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Item 8

SYNOPSIS

of a

REPORT ON AN INVESTIGATION

of the

PROPERTIES OF EUREKA CORPORATION LIMITED IN NEVADA

by

Ira B. Joralemon

September, 1949

EUREKA CORPORATION LIMITED

2810—25 KING STREET WEST
TORONTO, ONTARIO

September 7th, 1949.

To the Shareholders,
Eureka Corporation Limited.

Mr. Ira B. Joralemon has submitted the following Summary of a Report which he has prepared as a result of his recent investigation of the Eureka mining properties in Nevada. Pertinent maps are enclosed herewith.

The complete report is too voluminous to permit of its publication but the essential points are covered in the Summary. The complete report is available at the Toronto Office, at the address shown above, or in New York City at Suite 1841, 230 Park Avenue.

The Report of Mr. W. E. Romig, who has also been making an investigation on behalf of the Company, should be received during October.

G. S. JEWETT,

Secretary, Eureka Corporation Limited.

August 23rd, 1949.

Eureka Corporation Limited,
230 Park Avenue,
New York (17), N.Y.

Gentlemen:

Following is a Summary of my Report on Eureka Corporation Limited. This Summary is repeated in my detailed report on the Eureka problem. Maps and sections are enclosed with the report.

From 1869 to 1882 the high grade oxidized orebodies under Ruby Hill, near Eureka, Nevada, produced more than \$40,000,000. in silver, lead, and gold. About 1,300,000 tons of ore are said to have been mined. Later production has been comparatively small, and chiefly from low grade ore. Eureka Corporation Limited now owns or holds under lease all of the portion of the Eureka District in or near Ruby Hill.

The Ruby Hill ore occurred in irregular bodies, the horizontal projection of which occupied about a quarter of an area 2,200 feet long from northwest to southeast by 1,200 feet wide. On the southwest the ore-bearing dolomite came to the surface. On the northeast it was cut off at about the 900 Level by the large Ruby Hill Fault. The ore-bearing rocks northeast of this fault were

dropped in two large fault blocks. Block 1-B, northwest of the Bowman cross fault, was dropped about 700 feet. Save for one barren drill hole far to the north, no development has been done in the ore-bearing horizon in this block. Block 1-A, southeast of the Bowman Fault, was dropped 1,300 feet. Five diamond drill holes in an area 400 feet long by 300 feet wide in this block indicated a possible 800,000 tons of heavy sulphide ore that averages 0.192 ounces gold, 5.92 ounces silver, 3.74% lead, and 9% zinc for 51.7 feet in thickness. The best hole averaged 0.388 ounces gold, 11.52 ounces silver, 6.9% lead, and 10.93% zinc for 65 feet in thickness. This indicated ore occupies less than a tenth of the promising area northeast of the Ruby Hill Fault.

Preliminary metallurgical tests on samples from the drill holes indicate that the net payment at the mill from shipment of concentrates, with lead at 15 cents per pound and zinc at 10 cents, would be \$14.75 per ton of ore of the average grade, and double this amount per ton of ore of the grade cut by the best drill hole.

Eureka Corporation Limited sunk the 2,415 foot Fad Shaft to make this deep ore available. About 700 feet from the ore a crosscut on the 2,250 Level encountered a great flow of water that flooded the shaft. Pumping up to 9,000 gallons per minute failed to recover the 2,250 Level. The principal reasons for the failure were:

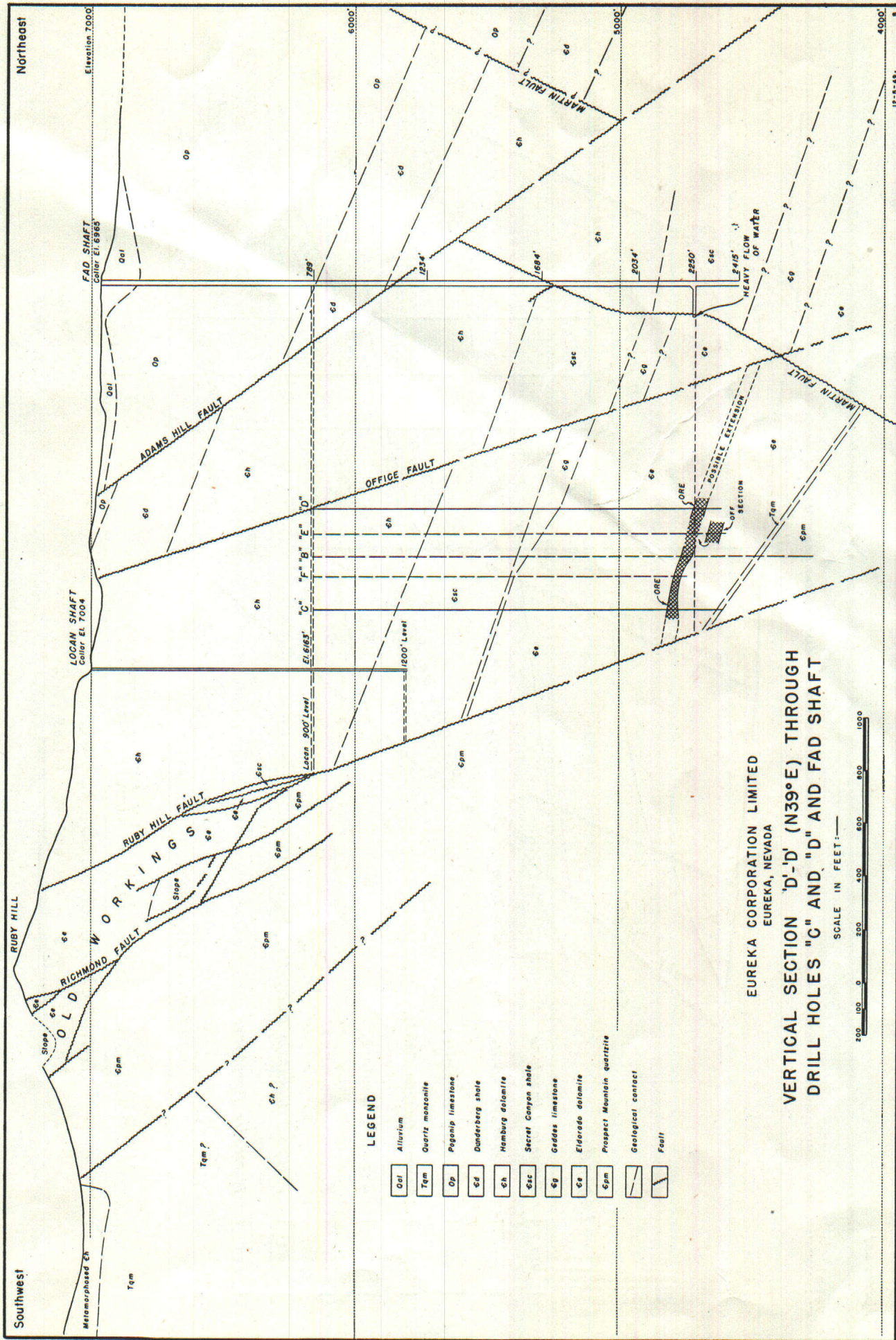
1. The 2,250 Level was 1,250 feet below the original water table. The resultant rapid flow under great head enlarged the water courses, bringing in mud and grit that made it impracticable to keep pumps running.
2. No drill holes were kept open, to permit measuring the drop in water table.
3. A water door on the 2,250 Level was not strong enough to stand the great pressure.
4. No drill hole was run ahead of the face, to permit gradual draining of large open fissures.
5. It is possible that part of the water pumped to the surface ran down crevices and was recirculated.

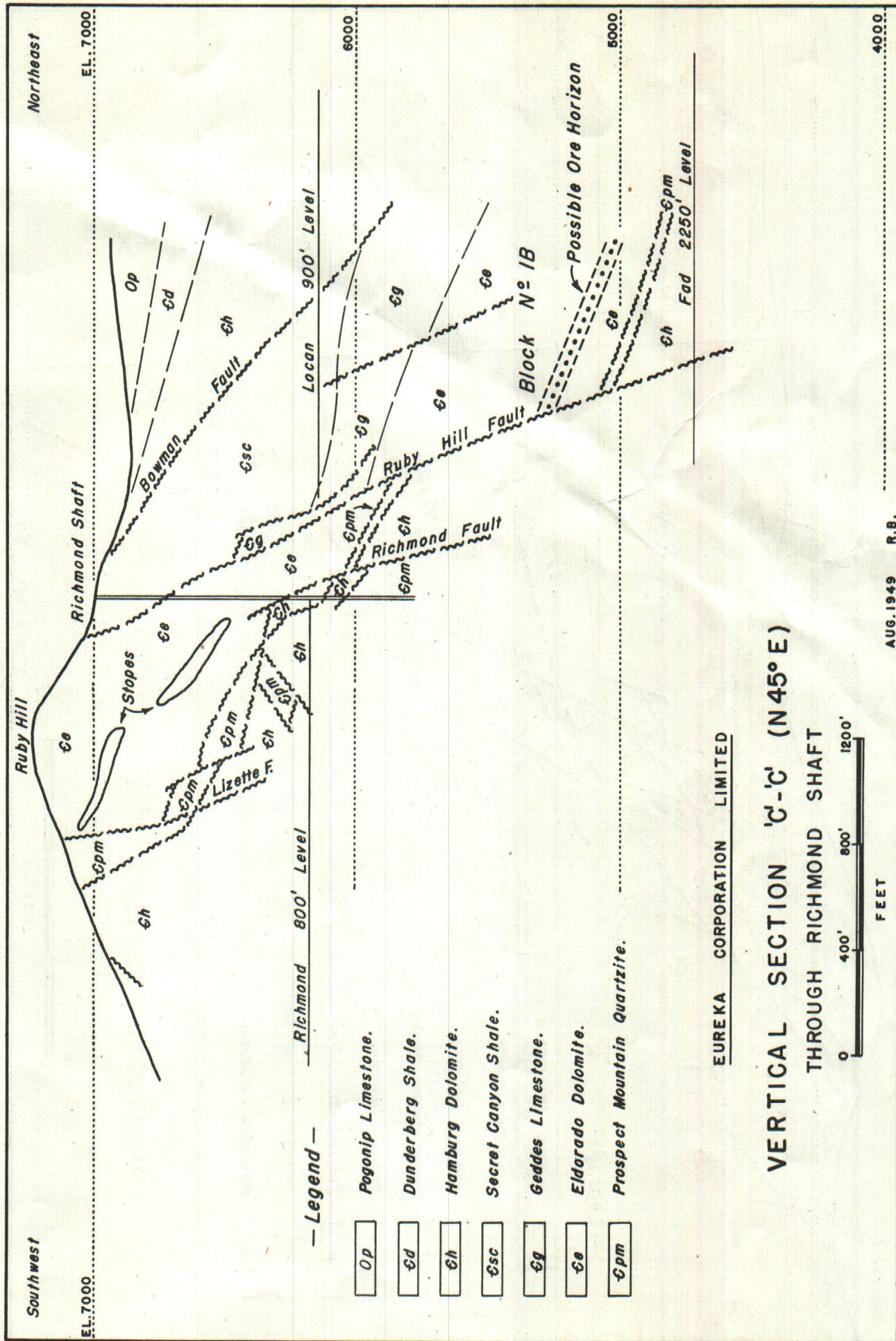
From the pumping record and from experience in other mines, it seems likely that the 2,250 Level ore can be made accessible by unwatering the mine a few hundred feet at a time, pumping a total of four to six billion gallons of water at the rate of 5,000 gallons per minute.

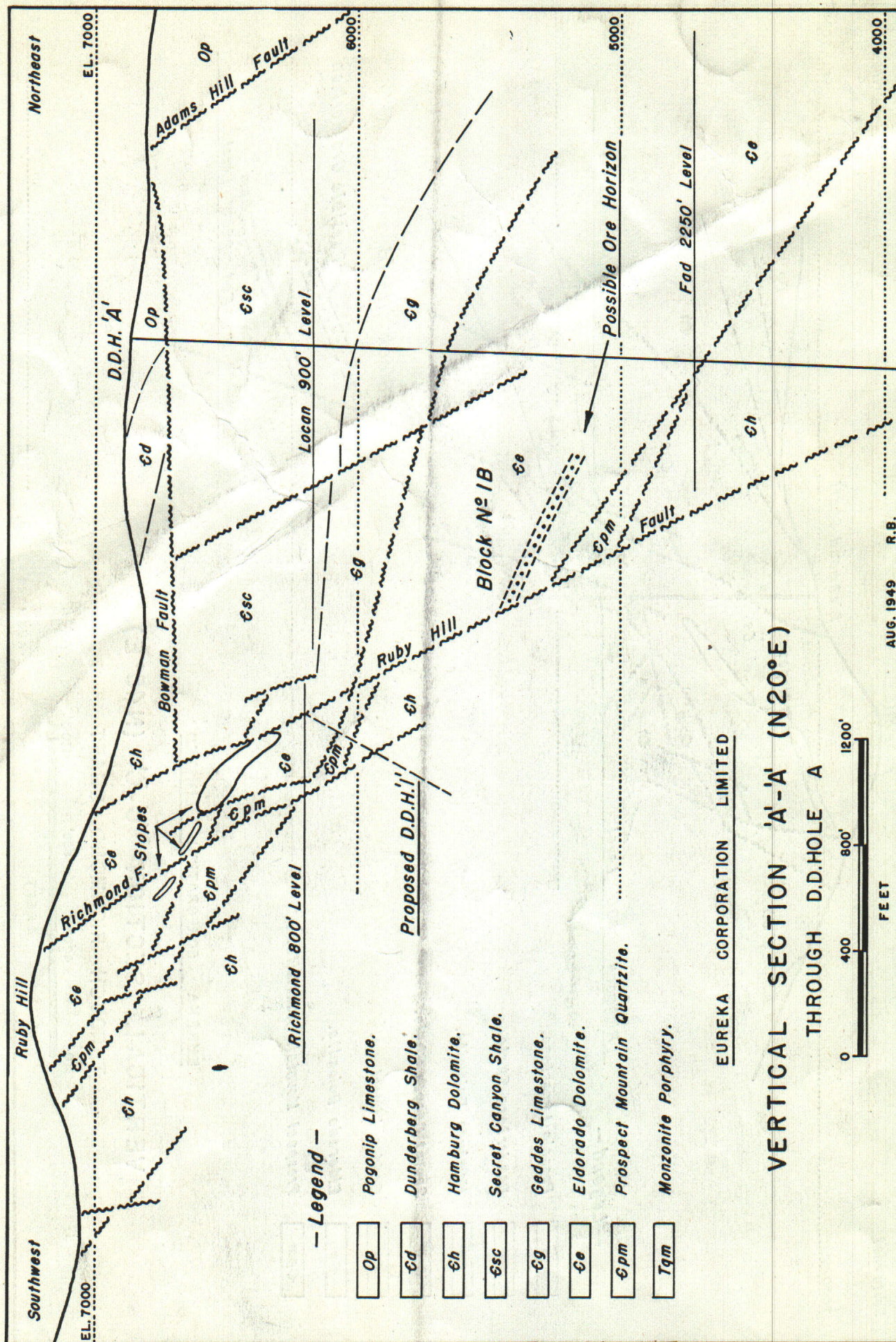
There are three excellent chances of finding large orebodies at much higher levels. This would permit bringing the mine to production at a far lower cost than that required to unwater the 2,250 Level. The three promising places are:

1. In Block 1-B, northwest of the Bowman Fault, above the 1,700 Level.
2. In higher beds 400 to 600 feet above the ore developed by drilling in Block 1-A.
3. In a fault block of dolomite under the quartzite that underlies the old Ruby Hill orebodies, from the 1,200 to the 1,700 Level.

These three possibilities can be tested by churn and diamond drill holes at comparatively small expense.







The following programme is recommended, with details of later stages modified to suit results of earlier stages:

1. Do 1,800 to 3,500 feet of churn drilling from surface and 1,000 to 1,800 feet of diamond drilling from the 800 Level, Fad Shaft, to test the three possibilities for finding ore on or above the 1,700 Level. Time required, eight months to one year. Estimated cost \$40,000 to \$80,000.

2. Unwater the mine to the 1,700 Level and crosscut to the ore-bearing formations. Time required, not to exceed 18 months. Estimated maximum cost, including pumping, \$870,000. If there was recirculation of water in the earlier pumping, the cost will be much lower. If, as seems likely, large orebodies are found above the 1,700 Level, about \$500,000. additional must be spent to provide a second exit and to prepare the mine for production.

3. Unwater the mine to the 2,250 Level and crosscut to the orebody already developed by drilling. Time required, about one year. Estimated maximum cost \$720,000. As in the second stage, the cost will be much less if there was recirculation of water pumped in 1948. If ore is found on or above the 1,700 Level, Stage 3 can be carried out gradually, out of part of profits. If no ore is found above the 1,700 Level, about \$1,000,000. additional must be spent for second exit, auxiliary levels, etc., before large scale production can start from the 2,250 Level.

4. As soon as possible, ship high grade ore to a custom mill and smelter. The estimated net return at the mine from ore of the grade of the 65 feet cut by Drill hole E, with lead at 15 cents and zinc at 10 cents per pound, would be \$17 per ton. This would more than cover the cost of mining, pumping, and overhead while a treatment plant is being designed and built. The size, character, and position of orebodies must be known before such a plant is planned. After it is in operation, with production at the rate of 500 tons per day, all costs at Eureka should total \$10 to \$12 per ton. This will permit a fair profit on probable average grade ore. It is possible that the cost of power, and so the total cost, may be greatly reduced.

It is essential to secure a more reasonable lease from Richmond Eureka Mining Company before starting the programme outlined above. When this is done, the preliminary development will be an exceedingly good speculation. If, as expected, it finds large orebodies on or above the 1,700 Level, a total expenditure of less than \$1,450,000. plus the cost of a treatment plant, seems likely to result in one of the greatest mining districts in the country.

If no ore is found above the 1,700 Level, the venture will be less attractive. Extensions of the deep ore already indicated by drilling may total several million tons. However, there is a remote chance that the flow of water may be so great that the cost of mining and development will be prohibitive. It is far more likely that large-scale production from the deep orebodies can be started at a total cost of \$2,650,000., plus the cost of a treatment plant. A possible profit of many times this amount fully justifies an attempt to unwater the 2,250 Level even if no higher ore is found.

Yours very truly,

IRA B. JORALEMON.