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# SUNRISE SILVER MINES LTD.

(NON-PERSONAL LIABILITY)

## PROSPECTUS SECOND PUBLIC ISSUE



Head Office: 425 - 718 Granville Street

Vancouver 2, B.C.

## SUNRISE SILVER MINES LTD. (N.P.L.)

INCORPORATED UNDER THE LAWS OF THE PROVINCE OF BRITISH COLUMBIA

NOTE:

NO PERSON IS AUTHORIZED BY THE COMPANY TO GIVE ANY IN-FORMATION, OR MAKE ANY REPRESENTATION OTHER THAN THOSE CONTAINED HEREIN IN CONNECTION WITH THE ISSUE AND SALE OF THE SHARES REFERRED TO HEREIN. ANY SUCH INFORMATION OR REPRESENTATION (IF GIVEN OR MADE BY ANY PERSON) CANNOT BE RELIED UPON AS HAVING BEEN AUTHORIZED BY THE COMPANY.

A PURCHASE OF THE SECURITIES OFFERED BY THIS PROSPECTUS MUST BE CONSIDERED A SPECULATION.

NO SECURITIES COMMISSION OR SIMILAR AUTHORITY IN CANADA HAS IN ANY WAY PASSED UPON THE MERITS OF THE SECURITIES OFFERED HEREUNDER AND ANY REPRESENTATION TO THE CON-TRARY IS AN OFFENCE.

Registrar and Transfer Agent

Canada Permanent Trust Company 455 Granville Street, Vancouver, B.C. Auditors

John C. Oswald & Co. 215 Hall Building, Pender and Howe Street, Vancouver 1, B.C. Second Public Issue

225,000 Shares

#### SUNRISE SILVER MINES LTD, (NON-PERSONAL LIABILITY)

Incorpotated under the laws of the Province of British Columbia

A PURCHASE OF THE SECURITIES OFFERED BY THIS PROSPECTUS MUST BE CONSIDERED A SPECULATION.

NO SECURITIES COMMISSION OR SIMILAR AUTHORITY IN CANADA HAS IN ANY WAY PASSED UPON THE MERITS OF THE SECURITIES OFFERED HEREUNDER AND ANY REPRESENTATION TO THE CONTRARY IS AN OFFENCE.

NO SURVEY OF THE COMPANY'S THIRTY-SIX RECORDED MINERAL CLAIMS HAS BEEN MADE AND THEREFORE IN ACCORDANCE WITH THE MINING LAWS OF THE APPROPRIATE JURISDICTION IN WHICH SUCH MINERAL CLAIMS ARE SITUATE THE EXISTENCE OF AND THE AREA OF SUCH MINERAL CLAIMS COULD BE IN DOUBT. By this Prospectus, the Company is offering to sell 225,000 shares of its capital stock at a price of 45¢ per share subject to a maximum commission of 11 1/4¢ per share. Subscriptions will be received subject to rejection or allotment in whole or in part and the right is reserved to close the subscription books at any time without notice.

Registered office: 124 East 15th Street, North Vancouver, B. C.

Head Office: 425 - 718 Granville Street, Vancouver, B. C.

Registrar and Transfer Agent: Canada Permanent Trust Company, 455 Granville Street, Vancouver, B.C.

Auditors: John C. Oswald & Co., Chartered Accountants, 215 Hall Building, Pender & Howe Streets, Vancouver, B. C.

Solicitors: Messrs. Forrest, Gray & Muaro, 124 East 15th Street, North Vancouver, B.C.

No person is authorized by the Company to give any information or to make any representation, other than those contained in this Prospectus, in connection with the issue and sale of the shares described herein. If given or made, such information or representation cannot be relied upon as having been authorized by the Company.

#### STATUTORY INFORMATION

(a) The full name of the Company is SUNRISE SILVER MINES LTD. (NON-PERSONAL LIABILITY), being hereinafter called "the Company". The head office of the Company is situate at Suite 425 - 718 Granville Street, Vancouver, British Columbia, and the registered office of the Company is situate at 124 East 15th Street, North Vancouver, British Columbia.

(b) The Company was incorporated as a specially limited public company by Memorandum of Association under the Companies Act of the Province of British Columbia by certificate of incorporation dated January 27th, 1966.

(c) There have been no amendments to the Memorandum of Association.

(d) The directors of the Company are:

#### Occupation

Prospector

Engineer & Prospector

Otto Schneider, 174 West 11th Avenue, Vancouver 10, B. C. President, Managing Director & Field Supervisor.

Anne Schneider, 174 West 11th Avenue, Vancouver 10, B. C. Vice-President.

Name and Address

Leonard Thomas Vaughan, Suite <sup>#</sup>2503, 1255 Bidwell Street, Vancouver, B.C. **Civil Engineer** 

George Neville Munro, 4450 Osler Street, Vancouver, B. C. Secretary. Barrister & Solicitor

Otto Schneider and Anne Schneider, the vendors of the Sunrise Silver property described in paragraph (m) hereof, may be regarded as the promoters of the Company.

(e) The auditors of the Company are John C. Oswald & Co., Chartered Accountants, 215 Hall Building, Pender & Howe Streets, Vancouver 1, British Columbia.

(f) Canada Permanent Trust Company at 455 Granville Street, Vancouver 1, British Columbia, is the Registrar and Transfer Agent for the shares of the Company.

(g) The authorized capital of the Company is \$2,500,000 divided into 5,000,000 shares with a nominal or par value of 50¢ each, of which 1,000,005 shares have been issued as fully paid and non-assessable. There is no other class of shares.

(h) No bonds or debentures of the Comapny are outstanding and none are proposed to be issued at this time.

(i) Certificates representing 585,000 shares of the capital stock of the Company are held in escrow by Canada Permanent Trust Company, 455 Granville Street, Vancouver 1, British Columbia, on the footing that the said shares cannot be sold, assigned or transferred without the prior written consont of the Superintendent of Brokers of the

#### -2-

Province of British Columbia and further that if the Company loses or does not obtain a good marketable title to or abandons or discontinues development of any of the property which was, or formed part of, the consideration for any af its securities in escrow, or in the event of the property not being as represented, the holders of such escrowed securities agree to surrender by way of gift to the Company for cancellation such number of escrowed shares as the Superintendent of Brakers of the Province of British Columbia deems fair and equitable.

(j) Particulars of the shares sold for cash are as follows:

Shares sold	Price per share	Discount	Cash received	Commission Paid
5	50¢	Nil	\$ 2.50	Nil
199,100	25¢	25¢	\$49,775.00	Nil
150,900	25¢	25¢	\$37,725.00	\$9,431.25

As stated above, the total cash received from the sale of the shares is the sum of \$87,502.50 and commissions totalling \$9,431.25 have been paid or allowed on the sale of these shares.

(k) No securities, other than the shares sold for cash as set out above and 650,000 shares heretofore issued for properties, have been sold by the Company.

(1) There are no shares issued, or to be issued, to any promoter other than to Otto Schneider and Anne Schneider for properties as set out in paragraph (m) hereof. Anne Schneider has purchased shares of the Company for cash. Up to the date of this Praspectus, Otto Schneider has received the total sum of \$9,750.00 for his services as Managing Director and Field Supervisor of the Company, and it is the Company's intention to continue to pay the sum of \$750.00 per month to Otto Schneider for his services as Managing Director and Field Supervisor of the Company. The Company has repaid to Anne Schneider the total sum of \$2,136.52 which she advanced to defray costs of incorporation and preliminary expenses.

(m) Particulars of the mining properties of the Company are as follows:

(i), (ii) and (iii)

#### The Sunrise Silver Property:

The Company has purchased and is the recorded and beneficial owner of 36 recorded mineral claims situate about eight air miles northeast of New Hazelton station in the Omineca Mining Division, British Columbia, and more particularly described as follows:

VAN <sup>#</sup> 1 to 6 inclusive	26761 to 6 inclusive
ALPHA #1 to 5 inclusive	22036 to 40 inclusive
ALPHA #6	21304
ALPHA #7	21305
#8 ALPHA	22471
#9 ALPHA	22472
#10 ALPHA	22473
ALPHA <sup>#</sup> 11 to 26 inclusive	25387 to 25402 inclusive
ALPHA <sup>#</sup> 27 to 30 inclusive	26767 to 26770 inclusive

**Record Number** 

These mineral claims were purchased by the Company from Otto Schneider and Anne Schneider in consideration of the allotment of 650,000 shares of the Company, as fully paid and non-assessable, as follows:

Allottee	Number of Shares
Anne Schneider	309,000
Otto Schneider	309,000
Shirley Cortez	32,000
<b>,</b>	650,000

All of these 650,000 shares were deposited in escrow under the terms set out in paragraph (i) hereof and on June 2nd, 1967, the Superintendent of Brokers consented to the release of 65,000 of these shares pro rata to the holders thereof. To the knowledge of the signatories hereto, no person or company has received or is to receive from the vendors of the Sunrise Silver property a greater than 5% interest in the consideration received therefor.

#### The Hazelton Sunrise Property:

Name of Claim

The Company holds by way of lease six Crown-granted mineral claims situate in the immediate proximity of the Sunrise Silver property in the Omineca Mining Division, British Columbia, more particularly described as follows:

Name of Mineral Claim	Description of Land		
Ethel	Lot 593, Cassiar District		
Sunset	Lot 594, Cassiar District		
Sunrise	Lot 595, Cassiar District		
Noonday	Lot 596, Cassiar District		
Hidden Treasure	Lot 597, Cassiar District		
Ethel Fraction	Lot 599, Cassiar District		

The Company holds the Hazelton Sunrise property under lease dated April 29th, 1966 as amended by Modification Indenture dated as of April 30th, 1966, both made between The Hazelton Sunrise Mines Limited (Non-Personal Liability), as lessor and the Company, as lessee. The Hazelton Sunrise Mines Limited (Non-Personal Liability) is the registered owner of the Hazelton Sunrise property, subject to the said Lease held by the Company and registered in the Land Registry Office at Prince Rupert, British Columbia under number 27093-D as amended by the said Modification Indenture registered in the said office under number 27151-D. The Lease is for a term of five (5) years from June 1st, 1966; and the Company is obligated to make expenditures on the Hazelton Sunrise property in the sum of not less that \$5,000.00 during each year of the said term, and if more than that sum is expended in any year then the excess may be carried forward by the Company and applied as part of the expenditures to be made during any succeeding year or years of the said term. If the Hazelton Sunrise property is brought into praduction during the said five (5) year term, then the Lease will continue in force until the permanent abandonment or completion of the Company's mining and milling operations on the Hazelton Sunrise property or until the expiration of 25 years from the date of commencement of production, whichever time shall be the earlier. By way of rental, the Company agreed to pay the lessor \$8,000.00 in the first year, \$6,000.00 in each of the second and third years, \$5,000.00 in the fourth year, all of which annual payments will be made in quarterly instalments. No rental is payable during the fifth year of the said term. In addition to the rent aforesaid and in the event that the Hazelton Sunrise property is brought into production, the Company will pay the lessor a rent by way of royalty equal to 5% of the net smelter returns from ore, concentrate, precipitate or metal won from the Hazelton Sunrise property, as particularly defined in the Lease. If during any operating year (as defined in the Lease) commencing after May 31st, 1970 the total royalties paid by the Company to the lessor are less than \$2,000.00, then the Company will pay the lessor the difference between \$2,000.00 and the total royalties paid by the Company to the lessor in such operating year. The Company must make the said expenditures and pay the said rent end royalties to maintain the Lease in good standing, but the Company is entitled to terminate the Lease at any time be giving not less that 90 days' written notice of termination to the lessor. In the event of such termination, the Company will have no further obligation to make expenditures on the Hazelton Sunrise property or to pay rent thereafter. The lessor has the right to terminate the Lease on default by the Company as provided in the Lease. The Company may assign the Lease or any interest therein without the consent of the lessor. Otto Schneider and Ame Schneider own the majority of the issued and outstanding shares in The Hazalton Sunrise Mines Limited (Non-Personal Liability) and are directors and officers thereof.

(iv), (v), (vi) and (vii)

For particulars of the character, extent and condition of the underground and surface exploration and development, the history of the Company's mining properties, and the means of access thereto, reference is made to the following reports, copies of which accompany and form part of this Prospectus:

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A. Report on the Sunrise Silver property and the Hazelton Sunrise property dated February 15th, 1967, made by W. S. Read, P. Eng.

B. Repert on the Sunrise Silver property dated March 3rd, 1966, made by H. S. Wilson, P. Eng.;

C. Report on the Hazelton Sunrise property dated May 17th, 1966, made by H. S. Wilsan, P. Eng.;

The Company does not presently own any underground or surface plant or equipment.

#### (viii)

During the summer of 1965, Otto Schneider worked on the Company's mining properties. During the summer and fall of 1966, the Company carried out the work and improvements on the Company's mining properties more particularly described in the report dated February 15th, 1967, made by W. S. Read, P. Eng., a copy of which accompanies this Prospectus.

(n) There are no securities of the Company in respect of which options or underwriting agreements have been made or are to be given or proposed to be given by the Company. The Company by this Prospectus offers to sell 225,000 treasury shares. The amount payable on application for allotment for such shares is 45¢ per share. A discount of 5¢ per share will be allowed, and commission may be paid in respect of some or all of the shares sa offered not to exceed 11 1/4¢ per share.

(o) The Company proposes to use the funds presently available in its treasury together with the proceeds of the sale of the 225,000 shares referred to in clause (n) hereof to conduct exploration and development programs in accordance with recommendations made from time to time by its engineers and in particular to carry out the recommendations contained in the report of W. S. Read, P. Eng. dated February 15th, 1967 with respect to the Company's mining properties as follows:

#### "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
	Ŧ	-,
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	\$	$\frac{7,500.00}{92,500.00}$

The Company's directors consider that the proceeds of this offering of 225,000, when added to the funds presently available in its treasury, will be sufficient to carry out the recommendations of its engineers and to defray normal business and administrative expenses and legal and accounting services with respect to the operations of the Company.

No part of the proceeds will be used to invest, underwrite or trade in securities other than those that qualify as investments in which trust funds may be invested under the laws of the jurisdiction in which the securities offered by this Prospectus may lawfully be sold. Should the Company propose to use the proceeds to acquire securities of a nontrustee character after the initial distribution of the securities offered by this Prospectus, approval of the shareholders will be abtained and disclosure will be made to the regulatory securities bodies having jurisdiction over the sale of the securities offered by this Prospectus.

(p) The Company has been incorporated for more than one year and all expenses incurred in the formation, incorporation and preliminary matters relating thereto have been paid.

(q) There is no substantial indebtedness to be created or assumed by the Company that is not shown on the balance sheet of the Company made up to February 28th, 1967, a copy of which accompanies and forms part of this Prospectus.

(r) The principal business in which each director and officer of the Company has been engaged during the immediately preceding three years is as follows:

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Otto Schneider, President and Director; Engineer for various refrigeration companies, and engaged in mining development work;

Anne Schneider, Vice-President and Director; Prospector;

Leonard Thomas Vaughan, Director; Civil Engineer employed by private industry;

George Neville Munro, Secretary and Director; Barrister and Solicitor engaged in private practice in North Vancouver, B. C.; previously employed in legal capacity by a forest products company.

(s) Otto Schneider and Anne Schneider are the vendors to the Company of the Sunrise Silver property. Otto Schneider and Anne Schneider own the majority of the issued and outstanding shares in The Hazelton Sunrise Mines Limited (Non-Personal Liability) and are directors and officers thereof. The Company leases the Hazelton Sunrise property from The Hazelton Sunrise Mines Limited (Non-Personal Liability) as set out in paragraph (m) hereof.

(t) No remuneration has been paid by the Company to directors or officers as such since the incorporation of the Company.

(u) It is anticipated that no remuneration will be paid to any director of officer as such during the current fiscal year. Mr. Otto Schneider is the Managing Director and Field Supervisor of the Company at a remuneration of \$750.00 per month.

(v) Otto Schneider and Anne Schneider, by reason of the shares received by them in consideration of the sale of the mineral claims described in paragraph (m) hereof, are in a position to elect or cause to be elected a majority of the Directors of the Company.

(w) No dividends have been paid by the Company.

(x) All shares previously issued by the Company (including shares described in this **Prospectus as being deposited in escrow, as they may be released** from time to time) may be offered for sale and sold from time to time under this Prospectus. The Company will receive no part of the proceeds of the sale of any such shares.

There are no other material facts which are not disclosed in this Prospectus.

The foregoing constitutes full, true and plain disclosure of all material facts in respect of the offering of the securities referred to above, as required by the Securities Act of the Province of British Columbia and there is no further material information applicable other than in the financial statements or reports where required. DATED at Vancouver, British Columbia, this <u>7th</u> day of <u>June</u>, 1967.

"Otto Schneider" Otto Schneider

"Anne Schneider" Anne Schneider

"Leonard Thomas Vaughan" Leonard Thomas Vaughan

"George Neville Munro" George Neville Munro JOHN C. OSWALD & CO.

Chartered Accountants

Vancouver, Canada

April 24, 1967

#### Auditors' Report

To the Shareholders of Sunrise Silver Mines Ltd. (Non-Personal Liability)

We have examined the balance sheet of Sunrise Silver Mines Ltd. (Non-Personal Liability) as at February 28, 1967 and the accompanying statements of exploration, development, and administration costs and source and use of funds for the period from May 9, 1966 (date of commencement of operations) to that date. Our examination included a general review of the accounting procedures and such tests of the accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheet and the related statements of exploration, development and administration costs and source and use of funds, when read in conjunction with the notes thereto, present fairly the financial position of the company as at February 28, 1967, and the results of its operations for the period ended on that date in accordance with generally accepted accounting principles.

John ( Swale Ko artered Accountants

#### Balance sheet, February 28, 1967

#### ASSETS

CURRENT: Cash Receivable		\$ 27,231 <u>175</u> 27,406
MINING PROPERTIES, at cost: Located mineral claims at value placed on 650,000 shares issued therefor Lease rental payments on Crown-granted mineral claims (Note 1)	\$_325,000 8,000	333,000
CAMP BUILDINGS AND EQUIPMENT, at cost		1,014
DEFERRED CHARGES: Exploration, development and administration costs, per statement attached Incorporation and preliminary expenses	44,045 2,439	<u>46,484</u> <b>\$407,</b> 904
LIABILITIES		
CURRENT: Lease rental payment Payables		\$ 2,000  4.833
Lease rental payment Payables SHARE CAPITAL:		
Lease rental payment Payables SHARE CAPITAL: Authorized - 5,000,000 shares, par value 50¢ each	<u>\$2,500,000</u>	2,833
Lease rental payment Payables SHARE CAPITAL: Authorized -	<u>\$2,500,000</u> 325,000 175,002 500,002	2,833

The accompanying notes are an integral part of this statement.

Approved on behalf of the Board:

A. Shu der

To be read in conjunction with our report to the Shareholders dated April 24, 1967.

John C Wald Ho. Chartered Accountants

#### Exploration, development and administration costs for the period from May 9, 1966 (date of commencement of operations) to February 28, 1967

EXPLORATION AND DEVELOPMENT:	
Management remuneration	\$ 6,750
Consulting engineers' fees and expenses	4,025
Field wages and benefits	10,208
Road construction contract	3,038
Assaying	2,331
Free miner's certificate, staking and	
recording fees	472
Camp provisions and supplies	1,671
Equipment rental	3,628
Equipment repairs, gas and oil	832
Hotel, travel and field accommodation	1,831
	34,786

#### **ADMINISTRATION:**

Printing, stationery and office supplies	\$ 567	
Telephone	685	
Office rent	565	
Public relations and shareholders' information	2,040	
Secretarial fees	300	
Legal fees and outlays	3,587	
Accounting and audit fees	1,010	
Share issue	505	9,259

Total per balance sheet \$44,045

## Source and use of funds for the period from May 9, 1966 (date of commencement of operations) to February 28, 1967

SOURCE: Proceeds from sale of 350,000 shares of capital stock @ 25¢ per share Less commission paid		\$87,500 9,432 78,068
USE:		
Exploration, development and administration costs for the period \$4 Lease rental payments on Crown-granted	44,045	
mineral claims	6,000	
Acquisition of camp buildings and equipment	1,014	51,059
INCREASE IN WORKING CAPITAL		27,009
WORKING CAPITAL DEFICIENCY as at May 9, 1966		4,436
WORKING CAPITAL as at February 28, 1967		<u>\$22,573</u>

Notes to financial statements for the period from May 9, 1966 (date of commencement of operations) to February 28, 1967

#### 1. Lease rental payments on Crown-granted mineral claims:

Under the terms of a lease dated April 29, 1966, as amended April 30, 1966, the company is leasing certain Crown-granted mineral claims for a term of five years commencing June 1, 1966 from the Hazelton Sunrise Mines Limited (Non-Personal Liability) under the following terms and conditions -

- a) lease rental payments:
  - \$ 8,000 in instalments of \$2,000 each during the first vear, \$6,000 of which has been paid to February 28, 1967
    - 12,000 in eight equal quarterly instalments of \$1,500 each for the second and third years commencing June 1, 1967

5,000 in four equal quarterly instalments of \$1,250 each for the fourth year commencing June 1, 1969 \$25,000

No rental is payable during the fifth year.

- b) annual work commitments of net less than \$5,000 during each year of the lease.
- c) rent by way of royalty equal to 5% of the net smelter returns with a guarantee of not less than \$2,000 per year commencing May 31, 1970.

If the Hazelton Sunrise Property is brought into production during the five year term commencing June 1, 1966, then the lease will continue in force until completion of milling operations on the Property or until the expiration of twentyfive years from the date of commencement of production, whichever time shall be the earlier.

d) the company is entitled to terminate the lease at any time by giving not less than ninety days' written notice of termination to Hazelton Sunrise.

#### 2. Share capital issued:

Of the 1,000,005 shares issued, 650,000 shares are held in escrow subject to the order of the Superintendent of Brokers of British Columbia.

3. Directors' remuneration:

During the period the company paid a management salary of \$6,750 to a director.

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DRAWINGS

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#### 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

February 15, 1967

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

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

#### 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° 21' north latitude, and 127° 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:

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

<u>Road</u> - 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 rockfilled 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 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

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not practical and, because of the size of the vein outcrop area, a firmer target should be established prior to tunnel work.

<u>Sunrise</u> – 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 woul 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.

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#### 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% far 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 loaction 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.

- 6 -

#### **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.

- 7 -

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
	<del></del>

\$ 92,500.00

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Kindle, E. D.,	Mineral Resources, Hazelton and Smithers Area, Cassiar and Coast Districts, British Columbia, Memoir 223, Geological Survey of Canada, 1954.						
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 if 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,

W.S.Read

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)

hannel	Sample	Length		Ass	aÿ			Aver	age		Width
No.	No.	 	Ag oz∕ton	Pb %	Zn %	Sb %	Ag oz/ton	РЬ %	Zn %	Sb %	Feet
١	45477	0.7' 3.3'	49.1 _	15.84 -	10.91	0.24) - )	8.61	2.77	1.91	0.04	4.0
2 3	45478 45479	2.5' 2.3'	2.0 6.9	0.47	1.08 7.09	0.12) 0.49)	4.3	1.18	3.93	0.30	4.8
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' 2.7'	15.0	7.09	7.98	1.75) - )	4.9	2.30	2.59	0.57	4.0
11	45487	1.7' 2.3'	53.8	3.63	6.48 -	2.13) - )	22.97	1.54	2.75	0.91	4.0
12 13	45490 45491	2.9' 2.3'	0.9 24.5	0.66	2.42 13.54	0.43) 0.46)	11.3	5.65	7.34	2.21	5.2
14	45489	2.7' 4.0'	3.8	2.37	2.18	1.32	2.9	1.35	1.31	0.67	7.3
15	45488	0.6'	17.7	5.85	6.04	2.39			<u></u>		
17 18 19	45496 45497 45498	2.9' 7.0' 0.9'	22.8 2.9 1.7	6.40 1.21 0.25	5.42 0.87 0.75	1.35 0.43 0.46	8.1	2.52	2.08	0.68	10.8

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## APPENDIX "B"

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

Channel	Sample	Distance	Distance	Area of		Asso	зу		1	Area Assay Pr	oduct	
#	Width	Between Samples	of Influence of each Sample	Influence of each Sample	oz/ton	<u>РЬ</u> %	<u>Zn</u> %	<u>Sb</u> %	Ag	Pb	Zn	<u>Sb</u>
]	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
1,1	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.
		342.0		1990.0					18747.2	6670.49	5740.84	1277.93
	1990.0 18747.2 6670.4 5740.8 1277.9	2 <del>;</del> 49 <del>;</del> 84 <del>;</del>	342.0 1990.0 1990.0 1990.0 1990.0	= 9.4 = 3.3 = 2.8	8 Ft., avera 4 Oz/Ton A 35% Pb 86 % Zn 64 % Sb	-	with narr	ow section	s expanded to	o 4.0 ft.		

1030 Bayview Drive, Ladner, B.C., May 1st, 1967.

Mr. Otto Schneider, President, Sunrise Silver Mines Ltd., 174 West 11th Avenue, Vancouver 10, B.C.

Dear Mr. Schneider:

You asked me for my comments concerning a proposed program for developing the Sunrise Silver Mines property. Although as yet I have not had the opportunity of examining the ground, I have read all the engineering reports and closely observed the vertical aerial photos. As a result of a complete study of all pertinent material, I have come to certain conclusions, which I offer as an alternate proposal to best suit your needs for a program that might be undertaken this season.

It is my considered opinion that instead of embarking on a program to spend some \$92,500.00 this year, you might be better advised to ship the approximate 100-ton stockpile to produce an income, survey and correlate the surface to the underground workings, continue the adit to intersect the main vein, then drift along the vein so that future stopes could be outlined. In this way, the higher grade material could be mined and sorted for shipment this year. A limited diamond drilling program to prove up ore reserves could be conducted later in the season.

I would suggest that the work that should be done this year should be sub-divided into three distinct stages. In this way you will know the moneys required for each stage for financing the project and you will not require the full amount of money for the entire year's program before commencing work. In addition you will be deriving an income during the course of the working season from your shipments of high grade ore, the rejects being stockpiled for future recovery in a concentrator at a later date.

Instead of building a road to reach the adit, the higher grade ore could be crushed to 3/4" size and pipelined down to an ore bin. A small jaw crusher run by a gas or diesel engine near the mouth of the adit to crush the ore could be flown up by helicopter. A pump to provide water for washing the ore down the pipe would also be required near the adit.

The <u>FIRST STAGE</u> would consist of reopening the camp, purchasing a jaw crusher and a minimum of 3,000 feet of 4-inch cast iron pipe; building an ore

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Pipe	\$ 2,500.00
Jaw crusher	2,500.00
Wages for two men	1,200.00
Misc. supplies, food gas	1,000.00
Ore bin	800.00
Maintenance of road	1,000.00
Helicopter flying	1,500.00
TOTAL	\$ 10,500.00

bin and laying the pipeline. The estimated cost would be:

The <u>SECOND STAGE</u> would consist of crushing and shipping the existing stockpile. At the same time the mining equipment comprising a compressor, two jack-leg drills, steel and bits, explosives, track, pipe, etc. should be flown to the adit site. The estimated costs are as follows:

Rental of compressor for 5 months	\$ 2,000.00	
Rental of jack-leg drills for 5 months	1,500.00	
Explosives, hardware, etc.	900.00	
Steel, bits, track, ties, fishplates,		
spikes	1,000.00	
Supplies of food, gas, oil, etc.	4,000.00	
Helicopter flying to move equipment	2,200.00	
Wages for four men	2,400.00	
TOTAL	\$ 14,000.00	

The <u>THIRD STAGE</u> would commence actual mining operations underground and at the same time hand sort the high grade ore for shipment. The timing should be from August 1st to November 30th. Diamond drilling to intersect the vein at the same horizon as the drifting ahead of undergrould development, should start about mid August. Estimated costs for this stage:

Wages for six men	\$ 19,200.00
Wages for cook and laborer	3,200.00
Supplies	7,500.00
Administration, engineering, etc.	1,100.00
Diamond drilling	4,000.00
TOTAL	\$ 35,000.00

I would expect that the first Stage should be completed by July 1st, the second Stage completed by August 1st and the third Stage continue to December 1st.

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In summary the estimated costs are:

First Stage	\$ 10,500.00
Second Stage	14,000.00
Third Stage	35,000.00
	\$ 59,000.00

It should be noted that shipments of ore during the season would be providing an income. It is quite reasonable to assume that at least half of the total expenditures might be recovered from these shipments during the year. Possibly more than half the expenditures could be recovered. Equipment being rented might be bought at the end of the season, at which time it should be known if sufficient ore reserves would justify erection of at least a 50-ton per day concentrator next year. When the mining equipment is being rented an option should be negotiated whereby the rent might apply on purchase prices.

The above are my comments and suggestions whereby you should be in a better position to determine the mine making possibilities of Sunrise Silver Mines Ltd. by the end of 1967.

Respectfully submitted,



K. J. Christie, B. Sc., P. Eng., Consulting Mining Engineer.



March 3, 1966

Mr. Otto Schneider, President, Sunrise Silver Mines Ltd., 174 West 11th Avenue, Vancouver 10, B. C.

Dear Sir:

In response to your request of February 15th, the following is a summary of my observations on the former Lead King group of mineral claims, which I briefly examined on August 4th and on August 30th, 1965. I understand from your letter that these claims now form part of the property owned by Sunrise Silver Mines Ltd.

The property covers a number of mineral showings on which more or less work has been done by former owners, mostly many years ago, but my examination was confined to the former Lead King group of claims, which seemed to have the most important showings, and it consisted of visual inspection of the veins described in Geological Survey of Canada Memoir 223 and indicated on the accompanying map. No sampling was done by the writer.

#### Property

The property owned by Sunrise Silver Mines Ltd. consists of a somewhat irregular group of thirty-six mineral claims with area of about 1800 acres, as shown on the attached map and as listed below.

Alpha	1	to	5	Nos	22036	to	22040	incl	-	5 claims
**	6	&	7	11	21304	&	21305		-	2 "
**	8	to	10		22471	to	22473	11	-	3 "
**	11	to	20	11	25387	to	25396	11	- 1	.0 "
**	21	to	26	11	25397	to	25402	11	-	6 "
**	27	to	30	11	26767	to	26770	11	-	4 11
Van	1	to	6	11	26761	to	26766	11		<u>6</u> "
					Total				3	6 claims

#### Location and Access

The property is located on the north side of Nine Mile Mountain, about eight air miles northeast of New Hazelton station, Omineca Mining Division, British Columbia. It is reached by way of Nine Mile Mountain road, 13 miles long from South Hazelton station to Silver Cup basin at elevation 3400 feet, which road is presently being extended an additional

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distance of three miles to an old campsite in a grassy meadow at the foot of a glacial cirque at elevation 4075 feet. From this point a good trail leads to the vein exposures at elevation of about 4700 feet.

## Sources of Information

The mineral showings on the Lead King claims are described in some detail in the above-mentioned Geological Survey of Canada Memoir 223 (Revised Edition), Mineral Resources, Hazelton and Smithers Areas, Cassiar and Coast Districts, British Columbia, by E. D. Kindle, pp 50-52, with accompanying map (Figure 5) showing the location of the various veins mentioned in the text. Mineral showings located on other claims that are included in the Sunrise property are also described in this Memoir, which contains the only factual information available to me, and it has been used extensively both during the examination and in preparation of this report.

#### Development

Work done on the Lead King group of mineral claims by former owners consists of an adit about 43 feet long, a 40-foot inclined shaft, plus a fair amount of stripping along the veins, and a number of open-cuts. Five tons of ore are reported to have been shipped in 1909.

## Geology

Nine Mile Mountain is underlain chiefly by a group of sedimentary rocks of Upper Jurassic and Lower Cretaceous age, which consist of tuffaceous sandstone, greywacke, arkose, argillite, etc. The most common type is a hard, grey, even-grained greywacke which only locally is wellbedded. These rocks have been folded into broad, open anticlines and synclines which trend northeasterly and whose limbs usually dip at angles of less than 45 degrees. On the north side of the mountain, in the vicinity of the Sunrise property, the sediments have been intruded by an elongated stock, 4 miles long by ½ mile wide, of grey, coarsely crystalline granodiorite whose longer axis trends in a northwesterly direction. It is of Upper Cretaceous or Tertiary age.

## Economic Geology

The veins that occur on the Lead King claims are well described by E. D. Kindle in the above-mentioned Memoir 223, p 51, which is quoted verbatim. "The veins occur along slickensided fault fissures in the granodiorite stock that intrudes the sediments along the north side of the mountain. They lie in a disturbed zone about 700 feet wide and possibly

2,500 feet long, which extends from the Lead King ground west across the Sunrise property. This zone is parallel with the line of contact of the granodiorite and intruded sediments, and its north border lies about 500 feet south of the contact within the intrusion. There are two distinct sets of vein fissures. One series strikes north and dips from 25 to 45 degrees east, and the other strikes east and dips from 10 to 35 degrees south into the mountain. The fissures are offset a few feet by normal faults that strike north and dip from 60 to 90 degrees east. The veins commonly range from 100 to 300 feet in length. Their average width is about 1 foot, but they are lenticular and range from 4 inches to 3 feet wide. They are commonly arranged en echelon. In some cases parallel veins lie only 6 feet apart and could be mined together. The veins are mostly of quartz heavily mineralized with jamesonite, sphalerite, cosalite, and galena, with some argentite and tetrahedrite. There are, in addition, sheared zones in which the granodiorite is altered and replaced by fine veinlets of quartz, galena, sphalerite, and jamesonite."

My observations are in entire agreement with Kindle's description, although some portions of the veins are not now exposed, being concealed by rubble that has fallen into the pits.

The various veins and other features are shown on the attached plan, which is traced from Figure 5 in Memoir 223.

The vein that occurs below the portal of the short adit at elevation 4715 feet at the upper left edge of the plan, and the one exposed in the open-cut at elevation 4940 feet on the slope above it, consists of stringers of quartz and sulfides contained in sheared and altered granodiorite. At the adit, the vein zone is now completely concealed by rubble and by a small stockpile of ore that was apparently mined from it, but at the open-cut the mineralized zone is about 8 feet wide. No mineralization appears to have been encountered in the adit.

The vein exposed at the inclined shaft, which is about 725 feet east of the adit and at about the same elevation, is 18 inches wide. It has been traced on strike for some 200 feet, and ranges from 6 inches wide at both ends to 20 inches wide near its centre. It strikes east and dips south into the mountain and it is of quartz well mineralized with sulfides. An equally well mineralized parallel vein lies from 10 to 15 feet below it and two other veins are exposed at 50 feet and 70 feet respectively above it.

On the west side of a north-south fault which lies some 120 feet west of the inclined shaft, nine veins are exposed, mostly by natural agencies, on the more or less precipitous slope between elevations 4750 and 5100 feet. They are all of quartz well mineralized with jamesonite, sphalerite, and galena, with a little pyrite, cosalite and arsenopyrite.

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Page 4.

The sulfides occur disseminated through the quartz and as alternate bands of solid sulfides.

Assay results of samples from various veins taken by E. D. Kindle and quoted in Memoir 223 are listed below, the various localities from which they were taken being numbered, which correspond to numbers on the attached plan.

		Assays					
Location	type of sample	length of sample cut	silver ozs	lead %	zinc %	antimony %	arsenic %
l.	representative of stockpile	-	37•97	23.86	29.50	0.76	-
2.	channel	18"	9.15	6.47	17.11	2.63	2.43
3.	**	10"	15.23	8.18	16.70	-	-
4.		811	0.60	0.36	0.81	-	-
5.	**	24**	5.24	11.01	5.71	2.68	2.43
6.	**	18"	3.51	8.00	6.55	2.16	3.20
7.	representative of vein zone 8 feet wide	-	3.74	2.82	3.30	-	-

# Conclusions

A fair tonnage of silver-lead-zinc ore containing a little antimony, bismuth, and arsenic would appear to be indicated from the surface exposures, but before plans for further development of the property can be formulated, it will be necessary to make a more complete evaluation of all the more important veins, which will require detailed, systematic sampling of their exposures.

## Recommendations

It is recommended that the known veins be systematically sampled at intervals of from 5 to 10 feet along their exposed length, which will involve removal of rubble from the open-cuts and in some places further stripping and open-cutting. Additional topographic and geologic mapping should be carried out also, as well as some mill-testing of representative samples of the ore. In order to carry out this work a new camp should be established at the old campsite and the road extended to this location, a distance of about 1½ miles.

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# Estimate of Cost

The cost of carrying out the above-recommended work, including the road, is estimated at about \$25,000.

Respectfully submitted,

H.S. Wilson

H.S. Wilson, P.Eng.

## CERTIFICATE

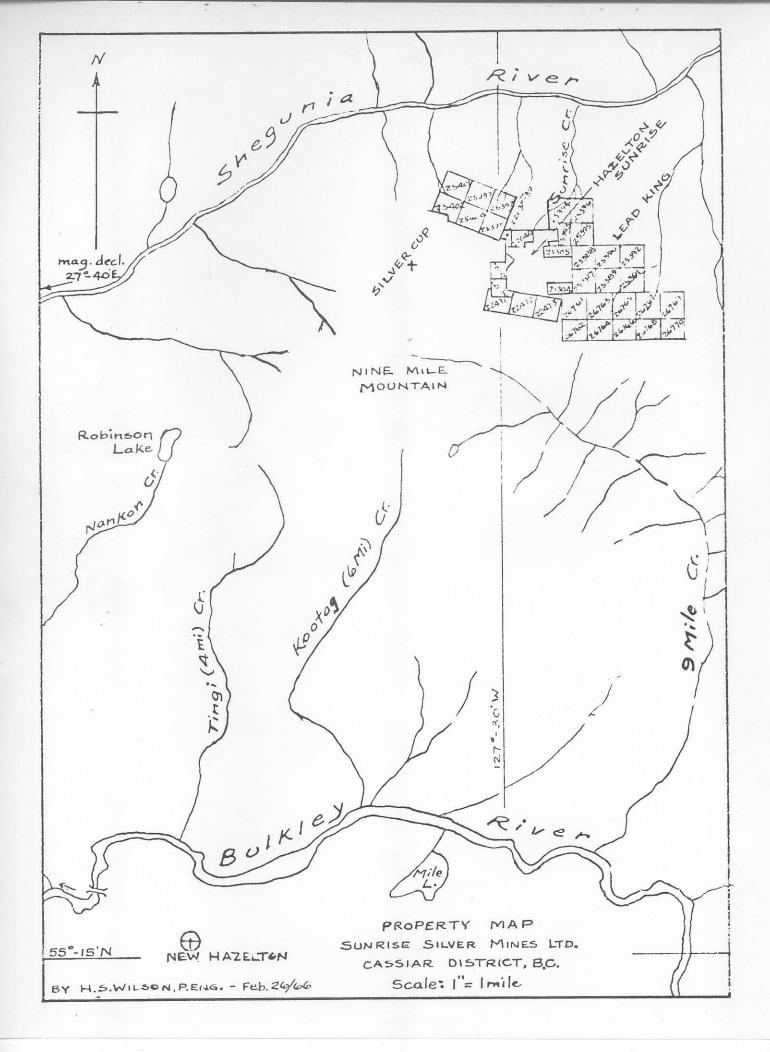
I, Harold S. Wilson, of 179 Reynolds Street, Oakville, in the Province of Ontario, hereby certify:

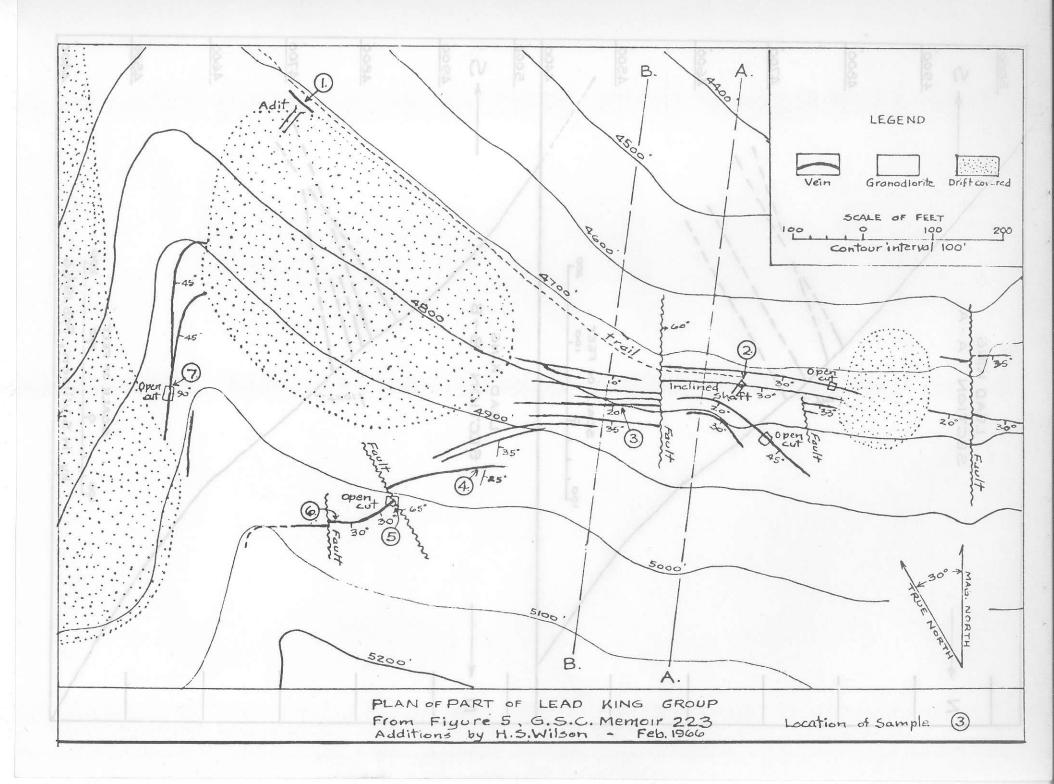
- 1. THAT I am a geologist and mining engineer and reside at 179 Reynolds Street, Oakville, Ontario.
  - 2. THAT I am a graduate of McGill University, B.Sc. 1924, M.Sc. 1925, with two years further post-graduate work in geology at the University of Wisconsin, and have been practicing my profession as a geologist and mining engineer for upwards of thirty-five years.
  - 3. THAT I have no direct or indirect interest whatsoever in the mining claims referred to in the accompanying report or in securities of Sunrise Silver Mines Ltd., nor do I expect to receive any such interest.
- 4. THAT the accompanying report is based on examination of the former Lead King group of mineral claims, which now form part of the property owned by Sunrise Silver Mines Ltd., and on documents and maps as listed in the body of this report.
- 5. THAT I examined the property referred to in the accompanying report on August 4 and on August 30, 1965.

DATED at Oakville, Ontario, this 3rd day of March, 1966.

H. S. WILSON

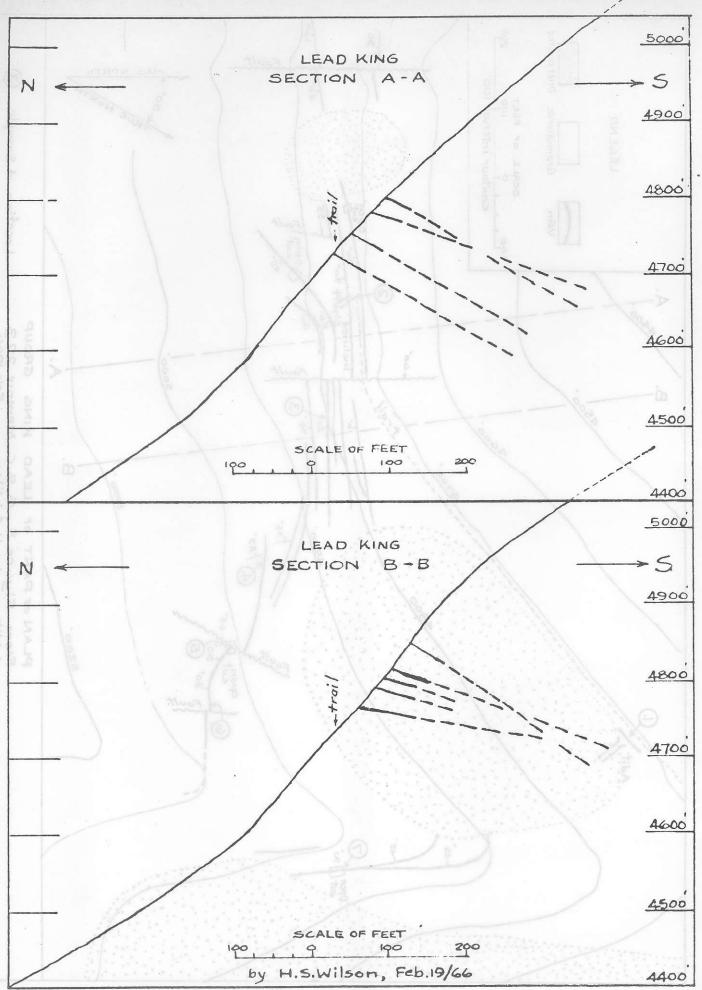
H.S. Wilson, P.Eng.





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Mr. Otto Schneider, President, Sunrise Silver Mines Ltd. (Non-Personal Liability), 174 West 11th Avenue, Vancouver 10, B. C.

## Dear Sir:

In compliance with your request, the following is a report on the property of The Hazelton Sunrise Mines, Limited, which I examined briefly on August 3rd and again on August 29th, 1965, and which, I understand, is being acquired on a long-term lease by Sunrise Silver Mines Ltd. (Non-Fersonal Liability).

# Property:

The property, which is owned outright by The Hazelton Sunrise Mines, Limited (Non-Personal Liability), consists of a compact group of five Crown granted mineral claims and one fraction, whose total area is about 180 acres, as follows:

> Lot 593, Cassiar District, known as the "Ethel" mineral claim Lot 594, Cassiar District, known as the "Sunset" mineral claim Lot 595, Cassiar District, known as the "Sunrise" mineral claim Lot 596, Cassiar District, known as the "Noonday" mineral claim Lot 597, Cassiar District, known as the "Hidden Treasure" mineral claim Lot 599, Cassiar District, known as the "Ethel Fraction" mineral claim

# Location and Access:

The property is located on the north side of Nine Mile Mountain, about eight air miles northeast of New Hazelton station, Omineca Mining Division, British Columbia. It is reached by way of Nine Mile Mountain road, 13 miles long from South Hazelton station to Silver Cup basin at elevation 3,400 feet. This road was extended last summer an additional distance of about 1½ miles and it is my understanding that it is proposed to extend it during the coming summer a further 1½ miles to an old campsite in a grassy meadow at the foot of a glacial cirque at elevation 4,075, feet. It is presently passable by four-wheel drive vehicles only. From this point a good pack horse trail leads to the vein exposures at elevations of between 4,800 and 5,100 feet.

The property is nearly surrounded by claims presently owned by Sunrise Silver Mines Ltd. (Non-Personal Liability).

# Sources of Information:

The property is described in some detail in Geological Survey of Canada Memoir 223 (Revised Edition), Mineral Resources, Hazelton and Smithers Areas, Cassiar and Coast Districts, British Columbia, by E. O. Kindle, pp 78-82, with accompanying map (Figure 8) showing the location of the various veins mentioned in the text.

The property is also described in a report dated December 4, 1963, by J. D. Mason, P. Eng., who carried out a preliminary sampling of the main vein exposed on the claims and who recommended that further exploration and development work be done in order to ascertain the merits of the property.

My examination was confined to visual inspection of the veins described in the above-mentioned reports and indicated on the maps. No sampling was done by the writer. Both reports have been used freely in the preparation of this report.

# Timber and Water:

Excellent timber for all mining purposes is available in the Shegunia Valley and on the slopes of Nine Mile Mountain.

Adequate water for milling purposes is available at lower elevations, and for preliminary exploration and development, it can probably be obtained from surface run-off and from the inclined shaft. A permanent supply of water can be obtained when warranted from a small lake near the top of the mountain at elevation 5,400 feet.

#### History:

Quartz veins carrying abundant jamesonite, galena, and sphalerite, were discovered on the property in 1909. The Hazelton Surrise Mines, Limited (Non-Personal Liability) was organized in 1911 and carried out some development work. A shipment of 74 tons of hand-sorted ore was made to the smelter in 1915, but results are not recorded. Further development was done in 1918 by J. Errington, and in 1920 by American Smelting and Refining Company. Trethewey Brothers carried on work for several years beginning in 1923, and were responsible for driving the main crosscut adit 400 feet. This work was resumed in 1927 by The Hazelton Sunrise Mines, Limited (Non-Personal Liability), the main adit being extended to a total length of 750 feet with a 60 foot raise from the face being driven up at 45 degrees to the north. Further work, chiefly surface trenching was done by this Company in 1937, which resulted in exposing several new veins. No significant work would appear to have been done on the claims since that time.

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## Development:

Development consists of numerous strippings, rock trenches, and open-cuts, with a crosscut adit driven due south, 110 feet long, at elevation 4,985 feet, and a 40 foot shaft inclined at 30 degrees on the main vein at elevation of about 5,020 feet. As noted above, the main crosscut adit, at elevation 4,800 feet, is driven in a southerly direction for 750 feet, at the end of which is a 60 foot raise inclined at 45 degrees to the north. There are two other short adits, one at elevation 4,760 feet, driven south for 32 feet, the other at elevation 4,735 feet, driven southwest for 117 feet, with a 50 foot crosscut to the southeast at a point 55 feet from its portal.

All underground openings are in good condition, but some of the surface openings are now more or less filled with rubble that has fallen from the walls.

# Plant, Equipment, Buildings:

There is presently no serviceable plant or equipment on the property, except for track and pipe in the main adit and a number of lengths of unused pipe along the trail leading up to it.

The only building on the property is an old cabin at the edge of the timber at elevation  $k_{250}$  feet.

#### Geology:

Nine Mile Mountain is underlain chiefly by a group of sedimentary rocks of Upper Jurassic and Lower Cretaceous age, which consist of tuffaceous sandstone, greywacke, arkose, argellite etc. The most common type is a hard grey, even-grained greywacke, which only locally is wellbedded. Those rocks have been folded into broad anticlines and synclines which trend northeasterly and whose limbs usually dip at angles of less than 45 degrees. On the north side of the mountain, in the vicinity of the Sunrise Silver property, the sediments have been intruded by an elongated stock, 4 miles long by ½ mile wide, of grey, coarsely crystalline granodiorite, whose longer axis trends in a northwesterly direction. It is of Upper Cretaceous or Tertiary age.

#### Economic Geology:

The veins occur in coarsely crystalline, grey granodiorite in intersecting fault fissures along which there has been minor displacement. They lie in a disturbed zone that measures 700 feet in width from north to south and 1,000 feet in length from west to east across the Hazelton Sunrise property and extends an additional 1,500 feet east across the adjoining former Lead King property, which is now owned by Sunrise Silver Mines Ltd. (N.P.L.). The main fracture zone lies between elevations of

4,700 and 5,200 feet, and its north boundary is about 500 feet south of the sedimentary contact.

There are two intersecting sets of veins on the Hazelton Sunrise property. One set strikes northeast and dips from 30 to 50 degrees southeast. The other set strikes east and dips from 10 to 40 degrees south. The veins range from 100 to 500 feet in length and from a few inches to 4 feet in width. They commonly occur in parallel groups or may be arranged en echelon. The veins consist of variable proportions of sulfides, contained in a quartz gangue. Some of them, or portions of them, are of almost solid sulfides, but others contain considerable amounts of quartz. The metallic minerals present, in order of their abundance, are: jamesonite, sphalerite, galena, cosalite, pyrite, arsenopyrite, argentite, and tetrahedrite. The ore contains appreciable amounts of silver, lead, zinc, antimony, and bismuth.

The location of the various veins, and other features, are shown on the attached plan, which is traced from Figure 8 in Memoir 223. Assay results are from samples taken by E. D. Kindle and quoted in the text of the Memoir.

Twelve veins have been partially exposed on the property, but of these the most important would appear to be that which outcrops at elevation of about 5,000 feet. It strikes east and west and dips from 10 to 30 degrees south into the mountain. It ranges in width from a few inches to nearly 4 feet, and, with its en echelon extension, has an apparent length of nearly 550 feet. Preliminary sampling by J. D. Mason, P. Eng., in 1963 over a portion of the vein 345 feet in length yielded an average grade of 25.8 ozs silver, 7.56% lead, and 9.65% zinc over an average width of 28.8 inches which would appear to be excellent ore. It is impossible, however to do a proper sampling of this vein or for that matter any of the veins exposed on the property, at the present time due to the caved condition of the trenches and to oxidation.

#### Comment:

My observations confirm the location and description of the various veins mentioned in the above reports and shown on the accompanying maps. I have no reason to believe that the sampling results obtained by Mr. Mason are other than substantially correct.

Although vertical continuity of the veins has yet to be proved, there is no reason to believe that they will not extend to moderate depths, i.e. of the order of a few hundreds of feet. The fact that the main crosscut adit at elevation 4,800 feet, and the short raise from the end of it, failed to locate the downward extension of the most important vein is considered not too significant, as indications are that it was not driven

far enough, as can be seen by inspection of the vertical section attached to this report.

#### Conclusions:

I think the veins exposed on the Hazelton Sunrise claims look sufficiently interesting to warrant the hope that further work will result in the development of a small, high grade producer of silver, lead, and zinc. However, systematic sampling of the known veins, additional development by trenching and test-pitting, and metallurgical testing of representative ore, followed probably by some diamond drilling, will be required before a final assessment of the merits of the property and the economics of an operation are possible.

# Recommendations:

In order to gain the further information required, it is recommended that a program of work be carried out in two stages, as follows:

Stage 1 should consist of cleaning out and reblasting the existing trenches on known veins so that they can be properly sampled and representative samples of the veins - the sample rejects will suffice - made up and shipped for mill testing. Concurrently topographic and geologic mapping should be done as well as some additional exploration by trenching in an effort to extend known veins on strike and to find new ones.

Stage 2, which is contingent on favourable results being secured in stage 1, should consist of a certain amount of diamond drilling in order to establish vertical continuity of the veins.

In order to carry out the work, a temporary camp should be established at the site of the former Lead King camp (presently owned by Sunrise Silver Mines Ltd. (N.P.L.)) at elevation 4,075 feet, and the road extended to this location, a distance of about 1½ miles.

## Estimate of Cost:

The cost of carrying out the first stage of the above-recommended program of work, including the road and the camp, is estimated at about \$30,000.00, and of the second stage, if warranted, at an additional amount of \$40,000.00 for 3,000 feet of drilling.

Respectfully submitted

H.S. Wilson

H. S. WILSON, P.Eng.

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# CERTIFICATE

I, HAROLD S. WILSON, of 179 Reynolds Street, Oakville, in the Province of Ontario, hereby certify:

- 1. That I am a geologist and mining engineer and reside at 179 Reynolds Street, Oakville, Ontario.
- 2. That I am a graduate of McGill University, B.Sc. 1924, M.Sc. 1925, with two years further post-graduate work in geology at the University of Wisconsin, and have been practicing my profession as a geologist and mining engineer for upwards of thirty-five years.
- 3. That I have no direct or indirect interest whatsoever in the mining claims referred to in the accompanying report or in the securities of The Hazelton Sunrise Silver Mines, Limited (Non-Personal Liability) or of Sunrise Silver Mines Ltd. (Non-Personal Liability), nor do I expect to receive any such interest.
- 4. That the accompanying report is based on examination of the Hazelton Sunrise property and on documents and maps as listed in the body of this report.

5.

That I examined the property referred to in the accompanying report on August 3rd and on August 29, 1965.

DATED at Oakville, Ontario, this 17th day of May 1966.

H. S. Wilson

H. S. Wilson, P.Eng.

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