



MINFILE Detail Report  
BC Geological Survey  
Ministry of Energy, Mines and Petroleum Resources

### Location/Identification

**MINFILE Number:** 103B 017 **National Mineral Inventory Number:** 103B6 As1  
**Name(s):** ALDER ISLAND

**Status:** Showing **Mining Division:** Skeena  
**Electoral District:** North Coast  
**Regions:** British Columbia, Queen Charlotte Islands **Resource District:** Queen Charlotte Islands Forest District  
**BCGS Map:** 103B044 **UTM Zone:** 09 (NAD 83)  
**NTS Map:** 103B06W **Northings:** 5812969  
**Latitude:** 52 26 39 N **Easting:** 342436  
**Longitude:** 131 19 06 W  
**Elevation:** 60 metres  
**Location Accuracy:** Within 500M  
**Comments:** Main east showing, Figures 5, 6, 17 (Assessment Report 8251); located on Alder Island, just north of Burnaby Island.

### Mineral Occurrence

**Commodities:** Copper, Nickel, Molybdenum, Gold, Arsenic, Antimony

**Minerals** **Significant:** Pyrrhotite, Chalcopyrite, Molybdenite, Magnetite, Allevardite  
**Significant Comments:** Arsenical allevardite and nickeliferous pyrrhotite.  
**Associated:** Calcite  
**Alteration:** Garnet, Actinolite, Diopside, Zoisite  
**Alteration Type:** Silicification, Carbonate, Skarn  
**Mineralization Age:** Unknown

**Deposit** **Character:** Massive, Vein, Disseminated  
**Classification:** Skarn, Replacement, Hydrothermal, Industrial Min.  
**Type:** K01: Cu skarn  
**Shape:** Irregular **Modifier:** Faulted  
**Comments:** Mineralization occurs intermittently along the north trending fault for about 700 metres.

### Host Rock

**Dominant Host Rock:** Sedimentary

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Middle Jurassic	Yakoun	Undefined Formation	-----
Lower Cretaceous	Undefined Group	Longarm	-----
Jurassic	-----	-----	Burnaby Island Plutonic Suite

Isotopic Age	Dating Method	Material Dated
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164 +/- 3 Ma	Uranium/Lead	Zircon

**Lithology:** Cherty Siltstone, Layered Carbonate, Skarn, Garnet Actinolite Diopside Skarn, Actinolite Diopside Zoisite Skarn, Mylonite, Volcanic Rock, Hornblende Monzonite

**Comments:** Yakoun volcanics & Longarm sandstone intruded by dikes of Burnaby Is. Plutonic Suite. Age date: R.G. Anderson (GSC), Pers.Comm., March, 1989.

### Geological Setting

**Tectonic Belt:** Insular **Physiographic Area:** Queen Charlotte Ranges

**Terrane:** Wrangell

**Metamorphic Type:** Contact, Regional

**Relationship:** Syn-mineralization, Post-mineralization

**Grade:** Greenschist, Hornfels

### ***Inventory***

No inventory data

### ***Capsule Geology***

The showing is located near sea level on Alder Island, 800 metres off the north end of Burnaby Island. It was staked in 1922 as two recorded claims.

Alder Island is underlain by complex geology, including folded limestone and argillite of the Jurassic to Triassic Kunga Group, Middle Jurassic Yakoun Group volcanics, Lower Cretaceous Longarm Formation sandstones, Tertiary Masset Formation basalts and granitoid dikes related to the Middle to Late Jurassic Burnaby Island Plutonic Suite.

An intense fault-mylonite zone extends the entire east side of the island. The mylonite is composed of shattered country rock, which is mainly Yakoun volcanics in the south and skarn, variably developed in Longarm sandstones in the north. A silicified, chilled contact occurs between a hornblende monzonite and sheared greenstones to the east.

The massive to poorly bedded garnet-actinolite-diopside-zoisite skarn is interbedded with baked cherty siltstone and layered carbonate. Massive pyrrhotite pods with accessory chalcopyrite, molybdenite and magnetite occur along the skarn and fault-mylonite zones. Allemonite is associated with calcite veins and the pyrrhotite mineralization, which is sometimes nickeliferous.

### ***Bibliography***

EMPR AR \*1922-41-42

EMPR ASS RPT \*8094, \*8251

EMPR BULL \*54, p. 193

EMPR EXPL 1979-240; \*1980-364

GSC MAP 1385A

GSC P 86-20; \*88-1E, pp. 213-216, 221-227; \*89-1H, pp. 95-112; 90-10, pp. 59-87, 253-277; 91-1A, pp. 383-391

MIN REV March/April 1988, pp. 19-24

EMPR PFD 840913, 840928, 842728, 671143, 671144, 671145, 671146, 671148, 671151, 671152, 671540, 674564, 674569, 674570, 674571, 674572, 674573, 674576, 674577, 674578, 674579, 674580

**Date Coded:** 1986/07/08

**Coded By:** Larry Jones (LDJ)

**Field Check:** N

**Date Revised:** 1989/03/05

**Revised By:** Laura L. Duffett (LLD)

**Field Check:** N