A VIEW OF THE HIGH-GRADE GLORY HOLE SECTION OF THE SILBAK PREMIER MINE, NEAR STEWART, B.C.

THE SILBAK PREMIER MINE

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Introduction

SILBAK PREMIER MINES LIMITED, a 4,000,000 share public company (2,810,000 issued) owns and operates a producing mine near Stewart, B.C. High grade gold-silver ore is now being shipped to the American Smelting & Refining Company's smelter at East Helena, Montana. In view of the results of recent diamond drilling, the company has decided to rebuild the mill which was destroyed by fire during 1956.

Location

The property of Silbak Premier Mines, a consolidation of the former Premier, B.C. Silver, Sebakwe and Premier Border properties, aggregating 86 claims, covers about 5.3 square miles, and is located 16 miles by highway northwest of Stewart, B.C., a town at the head of the Portland Canal in northwestern British Columbia.

History

The history leading to the current operation of the Silbak Premier mine is summarized as follows:

1910-1916: Gold and Silver ore was discovered in 1910 in the area and some of the principal claims were staked. Cascade Falls syndicate was formed and later reorganized as Salmon River Mining Company. Tunnel work was done on the No. 1 and No. 2 levels.

1916-1919: Pat Daly leased the property, shipped a few tons of high grade and, after an inspection by R. K. Neil, the exploration group of Trites, Wood, and Wilson bonded the property. Bonanza high grade was discovered and shipments made to Tacoma.

1919: In the fall of 1919 the American Smelting and Refining Company acquired a 52% interest in the property, for $1,000,000 cash, from Trites, Wood, and Wilson. During 1919 and 1920, shipments of 1,287 tons of crude ore were made from the Premier mine, which averaged 4.24 oz. gold and 141 oz. silver per ton. Milling operations started during 1921.

1924: Shipment of ore from the B.C. Silver started, and up to 1927 totalled 1,103 tons averaging 1.92 oz. gold and 76 oz. silver per ton.

1935: Silbak Premier Mines was formed to acquire the Premier Gold Mine, B.C. Silver, and Sebakwe Mines. Selukwe Mining Company of London, England, controlled the latter two properties and, upon the merger, received a substantial interest in Silbak Premier Mines.

1953: Silbak Premier closed down due to low base metal prices.

1956: The Silbak Premier mine and mill were rehabilitated, but fire destroyed the mill after only a few weeks operation.

1958: The Premier Border group of eleven Crown Granted mineral claims were purchased outright.

The upper levels of the mine were "thrown open" to lease, as the company records showed no reserves above 2 level. On September 23rd, 1959 a one year lease was granted on a part of the upper levels of the mine. The lessees shipped ore during the fall of 1959 and summer of 1960.

1961: Shipments of high grade were continued by the company upon the termination of the lease, and diamond drilling, recently completed, has located the extension of high grade below 1 level and, in addition, has indicated sufficient mill feed ore which, together with the older reserves in the mine, would justify building a mill of about 100 tons per day capacity.

Production Record

From 1919 until the operation ceased in 1953, Premier Gold Mines and the successor company, Silbak Premier Mines, produced 4,600,000 tons of ore with gross earnings of $29,910,000. Dividends paid totalled $21,620,000.

During 1959 and 1960 lessees shipped about 1,320 tons averaging 6.2 oz. gold and 176 oz. silver per ton.

During the fall of 1960 and 1961 to date, the company has shipped 774 tons averaging 7.65 oz. gold and 145 oz. silver per ton. The gross value of this production amounts to $318,000, or a value of $410 per ton of ore shipped.

Geology

The following is a brief description of the geology of the mine summarized in part from reports by G. Hanson, S. J. Schofield and C. G. McConnel of the Geological Survey of Canada, and by W. H. White of the B.C. Department of Mines.

The oldest rocks in the area are the volcanic (Bear River formation) and conformable sedimentary (Salmon and Naas River formations) all of Jurassic age.

The Bear River formation (lying almost horizontal) of volcanic flows, breccias and water-lane tuffs, was intruded by at least three porphyries of which the Premier porphyry occurs as sills which are spatially associated with the ore deposits. This porphyry is a quartz diorite composed of phenocrysts of orthoclase in a greyish green groundmass. The rock varies from porphyritic to fine, dense material, and thus is difficult to distinguish from the volcanic rocks of the Bear River formation.

The volcanic and sedimentary rocks, together with the porphyries were uplifted to produce a series of northwesterly trending folds. Stress during the folding produced:

(a) Regional shear cleavage, particularly in the tuffs.

(b) An intersecting N.E. - N.W. shear pattern in the competent rocks such as porphyry.

The folding was followed by the intrusion of the Coast Range Batholith which, in this area, is a granodiorite with a somewhat mottled, porphyritic appearance. Differentiates of the batholithic magma include southwesterly dipping dykes of quartz diorite up to 400 feet wide, and lamprophyre dykes up to 60 feet wide.

During the final period of consolidation of the intrusion the Premier ore bodies were localized in areas of structural weakness - the intersection of the N.E. - N.W. shearing. The mineralogy of the ore bodies indicates they were formed between 200 and 500° C, at a minimum depth of 4,000 feet. The deposit is formed by fissure filling of siliceous replacement zones with a paragenesis:

1. Initial fracturing, silicification and replacement of the wall rocks, particularly the competent Premier porphyry.
2. Fracturing with the deposition of pyrite together with minor chalcopyrite and gold.
3. Fracturing and resolution with the introduction of sphalerite, galena, chalcopyrite, argentite, polybasite and electrum.
4. Deposition of argentite, polybasite and native silver.
5. Calcite deposition.

Lamprophyre dykes were emplaced after, and during part of, the period of ore deposition.

During the Cretaceous period the area was eroded to a peneplain, and the Coast Range Batholith was exposed, and uplifted during the Tertiary period. The uplift produced a drainage pattern that was accentuated by ice action during the Pleistocene. There has been extensive Post-Pleistocene stream erosion.

Localization of Ore Bodies

The electrum occurs in small bodies of sulphide material that occupy areas of fracturing within larger zones of silicification. The zones of silicifica-

tion have been produced by the fracturing and replacement of country rock, particularly at the intersections of a N.E. - N.W. fracture system produced during an early period of folding. The fractures in the competent Premier porphyry formed channelways for the ore solutions derived from the Coast Range Batholith. The solutions were not able to penetrate the overlying volcanic rocks which were unable to sustain a fissure and thus acted as a capping to the ore solutions. Dykes and faults also acted as suitable cappings to some ore bodies.

Mineralization

Minerals present include pyrite, sphalerite, galena, chalcopyrite, polybasite, argentite, tetrahedrite, electrum, native silver and native gold in traces only. Gangue minerals include quartz and calcite.

Ore Reserves

(1) **High Grade**

Recent diamond drilling from the No. 1 level has proven that the high grade zone extends down at least 57 feet, as shown by the following diamond drill results:

Hole No.	Location	Width	Assay		Gross Value
		Ft.	Au. oz.	Ag. oz.	per ton
22	1 level minus 10 ft.	5	1.3	32	$ 74
23	1 level minus 20 ft.	8	12.4	146	567
24	1 level minus 30 ft.	10	16.2	191	740
27	1 level minus 45 ft.	5	20.8	390	1,078
28	1 level minus 57 ft.	5	5.9	46	248
Average		6	12.1	164	$ 572

Proven reserves are estimated at 600 tons averaging 12.1 oz. gold and 164 oz. silver per ton, or a value of $572 per ton. Gross value of the 600 tons amounts to $343,000.

Further diamond drilling will be required to determine the ultimate high grade ore potential on this zone and other interesting areas south of the glory hole.

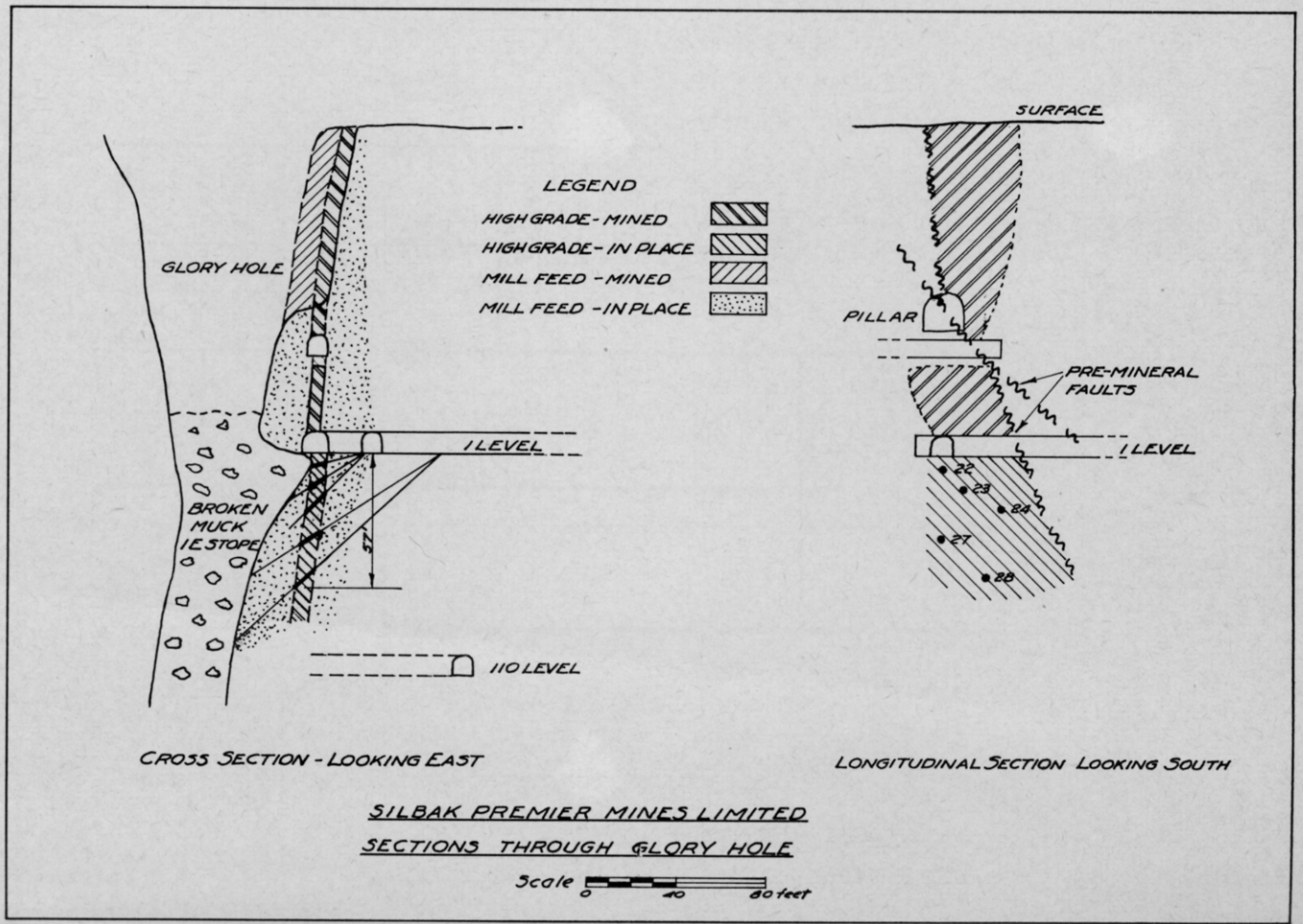
(2) **Mill Feed**

Diamond drilling, both from the surface and underground south of the glory hole, has proven, in addition to the high grade zone, a substantial quantity of good grade mill feed. The estimate of this ore, located above 110 sub-level, together with ore broken in the glory hole totals 20,000 tons averaging 0.82 oz. gold and 31.8 oz. silver per ton. Ore of this grade has a gross value of $57.32 per ton.

Reserves below No. 3 level of gold-silver are estimated at 75,200 tons averaging 0.28 oz. gold, 2.8 oz. silver, 1.8% lead and 2.7% zinc. Lead-zinc ore reserves on the west ore zone are estimated at 74,146 tons averaging .07 oz. gold, 1.98 oz. silver, 4.25% lead and 6.36% zinc. Total reserves are therefore estimated at 169,346 tons.

Mine

The mine has been developed from the surface at 2,140 feet elevation to the 8 level at 490 feet. The No. 1 level, at elevation 2,000 feet, encountered very rich ore at the intersection of the northwest and northeast silicified shear zones in the Premier porphyry. The downward extension of this ore was then developed on the No. 2 level, elevation 1,760 feet, and on 110 sub-level 150 feet above 2 level.



The camp and the mill were established at No. 4 level, elevation 1,345 feet. No. 6 level, the lowest adit tunnel in the mine, was established at 750 feet. No. 7 and No. 8 levels were established below No. 6 level from the Border shaft.

There are 46.4 miles of underground workings, and 492,000 feet of diamond drilling have been completed since the mine was first put in production.

Ore was mined by a shrinkage method; cribbed manways were carried up the stopes at intervals of about 100 feet. The average width of the stopes was 25 feet. Very little timber was used in the mine to support the walls of the drifts or raises.

Operating Data

High grading operations were resumed during July 1961 from the No. 1 tunnel. During the month of August 400 tons of ore were mined, sacked and shipped by a crew of 13 men.

Operating costs during the month averaged $40.00 per ton. Water and rail freight, together with treatment charges, totalled $40 per ton. The operating profit on the 400 tons shipped during August amounted to about $150,000.

General

A new adit at the 110 sub-level horizon is now being driven in order to mine the high grade recently developed by diamond drilling below the No. 1 level. Drifting and raising should be completed by the end of October and production work is contemplated throughout the winter providing weather conditions permit.

Metallurgical work is now being done to determine the best method of concentrating the gold-silver mill feed ore reserves developed.

In all probability the new mill will be built at No. 6 level, and the ore from No. 1 level transferred through the mine to No. 6 level. At a later date the mill could be enlarged to treat lead-zinc ore above and below No. 6 level in the Border shaft area.

Summary

The discovery of both high-grade shipping ore and commercial quantities of mill feed ore in an area of the mine which had been abandoned many years ago, will be the basis of a new operation for Silbak Premier Mines Ltd.

This ore will be developed and extracted by a tunnel now being driven from the surface at elevation 1900 ft.

Silbak Premier, therefore, by re-examination and re-assessment of known mineralized zones, is looking ahead to a profitable future and a substantial contribution to the mining industry and the economy of this country.

Acknowledgement

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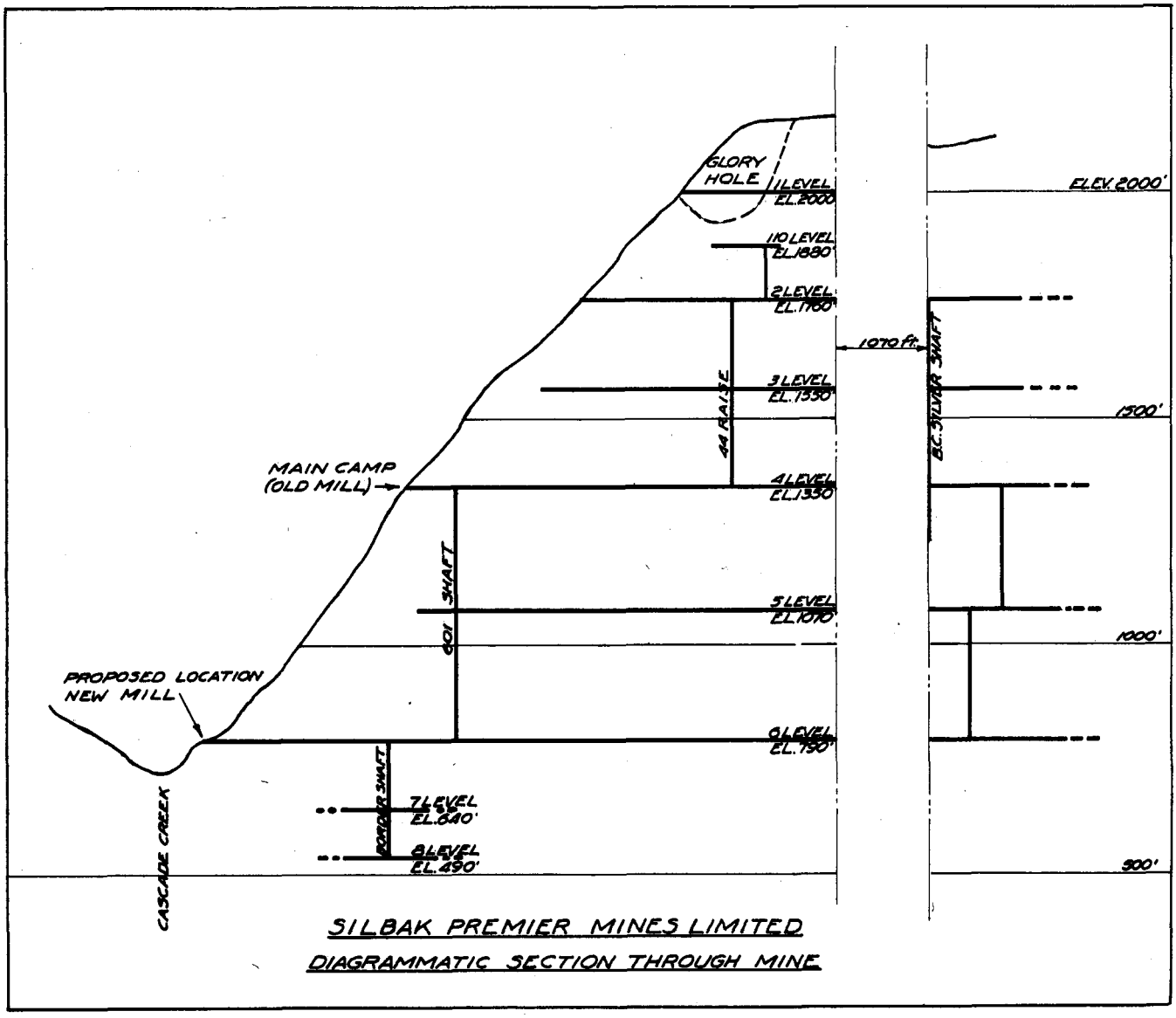

SILBAK PREMIER MINES LIMITED

DIAGRAMMATIC SECTION THROUGH MINE