

REPORT ON
LUSTDUST PROSPECT

1 9 5 4

673115

LUSTDUST PROSPECT.

Mr. M. M. O'Brien,
Managing Director,
Bralorne Mines Ltd.,
Vancouver, B.C.

Dear Sir:

I herewith submit my report on the Lustdust Prospect with summary of results during the 1954 season.

INTRODUCTION.

After three days work on culverts and wash-outs west of Germansen Lake, the first load of supplies were taken in to Takla Mercury camp on June 14th. Camp was established on the Lustdust property June 20th and diamond drilling started with one shift on June 30th. There was a four foot depth of snow to contend with at the first drill set-up. A few prospect trenches were dug to the north of last year's work on No.3 zone during the last week of July. Drilling was put on a two shift basis on August 1st and continued until September 4th. The Lustdust camp was closed on September 7th and all supplies and equipment moved down to Takla Mercury camp. Average number of persons employed was 7. The owners of the property were advised that our option would be relinquished as at October 31st, 1954.

4 plans and cross-sections are attached to this report.

SUMMARY AND CONCLUSIONS.

The 1954 diamond drill programme was a follow-up of the drilling and surface stripping done in 1953. Most of the work was done on No.3 zone. Low assays and a faulting problem made it advisable to terminate the option by default of the cash installment of \$4,600.00 due October 31st, 1954.

The drilling proved that the large, oxidized vein outcrops on No.3 zone are in place and represent sulphide shoots which are cut off and displaced by a fault not far below the zone of oxidation. In order to prove the continuity of the ore beyond the fault would require at least 2000 feet of drilling with holes 3 to 400 feet deep. This is not warranted at the present time. The ore appears to be mainly massive arsenopyrite and pyrite with an indicated gold content of possibly .10 to .35 Oz. and some values in Silver, Zinc and Lead.

The sulphide shoots are grouped along a strong fault structure which has been traced on the surface and by drill holes for 2200 feet. Geological evidence points to the possibility of large sulphide shoots at depth.

One drill hole was put down to the west of the main ore shoot in No.1 zone and proves that the surface ore showings in this, the original discovery vein, are drag ore in a post-mineral fault zone and that the continuation of the ore will be found at depth to the west of the fault at approximately the 4200 ft. elevation or roughly 100 feet below the old adit tunnel and 80 to 100 feet below the 1953 series of drill holes, No.1 - 9. Values and widths in drill holes check reasonably well with our initial surface sampling and I feel there is a good chance of finding substantial ore shoots. This however, would also call for considerable deep drilling which may not be justified at present, considering complexity of the ore and location.

If we had known a year ago what we know today of the Lustdust structure, chances are we might have found a mine there in 1954.

DIAMOND DRILLING.

Total footage drilled was 1791 feet in nine holes. The first eight holes were drilled on the oxidized showings on No.3 zone and the core recovery in mineralized sections was practically nil due to the porous and friable nature of the oxidized vein material. Casing was used in all holes and in most of them, double strings of casing had to be used in order to get any sludge recovery at all. Most of the sludges represent less than 20 percent recovery, some less than 5 percent. All holes had a tendency to wander, often in a sharply deviating direction and the exact end point position is therefore uncertain. Some casing was lost in two holes.

DESCRIPTION OF DRILL HOLES.

D.H.25 Location J-3 cut, No.3 zone. Bearing 240, dip -60. Cut rusty chert-argillite schist from 0 to 38, limestone and rusty carbonate mud from 38 to 98, fault zone with gouge and carbonate mud from 98 to 105, limestone from 105 to 159. Hole was drilled to recover casing lost in 1953.

D.H.26 Location J-3 cut, No.3 zone. Bearing 240, dip -76. Cut chert-argillite schist from 0 to 37, limestone and rusty carbonate from 37 to 118. Hole was drilled to recover rods and bit lost in 1953.

D.H.27 Location J-5 cut, No.3 zone. Bearing 238, dip -60. Cut limonite and oxidized vein material from 0 to 124, limestone from 124 to 135. Fault indicated at 135. Sludge assays from 0 to 50 average .08 Au, 1.34 Ag. No core recovered.

D.H.28 Location J-5 cut, No.3 zone. Bearing 238, dip -75. Cut limonite and oxidized vein material from 0 to 140, with increasing sulphide content from 140 to 155 and mainly solid sulphides from 155 to 170. Hole abandoned at 170 due to broken casing. No core recovered. Sludge assays range from .04 to .11 Au, .93 to 1.33 Ag with minor zinc. See X-section for assays.

D.H.29 Location J-5 cut, No.3 zone. Bearing 208, dip -74. Cut limonite and oxidized vein material from 0 to 160, with increasing sulphide content from 160 to 186, limestone from 186 to 190. Hole was sharply deflected from 140 and down, end point uncertain. Less than one percent core recovered. Sludge assays from the oxidized section 0 to 160 range from .04 to .20 Au, 1.10 to 1.70 Ag with average of .12 Au, 1.40 Ag and minor zinc. 0.5 ft. of core recovered from 157 to 158 assayed .35 Au, .40 Ag, 1.50% Zn. Sludge assays from 160 to 186 range from .03 to .95 Au, .50 to 2.00 Ag with average of .24 Au, 1.33 Ag, 2.09% Zn.

D.H.30 Location J-5 cut, No.3 zone. Bearing 231, dip -70. Cut limonite and oxidized vein material from 0 to 160, solid sulphides from 160 to 180 and limestone from 180 to 184. Less than one percent core recovered. Sludge assay# averages from 0 to 160 range from .04 to .16 Au, .06 to .70 Ag, tr to 3.44% Zn. From 160 to 180 sludge assays run .25 Au, 1.47 Ag, .71% Zn. The hole was deflected, probably flattened near bottom.

D.H.31 Location 119 ft. S.W. from D.H.30. Bearing 65, dip -77. The hole cut interbedded limestone and greenstone schist from 0 to 205, fault gouge from 205 to 214 and carbonated limestone from 214 to 290. Sludge assays from 205 to 214 run .01 Au, .10 Ag, 17.05% Zn.

D.H.32 Location J-13 cut, No.3 zone. Bearing 60, dip -75. Cut interbedded limestone and greenstone schist from 0 to 165, fault gouge from 165 to 172 and limestone from 172 to 194. Sludge assays from 165 to 172 run tr. Au, tr. Ag, 11.28% Zn.

D.H.33 Location #7 cut, No.1 zone. Bearing 95, dip -76. The hole was drilled from a set-up 26 feet west of the footwall of No.1 zone and at a slightly steeper dip, to determine the attitude of the ore bands intersected in the 1953 drill holes. Core recovery was very good from 0 to 338, mainly limestone with porphyry dykes. Between 237 and 329 there are eight ore bands with assays ranging from .02 to .38 Au, 1.40 to 26.7 Ag and varying amounts of Pb, Zn, Sb. From 338 to 351 the material

cut was a cherty, blue quartz with 50 to 70 percent sulphides which was highly abrasive and destroyed the bit. No core was recovered from this section but sands in the barrel assayed .04 Au, 3.30 Ag. As all our casing had been shipped out, it was unfortunately impossible to re-drill the section from 338 to 351 for a core sample and deepen it beyond 351 to get the total width of sulphides.

SURFACE WORK.

For a short period in July two men were put on prospect trenching north of last year's work on No.3 zone. 4 test pits and 9 trenches were completed, total length 230 feet. Four of the trenches found No.3 zone in place and added 650 feet to its proven length which now stands at 2200 feet.

K-1 cut shows a 10 ft. width of fault gouge, partly rusty and probably containing some zinc carbonates but was not sampled. A new ore shoot starts south of K-2 cut which shows a 5 ft. width of typical oxidized ore assaying .02 Au, 1.8 Ag, 0.6% Zn. In K-3 cut, 230 feet further north the ore has widened to 20 or possibly 25 feet of which 15 feet was sampled. A 5 ft. width next to the hanging (west) wall assayed .08 Au, .90 Ag, 2.35% Zn. A 10 ft. width adjoining to the east assayed .28 Au, 1.0 Ag, 4.80% Zn. The material is completely oxidized and quite similar in appearance to the vein in J-3, J-5 and J-6 cuts. K-4 cut, some 50 feet further north also got the ore but in all these trenches the solid is quite deep and difficult for hand trenching so K-4 was not in shape for sampling.

A couple of test pits were dug on No.2 zone in the F-7 opencut and found the ore band to continue north for 150 ft. from F-6 cut. The first pit 100 ft. north got oxidized material which assayed .10 Au, .46 Ag, 1.57% Zn across 2 ft. The second pit 50 ft. further north got the same band and assayed .15 Au, 1.24 Ag, 1.68% Zn across 1 ft. Total known length of the ore band in No.2 zone is therefore 350 feet. No other surface prospecting work was done.

Mr. D.L.Hings spent one day with us and ran a traverse with his highly sensitive earth inductor instrument on No.3 zone in the vicinity of J-5, J-3 and H-12 cuts. The results were negative because none of the ore minerals indicated in No.3 zone are magnetic. The instrument picked up several dykes which have a small pyrrhotite content.

REVIEW OF GEOLOGY.

The attached plan shows the geology of the main South area comprising the three distinct mineralized zones recognized to date.

No.1 Zone: In regard to No.1 zone, the original discovery, my 1953 report suggests that this is probably a fault structure either partly or entirely later than the ore. The results in D.H.33 this year can leave no doubt that it is definitely later than the ore and that the two surface ore shoots are drag ore which represent two separate, unrelated ore shoots. This is also suggested by their different mineralization, the northerly shoot being lower in silver and much higher in zinc, lead and iron. D.H.33 shows a core length of 115 feet equivalent to a true width of 60 feet between 237 and 351 which contains nine ore bands from 1 to 5 feet wide of the same type as in #7 surface cut and the assays check quite well with the surface average. The intervening rock sections of limestone and porphyry show a general, difused type of low grade mineralization, mainly pyrite, stibnite and sphalerite with a few narrow stringers of ore not sampled. There are traces of ore sulphides at intervals all the way from 237 and up to 119. No core was recovered of the 13 feet from 338 to 351 but we know it is mainly sulphides and examination of the cuttings retained in the core barrel shows it to be a fractured, blueish quartz with 50 to 70 percent sulphides consisting mainly of arsenopyrite with minor pyrite, zincblende, stibnite, jamesonite and galena. This is similar to the massive sulphide bands characteristic of all surface cuts from #5 to #11. I am not overly disturbed by the low assay of the drill cuttings considering that they represent a recovery of less than four percent of the 13 ft. section. This bottom band sits in chert-argillite immediately below a porphyry dyke and this checks with the cross section in #7 cut which shows this sequence at the top of the cut next to the west wall of the fault zone, with an additional 9 feet of ore to the east. I would expect therefore to find additional ore immediately below 351 in D.H.33. It could be the main ore section as the environment is favorable, capped by a porphyry dyke barrier. The ore bands in D.H.33 dip steeply west, about 10 to 15 degrees steeper than the bedding planes of the sediments and appear to be controlled by shearing and fracture cleavage.

To sum up, No.1 zone is an east dipping reverse fault where the footwall or west block has moved down relatively at least 160 probably 250 feet and the continuation of the surface ore shoots will be found at these depths to the west of the fault. The northerly surface ore shoot is in my opinion a separate band and so is probably the 10 ft. ore section showing in E-1 cut and the short shoots of drag ore in #1 and #2 cuts. All these bands are part of the same general shear structure, perhaps en-echelon shoots within it. It is of course quite possible that there may

be some drag ore along the fault structure from the surface down to the intersection with the ore bands but the results of the eight first drill holes in 1953 are not very encouraging in this respect. To explore the deep ore chances along this zone would call for several drill holes 350 to 450 feet deep from set-ups west of the fault, similar to D.H.33. This is probably not justified at present because of the complexity of the ore and the remote locality. From a purely exploration viewpoint however, I feel there is a good chance of finding important ore shoots along No.1 zone at depth.


No.3 ZONE: The diamond drilling done in 1954 from J-5 cut proved that the oxidized outcrops are in place and turn into sulphides at depth. Three of the drill holes reached the bottom of oxidation 160 to 170 feet below the outcrop and show sulphides from there on for 15 to 25 feet to where the ore has been cut off by a fault. This fault was also cut in D.H.31 and 32 drilled from set-ups west of the zone and appears to be a high angle, normal fault with a westerly dip of about 80 degrees where the west or hanging wall has moved down at least 120 feet. Examination of the drill cuttings shows a 7 to 9 ft. width of clay gouge containing fine fragments of partly corroded sphalerite, galena, pyrite and arsenopyrite, some zinc carbonate and considerable chert-sericite schist. This is considered conclusive evidence that the fault is later than the ore. Assays of the fault gouge show 17.05 and 11.28 percent zinc, no gold and silver. The fault has been traced for 2200 feet and if we project it another 1200 feet northerly, down the deeply buried slopes towards Canyon Creek, we come right to a large surface deposit of limonite at the north boundary of Lustdust No.9 claim which shows small, but significant values in silver and zinc. There can be little doubt that the fault is the source of this and the other secondary carbonate - limonite deposits grouped along No.3 zone. It has acted as a natural channelway and outlet for the meteoric waters which have and presently are, oxidizing and leaching the sulphide ores. Oxidation processes are still very active apparently, drill rods and casing got strongly green stained and pitted. Practically no core was recovered from the ore but panning and examination of sludges show that the sulphide body is almost massive pyrite and arsenopyrite with some sphalerite, chalcopyrite and galena. What little gangue there is, seems to be chert-sericite schist, small crystals of quartz and a buff carbonate. Gold was present in all sludges, usually as extremely fine particles or rod shaped colors, and metallic silver and copper were panned from the transition zone between oxides and sulphides. No.3 zone appears to be essentially an arsenical gold ore with lesser values in silver and base metals. Gold values are persistent in all drill holes but quite low, as will be noted on the X-section at J-5 out. Sludge recovery was nowhere entirely satisfactory, the oxidized material is so porous

that circulation and sludge would often be lost after advancing a foot below the casing. I would not care to form any firm opinion of what the actual gold values may be in the primary ore but the records show that below a certain level, the sections that gave the highest sludge recovery also show the highest gold values. Whether or not this indicates a loss of metallics by settling and bypassing into broken ground below the casing and behind it, is probably a disputable point but worth mentioning. The present incomplete evidence is therefore that the ore shoots in No.3 zone occur as siliceous, more or less massive sulphide shoots along shear zones subsidiary to a major fault and show their greatest development in chert-argillites.

The beginning of a new ore shoot uncovered by surface trenching in K-2 to K-4 cuts, is very much like the J-3 to J-6 body and like it, occurs in a chert-argillite fold truncated by the fault.

The 1954 drilling of No.3 zone therefore attained its first objective, namely to show the nature of these oxidized outcrops, but failed to find the primary ore because of faulting. It would be necessary to drill vertical holes 3 - 400 feet deep west of the fault in order to pick up the ore at depth and no estimate of grade can be made without such drilling. My own guess would be an overall average of perhaps .25 to .35 oz. Au and some 5 to 8 percent zinc with a little copper and lead. This is hardly good enough to bother with at this location and the ore may be difficult to treat. It is possible however, that at some other time and different conditions, this zone may become a more attractive exploration bet. If we add up the number of zinc carbonate showings and limonite deposits along No.3 zone, it is clear that the tonnage of sulphides leached to produce these, has been very considerable and consequently sulphide bodies at depth could be quite large. The Lustdust prospect can therefore by no means be written off as an exploration chance.

Respectfully submitted


E. Bronlund

Vancouver, B.C.

April 5, 1955.

EB:ms

Attach.: 4

Copies : 4