

Location/Identification

MINFILE Number:	092L 212	National Mineral Inventory Number:	092L2 Au16
Name(s):	<u>CENTRAL ZEBALLOS</u> BIBB, EXTENSION NO. 6 (L.1049), RENO GOLD, AE, AD, B2-B6, M2,5,6, MON FRACTION		
Status:	Past Producer	Mining Division:	Alberni
Mining Method	Underground	Electoral District:	North Island
Regions:	British Columbia, Vancouver Island	Forest District:	Campbell River Forest District
BCGS Map:	092L007		
NTS Map:	092L02W	UTM Zone:	09 (NAD 83)
Latitude:	50 02 09 N	Northing:	5544969
Longitude:	126 47 00 W	Easting:	658737
Elevation:	460 metres		
Location Accuracy:	Within 500M		
Comments:	No. 1 East and No. 2 West adits on Lot 1049 on Bibb Creek, 1.3 kilometres south of the confluence of the Zeballos and Nomash rivers, 8 kilometres northeast of Zeballos.		

Mineral Occurrence

Commodities:	Gold, Silver, Lead, Copper, Zinc		
Minerals	Significant:	Galena, Sphalerite, Chalcopyrite, Pyrite, Arsenopyrite	
	Associated:	Quartz, Calcite	
	Alteration:	Sericite, Kaolin, Quartz	
	Alteration Type:	Sericitic, Argillic	
	Mineralization Age:	Unknown	
Deposit	Character:	Vein	
	Classification:	Hydrothermal, Epigenetic	
	Type:	I01: Au-quartz veins, I06: Cu+/-Ag quartz veins	
	Shape:	Tabular	Modifier: Sheared, Folded
	Dimension:	450x340x1 metres	Strike/Dip: 270/80S
	Comments:	Central Zeballos vein, up to 0.25 metres in width.	

Host Rock

Dominant Host Rock:	Plutonic		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Upper Triassic	Vancouver	Quatsino	-----
Lower Jurassic	Bonanza	Undefined Formation	-----
Tertiary	-----	-----	Catface Intrusions
Jurassic	-----	-----	Island Plutonic Suite
Isotopic Age	Dating Method	Material Dated	
225 Ma	Fossil	Juvarite ammonites	
200 Ma	Fossil	Mollusks	
38 +/- 14 Ma	Potassium/Argon	Biotite	
148 +/- 8 Ma	Potassium/Argon	Phlogopite	
Lithology:	Porphyritic Granodiorite, Quartz Diorite, Aplite Dike, Diorite Dike, Porphyry Dacite Dike, Felsic Dike		
Comments:	Age dates from Geological Survey of Canada Paper 74-8.		

Geological Setting

Tectonic Belt:	Insular	Physiographic Area:	Vancouver Island Ranges
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Inventory

Ore Zone: CENTRAL ZEBALLOS **Year:** 1989
Category: Inferred **Report On:** Y
Quantity: 43,631 tonnes **NI 43-101:** N

Commodity	Grade
Gold	12.0000 grams per tonne

Comments: Possible reserve estimates are based on results from old mine data as supported by recent underground sampling and drilling.

Reference: SMF 43/89, Consolidated Impact Res.Inc., J.C. Freeze, June 1989.

Ore Zone: CENTRAL ZEBALLOS **Year:** 1989
Category: Indicated **Report On:** Y
Quantity: 8,163 tonnes **NI 43-101:** N

Commodity	Grade
Gold	12.0000 grams per tonne

Comments: Probable reserves are estimated where indicated by compiling results of recent underground sampling with old mine data.

Reference: SMF 43/89, Consolidated Impact Res.Inc., J.C. Freeze, June 1989.

Summary Production

	Metric	Imperial
Mined:	52,596 tonnes	57,977 tons
Milled:	37,830 tonnes	41,700 tons
Recovery		
Gold	636,773 grams	20,473 ounces
Silver	432,238 grams	13,897 ounces
Lead	71,140 kilograms	156,837 pounds
Copper	7,370 kilograms	16,248 pounds

Capsule Geology

The Central Zeballos mine lies in the Zeballos gold camp which is underlain by the Lower Jurassic Bonanza Group. The Bonanza Group consists of a sequence of basaltic to rhyolitic volcanic rocks. Conformably underlying the Bonanza Group are limestones and limy clastics of the Quatsino and Parson Bay formations, and Karmutsen Formation tholeiitic basalts, all belonging to the Upper Triassic Vancouver Group. Dioritic to granodioritic plutons of the Zeballos intrusion phase of the Early-Middle Jurassic Island Plutonic Suite have intruded all older rocks. The Eocene Zeballos stock, a quartz diorite phase of the Tertiary Catface Intrusions, is spatially related to the areas gold-quartz veins. Bedded rocks are predominantly northwest striking, southwest dipping, and anticlinally folded about a northwest axis.

Recorded production for the Zeballos gold camp totals 9465 kilograms of gold and 4119 kilograms of silver from 652,000 tonnes of ore mined (Fieldwork 1982, page 291). Most of the production came from the Spud Valley deposits (092L 013 and 092L 211) and the Privateer mine (092L 008).

The area of the Central Zeballos mine is underlain by dark- coloured granodiorite near its gradational contact with a lighter coloured, border phase of granodiorite and quartz diorite. Roof pendants or inliers of calc-silicate rocks, skarn-altered limestone and dark green andesite of the Quatsino Formation and Bonanza Group are present nearby.

The Central Zeballos vein lies in a 0.6 by 1.8 kilometre east-west body of porphyritic granodiorite of the Island Plutonic Suite. The light coloured border phase of the southern margin has a slightly schistose texture. This phase contains less biotite, and in the ground mass the orthoclase content is

higher than plagioclase, as compared to the darker phase, which it has intruded. Contact relationships and distribution between the two granodiorite phases are indefinite. Inclusions of volcanic rock ranging up to 7 metres in width are present within the granodiorite.

West and below the granodiorite lies quartz diorite of the northwest trending South Zeballos pluton. Small dykes of quartz diorite have invaded granodiorite for short distances from the contact. Diabase dykes are present only in the layered rocks. Carbonate-sericite altered porphyritic dacite dykes, from several centimetres to 7 metres wide, occur in quartz diorite and granodiorite. Felsic dykes of less than 10 centimetres width cut quartz diorite and locally attain stockwork frequency.

The Central Zeballos vein has been explored and developed along a strike length of 450 metres and down dip for 340 metres. It occupies a well-defined west striking, 75 to 80 degree south dipping shear zone 7 to 45 centimetres wide containing quartz and strongly sheared country rock and gouge. Northeast trending diagonal joints interrupt the continuity of the vein. These joints may offset or briefly redirect the vein. The main shear locally splits into two or more breaks over a space of 1.2 metres, running parallel for as much as 15 metres before converging. Post-vein movement along the shear is indicated.

The best mineralization occurs in the wider sections of quartz, usually 20 to 25 centimetres, where comb structures and well-formed quartz crystals may be present.

Alteration of wallrock extends only a few centimetres from the shear. In the granodiorite, where most of the mineralization is located, alteration consists of bleaching with sericite, kaolin and quartz.

Banwolt (Geological Survey of Canada Paper 40-12, page 29) emphasizes the fact that the vein and shear zone follow, to a large degree, the path of an aplite dyke. The dyke has been shattered in places, its fragments cemented by quartz and sulphides.

Intermittent mining between 1938 and 1947 developed 10 levels, sublevels and related raises, winzes and crosscuts, and produced 37,789 tonnes of milling ore averaging 16.85 grams per tonne gold, 11.44 grams per tonne silver, 0.02 per cent copper and 0.19 per cent lead.

Possible reserves are 43,631 tonnes grading 12 grams per tonne gold and are estimates based on results from old mine data as supported by recent underground sampling and diamond drilling. The estimated grade given is based on historical data and not from current point sampling. Probable reserves are 8163 tonnes grading 12 grams per tonne gold and are estimates where indicated by compiling results of recent underground sampling with old mine data (Statement of Material Facts, Consolidated Impact Resources Inc., Report by J.C. Freeze, June 1989).

Bibliography

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Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	1989/03/10	Revised By:	Wim S. Vanderpoll(WV)	Field Check:	N