

Location/Identification

MINFILE Number:	082N 003	National Mineral Inventory Number:	082N4 Pb3
Name(s):	SNOWFLAKE STANNITE, STANNEX, SUNSET A (L.8576), SNOWFLAKE A-C (L.8571-3)		
Status:	Past Producer	Mining Division:	Revelstoke
Mining Method	Underground	Electoral District:	Columbia River-Revelstoke
Regions:	British Columbia	Resource District:	Selkirk Natural Resource District
BCGS Map:	082N011		
NTS Map:	082N04W	UTM Zone:	11 (NAD 83)
Latitude:	51 11 40 N	Northing:	5671848
Longitude:	117 55 01 W	Easting:	435928
Elevation:	1691 metres		
Location Accuracy:	Within 500M		
Comments:	Portal of No. 4 level on Lot 8576 (Sunset A), about 1 kilometre west of Clabon Creek which is a tributary to Woolsey (Silver) Creek, 8 kilometres north of Albert Canyon Station of the Canadian Pacific Railway, 34 kilometres north-northeast of Revelstoke (Property File - Plan of underground workings).		

Mineral Occurrence

Commodities: Lead, Silver, Zinc, Copper, Gold, Tungsten, Tin

Minerals	Significant:	Galena, Sphalerite, Chalcopyrite, Tetrahedrite, Pyrrargyrite, Stannite, Scheelite, Silver
	Associated:	Quartz, Calcite, Pyrite, Pyrrhotite, Fluorite
	Mineralization Age:	Unknown
Deposit	Character:	Vein
	Classification:	Epigenetic, Hydrothermal
	Type:	I05: Polymetallic veins Ag-Pb-Zn+/-Au, E14: Sedimentary exhalative Zn-Pb-Ag

Host Rock

Dominant Host Rock:	Metasedimentary		
Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Paleozoic	Lardeau	Undefined Formation	-----
Isotopic Age	Dating Method	Material Dated	
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Lithology:	Graphitic Slate, Argillaceous Limestone, Limy Argillite		

Geological Setting

Tectonic Belt:	Omineca	Physiographic Area:	Selkirk Mountains
Terrane:	Kootenay		
Metamorphic Type:	Regional		

Inventory

No inventory data

Summary Production

		Metric	Imperial
	Mined:	98 tonnes	108 tons
	Milled:	98 tonnes	108 tons
Recovery	Silver	134,053 grams	4,310 ounces
	Gold	31 grams	1 ounces
	Lead	41,604 kilograms	91,721 pounds
	Zinc	4,925 kilograms	10,858 pounds
	Copper	464 kilograms	1,023 pounds

Capsule Geology

The Snowflake occurrence is located north and east of Clabon Creek, approximately 2 kilometres north-northeast of its mouth on Woolsey Creek. It has been developed by at least four levels, from elevations of approximately 1665 to 1784 metres, and is adjacent to the Woolsey (MINFILE 082N 004) occurrence to the east.

The area is underlain by black, fissile graphitic slates with local minor variations in carbonate and silica content, and thin-bedded, dark-grey argillaceous limestone and limy argillite of the Cambrian to Devonian Index Formation (Lardeau Group). These rocks strike northwest and dip from 35 to 60 degrees northeast. A well-developed, slaty cleavage parallel to bedding is universally present. A pronounced system of jointing trends northeast and dips steeply southeast. All of the sediments are cut by numerous, small, barren quartz stringers.

Locally, a system of northwest-striking, mineralized, subparallel quartz veins occurs in slates over an area of 3.5 by 1 kilometres and has been subjected to exploration and underground development on the Snowflake and Woolsey (MINFILE 082N 004) occurrences. The veins vary in width from a few centimetres to 6 metres, but widths between 0.6 and 2.4 metres are most common.

The quartz veins are generally coarsely crystalline, crushed and fractured and normally contain wallrock fragments and minor calcite. The veins strike northwest and dip 60 to 35 degrees northeast, with faulting both across and along the veins. They are variably mineralized with argentiferous galena, sphalerite, pyrite and minor chalcopyrite. Minor amounts of tetrahedrite, pyrrargyrite, native silver and pyrrhotite were identified by microscope examination. The ore shoots are extremely irregular, pinching and swelling in the vein, and their continuity cannot be assumed to extend for any distance beyond an exposure. The ore shoots generally occur on the footwall sides of the veins but are occasionally found in the hanging wall.

Stannite has been identified from a sample of the mineralized vein in the Snowflake workings and is associated with pyrite-chalcopyrite-sphalerite; it occurs very sparingly in the Woolsey workings. Scheelite has also been identified in the Snowflake workings but occurs widely in the Woolsey workings as small masses widely scattered in the veins, and as concentrations in pyritic lenses. Fluorite has also been reported to occur with the scheelite.

The main or No. 1 vein on the Snowflake property was followed easterly onto the adjoining Woolsey (MINFILE 082N 004) property for approximately 99 metres, and has been developed by underground workings from both the occurrences. Fourteen underground levels on the combined Snowflake and Woolsey properties were developed on six subparallel quartz veins. By 1970, the Snowflake had been developed by approximately 875 metres of underground workings on at least four levels, whereas the Woolsey was developed by approximately 5940 metres of underground workings, including a main crosscut (no. 3) with drifts and raises on the no. 5 and 6 veins. The no. 2, 3 and 4 veins were encountered 81.6, 240 and 258 metres from the adit portal, respectively, and were reported to carry low values. The no. 5 and 6 veins were intercepted at 282 and 342 metres from the adit portal.

In 1929, detailed underground sampling yielded 530.1 grams per tonne silver, 3.3 per cent lead, 12.1 per cent zinc and 1.6 per cent tin over 0.6 metre from the back face of the no. 1 level and 342.0 grams per tonne silver, 6.5 per cent lead, 2.1 per cent zinc with 0.2 per cent copper and tin over 1.5 metres of surface outcrop; 0.7 gram per tonne gold, 403.6 grams per tonne silver, 2.0 per cent zinc, 0.9 per cent copper and 0.2 per cent tin over 1.6 metres from the no. 2 level and 307.8 grams per tonne silver, 6.0 per cent lead, 22.0 per cent zinc, 1.1 per cent copper and 1.1 per cent tin over 0.8 metre from the no. 3 level (Property File - B.T. O'Grady [1929]: Assay Plan of the Snowflake Underground Workings). The total lengths of the east and west drifts of the no. 4 level averaged 120.4 and 7.5 grams per tonne silver with 4.59 and 1.42 per cent zinc, respectively, whereas the no. 4 level raise yielded an average of 303.0 grams per tonne silver, 1.21 per cent lead, 5.62 per cent zinc, 1.35 per cent copper and 1.13 per cent tin (Property File - B.T. O'Grady [1929]: Assay Plan of the Snowflake Underground Workings).

In 1930, sampling of the no. 4 level yielded an average of 273.6 grams per tonne silver, 0.5 per cent lead, 1.5 per cent zinc and 1.3 per cent tin over a length of 18 metres and width of 0.75 metre (Property File - F.W. Guernsey [1930-11-30]: Report - Regal Silver Mines Limited - 19 Mineral Claims)

In 1942, underground sampling of the east drift of the no. 4 level yielded an average of 321.5 grams per tonne silver, 1.17 per cent lead, 2.00 per cent zinc and 1.13 per cent tin over a length of 23.85 metres and width of 0.58 metre, whereas the raise yielded an average of 360.5 grams per tonne silver, 2.35 per cent lead, 1.72 per cent zinc and 1.53 per cent tin over a length of 12 metres and width of 0.7 metre (Property File - C.S. Lord [1942-12-01]:

Assay Plan Map - Part of Snowflake Level).

In 1951, a sample of stannite from the Snowflake mine assayed 31.56 per cent copper, 3.65 per cent iron, 26.65 per cent tin, 7.72 per cent zinc and 29.76 per cent sulphur (Property File - K.C. Campbell [1952-04-23]: A Report about Stannite from British Columbia).

In 1980, Amax reported a possible reserve of 46 620 tonnes grading 116.2 grams per tonne silver, 0.92 per cent zinc and 3.28 per cent lead over a width of 1.5 metres from the Snowflake oreshoot (Assessment Report 29868).

During 1927 through 1929, a total of 98 tonnes of ore was mined, yielding 0.03 kilogram of gold, 134.05 kilograms of silver, 41 604 kilograms of lead, 4925 kilograms of zinc and 464 kilograms of copper.

Scheelite has been of primary interest at the Woolsey property, with the area being originally staked in 1922 by G. Hedstrom and O. Sandberg. In 1927, the property was sold to the Snowflake Mining Company. During 1925 through 1930, Bernier Metals developed the no. 5 and 10 levels; Regal Silver Mines later developed the 3, 5, 8, 9 and 10 levels. In 1938, a 45-tonne mill designed to make a silver-lead and tungsten concentrate was built underground at the Woolsey occurrence, but it was not an economic or metallurgical success (Sargent, 1942). In 1942, a program of underground diamond drilling, totalling 318.3 metres in eight holes, and channel sampling was performed. Metallurgical testing was performed by Selkirk Tins-Tin Mines in 1944. During 1949 through 1954, Stannite Mines owned the property and continued development of the no. 5 and 8 levels. During 1967 through 1970, Stannex Minerals completed a further 2450 metres of underground development.

In 1980, Amax of Canada completed a program of underground mapping and sampling and two diamond drill holes, totalling 554 metres. In 1987 and 1988, Albar Resources completed a program of road work and trenching. In 2008, the area was prospected as the Clabon 1 claim.

Bibliography

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Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	2019/10/07	Revised By:	Karl A. Flower (KAF)	Field Check:	N