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SILVER STANDARD MINES LIMITED
(NON PERSONAL LIABILITY)
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VANCOUVER, B.C.

005767

SUMMARY

of

FOLLOW-UP WORK

April 22, 1970

ALBETA OPTION

Cowichan Lake Area

by

C.F. Kowall
Geologist

Follow-up work on geochem anomalies found in reconnaissance work done last fall consisted of the following work done over a period of one week:

1. Grid sampling of two of the more promising anomalies.
2. Follow-up of five anomalies suggested by Dr. R.H. Seraphim.

RESULTS:

Results indicate that several new showings of skarn-type mineralization have been located. No indication that any of the anomalies are associated with porphyry copper type of deposits was noticed.

Two high samples located over sheared gossan zones were re-examined. These samples, #228 (15,500 ppm Cu and 10 ppm Ag), and #229 (3100 ppm Cu and 3.5 ppm Ag), were taken during reconnaissance last fall. During re-examination massive sulphide boulders carrying pyrite and chalcopyrite were found below a road-cut which exposes three westerly-striking shear zones, each about 30 feet in width. Two of the shears are close enough together (20 feet or so) that they could be considered one zone, approximately 75 feet in width. A highly ox[illegible] breccia zone several feet wide cuts the more southerly of the tw[illegible]ely spaced shears. Limonite-stained oxidized limestone and andesit[illegible] up most of the altered rock. Some pyrite and chalcopyrite were [illegible]und in the outcrop but the weathered condition makes surface sampl[illegible] of little use. Massive sulphide boulders found below the road-cut were probably derived from the deepest bulldozer cuts which exposed less weathered rock. The probable source location is under the road and covered by several feet of fill. Surface contamination by the bul[illegible] makes surface geochem sampling unreliable for 150 to 200 feet south of the road-cut.

The deposits here would appear to be typical of the skarn-type deposits located to date in the area. From surface indications I don't feel that the deposits extend more than 100 feet along strike in either direction from where presently exposed. There are some draws where the deposit could 'sneak through' without being detected in surface outcrops. Geochem samples taken should shed some light on this.

The deposit is different in two respects from other deposits in the area:

1. The highly weathered conditions of the mineralized outcrops have not been noted previously.

2. Strong shearing and the fault breccia are also unusual, and have not been noted before.

The deposit is located in a limestone and andesite roof pendant located in granodiorite and diorite. A pyritic stockworks is developed in the granodiorite, but only a few specs of chalcopyrite were noted. The stockwork and pyritized volcanics and diorite cover an area over 1000 feet in length and about 500 feet in width. The area was well examined to make sure that no important copper mineralization was missed in the intrusive. The immediate area of the showings was sampled geochemically at 50' x 150' spacings.

The geochem samples (#237 1200 ppm Cu and #276 1100 ppm Cu) taken last fall over the S-P anomaly one-half mile south of the Fraser showing were re-examined. No mineralization was noted in float or in place other than minor pyritized andesite. Overburden covers some of the area but numerous outcrops of porphyry and andesite exist and are unmineralized. The area was grid-sampled at 50' x 150' spacings to be sure no mineralization was missed. The original geochem results may not be duplicated in the second sampling and the possibility exists of analytical errors as no source of the anomalous values can be pin-pointed.

Sample #28, which ran 750 ppm Cu, was found to be a stream sediment taken over intrusive rock. Follow-up revealed that one of the branches of the stream drains known showings on the Fraser Group and was the source of this anomaly.

In samples recommended for follow-up by Dr. Seraphim the following was noted:

#13 and #16 - taken in overburden areas - ran 246 ppm and 274 ppm Cu respectively. They both were found to drain areas of andesite and hornblende diorite and no alteration or mineralization was noted - re-samples were taken.

#215 - 129 ppm Cu - no mineralization was noticed - rock type was diorite and some volcanics.

#224 and #225 - 495 ppm Cu and 224 ppm Cu - stream sediment draining sparsely mineralized andesite. Some skarn alteration is present. Pyrite, magnetite and chalcopyrite are present in a few widely-spaced shears. A few boulders of massive chalcopyrite were found below the road-cut and probably represent a small lens encountered in bulldozing the road. A diorite and greenstone contact is noted immediately north of sample #224. The area was re-sampled.

A further thought on the geochemical results obtained which I failed to mention in my earlier report concerns the rather high background values, especially in the volcanics and skarnified areas. I feel that the way the country has been opened up for logging with the network of bulldozer roads and trails has greatly disturbed normal geochemical processes. Many new areas of seepage and drainage have been opened up and copper is leaching from the numerous open cuts on showings. Also, areas of accumulation along the B horizon where copper normally accumulates are greatly increased in exposure by the bulldozing. This disturbance has caused an increase in background copper values over what would normally be expected. I can not estimate how great this increase is but would think 50 - 200 ppm would be a possible increase in values which could be expected.

To give an example of what can happen we can note what occurred at our Moricetown Silver prospect near Smithers, B.C. On opening up the four-foot vein along a creek bank anomalous silver values in the stream sediment were noted about three miles downstream, at the bridge, from the showing. Therefore I do not attach much significance to most of the mildly anomalous values in copper geochem that seem to indicate a high background in many areas. I think, considering the conditions, it should be expected in this area and is not indicative of any possible orebodies.

RECOMMENDATIONS:

The best new showings found are the three shear zones near samples #228 and #229. Though faulting is strong in the pendant itself I strongly suspect it will narrow to a thin shear on entering the intrusive rock that bounds the pendant. I do not think this showing will develop more than a few thousand tons at best, of 1% to 3% copper ore.

None of the other geochem anomalies are worth following up any further, and I can see no other useful work for us to do in the area or nearby.

Respectfully submitted,

Charles F. Kowall
Geologist

April 22, 1970

1014 Sluggett Road,
Brentwood Bay, B. C.,
May 29, 1970.

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

Dear Bill:

Thanks for your letter and copy of Chuck Kowalls' report. Again it is a disappointment that nothing big has shown up, and also that more of the lesser targets did not bear up to the re-examination. However, the time I spent with Chuck on the new Lens Creek showings, and the results of the limited geochem he did there indicate something which could be of interest and something which deserves some futher follow-up by people like us who can be interested in smaller deposits.

I should record a few comments to be read in conjunction with the report.

1. The report was written prior to having results of geochem samples.

2. Geochem samples indicate that the statement at the top of Page 2 "I don't feel that the deposits extend more than 100 ft. along strike in either direction" may express feeling instead of fact. I personally had the impression from draws and from the presence of skam and altered rock on the ground that the numeralized structure would extend for at least several hundred feet, although it would not sustain a width of "approximately 75 ft." over this length.

continued on Page 2.

3. Possibly the two most significant differences between this showing and others in the area are

   a. Strong shearing and fault breccia (indicating a structure that may be stronger and that may carry further and truer than other mineral bearing structures in the area).

   b. The fairly extensive pyritic alteration zone in the adjacent granodiorite. (Extensive zones of hydrothermal alteration have not been recognized in connection with other showings).

4. The contoured geochem plan shows the longer anomaly closed off at the most easterly line. In that it runs strong and true across all geochem lines, and no samples have been taken further east, we must assume that it is approximately 500 ft. long and open at both ends!

5. On Page 4, under "Recommendations" it is suggested that the size of the pendant will limit the possible tonnage, and a figure of "a few thousand tons at best" is mentioned.

The size of the pendant has not been determined, but from observation on the ground and from the plan, we can assume it will allow strike lengths well in excess of 1000 ft. Assuming even 1200 ft. length, 10 ft. width and 300 ft. depth, we have 300,000 tons for a single shear. Given 3 or more shears and we have a million tons. No engineer would dare predict a million tons on the limited information available - neither should one make such a limiting statement as "a few thousand tons at best" in these same circumstances.

From experience we can expect that if these structures carry mining grade and width material at all, there will be at least several tens of thousand tons.

These observations are not meant to be at all a criticism of Chuck Kowalls' work. I spent a day with him on the property and found him fully conversant with the work he was doing, and I have every confidence that the total exploration work that he has done on the properties has been well conducted.

continued on Page 3.

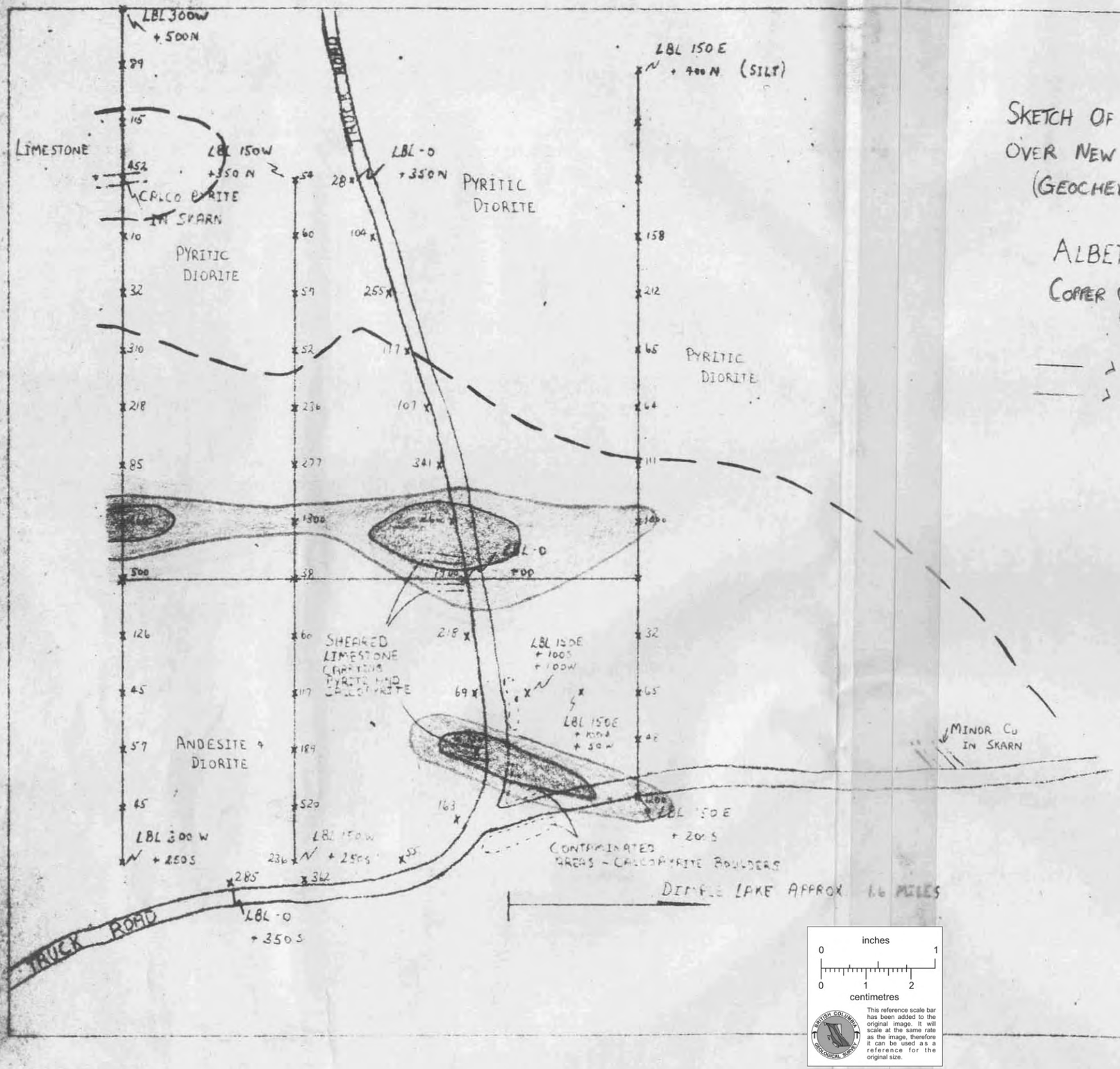
SKETCH OF GEOLOGY AND GEOCHEM SAMPLES OVER NEW SHOWINGS NEAR LENS CREEK

(GEOCHEM SAMPLES C-228 + C-229)

ALBETA - VANCOUVER ISLAND

COPPER GEOCHEM RESULTS - PPM
(SOIL SAMPLES)

—— > 2000 PPM Cu
—— > 1000 PPM Cu



SCALE 1 = 100'

EN. 152

CHARLES KOWALL
APRIL 19 1970

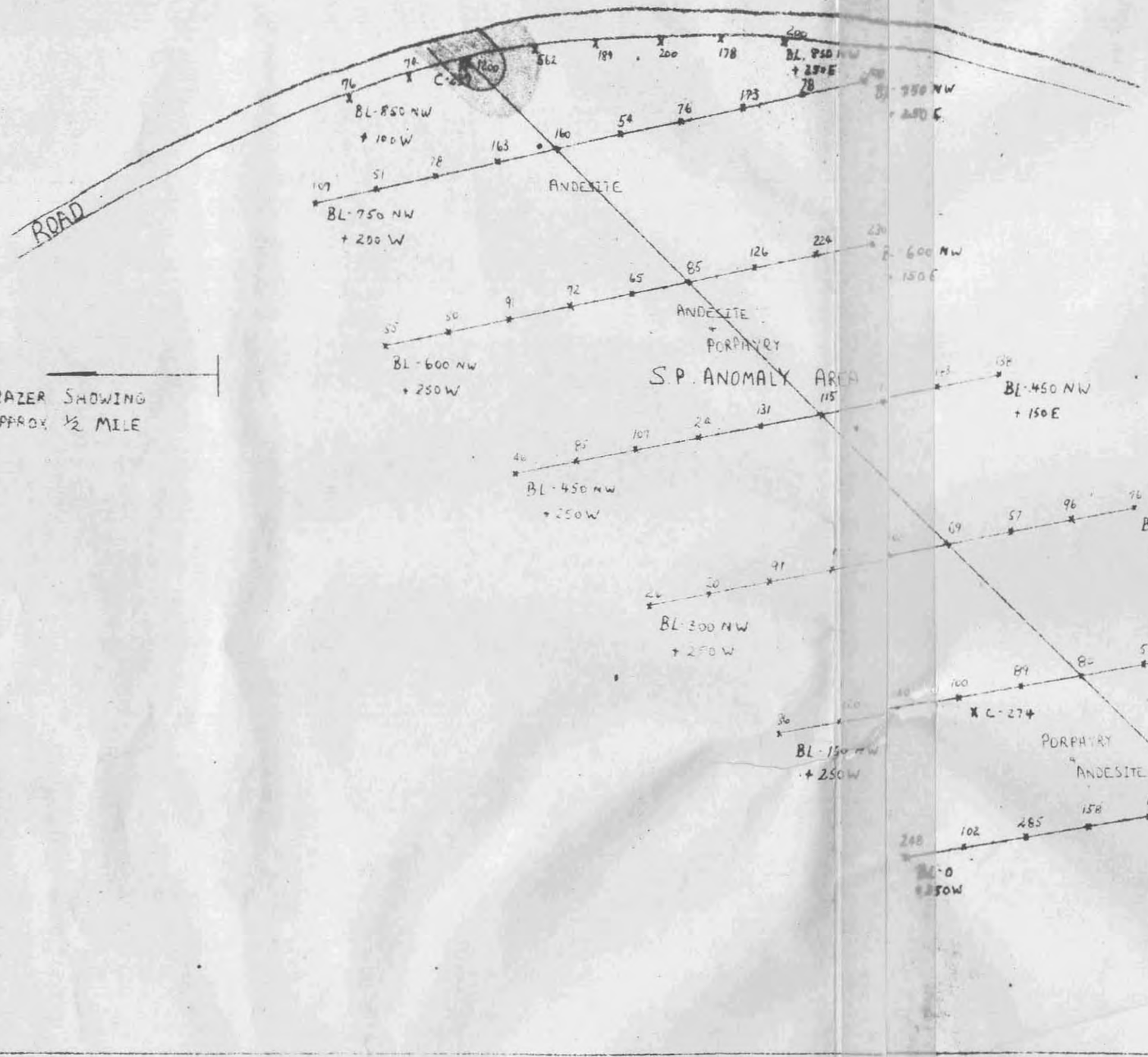
SKETCH OF GEOLOGY AND GEOCHEM SAMPLES OVER THE S P ANOMALLY

(GEOCHEM SAMPLES C-237 & C-276)

ALBETA - VANCOUVER ISLAND

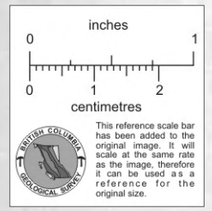
COPPER GEOCHEM RESULTS - PPM.
(SOIL SAMPLES)

—— > 1000 PPM Cu
> 500 PPM Cu



FRAZER SHOWING
APPROX. ½ MILE

SCALE: 1" = 100'



This reference scale bar has been added to the original image. It will scale at the same rate as the image, therefore it can be used as a reference for the original size.

CHARLES KOWALL
APRIL 19 1970