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93M/6W  
- 93M-43

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February 15, 1967

The Board of Directors,  
Sunrise Silver Mines Ltd.,  
Ste. 425, 718 Granville Street,  
Vancouver 2, B.C.

SUNRISE  
SS 127 SE

Gentlemen:

At your request I have prepared a progress report encompassing work conducted on your adjoining Lead King and Sunrise groups of claims, near Hazelton, B.C., during the fall of 1966.

In addition are certain recommendations for further work on the properties.

Yours very truly,

*W. S. Read*

W.S. Read, P. Eng.

wsr:m

PROGRESS REPORT

to

December 31, 1966

on

SUNRISE SILVER MINES LTD.

55° 21' N., 127° 29' W.

in the

Omineca Mining Division,

British Columbia, Canada

by

W.S. Read, B.Sc., P. Eng.,  
860 Younette Drive,  
West Vancouver, B.C.

February 15, 1967

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## INTRODUCTION:

This report is to summarize work conducted on the Sunrise and Lead King properties of Sunrise Silver Mines Limited during the summer and fall of 1966. The detail of location, access, geology, etc., is covered by various reports and Sunrise Silver Mines Ltd. prospectus, dated May 1966, and will only be dealt with briefly at this time.

Attached are plans and sections prepared by Mr. V. Sorokowsky, geologist, from work conducted during 1966, with assay results and vein locations.

## LOCATION AND ACCESS:

The property is located on the north side of Nine Mile Mountain at about  $55^{\circ} 21'$  north latitude, and  $127^{\circ} 29'$  west longitude in the Omineca Mining Division, about 8 miles northeast of New Hazelton, B. C. It is reached from New Hazelton by Nine Mile Mountain road, 13 miles to Silver Cup basin, and an additional 2 miles by 4-wheel drive road to Sunrise Creek.

A pack trail leads another 1-3/4 miles to the old Lead King campsite at elevation 4,075 feet, which was rehabilitated for the program. Good pack trails lead from the campsite up to the various vein exposures above timber line, at elevations 4,700 to 5,200 feet.

CONSTRUCTION:

Camp - a cabin with various additions was constructed from salvage and plywood to accommodate 6 - 8 men.

Road - Road work was confined to rebuilding and maintenance. The road was widened and improved from Mile 6 to Mile 10-1/4 with considerable rock work at about Mile 8 and beyond Mile 9 to Mile 10-1/4.

Four bridges were replaced; the first three by widening and placing rock-filled cribbing, the fourth bridge over a flowing stream was replaced with timber stringers and planking. The rock fill cribbing on the approaches will require more work. A total volume of 876 cubic yards of rock was broken and moved.

Some additional work was done from Mile 10 to Mile 14-1/2 when the HD5 AC bulldozer was brought out.

Preliminary route layout and flagging was conducted from the end of the road at Sunrise Creek to the Lead King campsite, and from the base of the Lead King basin to below the Lead King workings.

PROGRAM:

Due to financing delay, the mapping and sampling program did not get started until the second week in September, when a geologist, Victor Sorokowsky, was sent to the property. He was assisted by Bob Pyper and labourers. Work was terminated by snow in October. Prior to termination, trenching, sampling and limited geological mapping and surveying was conducted on both properties.

Lead King - The Lead King program consisted of four trenches totalling 550 feet, at 100 foot centres across the vein zone to determine the extent of mineralization in the rock between the veins as well as in the veins to see if the zone carried enough values, that it could be mined as one unit. Three of the trenches were sampled and 109 samples assayed. The values between veins in general were too low to facilitate mass mining. The silver content in the veins from this preliminary sampling was higher at the Sunrise.

The work consisted of moving 30 cubic yards of overburden and 108 cubic yards of rock by drilling and blasting. Trenches, samples and geological points were located with survey control.

Additional trenching, sampling and geological mapping is required to determine the vein continuity, the average surface values and the effect of cross faulting on vein continuity and ore control.

Some cross veining between the main veins was noted. A zone of concentration of these veins could give an area of higher overall metal content that would be suitable for mass mining, and is a very important consideration for future work. This additional surface work is required before subsurface testing is recommended. Due to the steepness of the slope and the vein dipping into the mountain, diamond drilling is not practical and, because of the size of the vein outcrop area, a firmer target should be established prior to tunnel work.

Sunrise - Preliminary surface sampling, by clearing 270 feet of trench and moving 120 cubic yards of soil and loose rock, has confirmed ore grade mineralization of silver, lead, zinc, and antimony across mining widths. Only part of the length of the main vein was sampled. With the length extended 50 feet, the sampled area would be 342 feet in length. With narrower parts of the vein expanded to 4.0 feet at nil, the average true width is 5.8 feet. The average dip of the vein is about 25°. The weighted average grade is:

silver	-	9.4 oz. per ton
lead	-	3.35 %
zinc	-	2.86 %
antimony	-	0.64 %

No bismuth of any value has been found.

Using a tonnage factor of 9, this would give 521 tons per vertical foot.

The westerly extension is covered by overburden. The vein can be traced 350 feet further east to where it intersects a strong shear along the wall of a cirque. The old trenches are caved, but sections of good mineralization were observed.

The sampling showed quite a wide variation in mineral content throughout the area of the vein sampled. I would estimate that this may be the rule rather than an exception, and sampling needs to be closely spaced to give a true estimate of grade. This would also require close spacing of surface drill holes and extra length of holes, since the vein is dipping into the mountain. Some parallel veins will require initial drilling. However, the main vein can be explored and developed by drifting from the east end where the zone outcrops 50 feet in elevation below the surface assay area, and about 120 feet down the dip of the vein.

This would require at least 600 feet of drifting and an estimated 100 feet of internal crosscutting and raising to test ore boundaries.

The continuation of the surface work and underground work can be carried on at the same time. Mr. Schneider, president of



Sunrise Silver, has road building experience in the area, and advises that he feels a road could be extended to the vein area in about six weeks in the summer, after doing some work on the present road. The underground work is based on the assumption that a reasonably good truck road can be extended to the tunnel site.

CONCLUSIONS:

Despite a late start in the season of 1966, some useful information was compiled that should be continued as soon as weather permits. This will require detailed systematic work on both the Lead King and the Sunrise properties, including trenching, sampling, surveying, and geological mapping.

A section of the main vein gave a weighted average of: silver - 9.4 oz./ton; lead - 3.35%; zinc - 2.86%; antimony - 0.64% for an averaged true width of 5.8 feet for a sampled length of 342 feet, giving 521 tons per vertical foot. The extension to the west is covered by overburden. It was traced about an additional 350 feet eastward to the cirque wall. It is proposed that this area be explored by 600 feet of drifting, and about 100 feet of internal crosscutting and raising, if an adequate road can be extended to the tunnel site.

The location of the present campsite in relation to the Sunrise workings and lack of transportation detrimentally affect the amount of work progress by crews. Any construction at that location should be of a temporary nature.

Due to the interdependency of programs, planning and scheduling of the various phases is a necessity.

RECOMMENDATIONS:

It is recommended that the road be extended to the area of the main working on the Sunrise property. This will require competent planning to avoid excessive grades, outcrops and bluffs. This should start as soon as weather and ground conditions permit.

The program of detailed, systematic work on both properties, including trenching, sampling, surveying and geological mapping should be continued.

The main vein on the Sunrise property should be explored by 600 feet of drifting and about 100 feet of internal crosscuts and raises to determine continuity and grade to depth.

ESTIMATE OF COST

Additional cost of continuing 1966 program over second season, plus rental and property payments, general administration, etc.	\$ 6,500.00
Road to Sunrise vein zone - allow -	8,000.00
Underground tunneling, 700 feet - allow -	52,500.00
Underground assaying	2,500.00
Additional construction and services	8,000.00
Engineering and supervision, allow -	7,500.00
Contingencies	7,500.00
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	\$ 92,500.00
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Mason, J.D., Report on Hazelton - Sunrise Mines Limited, Private Report, December 1963.

Sorokowsky, V. Report on Sunrise Silver Mines Limited (N.P.L.), Private Report, November, 1966.

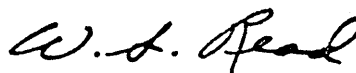
Wilson, H.S., Report on Property of Sunrise Silver Mines Ltd., Prospectus Report, March, 1966.

CERTIFICATE OF QUALIFICATIONS

I, Wayland Stuart Read, of 860 Younette Drive, West Vancouver, B. C., do hereby certify that:

1. I am a practising mining geologist and my address is 860 Younette Drive, West Vancouver, B. C.
2. I am a graduate in geology from Acadia University, Wolfville, Nova Scotia, and have been granted the degree of Bachelor of Science in Geology and have engaged in practising my profession for the past nine years.
3. I am a member of the Association of Professional Engineers of British Columbia and the Yukon Territory, a Fellow of the Geological Association of Canada and a Junior Member of the Canadian Institute of Mining and Metallurgy.
4. I have no interest in the securities of Sunrise Silver Mines Ltd., nor in the property held by them and discussed in this report.
5. This report is based on several visits to the properties during the summer of 1966.

Respectfully submitted,



Wayland S. Read, B.Sc., P.Eng.,  
Consulting Geologist

860 Younette Drive,  
West Vancouver, B. C.

February 15, 1967

APPENDIX "A"

WEIGHTED AVERAGE FOR SURFACE CUTS, MAIN VEIN  
SUNRISE PROPERTY (Fig. 1)

Channel No.	Sample No.	Length	Assay				Average				Width Feet
			Ag oz/ton	Pb %	Zn %	Sb %	Ag oz/ton	Pb %	Zn %	Sb %	
1	45477	0.7'	49.1	15.84	10.91	0.24)	8.61	2.77	1.91	0.04	4.0
		3.3'	-	-	-	- )					
2	45478	2.5'	2.0	0.47	1.08	0.12)	4.3	1.18	3.93	0.30	4.8
3	45479	2.3'	6.9	1.95	7.09	0.49)					
5	45481	4.0'	48.5	21.75	6.73	1.59	48.5	21.75	6.73	1.59	4.0
9	45485	1.3'	15.0	7.09	7.98	1.75)	4.9	2.30	2.59	0.57	4.0
		2.7'	-	-	-	- )					
11	45487	1.7'	53.8	3.63	6.48	2.13)	22.97	1.54	2.75	0.91	4.0
		2.3'	-	-	-	- )					
12	45490	2.9'	0.9	0.66	2.42	0.43)	11.3	5.65	7.34	2.21	5.2
13	45491	2.3'	24.5	11.95	13.54	0.46)					
14	45489	2.7'	3.8	2.37	2.18	1.32	2.9	1.35	1.31	0.67	7.3
		4.0'	-	-	-	-					
15	45488	0.6'	17.7	5.85	6.04	2.39					
17	45496	2.9'	22.8	6.40	5.42	1.35					
18	45497	7.0'	2.9	1.21	0.87	0.43	8.1	2.52	2.08	0.68	10.8
19	45498	0.9'	1.7	0.25	0.75	0.46					

APPENDIX "B"

WEIGHTED AVERAGE FOR SURFACE SAMPLE AREA, MAIN VEIN  
SUNRISE PROPERTY (Fig. 1)

Channel #	Sample Width	Distance Between Samples	Distance of Influence of each Sample	Area of Influence of each Sample	Assay				Area Assay Product			
					<u>Ag</u> oz/ton	<u>Pb</u> %	<u>Zn</u> %	<u>Sb</u> %	<u>Ag</u>	<u>Pb</u>	<u>Zn</u>	<u>Sb</u>
1	4.0	20.0	82.0	328.0	8.6	2.77	1.91	0.04	2820.8	908.56	626.48	13.12
2, 3	4.8	124.0	79.0	379.0	4.3	1.18	3.93	0.30	1629.7	447.22	1489.47	113.70
5	4.0	34.0	28.0	112.0	48.5	21.75	6.73	1.59	5432.0	2436.00	753.76	178.08
9	4.0	22.0	17.0	68.0	4.9	2.30	2.59	0.57	333.2	156.40	176.12	38.76
11	4.0	12.0	14.0	56.0	22.9	1.54	2.75	0.91	1282.4	86.24	154.00	50.96
12, 13	5.2	16.0	22.0	114.0	11.3	5.65	7.34	2.21	1288.2	644.10	836.76	251.94
14, 15	7.3	28.0	42.0	307.0	2.9	1.35	1.31	0.67	890.3	414.45	402.17	205.69
17, 18, 19	10.8	56.0	58.0	626.0	8.1	2.52	2.08	0.68	5070.6	1577.52	1302.08	425.68
		<u>342.0</u>		<u>1990.0</u>					<u>18747.2</u>	<u>6670.49</u>	<u>5740.84</u>	<u>1277.93</u>

1990.0    ∴    342.0    =    5.8 Ft., average width with narrow sections expanded to 4.0 ft.  
18747.2    ∴    1990.0    =    9.4 Oz/Ton Ag  
6670.49    ∴    1990.0    =    3.35 % Pb  
5740.84    ∴    1990.0    =    2.86 % Zn  
1277.93    ∴    1990.0    =    0.64 % Sb