

PROPERTY FILE

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R E P O R T
OF
SILVERSMITH MINES, LIMITED
BY
H.W. JAEGER, CONSULTING MINING ENGINEER
MEMBER, A.I.M.M.E.

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P R O P E R T Y

This property consists of twenty-four (24) Crown granted Mineral Claims, containing 577.35 acres and 242.41 acres of Crown-granted Surface Rights. Further are seventeen (17) parcels of lots and fourteen (14) lots town property of Sandon, British Columbia, Crown-granted.

L O C A T I O N

THE SILVERSMITH-SLOCAN STAR-&-SLOCAN KING GROUP, comprising the Silversmith, Slocan Star and Slocan King Mines is located one half mile south of Sandon and lies mostly between the two forks of Sandon Creek, and consists of the Slocan Star, Rabbit Paw, Jennie, Silversmith, Windsor, Minnesota, Shogo, Bella-Donna, Millie, Whistler Fraction, Heber-Fraction, Pembroke, Slocan King, Hidden Treasure, Mama, Hillside, Echo Fraction, Silver Star, Morning Sun, Edith Fractional, Eva Fractional, Slocan Belle, Ophir #3, and Wyoming, total twenty-four (24) Crown-granted mineral claims, covering an area of five hundred seventy-seven point three five (577.35) acres.

PLANT AND EQUIPMENT.

The Plant consists of 150 ton mill and 200 ton Concentrator, power plant with 200 H.P. Diesel type crude oil engine, (for low water) 400 H.P. Pelton Water Wheel, 200 K.V.A.- 3 phase, A.C. Generator, 2200 volts, 60 cycles, Canadian Ingersoll Rand Compressor, 746 cu. ft., 4700 feet Aerial Tramway, fullyequipped machine shop and forty-one Buildings equipped for mining.

H I S T O R Y

The Slocan Star Lode was located in October 1891 and the Slocan Star Mines, Limited, was formed, which company mined high grade silver-lead-zinc ore, carrying from seventy-five to one hundred ounces of silver, 50% to 70% lead, and gold between \$6.00 and \$7.00 to the ton. The property became the largest silver-lead mines in British Columbia, and paid in the first five years over \$300,000 in dividends. From 1905 it produced 36,919 tons of ore and realized \$2,675,430.00 or \$72.46 per ton in average. During 1906 to 1911 mining nearly ceased as the result of litigation over the extra lateral rights of the Rabbit Paw claim, owned by the Star Milling and Mining Company. The two companies amalgamated in 1911 as the Slocan Star Mines, Limited. In 1914 the property again became an outstanding producer. In May 1918 the company was reorganized as the Silversmith Mines, Limited. In 1921 the company acquired the Ivanhoe Mill at Sandon, British Columbia. Prior to that year milling had been done at the Slocan Star concentrator. From May 1918 to end of 1926 the mine produced nearly 300,000 tons of ore worth between six and six and one-half million dollars.

In September 1927 the company ceased milling operations on account of low metal prices prevailing at that time, but continued mining and development work through 1928 and part of 1929, from which period the mine was idle to 1934, except for work on a small scale by leasers. Coeur d'Alene mining interests acquired control of property beginning of 1934 from the former White management and carried on mine development and exploration for seventeen months and ended July 31, 1935. Since then the mine has been idle again, except for leasers who shipped several carloads of crude ore.

On October 2, 1925 the company reduced its capital from \$750,000 to \$500,000 by retiring \$250,000 preferred stock and on August 25, 1937 the company increased its capital from \$500,000 to \$1,000,000, divided into 5,000,000 non-assessable shares of twenty cents par value.

From 1921 to 1926 the company paid \$725,000 in cash dividends.

On August 5, 1937 the company under new management acquired the adjoining property of the Slocan King Mines, Limited, for 287,549 shares, subject to existing taxes and release of all liabilities to the company.

The new management intends to retimber different parts of the tunnels during the coming winter and resume mine development on May 1, 1938.

GEOLOGY

by

Br. H. W. Jaeger, A.I.M.M.E.

For the purpose of this report the geological conditions will be discussed in a broad way, with only commercially important facts and most indisputable evidence from various sources, together with the writer's own observations.

The country rock is black slate. The vein matter is composed of lenses, bands and streaks of ore. Others are a mixture of zinc blende, siderite and quartz, many striking diagonally across the lode.

Zinc blende is the common associated sulphide and spatic iron, pyrite and zhaleopyrite and quartz. A structural phenomena occurs at the north end of the porphyry plug through a curve there from northeast to northwest. The northwest trending sheer is very strong and follows along the northwest flank of the porphyry plug. Near the north end of this plug this sheer zone encounters a strong fissured zone coming from the southwest and cutting sharply across the rock structure.

The Slocan Star Mines and the Rabbit Paw Mines join the Silversmith Mines to the west, likewise the Slocan King Mines to the east of the Silversmith Mines. The Silversmith ore bodies are the center of all these mines and will eventually contact at depth.

All these stringers and bands dip to the west, which shows plainly that all of these ore bodies follow in the same direction and have the same ear-marks as the well known "Bunker-Hill Mines", and shows here that after gaining a certain depth they will enter into the second enrichment.

As to the fault system, by starting in as per my recommendation, we leave the faults north 74° west, the depth of which fault system it is impossible to estimate.

A S S A Y S .

The following qualitative analysis and assays made at
the Laucks Laboratories in Seattle, Washington, October 21st, 1937.

Certificate No. 62104.

	GOLD		SILVER		LEAD		ZINC		TOTAL
	Oz troy per Ton	Value per T.	Oz troy per T.	Val. per T.	Per- ctge	Value per T.	Per- ctge	Value per T.	Value per T.
A. Second Crosscut Mineralization	0.02	0.70	Trace	--	1.68	2.35	1.70	2.38	5.43
B. East Side Top	Trace	--	Trace	--	0.84	1.18	1.79	2.51	3.69
C. End of Crosscut # 2	Trace	--	Trace	--	1.57	2.20	1.52	2.13	4.33
D. Top Quartz	Trace	--	Trace	--	1.05	1.47	1.79	2.51	3.98
E. Roof in Crosscut RS	Trace	--	Trace	--	1.26	1.75	1.61	2.25	4.01
F. Check on Crosscut RP	Trace	--	Trace	--	0.94	1.32	1.25	1.75	3.07
G. 1536 CC Floor	Trace	--	Trace	--	1.15	1.61	1.88	2.63	4.24
H. 2206 Both Sides	Trace	--	Trace	--	0.84	1.18	2.15	3.01	4.19
I. 2164 from portal of tunnel	0.02	0.70	Trace	--	1.05	1.47	2.33	3.26	5.43
J. Crosscut # 3 Top	None	--	Trace	--	1.57	2.20	1.16	1.62	3.82
K. Bottom of Fault Crosscut	0.02	0.70	Trace	--	1.26	1.76	0.98	1.37	3.83
L. Bottom PS	0.02	0.70	Trace	--	1.05	1.47	1.16	1.62	3.79
M. Low Grade Dump	0.04	1.40	16.60	12.78	10.50	14.70	26.91	37.67	66.55

Valuation: Zinc 7¢ lb.
Lead 7¢ lb.
Gold 35 oz.
Silver 77¢ oz.

Respectfully submitted

Laucks Laboratories, Inc.

by L.L.Hefferline

ASSAYS OF ORE FROM MINE EXPLORATION AND DEVELOPMENT WORK

done in years 1934 and 1935 by Mr. Jos. Lancaster, M.E.

Location	Sample No.	Width	Silver oz.	Lead %	Zinc %	Value Canadian Metal Prices
Outside of the Silver-smith Main orebody, ore shoot 49 ft. long in #10 Tunnel	1					
	1	2'5"	1.1	.21	5.75	\$ 5.60
	2	2'7"	13.7	.27	27.95	31.30
	3	3'0"	5.8	.16	15.23	16.21
	4	2'0"	8.5	.16	16.85	18.10
First Raise in the same neighborhood	5	4'0"	10.1	.21	13.82	12.65
	6	4'0"	4.6	.26	21.60	21.25

Assayed at Nelson, B. C., as per letter of Sept. 11, 1934

	Silver oz.	Zinc %	Lead %
In #10 Tunnel, Raise on the North Split of vein, as height was obtained, Up to 60 ft.	4 to 11	20 to 40	
From 65 ft. to 95 ft.	from 12 up	--	60

as per letter of December 21, 1934

	Silver oz.	Lead %	Value
In #10 Tunnel in 2nd Raise 10" to 12"	174.0	70.5	\$225.03

Assayed by Laucks Laboratories December 27, 1934 - Certificate # 52256

	Silver oz.	Lead %	Zinc %
Average grade of ore along 160 ft. of vein mineralization in Second Raise:	8.0	0.25	17

as per letter of June 7, 1935

LEASERS TRAIL SMELTER RETURNS OF CRUDE ORE AND
CONCENTRATES
shipped while mine was idle.

<u>Lot No.</u>	<u>Date Received at Smelter</u>	<u>Gold oz.</u>	<u>Silver oz.</u>	<u>Lead %</u>	<u>Zinc %</u>	<u>Value per ton Received from Smelter</u>	
592	Nov. 7, 1931	.032	101.9	54.45	8.5	\$45.47	Lead Concentrates
593	Nov. 17, 1931	.04	91.2	44.05	10.8	39.87	Crude Lead Ore
594	May 13, 1932	.06	119.2	37.30	20.4	37.76	Lead Concentrates
371-z	Nov. 22, 1933	.025	39.3	4.10	51.4	21.54	zinc Concentrates
372-z	Nov. 22, 1933	.025	36.8	4.00	51.2	20.59	Zinc Concentrates
373-z	Jan. 3, 1934	.03	37.4	4.00	51.4	21.12	Zinc Concentrates
374-z	Jan. 17, 1934	.028	38.6	4.00	51.5	21.70	Zinc Concentrates
595	Aug. 29, 1934	.02	112.1	60.20	7.2	64.67	Crude Lead Ore
596	Aug. 29, 1934	.065	146.8	24.20	28.1	75.13	Lead Concentrates
597	Aug. 29, 1934	.035	86.7	40.00	17.3	49.35	Crude Lead Ore

FORMER WORKINGS.

The writer finds it unnecessary to go into a detailed report on former workings as I note all of the upper works have been high graded, leaving thousands of tons of low grade ores. Most of the old workings are caved in.

TUNNEL NO. 10: Anaroyd reading: 4,268 feet above sea level.

This is the main tunnel 8,000 ft long. Along the tunnel I find mineralized bands and lenses showing plainly the dip of the mineral zone. As to depth and secondary enrichment of the ore body, 1536 feet from the portal I find the fault zone sheering to the west, fifty feet to the southwest, coming in contact with Lancaster crosscut, which runs in the fault line. Sixty feet north and 1,536 feet from portal I encountered sixty feet of highly mineralized ore body. After sampling the length of the sixty feet and measuring the ore body I find it to contain 282,000 tons of highly mineralized ore containing silver, lead and zinc.

RECOMMENDATIONS

I recommend an inclined shaft should be driven for 200 ft. following this mineral zone. The following claims will be encountered: Silversmith, Rabbit Paw, Slocan Star, Belladonna, Slocan King, Minnesota, Heber Fraction, Eureka #2. Here is where the second ore enrichment takes place. All these claims are in line to be reached through the inclined shaft. I find west of the Slocan Star lode the fault zone starts and by following the starting point of shaft avoid coming in contact with the faults.

I further recommend the retimbering of the tunnel as most of the timbers are rotted. This tunnel to be the main tunnel.

A distance of 1539 ft. from portal of Tunnel #10, break into ore body, removing rock for a room 40' by 45' to make room for the hoisting plant. The Slocan King and Eureka-Richmond ore bodies will be taken care of through this tunnel. All the ores will be taken through the main tunnel and dumped into bins provided for that purpose.

It will not be necessary to use the power plant for two drills. I recommend to use the portable compressor for at least 200 ft. After gaining depth crosscutting in every direction, then perhaps the compressor is to be enlarged.

It will be borne in mind that there are several million tons of low grade ore, assaying from \$8.00 to \$20.00 per ton in the mines and on various dumps. There is one ore dump on the fourth level of approximately 60,000 tons containing zinc up to 51% metal. These dumps, some of which have good metal values, were left in the olden days because the smelter would not accept this class of ore at that time, and because at least 40% to 50% of the metal contents of other ores would be lost under the old methods of recovery. Any ores in mines and on dumps under \$20.00 value was considered waste. These ores from dumps can be run to the smelter at fifty cents per ton, utilizing hundreds of thousands of dollars. To find out the lowest grade of ore taken from a distance of 1539 ft. from portal in the #10 Tunnel for the purpose of smelting low grade values, I intentionally picked samples of the poor grade ore, which assays you will find on page six. For comparison I also attach a list of average assays of ores in the same vicinity from mine development and exploration work done by Mr. Jos. Lancaster in years 1933 and 1935, refer page seven and further on page eight, values per ton received by leasers from Trail smelter for crude ore and concentrates shipped in years 1931 to 1934 from ores left in the mine, which shows values from \$20.00 to \$75.00 per ton to bring to your attention the values of ore which are left in the mines.

It has been proven beyond a doubt that all former mill operations have been too costly and have been a failure, the loss has been as great as 40%. By installing the Jaeger Roast-Smelt Reverberatories you will save nearly 100%. There are millions of tons of low grade ores. All of this can be saved to a great advantage. Roast-Smelt Reverberatories of two Units will be installed and all high or low grade ores will go through the smelter.

In another part of this report you will find a detailed estimate as to price and condition.

ESTIMATE AND COST

TO

START THE MINES OF THE SILVERSMITH MINES LTD.

To sink an inclined shaft 200' @ 20.00 per ft....\$	4,000.00
New Timber in No 10 Tunnel	1,500.00
Repairing of Buildings & Furniture.....	500.00
Renovating assay office.....	150.00
Blacksmith Shop Repairs.....	150.00
Sundry Repairs	500.00
Clearing ground for the installation of two Units Jaeger Reverberatories.....	<u>5,000.00</u>
Total:	<u>\$ 11,800.00</u>

P A Y R O L L

		<u>DAYS</u>	<u>MONTH:</u>
4 Miners (Hardrock) @ 5.00 per day	\$20.00		\$ 600.00
4 Muckers " 3.50 "	14.00		420.00
1 Shift Boss " 6.00 "	6.00		180.00
General Foreman & Superintendent "10.00 "	10.00		<u>300.00</u>
TOTAL MONTHLY PAYROLL:			<u>\$1,500.00</u>

At whatever scale of wages may prevail.

Seattle, Wn. October, 25, 1937

Silversmith Mines, Limited,
White, Henry Stuart Building,
Seattle, Washington.

ESTIMATED INSTALLATION COST OF JAEGER ROAST-SMELTER
AT MINE, 15 TONS PER CHARGE EACH UNIT

No. 1 Unit	Complete installation and in blast	\$ 50,000.00
No. 2 "	" " " " " "	35,000.00
No. 3 "	" " " " " "	25,000.00
No. 4 "	" " " " " "	25,000.00
Beneficiation and crushing plant (One or four units)		5,000.00
Assay Shop and Laboratory equipment		2,500.00

The above units will each reduce 45 tons of ore per day, allowing 3 charges each 24 hours, or a total reduction of 180 tons through 4 units

ESTIMATED TOTAL OPERATING COST OF ONE UNIT
JAEGER ROAST-SMELTER - PER 15 TON CHARGE

Fuel Oil Consumption	1 1/2 barrels @ \$1.80 per barrel	\$ 2.70
Operators	3 @ \$7.00 per shift	21.00
Tappers	3 @ \$5.00 " "	15.00
Assay-Chemical Supervision		4.25
Total reduction cost of 45 tons ore treated per 24 hours		<u>\$42.95</u>
Cost per ton for recovery of silver and lead values		0.954

ESTIMATED TOTAL OPERATING COST OF TWO UNIT
JAEGER ROAST-SMELTER - PER 30 TON CHARGE

Fuel Oil Consumption	3 barrels @ \$1.80 per barrel	\$ 5.40
Operators	3 @ \$7.00 per shift	21.00
Tappers	3 @ \$5.00 " "	15.00
Assay-Chemical Supervision		4.25
Total reduction cost of 90 tons ore treated per 24 hours		<u>\$45.65</u>
Cost per ton for recovery of silver and lead values		0.507

Above values are recovered in the matte for shipment to the refinery and payment of values is made after deduction of transportation and refining costs. The bulk weight shipped in the matte contains approximately 94 to 98 percent of metallic values.

Respectfully submitted,

N. W. Jaeger
Mining-Metallurgical Engineer.

S U M M A R Y .

The writer has been at some length in making stipulation bearing on the successful conduct of mining operation on the Silversmith Mines, Limited. He will not be understood as minimizing the evident and great merit of the property, which is recognized to be of more than usual magnitude and promise.

The mine will develop under well studied management an enormous and profitable tonnage. It will not stand mismanagement, improvidence or inattention on the part of the Engineer in charge of the mine.

I am well satisfied with the property and predict that she will hold her own, after so much mismanagement of former managers.

Respectfully submitted

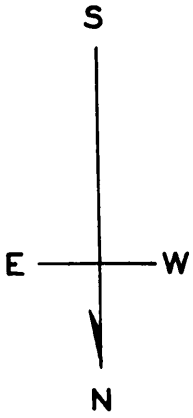


H.W. Jaeger
Consulting Mining Engineer,
Member of the A.I.M.M.E.

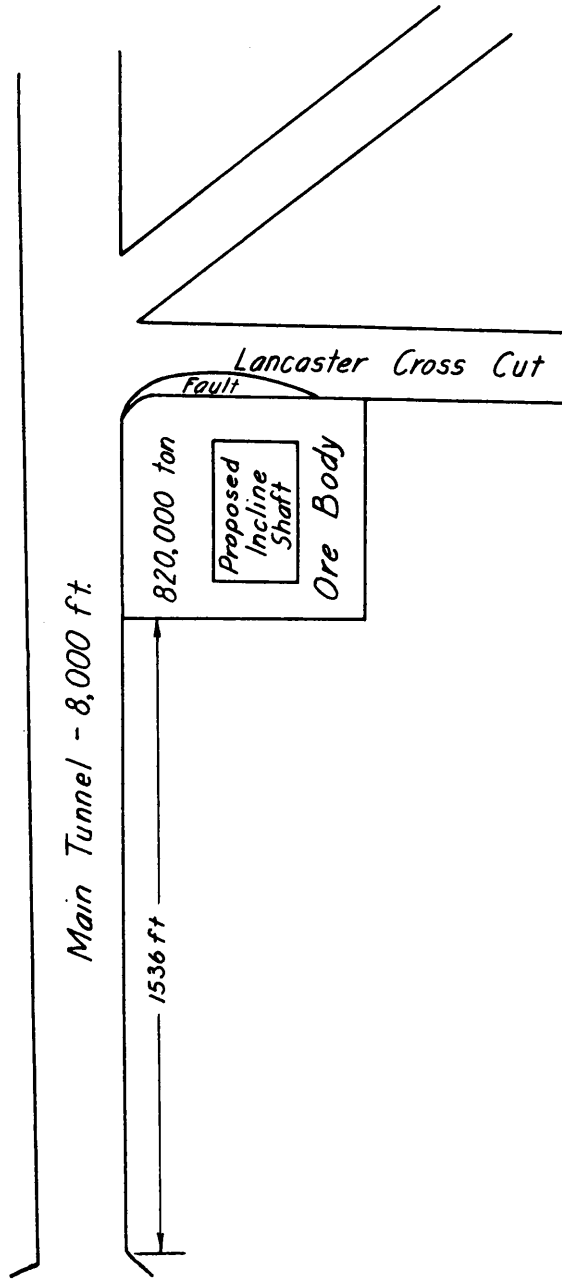
Seattle, Washington, October 8th 1937.

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SILVERSMITH MINES, LTD.



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