

PRODUCT PRODUIT	GOLD	PROVINCE OR TERRITORY	PROVINCE OU TERRITOIRE	British Columbia	N.T.S. AREA 104 B/1 RÉGION DU S.N.R.C.	REF. AU 1 RÉF.
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NAME OF PROPERTY SILBAK PREMIER (PREMIER) (BUSH), B.C. SILVER
NOM DE LA PROPRIÉTÉ SEBAKWE (LESLEY), PREMIER BORDER

OBJECT LOCATED - Mine.
OBJET LOCALISÉ

CERTAINTY 500 m
NIVEAU D'INCERTITUDE

Lat.	56°03'40"	Long.	130°01'30"
Lat.		Long.	

Mining Division Division minière	Skeena	District District
County Comté		Township or Parish Canton ou paroisse
Lot Lot		Concession or Range Concession ou rang
Sec Sect.	Tp. Ct.	R. R.

OWNER OR OPERATOR/PROPRIÉTAIRE OU EXPLOITANT

Westmin Resources Limited

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT

The Silbak Premier deposit is in a cataclastic zone enveloped within Jurassic Hazelton green volcanic conglomerates and stripped tuffs which are intruded by the Texas Creek pluton. An elongate steep, west-dipping, northerly trending metasomatic zone containing the Premier Porphyry lies adjacent to the irregular east intrusive contact and appears to be the main host of the Premier deposits. Wedging by the pluton reduced incipient cataclasis within certain discrete conglomeratic members and subsequent metasomatism related to the same pluton at a later time and higher level produced irregular granitized zones within the cataclasites and associated mylonites. A metasomatic porphyry was developed which became the site for intense local fracturing and later for the accumulation of extensive deposits of quartz, carbonate, sulphides, and native metals. The same general area has also become laced by dyke swarms and cut by numerous faults.

The Premier Porphyry is best displayed in the main glory-hole area where coarse-grained orthoclase crystals and medium hornblendes are conspicuous in a fine-grained, pyritic, green

see Card 2

Associated minerals or products - Silver, lead, zinc, copper, cadmium.
Minéraux ou produits associés

HISTORY OF EXPLORATION AND DEVELOPMENT
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

This property is located at about the 1,000 foot elevation on the east side of Cascade Creek, 8 miles north-northwest of Stewart. The Premier orebody was found to extend northeastward through the adjoining B.C. Silver Mines property into the Bush Mines (Sebakwe) claims. A West ore-zone was found to occur some 600 feet to the west of the original B C Silver Mines workings, the lower part of the zone extending into the adjoining Premier Border property.

The original Premier group consisted of the Cascade Falls Nos. 4 & 8, Pictou, Simpson, Essington, Rupert, and Hazelton claims (Lots 3590-3593, 3596, 3597). These claims were located by O.B. Bush, who in October 1910 incorporated Salmon Bear River Mining Company, Limited to carry on the exploration work; several adits were driven during 1911-12. In 1914 New York interests, represented by H.R. Plate, optioned the property and to February 1916 some 1,600 feet of underground work was done. The results were not encouraging and the option was dropped; the main Premier orebody had been missed by a few feet. The property was bonded by R.K. Neill, of Spokane, and the Trites, Wood, & Wilson interests of Fernie in 1917.

Exploration work was resumed and a short crosscut from the former workings encountered the orebody. The original claims were Crown-granted to O.B. Bush in 1918; three adjacent claims, the Pat Fraction, Dalby (Lot 3595), and Trites Fraction were Crown-granted to R.K. Neill. In February 1919 the Premier Gold Mining Company, Limited was incorporated to take over the property; Messrs. Neill, Trites, Wood, & Wilson acquired a controlling interest in the company. At this time the property was expanded to 17 claims and fractions with the purchase of the Cascade Forks group of 8 claims from the Bunting Bros.; this ground, lying west of and adjoining the original Premier group, was originally staked as the Cascade Falls Nos. 2, 3, & 7, Mainland, and Rapid Transit claims by Bunting Bros. and Dillsworth, who in September 1911 incorporated Cascade Falls Mining Company, Limited. Intermittent exploration work was done until 1916; the company charter was surrendered in 1919. This ground was subsequently restaked by the Bunting Bros. as the Cascade Forks group and reportedly Crown-granted to them in 1921.

see Card 2

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HISTORY OF PRODUCTION/HISTORIQUE DE LA PRODUCTION

Production for the period 1918-1968 inclusive, recorded under Premier, Silbak Premier, B.C. Silver, and Premier Border, totals 4,714,577 tons. From this ore 1,822,176 ounces of gold, 41,119,731 ounces of silver, 4,297,167 pounds of copper, 62,506,923 pounds of lead, 20,588,875 pounds of zinc, and 196,882 pounds of cadmium were recovered.

Production of some 28,670 tons during the period 1959-1968 came from a new high-grade vein discovery, and from broken ore reserves from earlier operations in the Premier glory hole.

Sorted ore and concentrate shipped in 1978-79 totalled 350 tonnes; recovery was 11 386 g Au, 325 334 g Ag, 543 kg Cu, 27 852 kg Pb, 23 181 kg Zn.

The first dore gold was poured in June 1989.

MAP REFERENCES/RÉFÉRENCES CARTOGRAPHIQUES

- Map 1829, Salmon River Area, (Geol.), Sc. 1":4,000 ft. - accomp. Memoir 132.
- Map 307 A, Portland Canal Area, (Geol.), Sc. 1":4 miles - accomp. Memoir 175.
- #Map 104 B, Iskut River, (Topo.), Sc. 1:250,000.
- Geological Map of the Stewart Area, Sc. 1":½ mile, Fig. 3, Sheet B, Bulletin No. 58, B.C. Dept. of Mines, 1971.
- Silbak Premier, Plan of 1350 level, Sc. 1":300 ft., Fig. 4, Report of Minister of Mines, British Columbia 1947.
- General Geology of the Silbak Premier, Sc. 1":1,000 ft., Fig. 39; Surface Geology Silbak Premier, Sc. 1":200 ft., Fig. 40; and Figs. 41-52; Bulletin No. 58, B.C. Dept. of Mines.

REMARKS/REMARQUES

REFERENCES/BIBLIOGRAPHIE

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- Schofield, S.J. and Hanson, G.; Geology and Ore Deposits of Salmon River District, British Columbia; Memoir 132, pp. 50-58, Geol. Surv. of Canada, 1922.
- McConnell, R.G.; Portions of Portland Canal and Skeena Mining Divisions, Skeena District, B.C.; Memoir 32, p. 65, Geol. Surv. of Canada, 1913.
- Mineral Policy Sector; Corporation Files: "Cascade Falls Mining Company, Limited"; "Salmon Bear River Mining Company, Limited"; "Northern Light Mines, Limited"; "National Silver Mines, Limited"; "Bush Mines, Limited" "Calvert Gas & Oils Limited"; "The Sebakwe & District Mines, Limited"; "B.C. Silver Mines, Limited"; "Premier Gold Mining Company, Limited"; "Silbak Premier Mines, Limited"; "Bermah Mines Ltd."; "Bralorne Pioneer Mines Limited"; "The Granby Mining Company Limited"; "Westmin Resources Limited"; "Canacord Resources Ltd."

continued reverse Card 3

Comp./Rev. By Comp./rév. par				DMacR	DMacR	DMacR	DMacR
Date Date	02-69	08-71	09-73	03-79	05-83	08-86	07-88

PRODUCT PRODUIT	GOLD	PROVINCE OR TERRITORY	PROVINCE OU TERRITOIRE	British Columbia	N.T.S. AREA RÉGION DU S.N.R.C.	104 B/1	REF. AU 1 RÉF.
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NAME OF PROPERTY SILBAK PREMIER (PREMIER) (BUSH), B.C. SILVER
 NOM DE LA PROPRIÉTÉ SEBAKWE (LESLEY), PREMIER BORDER

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)
 HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT (continued)

matrix. In composition it is comparable to nearby border-alteration phases of the Texas Creek granodiorite. In the mine area, variable chloritic alteration and silicification affect most of the country rocks. In the mineral zone the wallrocks - both Premier Porphyry and "greenstone" - have been extensively replaced by quartz, sericite, and pyrite, producing an irregular alteration halo. The massive quartz-pyrite fissure-replacement system enclosing the oreshoots lies within the halo.

The over-all nature of the ore zone is an elongate, irregular quartz-carbonate-pyrite vein-replacement network localized along a system of complex intersecting shear fractures. This system has a known length of about 5,500 feet and has its maximum overall width in the southerly Premier sector, which approaches 600 feet. Within this complex zone the individual oreshoots are found as isolated or overlapping en échelon flattened, pipe-like lenses. In general, ore grade mineralization appears to be concentrated at or near sheared contacts between fragmental volcanics and Premier porphyries along two major intersecting fracture zones. Locally these are termed the Northeast and Northwest fracture systems. These have been the locus for rock alteration, ore deposition, dyke emplacement, and late faulting.

The orebodies of the main North-east ore-zone and of the Sebakwe ore-zone are replacements of massive fine-grained sulphides which grade laterally and toward their extremities into zones of silicified rock containing much pyrite. The West ore-zone, however, is an outstanding exception in that the orebodies are well-defined lodes composed of sulphide-bearing quartz-calcite veins or stringers, of which the wallrocks are not silicified and contain but little pyrite. The orebodies vary a good deal in size. Stope-lengths range from less than 100 feet to more than 300 feet, and stope-widths range from 6 feet to as much as 40 feet. Lenses of ore grade mineralization in general were 30 feet or less in width and extended from the surface downward over a vertical range of about 1,300 feet. These lenses consisted mainly of banded pyrite, galena, and sphalerite with minor chalcopyrite, but also contained minor amounts of pyrrhotite, tetrahedrite, polybasite, and electrum. Principal gangue minerals are

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The American Smelting and Refining Company, by participating in the financing of the exploration work, acquired a controlling interest in the Premier Gold Mining Company, Limited in 1919. A 100 ton per day mill was put into operation in July 1921. Additional claims were Crown-granted to Woods, Trites, & Wilson in 1922, and to the Premier company in 1923. Development work was carried out on 5 adit levels and an intermediate level. The mill capacity was increased to 400 tons per day in 1926 and to 500 tons in 1931. In 1935 the Premier Gold Mining Company, Limited reached an agreement with Selukwe Gold Mining & Finance Company, of London, England, for the amalgamation of the Premier, B.C. Silver, and Sebakwe (Bush Mines) properties under a new company, Silbak Premier Mines, Limited which was incorporated in December of that year. Selukwe owned Sebakwe & District Mines, Limited and also owned the British Canadian Silver Corporation, Limited which held a controlling interest in B.C. Silver Mines, Limited.

After the success of the McNeill-Trites interests in locating a major orebody in 1917 a large number of claims were staked in the area. In November 1919 B.C. Silver Mines, Limited was incorporated by O.B. Bush to acquire two groups of claims adjoining the Premier, one to the north and the other to the south. These claims were Crown-granted to the company in 1921; at the same time, 3 claims adjoining the north group, the Oakville Fraction, Oakville No. 2 Fraction, and Oakwood, were Crown-granted to C.H. Lake. The exploration and development work, carried on until May 1931, succeeded in locating and partially developing the northeasterly extension of the Premier ore zone. This work was in part financed by The British Canadian Silver Corporation, who by 1922 had acquired control of B.C. Silver Mines, Limited.

The Lesley group of 6 claims, located north of and adjoining B.C. Silver, was owned by G. Mahood in 1916. The claims were subsequently acquired by O.B. Bush who incorporated Bush Mines, Limited in November 1918. Three adits were driven in the initial exploration but little mineralization was found and work ceased in 1919. Additional claims were acquired to a total of 16, all of which were Crown-granted to the company in 1921. Control of the company was sold by O.B. Bush to National Silver Mines, Limited in about 1923. Sebakwe & District Mines, Limited registered in British

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DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT (continued)

quartz, calcite, and sericite; rhodonite is also common. Gold and silver values were locally high near surface and decreased with depth.

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

Columbia in February 1926, acquired the property from National Silver and underground exploration was resumed. Mineralization was located along the northeast extension of the Premier ore zone in 1927 and development work was continued into 1930.

Exploration, development, and production by Silbak Premier from 1935 was confined mainly to the newly acquired ground. In 1940 an agreement was reached with the Premier Border Gold Mining Company, Limited for the exploration and development of the lower part of the newly discovered West ore-zone which extends into the Northern Light No. 1 claim. The Northern Light group of 8 claims and fractions, owned by the Bunting Bros. from about 1917, was Crown-granted in 1922. The claims adjoin the B.C. Silver property on the west. Northern Light Mines, Limited was incorporated in January 1928 to purchase the claims. This company was absorbed on a share for share basis by Premier Border Gold Mining Company, Limited which was incorporated in February 1928. Exploration and development work by the company was suspended in June 1930.

The combined Silbak Premier workings were described (1947) in terms of the names of the former mines. The original Premier mine was developed by six main levels, five of which were adits, located at elevations of 2,000, 1,760, 1,555, 1,345, 1,070, and 790 feet. The levels were numbered in sequence downward. The lowest, No. 6, is now known as the 790 level. No. 4, now known as 1,350 level, was the main haulage-adit. Levels above No. 4 were served by two internal shafts, and a third internal shaft, known as 601, provided service and ore-hoisting facilities to levels below No. 4. The B.C. Silver mine, immediately north of the Premier workings, had five levels between elevations of 2,070 and 1,350 feet, and two internal shafts, one of which extended down to 1,350 level. The Sebakwe mine, which adjoined the B.C. Silver on the northeast, had three levels between elevations of 1,670 and 1,350 feet and one internal shaft extending down to 1,350 level. The main haulage-level, 1,350, finally attained a length of about 7,000 feet. Prior to 1930 the Premier Border property had been developed by an exploration crosscut adit at the 1,130 ft. level and some short lateral workings. The adit was driven about 1,800 feet in an easterly direction towards the B.C. Silver Mines property, the face of the adit stopping about 300 feet from the B.C. Silver

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NAME OF PROPERTY SILBAK PREMIER (PREMIER) (BUSH), B.C. SILVER
NOM DE LA PROPRIÉTÉ SEBAKWE (LESLEY), PREMIER BORDER

HISTORY OF EXPLORATION AND DEVELOPMENT (continued)
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

line and some 55 feet in elevation above the Premier No. 5 level. A connection was made from the Premier No. 5 level to provide access to the West ore-zone which was discovered in the early 1940's and developed by a 350 foot vertical internal shaft.

Silbak Premier continued to operate until May 1953, when the mine closed due to a drop in lead-zinc prices. Exploration work was resumed in 1955 and production began again in November 1956; the concentrator was destroyed by fire later that month and the mine was closed. Silbak purchased the Northern Light group from Premier Border in 1958.

From 1958 until December 1960 the property was under lease to T.J. McQuillan & associates, who incorporated a private company, Bermah Mines Ltd., in December 1959. The company began mining on a newly discovered high-grade vein on the footwall side of the old Premier glory hole. When the lease expired Silbak Premier continued the operation. A 75 ton per day cyanidation mill was purchased in July 1963 and placed in operation the following year. Mining on this vein was continued under the management of Bralorne Pioneer Mines Limited until November 1967 when the contract expired. The property was idle during 1968.

Production during the period 1959-1968 came from the new high-grade vein discovery and from broken ore reserves in the Premier glory hole left from earlier operations. Proven and indicated reserves were reported in 1956 as follows:

	Tons	ozs/ton			
		AU	AG	PB (%)	ZN (%)
Silbak Premier (below No. 3 level)	75,250	0.28	2.8	1.8	2.7
West ore-zone (Premier Border)	74,146	0.07	1.98	4.25	6.36
TOTAL	149,396	0.01	2.39	3.03	4.53

(Silbak Premier MS L AR's 1956, 1958)

Granduc Mines, Limited optioned the property in 1969 and carried out geochemical soil and magnetometer surveys, and opened several old showings on the Northern Light claim.

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The Granby Mining Company Limited optioned the property in December 1969. Work during 1970 included geological and induced polarization surveys. An anomaly outlined on the Bell and Loser claims was tested in 1971 by drilling in 10 holes. In addition drilling was done in the hanging wall of the main Premier replacement zone in 3 holes; the 1971 drilling totalled 6,157 feet in 18 holes. The option was subsequently given up.

The company name (Silbak Premier) was changed in January 1977 to British Silbak Premier Mines Limited. From the work done in 1963, there were also indicated 7,000,000 tons grading 0.03 ozs Au/ton and 0.755 ozs Ag/ton (NM July 10, 1980).

Local operators under the name Spring Investments Ltd. held a lease during 1978-79 and shipped 94 tonnes of clean up lead concentrate and 256 tonnes of hand-sorted ore from the floor of the old glory hole (No. 1 level).

British Silbak during 1980-81 carried out surface exploration, underground rehabilitation, cross-cutting and diamond drilling. In September 1981 the company signed a letter of intent to option a 50% interest to Westmin Resources Limited; the agreement was finalized in March 1983; in the meantime the controlling interest in British Silbak was acquired from Mining Investment Corporation, of London, England by a Canadian group represented by the H.J. Block interests.

Work by Westmin in 1983-85 included 7 629 m of diamond drilling in 75 holes in the vicinity of the upper workings of the old mine. Probable and possible reserves were reported as follows:

- Glory Hole area - 5,118,000 tons at 0.062 oz/t Au, 2.31 oz/t Ag. (British Silbak Annual Report 31/01/86).
- 602 xc zone - 127,000 tons at 0.130 oz/t Au, 0.94 oz/t Ag.
- Northern Light zone - 383,000 tons at 0.118 oz/t Au, 1.15 oz/t Ag, 1.5% Pb, 4.93% Zn (George Cross News Letter 27/01/86).

Exploration drilling in 1986 and early 1987, funded by Canacord Resources Inc., earned that company an 18.75% interest in the interest held by Westmin.

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George Cross News Letters: 1985, No. 13; 1986, No. 18, 114, 184, 202, 228, 233; 1987, No. 45, 92, 129, 140, 160, 169, 175, 207, 245; 1988, No. 19, 32, 82, 102

HISTORY OF EXPLORATION AND DEVELOPMENT (con't)

Pioneer Metals Corporation in mid 1987 purchased from John Block and associated companies the controlling interest in British Silbak; the latter name was changed in July 1987 to Silbak Premier Mines Ltd.; in May 1988, the company was amalgamated with Pioneer Metals Corporation under the latter name.

A feasibility study was carried out in 1987. Reserves at Silbak Premier were reported as open pit mineable 6,500,000 tons at 0.063 oz/t Au, 2.34 oz/t Ag (Westmin Resources Limited, 1987 Annual Report). Westmin, as operator in 1988 unitized the Silbak Premier, Big Missouri (104 B/l, Au 2) and Martha Ellen (104 B/l, Au 7) properties under the name "Premier Gold Project". Interest in the project was Westmin 50.1%, Pioneer Metals 40.0%, Canacord Resources 9.9%, with Tournigan Mining Explorations Ltd. holding a 5% net profits interest. Stripping of the initial open pit and construction of a 2000 ton per day mill at the Silbak Premier property began in April 1988 and it was put into operation in May 1989.