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Report On The
Chambers Mine

Reco Silver Mines Ltd.
New Denver, B. C.

November 1969

J. Lamb, P. Eng

S U M M A R Y

The Chambers lode, near the southern base of Reco Mountain, is a strong structure trending east-northeast and dipping steeply south. Partially explored for a distance of 1100 feet, it looks stronger and contains more mineralization near its northeastern end. An exploration program is recommended by the writer, to test the lode in this direction, at an estimated cost of \$51,000.

John Lamb
John Lamb F. Eng.
Mining Geologist.

A REPORT ON THE CHAMBERS MINE

RECO SILVER MINES LTD. - NEW DENVER, B. C.

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FOREWORD

At the request of S. E. Cropper, President of Reco Silver Mines Ltd., the writer spent four days in September and October, examining and mapping the underground workings and immediate surface area of the Chambers mine. He was assisted in the field by W. S. Ellis, P. Eng. resident manager, who provided the survey control for the accompanying map. C. Johnson, one of the employees, also rendered assistance.

The weather was both wet and dry during the examination but the ground was bare of snow.

Appendix 1, attached to this report is a list of references used by the writer and Appendix 2 contains the logs of two recent diamond drill holes.

INTRODUCTION:

The Chambers Mine is accessible over a steep switchback road, one mile northeast of Cody, an old settlement on Carpenter Creek, about 10 miles by gravel road from New Denver.

Situated on the lower southern slopes of Reco Mountain, at elevation 4700 feet, the mine is in an area of steep, to rugged topography covered by second growth evergreens and low brush. Overburden cover is thin, consequently rock outcrops are common, especially on the steeper slopes.

The Chambers mineral claim was staked in the year of its discovery of the Plocan Mining Camp, 1891. Although its history is somewhat vague, it is almost certain that the present mine workings were driven prior to 1919. Cairnes, however, states that some exploration was in progress in 1927. Until the advent of Reco Silver Mines Ltd. in the mid-nineteen sixties, the property was probably dormant. The company, in the past few years, has:

- (a) extended the road to the upper workings
- (b) exposed the lode by hand trenching, just east of Chambers Creek
- (c) diamond drilled two short surface holes in the same area
- (d) opened up 4788 level by cleaning out and re-timbering the portal area.

MINE WORKINGS:

The mine is developed by at least six known adit levels, with interconnecting raises, small stopes and open cuts (see accompanying map). Ranging from 4530 to 4900 feet elevation, for a length of 1100 feet along the lode, the combined length of these workings probably does not exceed 700 feet. The 4530 level, off the southwest corner of the map and the 4740 level (40 feet southeast of station C-27) are both caved and inaccessible. Except for the recently rehabilitated 4788 level, the remainder, although open, are only partly accessible. The small dimensions of all these underground openings suggests that they were driven by hand-steel methods.

The transit survey network (stations C-23 to C-27), by L. H. Cilla, provides control for the accompanying map and so gives an accurate location for the portals of the mine workings. Owing to the limitations of time and a partial blockage of those near the west end, the writer had to rely on pace and compass surveys underground. For this reason, their positions as shown are at best, approximate.

GENERAL GEOLOGY:

The Reco Mountain area is underlain by steep beds of Slovan sedimentary rock, intercleaved with a host of sill-like quartz feldspar porphyries, most of which are concordant with the bedding. These formations all have a northwest trend. While both east and west dips are present, that predominating over the 4000 foot vertical range of the mountain is steep easterly. There is one overturned anticline above the 7000 foot elevation, near the top of the mountain but below that the picture is not clear.

The porphyritic intrusives, because of their white to pale brown shades, are in sharp contrast to the darker colored sediments, chiefly argillite, with minor quartzite and limestone.

The lodes are northeast striking, southward dipping tear faults, that cross the bedrock trend almost at right angles. Lead-zinc mineralization is confined to these lode zones and to a few northward trending subsidiary shears, which form cross links between lodes.

From top to bottom, the south slope of Reco Mountain is crossed by ten known, sub-parallel lode zones. The Chambers lode near

the south end, close to the base of the mountain, is not as well explored as those higher up.

While mineralization may exist over long distances in a lode zone, it usually forms a mineable orebody, only at certain favored locations, where the right combinations of physical and chemical controls exist. Although the writer is not closely familiar with this local area of the mountain, his experience elsewhere in the Slocan Camp suggests some of the following as probable ore controls:

1. rocks of suitable competence; that is those in which lode movement will create and maintain openings during the period in which mineralization is being introduced. One would not expect soft slates to be competent in this manner, as their tendency would be to twist and shear and close up any potential opening. A mixture of argillite and quartzite, possibly stiffened by porphyry sills, would be a more competent rock;
2. rocks, whose bedding attitudes stand opposed to the movement direction of a lode, which in the Slocan is usually for the hangingwall to move eastward and downward. This means the rocks whose bedding is steeply westward, would be in the most favorable position;
3. suitable fold structures in the enclosing rocks, where the folding stresses would be more likely to assist the formation of openings;
4. changes in direction or dip of the lode, which again would tend to create openings where relative movements of hangingwall and footwall of the lode would be most highly opposed to one another;

5. a combination of pressure and temperature, at which precipitation of the ore minerals from their liquid or gaseous forms, would be possible.

It follows from the above, that the object of an exploration program is to locate the place where the maximum possible number of these controls were in action during mineralization.

GEOLOGY OF THE CHAMBERS LODGE ZONE:

The Chambers lode is a strong structure with an east-northeast strike and a southward dip between 50 and 80 degrees. It has been traced for over 1000 feet up the steep mountain slope on a course of N 52 E (see map). Towards the southwest end it appears to have several strands splitting off the main lode and running more northerly. This splitting is less developed towards Chambers Creek.

The lode filling is white drusy quartz, with a fine dusting of iron pyrite through it. Though galena and sphalerite are found along the explored length of the lode, they are more abundant at the northeast end near Chambers Creek. In 4788 level the vein is well sprinkled with sphalerite and galena and frequently carries a streak of heavy galena on the hangingwall. At the face of this level, it is four feet wide and from its appearance, would yield milling grade ore. In the recently opened 50 foot long trench just east of the creek, the vein is particularly attractive looking, with as much as twelve inches of massive steel galena exposed in a rusty goossan.

The only known stoped sections of the lode are near the road switchback at station C-29. Here one stope has broken through to surface, presumably from 4655 level, 75 feet below. The end of this level is probably below the stope and not off to one side as indicated by the rough survey on the map. The stope is partly caved but its dimensions suggest it might have produced a few hundred tons of mine-run ore. Cairnes reports a total recorded production to 1927 of 26 tons grading 96 oz/ton silver and 70% lead. No doubt this ore was carefully hand sorted from a much greater tonnage of lower grade material.

A small stoped section was observed about 65 feet from the portal of 4655 level but its yield must have been low.

The explored length of the Chambers lode crosses a belt of northwest trending sediments, containing occasional narrow porphyry sills. At the higher elevations these sediments dip westerly, changing to easterly at lower levels, all of which suggests the presence of an overturned anticline, with its axial plane tilted gently to the southwest. In this direction the rocks tend to be dark argillites changing to greenish buff quartzite towards Chambers Creek. Near the creek the lode passes out of sediments into porphyry, which is known to be many hundreds of feet wide in a northeast direction. Though its contact relations with the sediments are not yet clear, the porphyry body is believed to be a sill.

In 4788 level a strong northwest trending bedded fault intersects the lode, apparently with little offset. Composed of hangingwall and footwall elements, 40 feet apart, it was earlier treated by the writer as two separate structures which he named the Ellis and Harris faults.

From now on the name Harris fault will be used for the whole system. The hangingwall element dips 55 degrees westerly and contains ten feet of gougy material, with a few pods of good lead and zinc. The footwall element is strongly sheared across twenty feet, with a dip of 53 degrees westerly and also contains some lead and zinc mineralization. The surface trace of the fault probably occupies the sharp notch, now followed by Chambers Creek.

The geological maps of both Cairnes and Tan suggest that the southeasterly extension of the great Blizzard fault crosses this general area of the Chambers property. This fault is well known, in connection with the Last Chance and Noble Five lodes higher on the mountain to the northwest. Could it be possible that the Harris fault is really the extension of the Blizzard fault?

Two short surface holes were diamond drilled recently, to test the Chambers lode below the open cut, just east of Chambers Creek. Both intersected mineralization, about 70 to 100 feet beneath the surface and 100 feet ahead of the face of 4788 level. This mineralization is white quartz with a sprinkling of fine pyrite, a moderate amount of sphalerite and minor galena. The holes are plotted on the accompanying map, while their logs are attached as Appendix 2 to this report. To the writer's knowledge, the northeasterly extension of the Chambers lode has not been explored beyond these holes.

CONCLUSIONS AND RECOMMENDATIONS:

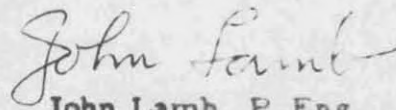
The Chambers lode, a strong shear with a N 70 E strike and 55 to 85 degree dip to the south, has been traced for 1100 feet across the lower south slope of Reco Mountain by open cuts, six adit levels, raises and stopes. It contains a vein filling of white quartz with fine pyrite, over widths up to four feet. Sphalerite and galena are present over the explored distance but definitely more abundant towards the northeast end, in 4788 drift and in the open cut beside Chambers Creek. At this point the lode is passing out of argillite and quartzite into a wide porphyry sill and beyond here it is essentially unexplored. The ore-making possibilities of the lode in this direction are considered very good and it certainly warrants further exploration.

The writer recommends that Reco Silver Mines Ltd. explore and develop the Chambers lode by a combination of surface and underground methods, as outlined below:

	<u>Estimated Cost</u>
1. Trace the northeasterly extension by geochemical soil sampling, to be followed by surface trenching	\$ 5,000.
2. Contingent upon 1, conduct a surface diamond drilling program to test the lode for both location and mineralization well below ground level. This would involve several drill set-ups on the south side of the lode with angle holes drilled northwesterly to intersect it. 2,000 feet of drilling @ \$10 /ft.	20,000.
3. Completely rehabilitate 4788 level and drift a further 200 feet beyond the present face. rehabilitation	5,000.
drift 200 ft. @ \$72 /ft.	<u>14,400.</u>
TOTAL	\$ 44,400.
Add: Contingencies @ 15%	<u>6,600.</u>
TOTAL ANTICIPATED COST	<u>\$ 51,000.</u>

Success for the above program will require further and more costly exploration, most of which will probably be underground.

Respectfully submitted,

A handwritten signature in cursive script that reads "John Lamb".

John Lamb, P.Eng.
Mining Geologist.

17 November 1969.

REFERENCES

1. CAIRNES, C.E. - Memoir 184,
Geological Survey of Canada
2. CAIRNES, C.E. - Memoir 173,
Geological Survey of Canada
3. TAN, S. S. - Surface Geological Map of Reco
Mountain. Scale 1 in. = 300 ft.

DIAMOND DRILL HOLE LOGSNO. 1

Bearing N 20 W, Inclination -30°, Elevation 4890 ft. collar
co-ordinates - 8118N 8589E.

- 0 - 34 - Buff colored quartz porphyry, partly broken
but fair recovery.
 - 34 - 40 - No core, six feet caving ground.
 - 40 - 50 - Buff colored broken quartz porphyry.
 - 50 - 60 - Gray-white quartz porphyry, much broken and
oxidized from 58 to 59 ft.
 - 60 - 79 - First 3 feet oxidized and broken, followed by
gray porphyry with finely scattered pyrite.
Shot through at 78 ft. with quartz and pyrite.
 - 79 - 97 - Gray porphyry with pyrite.
 - 97 - 99 - Caving. No core.
 - 99 - 102 - Porphyry with black surface stain.
 - 102 - 106 - Oxidized porphyry.
 - 106 - 109 - Honeycombed rusty vein quartz. Contains
pyrite and very minor galena and sphalerite.
About 2 feet of core lost.
 - 109 - 114 - Quartz vein breccia with scattered pyrite and
pods of sphalerite. From 111 to 112, contains
fair lead and zinc. Last two feet barren.
 - 114 - 121 - Brecciated quartz vein with only 1 foot of core
recovery.
 - 121 - 128 - Seven foot cave. No core.
 - 128 - 131 - White, partly oxidized quartz porphyry.
- End of Hole Sample 9331

109 - 111.5 2.5 oz/ton silver, 0.31% lead,
6.53% zinc.

DIAMOND DRILL HOLE LOGS

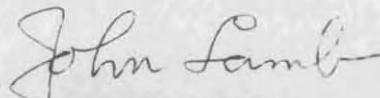
NO. 2

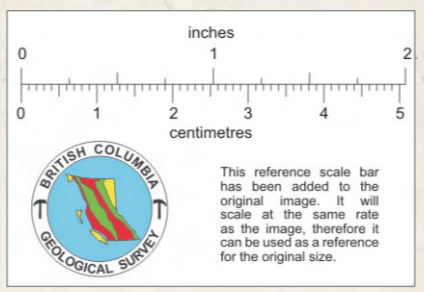
Bearing N 33 W, Inclination -45 °, Elevation 4890 ft. collar
co-ordinates - 8118N 8589E.

- 0 - 118 - Buff weathering porphyry.
- 118 - 121 - Vuggy white quartz with some iron staining.
Contains pyrite.
- 121 - 122.5 - Heavy silicious vein material with pyrite and
carbonate veinlets. Minor streaks of sphal-
erite and a few specks of galena. Broken core
with six inches lost.
- 122.5 - 129 - White porphyry.

End of Hole Sample 9330

121 - 122.5 2.0 oz/ton silver, 0.1% lead,
18.84% zinc.

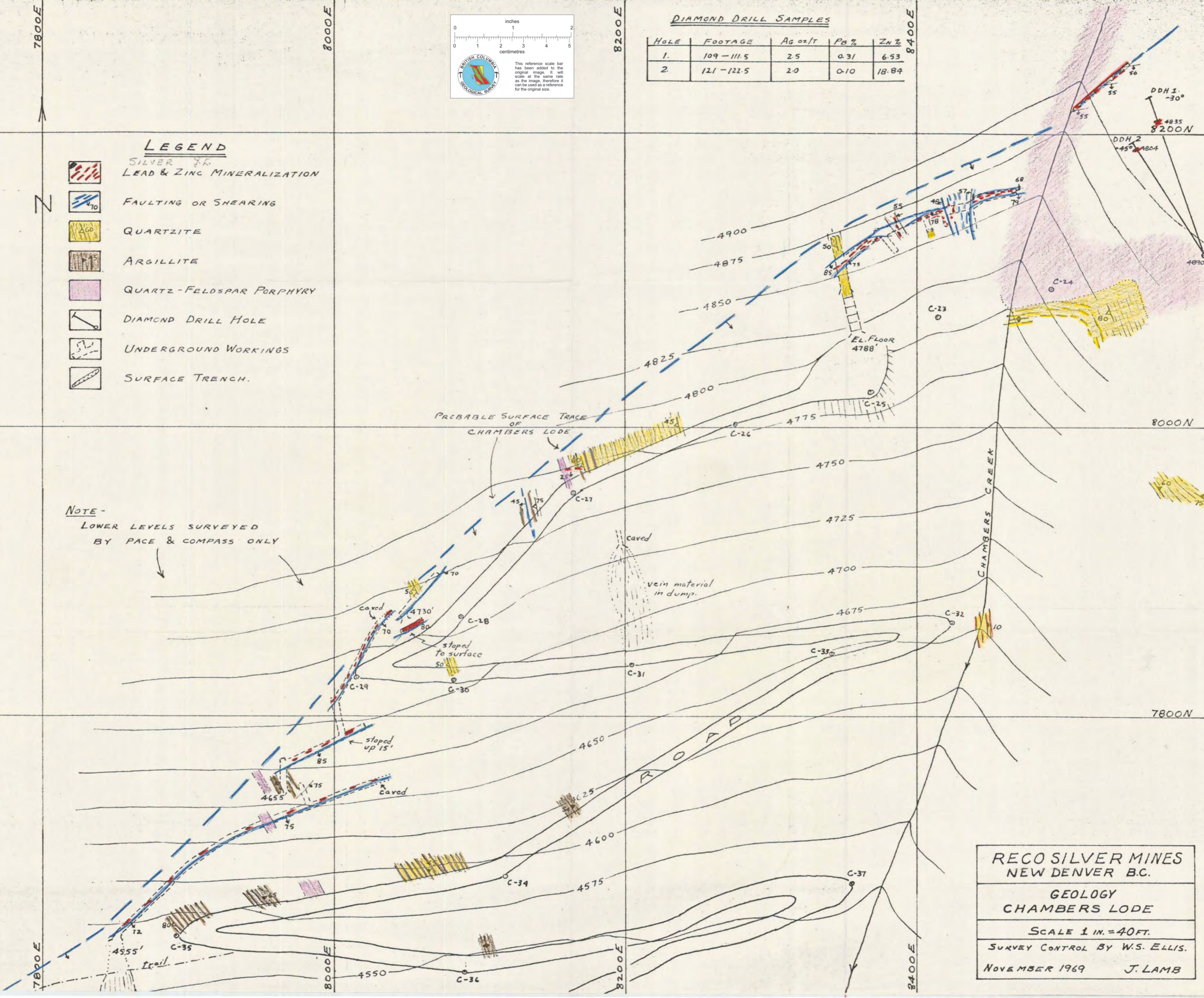

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HOLE	FOOTAGE	Ag oz/t	Pb %	Zn %
1.	109-111.5	2.5	0.31	6.53
2.	121-122.5	2.0	0.10	18.84

- LEGEND**
- SILVER & LEAD & ZINC MINERALIZATION
 - FAULTING OR SHEARING
 - QUARTZITE
 - ARGILLITE
 - QUARTZ-FELDSPAR PORPHYRY
 - DIAMOND DRILL HOLE
 - UNDERGROUND WORKINGS
 - SURFACE TRENCH.

NOTE -
LOWER LEVELS SURVEYED
BY PACE & COMPASS ONLY



RECO SILVER MINES
NEW DENVER B.C.

GEOLOGY
CHAMBERS LODGE

SCALE 1 IN. = 40 FT.

SURVEY CONTROL BY W.S. ELLIS.

NOVEMBER 1969 J. LAMB