# MAR 19580006: ROSALIND

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August 22, 1958

### CONTO MINERAL

FILE REPORT

# TERMINATION REPORT OF EXPLORATION FOR BENTONITE ON LANDS RESERVED 19580006

## FOR MAGNET COVE BARIUM CORPORATION LTD. SOUTH OF ROSALIND, ALBERTA

On August 26, 1957, 30 sections of land were reserved by the Government of Province of Alberta, Department of Mines for Magnet Cove Barium Corporation Ltd. to conduct an exploration program for Bentonite.

This resefvation consisted of an area about 3 miles wide and extended from 5 miles south of the town of Rosalind to the Battle River and southwards to a location 6 miles east of town of Donalda.

On December 3, 1957, a truck mounted drill using compressed air was used for a drilling program.

During the winter months a total of 219 holes were drilled with a total footage of 6690 feet. The cost of the winter program was \$7500.00.

The drilling was suspended during spring break-up for a period of 3 weeks and continued in May until August 17 when the program was completed.

During the summer months a total of 214 holes were drilled with a total footage of 5573 feet. Therefore the total number of holes was 433 and total footage drilled amounted to 12,263 feet.

The cost during this period are estimated to be \$6000.00.

Thus, the exploration program expenditures amount to \$13,500.00 for drilling these lands.

### TOPOGRAPHY

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The area is mainly flat prairie lands under cultivation with only slight undulating terrain.

The Battle River cuts through the area to a depth of about 100 feet. The Battle River valley is highly eroded with steep slopes and many coulees have eroded the area close to the river giving the appearance of somewhat rugged "badlands".

This area is mainly farm land of poor to fair productivity and in places only used for pasturing cattle.

Indering Damment No. 700737

### GEOLOGY:

The Bentonite beds outlined by drilling lie in the Edmonton formation of the upper Cretaceous series consisting of sandstone shales, bentonitic shales and coal.

The Bentonite occurs in large lenses from 300 feet to 2000 feet long and at different stratigraphic levels. The thickness varies from 2-9 feet and lies under overburden consisting of mainly sandstone, shale and glacial till at depths from 4 to 33 feet.

The main deposit has a thickness of 8-9 feet and lies under 15-20 feet of overburden.

It was found that the Bentonite beds can pinch out in short distance of 200 feet and lose quality or be contaminated with sand in lesser distances.

Thus many drill holes were necessary to prove up a relatively small area.

These beds conform with the local strata and were found to be quite flat lying with only minor dips and no faults or folds.

Several areas were closely investigated but only four areas suitable for mining purposes due to size quality and sand content.

These areas and the location of drill holes are outlined in the enclosed maps.

### CONCLUSIONS:

The results of the drilling proved to be quite encouraging and a major showing in section 31-42-17 W4M proved to have an estimated 500,000 tons of Bentonite.

The other showings outlined and included proved a total close to 700,000 tons of Bentonitic clay under these lands.

Further laboratory work is necessary to prove quality suitable for commercial use but it is estimated that the reserves of Bentonite used in the drilling industry will be sufficient to meet demands of the next 20 years.

The quality of this Bentonite is comparable to that product now imported from the U.S.A. and can be used without chemical additives. The beds are low in abrasive material, such as sand, and free from contaminating chemicals.

B3A/9.

Two exploration pits were dug in July 1958 on  $NE_{4}^{\frac{1}{4}}$  Section 31 and  $NW_{4}^{\frac{1}{4}}$  Section 32. A sample of 25 tons of Bentonite was taken from each pit and shipped to the company plant in Greybull, Wyoming for processing. This sample has been tested satisfactorily by an oil company on a rig drilling in the Alberta Oilfields.

It was decided by company officials that the town of Rosalind, Alberta offered the best location for a plant site and this project was commenced in July 1958. The Bentonite processing plant will be 10 miles to the north of the deposit and linked by good gravel roads. It is estimated to cost \$150,000.00 and employ 6 to 7 men.

A Quarry permit was applied for in July and Bentonite mineral rights negotiated with Canadian Pacific Railways. Also the . surface was leased with the owner for a Bentonite strip mine.

Stripping of overburden at Quarry No. 37, LSD 15-31-42-17 commenced on July 23, 1958 and approximately 50,000 cubic yards of dirt were removed from an area 400' x 150' and this operation completed on August 20, 1958.

It is proposed that approximately 15,000 tons of Bentonite will be mined and stockpiled at the plant site.

On the Bentonite reservation the mineral rights for Bentonite have been obtained from the owners and the surface rights also.

Maps showing the locations of Bentonite deposits and a laboratory report showing typical drill holes tested are enclosed with this report.

During the exploration program water was encountered by the drill mainly in coal seams in a few scattered locations.

These drill holes will be reported to the Ground Water Research Department of the Research council of Alberta.

Respectfully submitted,

MAGNET COVE BARIUM CORPORATION LIMITED

J. S. Carter Geologist

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