



THE GOVERNMENT OF  
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FROM THE  
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MINES**

VICTORIA - B.C.

*Special report*  
*(see memo. to Mr. G. of*  
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B.C. Department of Mines, 1937

Special Report on Silver Leaf Property,

Nanaimo M.D.

by

J.S. Stevenson

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SILVER LEAF: The Silver Leaf group consists of the Mountain Ash mineral claim, staked in 1911, and the Silver Leaf mineral claim and Hemlock fraction, staked shortly thereafter. The group is owned by T. Service and associates of Duncan.

The main working on the property, an adit, is at an elevation of approximately 2600 feet on a very steep hillside sloping south-easterly into Jump Creek (south fork of the Nanaimo River). The property may be reached from Youbou, on Cowichan Lake, by a 10-mile trail that leads up Cottonwood Creek, and crosses both the Cottonwood-Chemainus River, and the Chemainus-Nanaimo River divides before reaching the Nanaimo watershed and Jump Creek. It has been suggested that this hilly route be eliminated by the construction of 9 miles of road up Jump Creek; the property would then be 23 miles by mountain road from Nanaimo.

The workings are on a very steep hillside, the slope averaging 45 degrees, that is covered by an open growth of green timber; steep bluffs and rock chimneys are common to the hillside both above and along the slope from the showings.

The main mineralization, as exposed in the one adit and immediately above, is a vein that is a silicified shear-zone ranging from 1 foot to 4 feet in width and consists of abundant chalcopyrite (copper pyrites), pyrrhotite (magnetic iron pyrites) and arsenopyrite (arsenical iron) in a gangue of fine-grained calcite and quartz. The rock formation is a dense, massive andesitic greenstone.

The workings consist of an adit reported to have been driven in 1922-23, and several surface showings; little work has been done on the surface showings other than by the natural erosion of slides, etc.

The adit, at an elevation of 2600 feet, has been driven in a direction south 81 degrees west for 55 feet, and in a direction north 88 degrees west for 17 feet. At a point 48 feet from the portal, side-swiping has been done in the south wall of the adit, and a winze sunk in the hanging-wall of the vein; at the time of examination the winze was filled with water, but is reported to be 8 feet deep.

This adit, commencing as an open-cut on the vein, follows it to 45 feet from the portal, at which point the vein has been cut by a compound fault consisting of two breaks, a northerly one striking north 80 degrees west and dipping 80 degrees south, and a southerly one striking north 85 degrees west and dipping 70 degrees southerly. The southerly break develops into a one-foot shear-zone and contains two lenses of drag ore torn from the main vein; the continuation of the vein has not been found beyond the fault.

The ratio of silicified vein matter to the sulphides, varies considerably along the strike of the vein; in places very little, if any, sulphide is present, in others, up to 25 per cent. of the vein consists of abundant sulphides; of the three sulphides, arsenopyrite, chalcopyrite and pyrrhotite, pyrrhotite is the more abundant.

The following table gives the assay results of samples taken across the vein in the adit:

<u>Sample No.</u>	<u>Distance from Portal</u>	<u>Width</u>	<u>Gold, oz. per ton</u>	<u>Silver, oz. per ton</u>	<u>Copper %</u>	<u>Arsenic %</u>
1	At portal	4 ft.	0.40	0.8		
2	21.5 ft.	22 in.	0.20	0.4		2.4
3	40 ft.	3 ft.	0.30	0.5	3.5	2.5
4	42 ft. (lens of drag ore)	1 ft.	0.70	0.6	9.0	8.0
5	42 ft.	3 in. hanging-wall gouge.	0.08	0.6	1.7	1.2

The same silicified shear has been traced for 75 feet in the 55-degree cliff slope above the adit-portal. The vein matter in this surface exposure is extensively oxidized, but shows lenses of heavy chalcopyrite surrounded by siliceous vein-matter that contains disseminated arsenopyrite. The vein widths range from 3 feet to 4 feet and the continuity of the vein farther up the hillside is obscured by rubble.

A sample taken across 3 feet of this oxidized vein matter 50 feet above the adit assayed: Gold, 0.9 ounces per ton; silver, 2.4 ounces per ton; copper, 14.1 per cent.; arsenic, 8.0 per cent.; another taken across 2 feet of oxidized vein matter 12 feet above the last assayed: Gold, 0.24 ounces per ton; silver, 1.6 ounces per ton; copper, 12.1 per cent.; arsenic 8.1 per cent.

The following occurrences will be described as they occur northward and north-westward along and up the steep hillside from the adit.

Number 1, at an elevation of 2640 feet and 110 feet in a direction north 50 degrees west from the portal of the adit, is a small cut driven 4 feet in a westerly direction. The cut exposes two shear-zones, ranging from 2 inches to 6 inches in width, an easterly zone striking north 20 degrees west and a westerly zone striking north 40 degrees west; they both dip 80 degrees south-westerly; the coalescence of these has not been traced south-easterly. They only contain a small amount of chalcopyrite and oxidized material.

Number 2, at an elevation of 2660 feet and 160 feet in a direction north 62 degrees west from Number 1, constitutes a natural exposure at the bottom of a long rock chimney, which goes up the hillside in a direction south 67 degrees west. The showing exposes a southerly 4-inch silicified zone, striking north 10 degrees east, dipping 85 degrees east and containing disseminated arsenopyrite, and a northerly rusty shear-zone, striking south 70 degrees west and dipping 85 degrees south that ranges from a few inches to 18 inches in width and contains disseminated arsenopyrite and oxidized material. South-westward up the chimney the shear tightens to a dense, silicified zone 8 inches wide and contains a small amount of arsenopyrite, chalcopyrite and pyrrhotite; this narrows as it is followed up the chimney for 40 feet, beyond which point continuity is obscured by debris.

Number 3, at an elevation of 2710 feet and some 35 feet in a direction south 50 degrees west from Number 2, is a zone of tight shearing only, striking south 50 degrees west and vertical, that is 18 inches wide and disappears under the rubble downwards, but seems to join the northerly zone of Number 2.

Number 4 is at an elevation of 2800 feet and 80 feet in a direction south 70 degrees west from Number 3; Number 5 is at an elevation of 2885 feet and 90 feet in a direction south 70 degrees west from Number 4, and Number 6 is at an elevation of 2975 feet and 80 feet in a direction south 70 degrees west from Number 5.

Numbers 4, 5 and 6, separated from each other by the rock debris in the chimney, are exposures in the rock floor of the chimney and appear to be on the same shear-zone, but on one that appears to differ in vein matter and in strike with that of Number 3. With the exception of Number 5, these showings are characterized by lenses of heavy chalcopyrite and grains of disseminated sulphides; however, the sulphide material is not as abundant as that in the adit. The zone of shearing ranges from 3 to 4 feet in width, and the sulphide lenses from one-inch to 6 inches. It is thought that these showings may represent the faulted continuation of the adit-vein.

A sample taken across 4 feet of shear at Number 4 showing and containing a 1-foot lens of heavy sulphides, assayed: Gold, trace; silver, trace; copper, 7.2 per cent.; arsenic, 5.1 per cent. A sample taken across 3 feet of similar material in Number 6 showing assayed: Gold, 0.24 ounces per ton; silver, trace; copper, 2.5 per cent.; arsenic, 3.0 per cent.

Of genetic interest with respect to the mineralization, is the occurrence of a 20-foot feldspar porphyry dyke, 125 feet westerly from Number 6; it is bordered by fine-grained andesitic greenstone.

Mountain Ash Showing:

A showing, reported to be on the Mountain Ash claim, occurs at an elevation of approximately 3100 feet, approximately 1000 feet south-westerly along the hillside from the adit. The showing is at the head of a snow-filled chimney (May 27th) that is 30 feet wide; however, the writer was able to climb to within 100 feet only of the showing.

The showing is apparently a shear-zone that strikes east-west; it is reported to have a width of 25 feet; judging from the talus, the shear consists mostly of calcite lenses within sheared greenstone that contains a little disseminated chalcopyrite.