



Location/Identification

MINFILE Number:	092JNE075	National Mineral Inventory Number:	092J15 Au18
Name(s):	<u>MINTO MINE (L.5601)</u> ALPHA FR, OMEGA, GOLDEN QUEEN, JACK FR, HILLSIDE, HAGMO, GOLDEN GIRL, PRINCE, PONDEROSA, RAINBOW, WINTER		
Status:	Past Producer	Mining Division:	Lillooet
Mining Method	Underground	Electoral District:	Yale-Lillooet
Regions:	British Columbia	Resource District:	Cascades Forest District
BCGS Map:	092J087		
NTS Map:	092J15E, 092J15W	UTM Zone:	10 (NAD 83)
Latitude:	50 53 55 N	Northing:	5638580
Longitude:	122 45 05 W	Easting:	517483
Elevation:	670 metres		
Location Accuracy:	Within 500M		
Comments:	Main adit (Assessment Report 14740).		

Mineral Occurrence

Commodities:	Gold, Silver, Copper, Lead, Zinc		
Minerals	Significant:	Arsenopyrite, Pyrite, Galena, Chalcopyrite, Sphalerite, Stibnite, Pyrrhotite, Tetrahedrite, Jamesonite, Bismuth, Gold	
	Significant Comments:	Rare tetrahedrite, gold, bismuth, and jamesonite.	
	Associated:	Quartz, Calcite, Ankerite	
	Alteration:	Calcite, Ankerite, Sericite, Mariposite, Chlorite	
	Alteration Type:	Carbonate, Chloritic, Sericitic	
	Mineralization Age:	Unknown	
Deposit	Character:	Vein	
	Classification:	Hydrothermal, Epigenetic	
	Type:	I09: Stibnite veins and disseminations	
	Shape:	Regular	Modifier: Faulted
			Strike/Dip: 360/75E
	Comments:	Dips vary from 75 degrees to 80 degrees east.	

Host Rock

Dominant Host Rock:	Sedimentary		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Paleozoic-Mesozoic	Bridge River	Undefined Formation	-----
Upper Cretaceous	-----	-----	Unnamed/Unknown Informal
Isotopic Age	Dating Method	Material Dated	
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69.4 +/-2.4 Ma	Potassium/Argon	Whole rock	
Lithology:	Cherty Quartzite, Argillite, Greenstone, Chert, Feldspar Porphyry Dike, Quartz Vein, Andesite Porphyry Dike, Felsite Dike		
Comments:	Date on "Minto dyke" from Geology in B.C., 1975; recalculated by Leitch et al. (Econ. Geol., 1989). Dyke is a microdiorite porphyry.		

Geological Setting

Tectonic Belt:	Coast Crystalline	Physiographic Area:	Pacific Ranges
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Terrane: Bridge River

Metamorphic Type: Contact, Regional

Inventory

Ore Zone: WINTER Year: 1986
Category: Assay/analysis Report On: N
NI 43-101: N

Sample Type: Chip

Commodity	Grade
Gold	4.1800 grams per tonne

Comments: Assay over 1.5 metres.

Reference: Assessment Report 14740.

Ore Zone: PONDEROSA Year: 1986
Category: Assay/analysis Report On: N
NI 43-101: N

Sample Type: Chip

Commodity	Grade
Gold	0.8200 grams per tonne

Comments: Assay is best intersection from two trenches over 12 metres.

Reference: Assessment Report 14740.

Ore Zone: RAINBOW Year: 1986
Category: Assay/analysis Report On: N
NI 43-101: N

Sample Type: Chip

Commodity	Grade
Silver	3.4600 grams per tonne
Gold	7.7800 grams per tonne

Comments: Narrow shear zones in 7 trenches over 200 metres along strike - assay is over 1.0 metres (gold) over 1.5 metres (silver).

Reference: Assessment Report 14740.

Summary Production

		Metric	Imperial
	Mined:	80,650 tonnes	88,901 tons
	Milled:	79,073 tonnes	87,163 tons
Recovery	Silver	1,573,314 grams	50,583 ounces
	Gold	546,106 grams	17,558 ounces
	Lead	56,435 kilograms	124,418 pounds
	Copper	9,673 kilograms	21,325 pounds

Capsule Geology

The Minto polymetallic veins are on the north side of Carpenter Lake, 1.7 kilometres northeast of the mouth of Gun Creek.

The property is underlain by northwest trending argillites, cherty quartzites, ribbon cherts and volcanics of the Mississippian to Jurassic Bridge River complex. Upper Cretaceous dykes of feldspar porphyry, andesite porphyry, felsite and microdiorite cut north to northwest across the sediments, dipping steeply. Mineralization occurs in shear zones following the intrusive contact of porphyry dykes or the stratigraphic contact between sediments and volcanics. The strata, dykes and veins are offset by late strike-slip faults. The principal ore shoot occurs in cherty quartzites in a strong shear which follows, in part, along the footwall of a 6-metre wide, altered, fine-grained feldspar porphyry dyke (the "Minto dyke"). Veins up to 1.2 metres wide contain lenses and narrow bands of quartz, calcite and ankerite with coarsely crystalline arsenopyrite, pyrite, sphalerite, stibnite, pyrrhotite, galena, chalcopyrite and rare tetrahedrite, jamesonite, bismuth and gold.

Vein material generally has a banded structure defined by alternating metallic mineral concentrations and quartz-carbonate gangue. The vein also contains fragments of altered wallrock. Wallrock alteration is characterized by rare to abundant ankerite and calcite with lesser chlorite, sericite and mariposite.

The fissure, or zone of shearing, continues away from the dyke, but mineralization becomes irregular and weaker. Immediately west of the sediments, the fissure enters greenstone which is leached, carbonatized and slightly mineralized. Northeast and east of the main Minto orebody, within 500 metres, are other zones of mineralization: the Ponderosa zone is a wide area of mineralized cherts carrying small arsenopyrite-pyrite veins and lenses; the Rainbow zone is a 200 metre long narrow shear with stibnite, arsenopyrite and pyrite veins; and the Winter zone where an old (1934) adit explored galena-sphalerite-stibnite-arsenopyrite-pyrite veins in a narrow 200 metres long shear. The best recent assay, obtained from the Rainbow zone, graded 7.78 grams gold per tonne over 1.0 metre and 3.5 grams silver per tonne over 1.5 metres (Assessment Report 14740). The Minto mine was in operation from 1934 to 1940 during which time over 2130 metres of underground work was done, and a total of 80,650 tonnes of ore grading 6.8 grams gold and 19.9 grams silver per tonne was produced. The mine yielded 546 kilograms gold, 1,573 kilograms silver, 9,673 kilograms copper and 56,435 kilograms lead.

Bibliography

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Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	1991/02/25	Revised By:	Robert G. Gaba (RGG)	Field Check:	Y