-chlorite schist along a narrow zone striking 342 degrees and dipping 60 degrees east. Along this shear zone, over a width of 24 metres, pyrite, quartz(stringers?) and chalcopyrite are sparingly present.

## Bibliography

EMPR AR 1933-253  
EMPR BULL 20, Part V, pp. 16,27  
EMPR FIELDWORK 1982, p. 290; 1983, p. 219  
EMPR PF (\*Starr, C.C. (1938): Report on the Zeballos Dome Property, 5 p.; Sketch of veins and workings, Zebella Belle Group, 1938;  
Stevenson, J.S. (1938): Lode Gold Deposits of the Zeballos Area)  
GSC EC GEOL 1  
GSC MAP 4-1974; 255A; 1028A; 1552A  
GSC MEM 204; 272  
GSC OF 9; 170; 463

GSC P 38-5; \*40-12, p. 36; 69-1A; 70-1A; 72-44; 74-8; 79-30

GSC SUM RPT 1929, Part A; 1932, Part A

Carson, D.J.T., (1968): Metallogenic Study of Vancouver Island with emphasis on the Relationship of Plutonic Rocks to Mineral Deposits, Ph.D. Thesis, Carleton University, Ottawa

**Date Coded:** 1985/07/24

**Coded By:** BC Geological Survey (BCGS)

**Field Check:** N

**Date Revised:** 1989/02/20

**Revised By:** Wim S. Vanderpoll(WV)

**Field Check:** N