REPORT on 925/11
THE HIGHLAND VALLEY PROPERTY

of

ARLINGTON SILVER MINES LTD.

by: W.R. Bacon, Ph.D., P.Eng.

673545

March 17, 1970.

ARLINGTON SILVER MINES LTD. (N.P.L.)

1110 - ONE BENTALL CENTRE - 505 BURRARD STREET - VANCOUVER 1, B.C.
TELEPHONES: 558-1281 - 688-1282

February 23, 1970

Dr. W.R. Bacon, Bacon & Crowhurst Ltd., 1720 Guinness Tower, 1055 West Hastings St., Vancouver, B.C.

Dear Dr. Bacon,

OUR HIGHLAND VALLEY PROPERTY (AL-IC Group)

Bert Nesbitt has asked me to forward the data on our Highland Valley property to you for critical review and for your suggestions for a further exploration programme in view of what has been found on the property to date. As shown by the enclosed map, the southern part of the property is on the contact of the Bethsaida quartz diorite and the Skeena granodiorite. The southeastern corner of the property is about 1500 feet west of the proposed limit of the Valley Copper-Bethlehem open pit copper-molybdenum mine,

Under its option of July 4, 1968 Valley Copper Mines Ltd. is committed to spend \$525,000 exploring the property and paying us \$100,000 in cash. To date they have paid us \$30,000 cash and say they have spent about \$150,000 on the property. An audited statement of their expenditures on the property is being prepared for us at their head office in Montreal.

The following data is submitted herewith:

- (1) Composite Plan, Arlington Option, showing geology, drill holes, claim boundaries, roads and proposed limits of the Valley Copper-Bethlehem open pit. Scale 1" = 500' Prepared recently by Cominco at our request.
- (2) Transparent overlay for above Plan, showing IP survey grid and geochemical grid and results. PRINT herewith.
- (3) Logs of Percussion holes AP 1-8.
- (4) Logs of Diamond Drill holes 1-10.
- (5) Summary Report, Arlington Option by R.J. Nicholson, endorsed by Jim Richardson. 2 pages, February 20, 1970.

As indicated by the above data, 30 holes have been drilled on the property: 8 percussion holes, 10 exploratory diamond drill holes, and 12 foundation testing diamond drill holes (Golden, Brawner & Associates).

We are particularly concerned about the lack of adequate exploratory diamond drilling along the Bethsaida-Skeena contact, in view of the alteration and mineralization encountered in diamond drill hole No. 4. We had thought that the Bethsaida quartz diorite is exposed in trenches in the area of claims AL 10-AL 12 and the Alwin fraction between these two claims. We wonder about the great thickness of Tertiary volcanic rock in DDH No. 6, so close to the Bethsaida quartz diorite found throughout DDH No. 7. As you examine our data, additional points of interest will probably occur to you.

Mr. Nesbitt is presently at his winter home at 2050 Joshua Tree Place, Palm Springs, California 92262, U.S.A. Phone (714) 327-2115. If needed, please phone him or me about any problems that may arise. My Vancouver phones are 688-1281 and 684-9029 (up to midnight).

Yours very truly,
ARLINGTON SILVER MINES LTD.(N.P.L.)

H.a. Quinn

Harold A. Quinn Consulting Geologist

HAQ/nim Encl.

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W.R. BACON, Ph.D., P.Eng.

Vancouver, B.C.

March 17th, 1970.

1720 - 1055 W. Hastings St., Vancouver, 1, B.C.

March 17th, 1970.

Dr. Harold A. Quinn, Consulting Geologist, Arlington Silver Mines Ltd., 1110 - One Bentall Centre, Vancouver, 1, B.C.

Dear Dr. Quinn:

Fursuant to your February 23rd request that I review critically the data you furnished me on Arlington's Highland Valley property and suggest further exploration possibilities, I am now reporting to you on my findings. In order to be able to do so, I visited the Arlington property, inspected the core from D.D.H's ARL 1-10 drilled by Cominco, discussed the geology with Cominco geologists and inspected the core from nine holes drilled just south of the southwestern part of the Arlington property.

I enclose a map which is a corrected version of Item 1, Composite Plan, Arlington Option. You will note changes in the geology, in the location of certain outcrops such as those between Arlington | 2 and 10 claims, and that contours have been added in an effort to aid interpretation.

Yours very truly,
BACON & CROWHURST LTD.

W.R. Bacon, Ph.D., P.Eng.

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GEOLOGY

On the Arlington property, the Guichon Creek batholith is represented by the Skeena phase and the Bethsaida phase. Outcrops of Skeena phase are abundant on the far western part of the property and occur in and northeast of FLW 13 fraction.

Small outcrops of Bethsaida phase occur on IC 18, AL 10 and in the gap between AL 10 and AL 12.

The Bethsaida phase is a coarse-grained leucocratic rock characterized by books of biotite and coarse, subhedral phenocrysts of quarts. The Skeena is a grey medium-grained rock containing hornblende and generally exhibits a more even distribution of the ferromagnesian minerals than found in the Bethsaida. Variations from the norm are common near contacts of the two rocks and thus contacts may be difficult to establish accurately.

equally important. The Bethlehem deposits are entirely in the Skeena and the new Valley Copper-Bethlehem deposit is entirely in the Bethsaida. It is obvious, therefore, that subtle differences in batholithic petrology are not consequential in terms of ore; Skeena is as favourable as Bethsaida and vice versa. Obviously, structure or lack of it has made the difference in Highland Valley.

Minor, scattered chalcopyrite occurs in Bethsaida granodiorite in the gap between AL 10 and AL 12 claims. Drilling here revealed narrow widths of mineral comparable to that found in Cominco's D.D.H. ARL 4.

At least three quarters of the Arlington property is covered by Kamloops volcanics. Their mode of occurrence is not certain but, in the writer's view, the Arlington property contains a volcanic plug consisting of both flow and fragmental rock types. Their vertical dimension, of 1000 feet and more, as determined in several Cominco drill holes, plus the obviously abrupt, steep periphery of this volcanic structure where data are available (D.D.H. 3; D.D.H. 6 and 7) is hardly consistent with an erosion remnant separated by Highland Valley from a larger mass to the north.

Whatever the origin of the volcanics on the Arlington ground, they provide a cover that in effect obliterates the economic chances for three quarters of the property, i.e. for the type and grades of ore found thus far in Highland Valley.

GEOPHYSICS

In 1967, an Induced Polarization and Resistivity Survey was performed by McPhar Geophysics Limited on the Arlington property.

This survey does not cover the western extremity of the property as it is presently constituted.

The McPhar survey disclosed various IP responses that were correlated into three anomalous zones described as Zones A, B & C.

Zone A, on claims AL 11 and 12, appears to be on the southwestern margin of the Kamloops volcanics and <u>may</u> represent a response from the Skeena phase. It partially covers a swamp.

Zone B is a large amorphous zone that crosses the central part of the property in an E-W direction. Indications from the drilling performed by Cominco are that the Kamloops volcanics are several hundred feet thick in the region of Zone B.

Zone C, largely on claims AL 9, AL 10 and adjoining foreign ground to the west, is located in an area where there is a very considerable cover of Kamloops volcanics (D.D.H. ARL 3 and Percussion Hole 7).

It is important to realize that the Kamloops volcanics will give an IP response, possibly caused by finely disseminated magnetite.

GEOCHEMI STRY

The southwestern sector of the property has been subjected to a soil survey - lines 500 feet apart with samples taken generally at 100 foot intervals. The samples were analyzed by atomic absorption.

The results of the soil survey are quite flat, i.e. no anomalous areas are present.

CONCLUSIONS

In view of the considerable work done by Cominco and the fact that a substantial thickness of volcanics effectively removes a large part of the property from practical consideration, it is impossible to be optimistic about the economic chances remaining on the Arlington ground.

A relatively narrow strip on the south margin of the property, i.e. south of the Kamloops volcanics, holds some potential. This could be tested in short order by IP and drilled if results appear to warrant it.

The western extremity of the property cannot be completely discounted although considerable areas of unmineralized Skeena outcrop here; moreover, the geochemical work done here was not encouraging.

However, in the Highland Valley context, this part of the property merits close scrutiny and the writer would suggest IP work for this area also, to be followed by drilling should the geophysical results be encouraging.

Respectfully submitted, BACON & CROWHURST LTD.

W.R. Bacon, Ph.D., P.Eng.

