

To: The Directors,
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See p. 3.

PROGRESS REPORT ON HIGHLAND VALLEY OPERATIONS

May 15th to November 15th, 1957

During the past six months American Smelting and Refining Company operations on the Bethlehem property at Highland Valley, British Columbia, include: an extensive program of 'scout hole' drilling; limited diamond drilling on the North Simons zone, Jersey ore body, White zone and north part of the Iona zone; and the discovery and partial exploration of the new East Jersey ore body. Approximately 130 shallow 'scout holes' aggregating nearly 10,000 feet were drilled, plus 16 regular NX diamond drill holes totalling 6125 feet.

'SCOUT HOLE' DRILLING PROGRAM

In June the operating Company embarked upon a program of 'scout hole' drilling designed to test in a preliminary way large areas that are deeply drift-covered and very difficult to explore thoroughly. Most of the work was done north and west of Jersey Lake, but some was done east of the lake and south of the Iona workings. A churn drill, a truck-mounted rotary drill, and to a limited extent diamond drills were used for this work. The holes were put down vertically through the overburden and a few feet into bedrock, the cuttings or core being logged and assayed. The basic hole spacing was 400 feet by 800 feet, with interspaced holes as indicated by results.

This work resulted in the discovery of interesting mineralization in the North Simons zone and the discovery of a new ore body known as the East Jersey. These areas are now being explored more thoroughly by NX diamond drills.

NORTH SIMONS ZONE

The discovery in this area was about 3000 feet north-northwest of Jersey Lake. A bulldozer cut exposed altered quartz diorite containing disseminations and veinlets of bornite and chalcopyrite in sub-commercial amounts, and a diamond drill hole inclined downward to the west beneath this cut returned low copper values. Recent rotary 'scout holes' to the east of this cut showed very good copper values, and another diamond drill hole inclined downward to the east is being drilled. The extensive overburden and consequent ignorance of ore-making structures make exploration very difficult and expensive.

JERSEY ORE BODY

As a result of emphasis on the 'scout hole' program, drilling in the Jersey zone was sharply curtailed. The four holes completed are shown on the assay plan. Three of these are within blocks already considered in calculations of 'Indicated Ore' and therefore have little effect on ore reserve estimates. The fourth, drilled downward to the west from the collar of 3-4, is in almost barren rock that confirms the southwestern limit of Jersey mineralization. It is hoped that during the winter further drilling will be done to the south of 3-50 panel - a part of the Jersey zone that still lacks confirmation.

WHITE ZONE AND NORTH IONA ZONE

A hole drilled downward to the east beneath the White zone was in typical Iona breccia throughout its length of 477 feet. Although the copper content was very low, averaging only 0.27%, this hole is important in showing that the breccia extends farther eastward and that the White zone is in reality the eastern margin of the main Iona breccia deposit. Unfortunately, this hole was not continued to the contact of the Guichenon quartz diorite - a particularly favourable prospecting area.

Three holes drilled near Camp Lake are shown on the East Jersey assay plan. Hole 3-62 shows that almost barren porphyry cut by a wide fault zone lies beneath the lake. Hole 3-67 is in sparsely mineralized breccia with local intersections of better grade (assay data not complete). This hole extends the main Iona breccia body some 300 feet farther north.

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EAST JERSEY ORE BODY

The summer's activity was highlighted by the discovery of the East Jersey ore body in a drift-covered area some 1500 feet east of Jersey Lake and 2000 feet north of the main Iona workings. Actually, the name is a misnomer because the deposit is more closely related to Iona than to Jersey structures. Mineralization was first encountered in 'scout hole' CD-35 and subsequently exposed in shallow bulldozer cuts. Drill holes completed to date are shown on the assay plan. Although many more holes will be required to define this ore body, thus far it appears to be a steeply-dipping body between 200 and 300 feet thick that strikes northerly. Its present known length is 700 feet and its vertical range is more than 400 feet. Thus, its possible size to date is roughly 7,000,000 tons. Assays suggest that the grade will average between 1 and 2 per cent copper - roughly double that of the Jersey ore body.

Bornite is the principal ore mineral, but there is some chalcopyrite and primary chalcocite and a little molybdenite. The sulphides occur as fine-grained disseminations, coarser aggregates, and as high-grade stringers in altered and strongly fractured rock.

The geological environment of the East Jersey deposit is significant. The deposit lies along the contact of older Guichon quartz diorite to the east and various rocks of the 'Younger Complex' to the west. This same contact extends some 6000 feet from the White zone north and northwest to beyond Jersey Lake. This entire contact, a locus of strong fracturing and rock alteration, is a potential ore-making structure that warrants the most careful investigation.

SUMMARY

Exploration results of the past six months have been encouraging, the event of major importance being the discovery of the East Jersey ore body. During the coming winter it is expected that exploration will be energetically carried forward, with emphasis on more precise measurement operations in the Jersey and East Jersey ore bodies.

November 15th, 1957

Respectfully submitted,

Plan showing
Jersey-East
Drill Hole Intersections
1" = 100'

Nov 15, 1957

CD-21

CD-24

B-70

0-270 - unmin
270-293 - 0.15

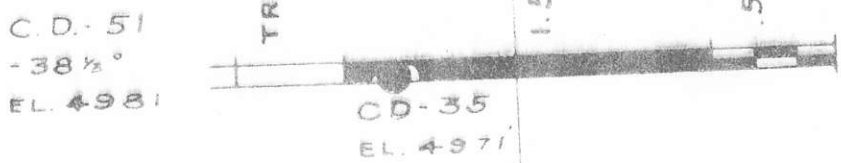
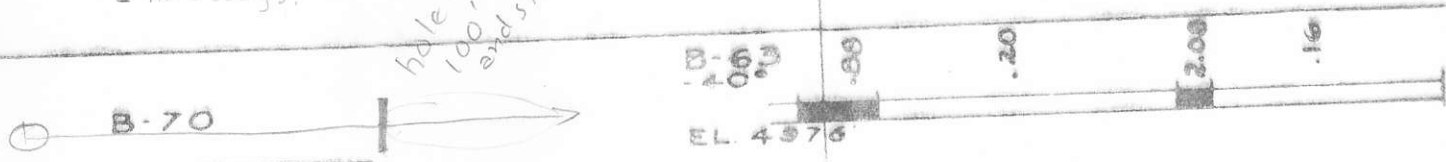
-300 - 11.2 %Cu

-332 - 9.65 %Cu

-360 - 6.9 %Cu

- no assays.

hole with
100' - 2-3%
end still going



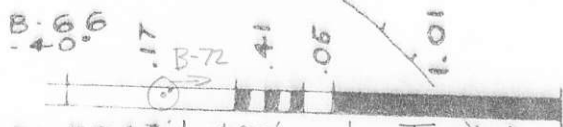
Drilling ← no assay. B-68



B-72 - Location not exact
40-175 - ±.5.

Comments as of
Dec. 5/57.

B-65
-40°
EL. 5029



400' s to Trench - ("best trench on property")