Location/Identification

MINFILE Number: 092L 008
Name(s): PRIVATEER (L.1040)
Location/Identification

PRIVATEER MINE, NEW PRIVATEER, PRIDENT, PRIVATEER NO. 3 (L.1041), PRIVATEER NO. 7 (L.1042), ZEBALLOS

Status: Past Producer
Mining Method: Underground
Regions: British Columbia, Vancouver Island
BCGS Map: 092L006
NTS Map: 092L02W
Latitude: 50 01 49 N
Longitude: 126 49 08 W
Elevation: 122 metres
Location Accuracy: Within 500M
Comments: Main adit, in the west corner of Lot 1040 on Spud Creek, 0.5 kilometres south of Zeballos River, 5.5 kilometres northeast of Zeballos (Bulletin 27). See also Prident (092L 009), Van Isle (092L 038) and Fern Hill (092L 155).

Mineral Occurrence

Commodities: Gold, Silver, Lead, Copper, Zinc, Arsenic
Minerals

Significant: Pyrite, Gold, Sphalerite, Galena, Chalcopyrite, Arsenopyrite, Pyrrhotite
Associated: Quartz, Pyroxene, Garnet, Calcite
Alteration: Diopside, Wollastonite, Garnet, Plagioclase, Quartz, Biotite, Ankerite
Alteration Comments: Numerous gold and sulphide-bearing quartz veins are locally associated with skarn wallrock alteration.
Alteration Type: Skarn, Carbonate
Mineralization Age: Unknown

Deposit

Character: Vein, Shear
Classification: Hydrothermal, Epigenetic, Skarn
Type: I01: Au-quartz veins, I06: Cu+/Ag quartz veins, K04: Au skarn
Shape: Tabular
Dimension: 442x305x1 metres
Strike/Dip: 075/80N
Comments: No. 1 vein strikes 066 to 083 degrees and dips 65 to 90 degrees north. Its width varies from hairline to 1.2 metres, but averages 28 centimetres.

Host Rock

Dominant Host Rock: Volcanic
Stratigraphic Age

Lower Jurassic
Tertiary
Isotopic Age

200 Ma
38 +/- 14 Ma
Lithology: Andesite Tuff, Calc-silicate Skarn, Quartz Diorite, Andesite, Granodiorite, Granodiorite Dike, Porphyritic Dacite, Porphyritic Dacite Dike
**Geological Setting**

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

**Inventory**

- **Ore Zone:** PRIVATEER
- **Category:** Combined
- **Year:** 1988
- **Quantity:** 122,470 tonnes
- **Commodity:** Gold
  - **Grade:** 17.0000 grams per tonne
- **Report On:** Y
- **NI 43-101:** N

**Comments:** Indicated and inferred reserves situated both on the Privateer and Prident (092L 009) properties.


**Summary Production**

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Metric</th>
<th>Imperial</th>
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</thead>
<tbody>
<tr>
<td>Mined:</td>
<td>282,528</td>
<td>311,433</td>
</tr>
<tr>
<td>Milled:</td>
<td>146,851</td>
<td>161,875</td>
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<tr>
<td>Recovery</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gold</td>
<td>5,301,992</td>
<td>170,463 ounces</td>
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<tr>
<td>Silver</td>
<td>2,160,196</td>
<td>69,452 ounces</td>
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<tr>
<td>Lead</td>
<td>10,093</td>
<td>22,251 pounds</td>
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<tr>
<td>Copper</td>
<td>4,063</td>
<td>8,957 pounds</td>
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</tbody>
</table>

**Capsule Geology**

The Privateer mine lies in the Zeballos gold camp, an area underlain by an island arc sequence of basaltic to rhyolitic volcanic rocks of the Lower Jurassic Bonanza Group. Conformably underlying the Bonanza rocks are limestones and limy clastics of the Quatsino and Parson Bay formations, and tholeiitic basalts of the Karmutsen Group, all belonging to the Upper Triassic Vancouver Group. Dioritic to granodioritic Early-Middle Jurassic plutons of the Zeballos intrusion phase of the Island Plutonic Suite have intruded all older rocks. The Eocene Zeballos stock, a quartz diorite phase of the Tertiary Cattle 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 camp totals 9465 kilograms of gold and 4119 kilograms of silver from 652,000 tonnes of ore mined (Fieldwork 1982, page 291). Most production came from the Spud Valley deposits (092L 211 and 092L 013) and the Privateer.

The Privateer mine, with variable production recorded between 1934 and 1975, consists of 3 roughly parallel main veins from which ore was produced, and more than 12 lesser, subsidiary veins. All veins follow shear zones. The veins are located in drag-folded andesitic tuff that is locally diopside-altered, and hosts calc-silicate skarn, consisting of a diopside-wollastonite-garnet-plagioclase-quartz-biotite assemblage interbanded with thin layers of fragmental volcanics. All rocks belong to the Bonanza Group. Intruding these rocks is a lenticular quartz diorite stock of the Tertiary Cattle Intrusions which is related to the main quartz diorite intrusion of similar composition lying several hundred metres to the east. The quartz diorite is cut by granodiorite dykes up to 0.6 metre wide. Diabase dykes to 6 metres wide cut the layered rocks but not the quartz diorite. Porphyritic dacite dykes, up to 3 metres wide, cut all other rock types, but occur mostly east of the quartz diorite lens.

The three veins from which most of the production was recorded contain alternating bands of quartz and sulphides. Locally comb textures and quartz-lined vugs up to 30 centimetres are present. Where sulphides are absent, variably altered wallrock inclusions are common. Coarse ankerite is often present. The productive parts of the veins contain abundant sulphides, including, in order of abundance, pyrite, sphalerite and galena, chalcopryte, arsenopyrite and pyrrhotite. Late calcite veinlets, overprinting the main veins, are often present.

The No. 1 vein strikes between 066 and 083 degrees, dipping 65 to 90 degrees north. The vein has been developed over a horizontal distance of 442
metres and a depth of 305 metres. Widths range from hairline to 1.2 metres, averaging 28 centimetres. Where in quartz diorite, the vein commonly passes into a sheeted zone along strike, with the vein following one or more of the joints.

The No. 2 vein lies 80 metres north of the No. 1 vein and is more or less parallel at a strike of 083 degrees and 86 degree southward dip. Development has traced the 5 to 35-centimetre wide vein for a strike length of 207 metres and a down dip depth of 256 metres.

Both the No. 1 and 2 veins appear to pinch out to very narrow widths at their on-strike extremities, and both veins have associated narrow gash veins up to 9 metres long and striking 057 to 067 degrees.

The No. 3 vein strikes 067 degrees and branches from No. 2 vein. It has been traced underground for 70 metres. It is 5 to 10 centimetres wide and, like the No. 1 vein, has a sheeted style where in quartz diorite.

The Privateer occurrence includes a number of nearby additional veins: the No. 4 and 5 veins are located 14 metres and 120 metres north of the No. 3 vein, respectively. The No. 4 vein, actually a zone of closely-spaced quartz stringers in quartz diorite, is poorly developed. The vein strikes northeast and dips vertically. The 090 degree striking No. 5 vein consists of narrow quartz stringers containing coarse carbonate but no sulphides.

An additional 11 veins were intersected in the "600 Crosscut" that leads to the Prudent mine (092L 009). These veins, named A to L, are usually less than 5 centimetres wide, steeply dipping and strike northeast. The veins occur at irregular intervals over a distance of 365 metres and are weakly mineralized with combinations of calcite, pyrite, sphalerite or arsenopyrite.

Indicated and inferred reserves situated both on the Privateer and Prudent (092L 009) properties total 122,470 tonnes grading 17 grams per tonne gold (Canadian Mines Handbook 1988-89, page 333).


Newmex Minerals Inc. (formerly Kilo Gold Mines Ltd.) reopened the 1100-level portal and mined a 200-tonne sample in 1998. Of this ore, 16.3 tonnes was milled (Roberts mill near Greenwood), producing a 703 gram bar. A 900-tonne bulk sample in planned for 1999.

Jacques Houle, Regional Geologist visited the area in May 2000; he reports that the Zeballos Iron mine waste pit stockpile contains about 243,000 tonnes of 5 per cent magnetite, 5 per cent garnetite and 5 per cent limestone.

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**Bibliography**

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1941-69; 1942-65; 1943-66; 1945-116; 1946-178; 1947-180; 1948-157;
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