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NOTES ON VISIT TO LUSTDUST PROSPECT CASSIAR DISTRICT, BRITISH COLUMBIA

By Ira B. Joralemon September 15, 1953

The following notes summarize results of a visit to the Lustdust Prospect with Mr. O'Brien on September 15 to 17. General data regarding property, location, etc., have been covered in earlier reports by Mr. E. Bronlund, and are not repeated here.

The Lustdust surface showings are excellent, and warranted the well planned and inexpensive development that is being carried on by Mr. Bronlund. Thus far results of diamond drilling have been exceedingly disappointing. The only ore found in 7 holes was a 2½ foot band of 250 oz. material, in the footwall of the main structure. The drilling proves that the material in the attractive main zone outcrops does not go down to the level of the drillholes, 200 to 300 feet below the surface.

A striking change in the character of outcrops further northwest gives some reason to hope that ore may extend deeper in this area. A small amount of additional drilling will prove this. Whether or not the drilling finds ore, a surface study of the 3000 feet northwest from the "No.3" showing to the Canyon Creek low grade copper mineralization will be justified, in the hope that it may find limestone replacement copper deposits of fair grade.

Geology

The Lustdust prospect is in a high ridge of limestone, with interbedded slate and schist, east of a large intrusion of diorite. Quartz porphyry dikes, probably offshoots from the diorite, cut the limestone. The bedding of the sediments strikes nearly north and south and generally dips steeply east. Mr. Bronlund has found evidence that the hill is a steeply folded anticline. At the northwest end of the outcrops there is a smaller syncline, with the east limb dipping westerly and the west limb dipping easterly. The bottom of the syncline, which is a schist bed, pitches rather flatly south. This structure suggests, but does not prove, that the wide heavily oxidized material in trenches 100 and 300 feet further south may have a similar flat pitch to the south. Mr. Bronlund will keep this in mind in planning short drill holes.

Mineralization found thus far is in the limestone or in narrow porphyry dikes. The main or No. 1 structure follows a nearly north-south shear zone that dips steeply east. Other surface mineralization, not yet developed by drilling, is in bands offset en echelon

to the northwest. Mineralization in them seems to be controlled by the steep bedding. Much of the iron oxide in outcrops has evidently been transported by surface waters, which may mean that the outcrops are much wider than the deeper mineralization.

The different mineralized bands, with results of development, are described below:

Main or No. 1 Zone

The main ore zone, furthest southeast, has been trenched at intervals for a length of 1500 feet from south to north. In the first 395 feet from the south end 9 trenches show badly broken and faulted material, consisting of limonite with partly oxidized bands of pyrite, antimony sulphide (stibnite) and a little zinc sulphide. Samples taken by Mr. Bronlund from the trenches in this stretch vary from 6 feet assaying 0.095 oz. Au, 34.3 oz. Ag, no Pb, 1.6% Zn and 1.8% Sb to a few inches assaying a trace of gold and 1 to 11 oz. Ag. The values are too bunchy to have any promise. An old tunnel developed the south 260 feet of this stretch at depths up to 100 feet. It found only stringers of vein material, most of it lean or barren, between a porphyry dike and schist. Except for 3 inches that assayed 199 oz. Ag, and 16 inches assaying 21.7 oz. Ag, there were no interesting values. This southern 395 feet along the zone is worthless.

The next 255 ft. to the north was developed by 7 trenches. They cut iron oxide vein material, often with cores of iron, antimony, lead and zinc sulphides, from 3.5 to 16.3 ft. wide. The average of Mr. Bronlund's sampling was 7 ft. wide assaying 0.127 oz. Au and 23.4 oz. Ag. Incomplete assays indicate a content of 1.8% Pb, 0.2% Zn and 3% Sb. While not quite ore in so remote a location, the values were somewhat encouraging. Unfortunately four drillholes, cutting the mineralization 200 to 300 feet below the surface, were most disappointing. The best of them, No. 2, cut 15.5 ft. of pyritic, silicified mineralized porphyry and limestone assaying 0.05 oz. Au and 5.6 oz. Ag, with practically no lead, zinc or antimony. A footwall stringer 25 ft. west of this main showing, with 1.5 ft. core recovered from 2.7 ft. advance, assayed 0.28 oz. Au, 251.86 oz. Ag, 5.13% Pb, 7.99% Zn and 9.13% Sb. There was nothing save a 2 inch stringer assaying 52 oz. Ag on the surface above this hole. Holes 1, 3 and 4 cut extremely lean silicious pyritic material, assaying from 0.5 to 9.84 oz. Ag and 0.01 to 0.06 oz Au, down the dip from this outcrop. The drillholes, together with the tunnel further south, prove that the surface ore plays out less than 200 feet below the outcrop.

The north 850 feet along the main or No. 1 ore zone has been indicated on surface by 8 trenches to bed rock, and several other trenches that found good looking float. The character of material is quite different from that further south. There is more

limonite, antimony, lead and silver. The arithmetical average of 7 samples from 280 ft. length, 3 of them of float fragments, was 5.2% Pb, 4.3% Zn, 16.3% Sb, 0.08 oz. Au and 35.4 oz. Ag. The widest exposure sampled was 5 ft. The limonitic outcrops in trenches further north and south, with no assays yet received, were 10 to 12 ft. wide. Drillholes 5, 6 and 7 were run under the southern part of this area. Assays have not been received, but the core did not look promising. Drillhole 9, under the richest outcrop, is not yet to the vein. If none of these four holes finds ore, it will be clear that the good surface material here also does not go down. Surface values are so good that the drillholes may be better than those further south.

No. 2 Zone

The No. 2 Zone is 260 feet west of the northern part of No. 1 Zone. Three trenches indicate two strands in a northwest mineralized zone, at least 200 ft.long. The length may be much greater. The two bands, each 5 to 8 feet wide, converge to the northwest and are only a few feet apart in the most northerly trench. Outcrops in No. 2 Zone are limonite and manganese stained limestone, with remnants of antimony and zinc sulphide. The two available assays showed 9 and 10 oz. silver, 0.1 and 0.19 oz. Au, and about 2% Zn. This is the least promising of the mineralized zones.

No. 3 Zone

No. 3 Zone, starting 300 feet north of west from the north end of No. 2, is larger and of a different character from the zones further south. There are really two irregular lenses of highly mineralized limestone that may join in an area not yet trenched. The southern "No. 3" lens, developed by 13 "H" trenches for a length of 600 feet, consists of 2 to 4 northwest bands of limonite and zinc carbonate, with cross strands connecting them . Individual outcrops of solid limonite and zinc carbonate are up to 20 feet wide, and the mineralized zone is up to 150 feet wide. Returns have been received on 8 samples across 5 to 15 feet, including two muck samples. They give remarkably uniform values of from a trace to 0.55% Pb, 11.9%to 23.6% Zn, trace of Au and 0.64 to 1.08 oz. Ag. There are few sulphide remnants in these trenches. No copper minerals were seen, but oxidation is so complete that both copper and silver may have been leached out. The zinc carbonate is worthless in this location. It seems likely that there has been considerable transportation, with resulting surface widening, of the oxidized iron and zinc. This large showing will be worth developing only if drillholes in the still larger northern part of No. 3 Zone find ore.

The north half of No. 3 zone is a slightly curved outcrop

of heavy black and yellow limonite, limonitic clay and zinc carbonate 500 feet long by 10 to 80 feet wide. Five recent "J" trenches expose this material. Here too there has evidently been much transportation of the iron and zinc. A barren trench 60 feet north of the most northerly outcrop shows a south pitching synclinal structure in schist that underlies the mineralized limestone. The mineralization may also pitch flatly south. While assays have not been received on samples from the "J" trenches, this looks like material in the "H" trenches and will probably run fairly high in zinc carbonate, with almost no lead, gold or silver. Due to the intense oxidation of material that must have been chiefly pyrite, it is impossible to guess the character of the underlying sulphide. Short fanned drillholes from the center of the 80 foot limonite body in J-5 trench will show how much surface widening of the oxidized outcrop has taken place, and will show the nature of the sulphide, which should be encountered within 50 feet. If these holes find ore or near-ore, drilling should proceed to the south.

Canyon Creek Showing

The Canyon Creek showing, which was not visited, is about 3000 feet northwest of the "J" trenches. No trenching has been done between these showings, and no promising outcrops have been seen.

In Canyon Creek the large limestone body is cut off by granodiorite. In a band many hundred feet wide east of the contact the limestone and schist are altered to silicates, - chiefly garnet, - and quartz. Throughout this wide "skarn" zone are irregularly distributed pyrite and chalcopyrite. Four preliminary samples, probably richer than the average, assayed from 0.03 to 0.09 oz. Au, 0.76 to 2.18 oz. Ag and 2.79 to 4.52% copper. Returns have not been received on 22 samples across a total of 106 feet. Unless the material assays 2% to 3% copper across 30 to 50 feet width, it will be of no value in such a location.

Because of the general geology it will be worthwhile to put the skarn samples under utlra violet ray light, to see if there is any scheelite.

The Canyon Creek showing is most interesting in that it shows a complete change from the zinc mineralization in the "J" trenches to copper mineralization. This suggests that there may be replacement orebodies of copper ore in the unprospected 3000 feet between the showings. Even if the rest of the drilling this year is disappointing, prospecting of this intervening area seems worth while.

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