

1x2

(letterhead  
sheet)

801622

Zeballos file

1.

1, 2, 3,

June 19/64

Silver Standard Mines Ltd.,  
808-602 West Hastings Street,  
Vancouver, B.C.

Attention: Mr. H.B. Gilleland,  
Managing Director

Dear Sirs:

Re. Geological Investigation of Central  
Zeballos - Sonny claims groups, Zeballos, B.C.

The following progress report will summarize  
exploratory trenching accomplished to June 14th, and  
attendant geological mapping and sampling done  
during my recent visit of June 8-14, 1964. With  
this please find the following map prints:

1. Geological Plan (expanded) "Mineralized Zone at  
South Contact of South Limestone Band"; 1" = 50'
2. "Preliminary Sample Plan; East Zone"; 1" = 50'

#### CAMP AND PERSONNEL

The three-tent camp remained at its original  
site adjacent to the 'south' helipart. Rapid  
melting of the snow base - on sloping bedrock -  
under the plywood floors has caused some  
inconvenience, and it may be necessary  
to relocate at a new campsite situated  
just to the east of the 'saddle'.

The present crew consists of E. Endie and M.  
Zulpe on trenching, etc. operations, and J. Tieloner

as geological assistant. Tichner has ably assisted the writer during his periodic visits, ~~and~~ directed and assisted with the trenching operations, and will carry out certain investigations during the writer's absence from the project. H. Benjamin did some prospecting and assisted in camp during a 4-day visit.

#### GENERAL REMARKS

Progress on the initial trenching was delayed approximately one week due to the improper functioning of the original 'Colra' drill sent to the project. The new replacement operates satisfactorily and will drill 4-4 ft. holes, under conditions of average difficulty, in  $1\frac{1}{2}$  hours.

Only a few snow patches remain on north-facing slopes, within heavy timber, or in depressions or draws. The weather has been generally cool-overcast to mild-wet with few sunny days.

On June 14<sup>th</sup> all of the crew walked out to Zeballos for additional supplies and assisted the writer in packing out trench samples. Additional blasting supplies will be required very shortly.



PROGRESS NOTES

MAY 27 - JUNE 13 : Trenches No. 3-15 inclusive  
excavated by Eadie and Zulps.

June 8<sup>th</sup> - W. Sharp flies to Teballo and  
picks in with H. Benjamin.

9<sup>th</sup> - Sharp and Tichner relocate survey  
stakes along E-zone to 9F and  
sample trenches No's 10, 11, 12.

10<sup>th</sup> - Sharp and Tichner on geological  
mapping of steep west zone from sta. 31  
to close on sta. 15.

11<sup>th</sup> - Sharp + Tichner sample trenches No's  
3-9 inclusive.

12<sup>th</sup> - Sharp + Tichner on geological mapping  
from E-zone sta. 9N to 9R - the latter  
point above the main drop to the  
Nomash River; also prospect mineralized  
zone to east and west of 9N.

13<sup>th</sup> - Sharp and Tichner on additional and  
fill-in geological mapping in vicinity  
of saddle-slide areas; also sample  
E-zone trenches No's 13, 14, and 15.

14<sup>th</sup> - All out to Teballo with samples and  
for additional supplies.

GEOLOGICAL DETAILS

Preliminary trenching <sup>and sampling</sup> indicates a fairly continuous length of possible ore-grade mineralization along the East zone from No 1 cut through No. 9 trench - approximately 660 ft. horizontal distance. Frequent strike-flexures and closely-crumpled sections occur within the adjacent limestone. Tightly, but closely-fractured skarn, and sections with conary dark, fine-grained tuff (or altered skarn) beds appear particularly favourable for mineralization. More "fill-in" trenches and local extensions (N or S) of existing trenches will be required in this section.

Geological mapping & very preliminary prospecting efforts indicate a possible "ore" lens (estimate average 10' width by 200-250 ft. length from 9L through 9N, with chalcopyrite predominating. For reasons of difficult accessibility, it is suggested that trenching here be deferred until a final stage of the program when camp may be moved to a Nomash River site.

Within the saddle-slide area the limestone and skarn appear to be involved in a major flexure with frequent local strongly-crumpled sections. Skarn development and mineralization appear to be largely controlled by these fold structures, and result in very irregular patterns of mineralization. Due to a



combination of the foregoing with extremely rough topography trench-exploration is not considered practicable locally. Pending the results on other more accessible zones, diamond-drilling from the foot of the bluffs may be considered.

The indicated bornite-chalcopyrite zone, extending along a broad strike-faulture from W. zone sta<sup>#</sup> 10 through # 15 may be prospected rather easily by widely-spaced trenches, with additional closer-spaced trenches as indicated by the preliminary work. Farther westward, towards the west fork of Bibb creek, mineralization appears to diminish as the zone acutely traverses the lime band and is closely involved with narrow tongues of quartz-diorite. Due to the very steep and rough topography along this 'gut' and ridge trench-exploration would, in any case, be difficult and probably dangerous.

Concurrent with exploration of the # 10 - # 15 west zone further exploration of the skarn zone for approximately 200 ft. west of No. 1 cut is particularly recommended.

SAMPLING AND ASSAY RESULTS

Chip samples, following a general cross-sectional line, were taken by the use of both prospect pick and hammer-and-moil. Massive garnetite was the most difficult rock type to sample.

assays of all E-zone trench samples taken to date are shown on the accompanying assay plan. The mineralized zone from and through No 1 cut - No 9 trench is evaluated, preliminarily, as:

6 ft. x 700 ft. @ 0.08 oz Au; 0.95 oz Ag; 2% Cu.  
The present indicated depth range = 750 - 1500'

It is hoped that further trenching beyond the east and west ends of the zone will either extend the length of the "ore" shoot and/or allow the deletion of lower-grade sections from the final calculations.

It is quite probable that a final ore estimate would be made up of a number small ore bodies, each of which might range between 200-400 ft. in length.

If more precise sampling is indicated, it would be advisable to do this by pack-sack drill - taking all of the core from two or three holes at each trench or other mineral exposure.



ECONOMICS

The following must be considered an hypothetical calculation based on inferences of average grade and continuity not yet proved, but which may serve as a rough guide in the evaluation of possible ore-grade material developed:

"Ore" at 2% yields 40# copper per ton  
Probable recoveries - Cu @ 95% ; Au - Ag @ 90%  
Probable ratio of concentration 1:1 Chalcopyrite - <sup>bornite co</sup> - 20:1

1. Net Values based on dry short tons of concentrate with copper at 30¢/lb; Au @ \$35<sup>00</sup>/oz; Ag @ \$1.40/oz.

40 <sup>th</sup> copper; 780# paid @ (30-1)¢	\$ 226.20
Gold ; 1.44g @ \$35.00	50.40
Silver ; 17.2g @ \$1.40	24.08
	<u>\$ 300.68</u>
Add custom. mill. exchange U.S./Can. @ 1.03	\$ 309.70
Less: trucking & loading	\$ 5.00
Ocean freight, insurance, unloading and treatment	\$ 18.00
	<u>23.00</u>
Net mill value per dry tons concentrate	\$ 286.70 *
" " " " " ton ore @ $\frac{1}{20} \times 95\%$	\$ 13.61

2. Estimated operating costs, per ton of ore

(a) mining, direct	\$ 3.00
(b) milling	2.50
(c) Mine general	0.50
(d) Develop - exploration	1.00
(e) Admin - supervision	0.50
(f) Transport mine-mill	0.50
(g) allowance for cap. amort.	1.00
	<u>\$ 9.00</u>
"Indicated" net profit	\$ 4.31 per ton

or approximately 10¢/lb. gross copper content, including associated gold-silver, of 2 percent "ore" in place.

\* Probable 10% moisture neglected.

CURRENT WORK SCHEDULE

East Zone

additional cross-trenches required at:

- (A) Sta. 8+50 (designate trench # 9A)
- (B) Sta 7+00 or a little down-hill,
- (B) 15 ft. west of Sta 6A with a minimum 3 ft. penetration into the crumpled limestone.
- (C) Between Sta. 2B and 5C, and also extend two small hand cuts above Sta. 5B and 5C respectively
- \*\* (D) additional trenches to west of No. 1 Cut to trace zone across saddle as far as is practicable.

West Zone

Exploration trenches at approximately 50-foot intervals from point between Sta 10 & 11 to approx. 50 ft. below Sta. 15 - or further if indicated

General

Prospect north contact of limestone - a general reconnaissance which may be followed up by detailed mapping if warranted.

Respectfully Submitted  
W. M. Sharpe, P. Eng.

cc - Silver Standard - 2  
W.M.S. - - - - 1



Continued 2nd - Summary.

"Ore" Calcs - July/64

Period 1/64

		<sup>oz</sup> Au	<sup>oz</sup> Ag	Cu
<u>Block E-1</u>	5.6' x 310' @	0.01	0.9	2.39%
	Pillar 5' x 50' @	-	-	0.40%

Block E-2 5.7' x 285' @ 0.05; 1.7; 2.45  
Pillar 65' x 6' Heavy 0' B. - prob. ore sect.

Block E-3: 6.9' x 165' @ 0.03 0.34 1.71  
Stake sect 150' potential ore sect.

550' sect w prom lenses ore grade

Lower East Block:

Block 3 (6.3' x 225' @ 0.02; 1.3; 2.44  
1.3

WEST ZONE - 500-700' 'not explored - This is  
ls - Tuff complex. Chertiferous esp. - some - pyrite  
ore sects. expected.