

MAR 19580007: ROSALIND

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JWP:IJH

PLEASE QUOTE FILE NO. 89437

GOVERNMENT OF THE PROVINCE OF ALBERTA
DEPARTMENT OF MINES AND MINERALS
MINERAL RIGHTS DIVISION

NATURAL RESOURCES BUILDING
EDMONTON, ALBERTA

September 12, 1958.

ECONOMIC MINERALS
FILE REPORT No.
BNT-AF-11

ATTENTION: Dr. Grovenor

Gentlemen:

Re: Reservation for Quarrying (Bentonite) *1958 0007*
located in 41, 42 & 43-17-4th Mer. and
42 & 43-18-4th Mer.

I am enclosing for your records a termination report by Magnet Cove Barium Corporation Limited for the above reservation. Also enclosed is a laboratory report on drill hole samples from eight locations and five maps of the drill holes.

The reservation was terminated and the north west quarter of section 32, township 42, range 17, west of the 4th meridian and the south east quarter of section 6, township 43, range 17, west of the 4th meridian were taken as lease.

Yours very truly,

J. W. Patrick
J. W. Patrick,
Director of Mineral Rights.

The Research Council of Alberta,
87th Avenue and 114th Street,
EDMONTON, Alberta.

Encls.

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Indexing Document No. 700738

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Magcobar

MAGNET COVE BARIUM CORPORATION

ONE OF THE DRESSER INDUSTRIES

P. O. BOX 6504

HOUSTON 5, TEXAS

December 2, 1954

Mr. Robert A. Seaton
Assistant Director of Mineral Rights
Department of Mines and Minerals
Government of the Province of Alberta
Edmonton, Alberta, Canada

Dear Mr. Seaton:

Enclosed is a report prepared by our Mr. Charles Hooper covering the bentonite exploration activities of the Magnet Cove Barium Corporation, Ltd. on lands reserved for prospecting in the Highridge-Busby district. A map showing the drill hole locations and thicknesses of bentonite and overburden is included as a part of the enclosed report. This report summarizes the results of the exploration work done by Mr. Hooper and his party during the period of time between June 26, 1954 and September 14, 1954.

The Magnet Cove Barium Corporation, Ltd. spent slightly more than \$10,000 during the summer of 1954 prospecting for bentonite on the 19,000 acres of land reserved in the Highridge-Busby district. This expenditure is exclusive of the \$5,000 deposit made in October, 1953. It is our understanding that Mr. Somerville of the Department of Mines and Minerals told Mr. Hooper that the deposit would be refunded if the Magnet Cove Barium Corporation, Ltd. (1) elected not to lease land after the one year exploratory period and (2) submitted a report of their bentonite exploration activities on the land where prospecting rights were granted. It is our opinion that the lands which we prospected do not contain bentonite that is of commercial value, and therefore, we wish to relinquish both prospecting rights and leasing rights. We have tried to comply with the provisions of the prospecting rights granted to us by the Department of Mines and Minerals, and we will appreciate their consideration of refunding the deposit made by our company.

We wish to thank the personnel of the Department of Mines and Minerals for the assistance and fine cooperation given Mr. Hooper and his party in carrying on their bentonite exploration activities. If the attached report does not provide all of the information that is desired, or if you have questions related to our exploration efforts, we will be very happy to cooperate with you in any way possible. We are still very much interested in finding commercial bentonite in the Province of Alberta and will very much appreciate your advising us of any prospects that come to your attention.

Yours very truly,


L. M. Hermes, Jr.

LMH, Jr./fs

December 2, 1954

REPORT OF INVESTIGATIONS OF BENTONITE DEPOSITS IN THE HIGHRIDGE-BUSBY AREA
ON LANDS WHICH THE GOVERNMENT OF ALBERTA GRANTED PROSPECTING RIGHTS TO THE
MAGNET COVE BARIUM CORPORATION, LTD.

In October of 1953 the Government of Alberta granted the Magnet Cove Barium Corporation, Ltd. a one year exclusive bentonite prospecting right on approximately 19,000 acres of land located in the Highridge-Busby area with the understanding that the Magnet Cove Barium Corporation, Ltd. would have the privilege, if so desired, to lease 1,000 of these acres at the end of the one year exploratory period. The Magnet Cove Barium Corporation, Ltd. deposited \$5,000 with the Government of the Province of Alberta for these prospecting rights and leasing privileges and agreed to spend an adequate amount of money to explore the 19,000 acres for bentonite.

During the summer of 1954 two geologists and a drilling crew using a truck mounted augered rig carried out bentonite exploratory operations for the Magnet Cove Barium Corporation, Ltd. on lands covered by the prospecting reservation from the Government of Alberta. These lands are indicated on the enclosed map. Also indicated on the map are drill hole locations and data pertaining to the thicknesses of the overburden and bentonite. Extremely bad weather conditions and bad roads hindered field operations considerably, but nevertheless, the exploration party drilled 125 holes to a depth of 45 to 50 feet. Samples of bentonite taken from drill holes were evaluated as regards drilling mud utility in the company laboratory at Edmonton, Alberta.

The results of the above exploration program were very discouraging. Bentonite deposits that could ever be considered mineable were found in only two localities and are indicated on the map as bentonite area number one and bentonite area number two. No actual tonnage estimates of the two deposits were compiled, since the intent of the exploration program was to find deposits of commercial proportions. The actual depositional factors involved and the characteristics under which the bentonite deposits lie are not wholly understood, but it seems definite that the bentonite in the Highridge-Busby area occurs in small deposits spotted over a ten to fifteen mile area. It appears that the bentonite bed was severely eroded at one time and that later there was a period of redeposition which would account for the rapid change in lithology between the bentonite and other clays and sands. The quality of the bentonite in the Highridge-Busby area varied greatly from hole to hole, and no deposit was found that contained bentonite with a quality comparable to oil well drilling mud grade Wyoming bentonite.

As a result of the above described exploration program, it is believed that the bentonite on the 19,000 acres prospected is lacking in both quality and quantity and that it would be in the best interest of the Magnet Cove Barium Corporation, Ltd. to abandon all bentonite activity on these lands.

Charles J. Hooper

CJH/fs

August 22, 1958

ECONOMIC MINERALS

FILE REPORT No.

BNT-AE-10

TERMINATION REPORT OF EXPLORATION FOR BENTONITE ON LANDS RESERVED
FOR MAGNET COVE BARIUM CORPORATION LTD. SOUTH OF ROSALIND, ALBERTA

19580006

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 reservation 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 Donalds.

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

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.

For a map of the
land leases see
Map #1.

J. Sciarra

23-Mar-06

Indexing Document 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.

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Two exploration pits were dug in July 1958 on NE $\frac{1}{4}$ Section 31 and NW $\frac{1}{4}$ 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.

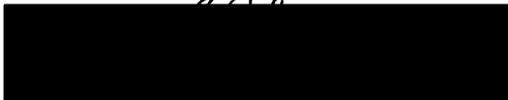
Maps showing the locations of Bentonite deposits and a laboratory report showing typical drill holes tested are enclosed with this report.

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

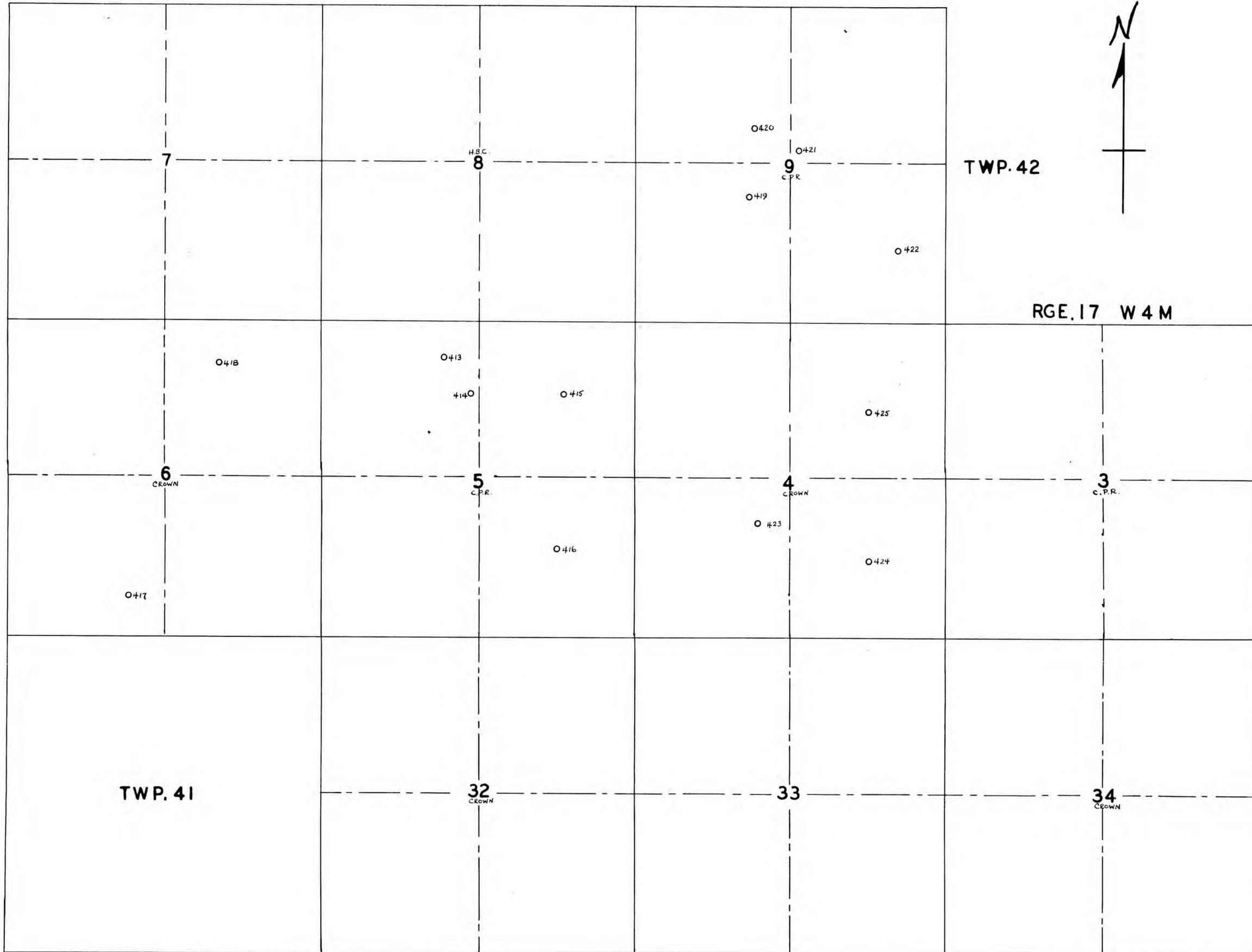
These drill holes will be reported to the Ground Water Research Department of the Research council of Alberta.

Respectfully submitted,

MAGNET COVE BARIUM CORPORATION LIMITED


J. S. Carter
Geologist

JSC:vh



BENTONITE LEASES
MAGCOBAR LTD.

SCALE 1 INCH = 1000 FEET
O - DRILL HOLES

AUG 22 1958 J. CARTER

RGE. 17

SE SEC. 7

SW SEC. 8



19580006 #2

BENTONITE - BATTLE RIVER

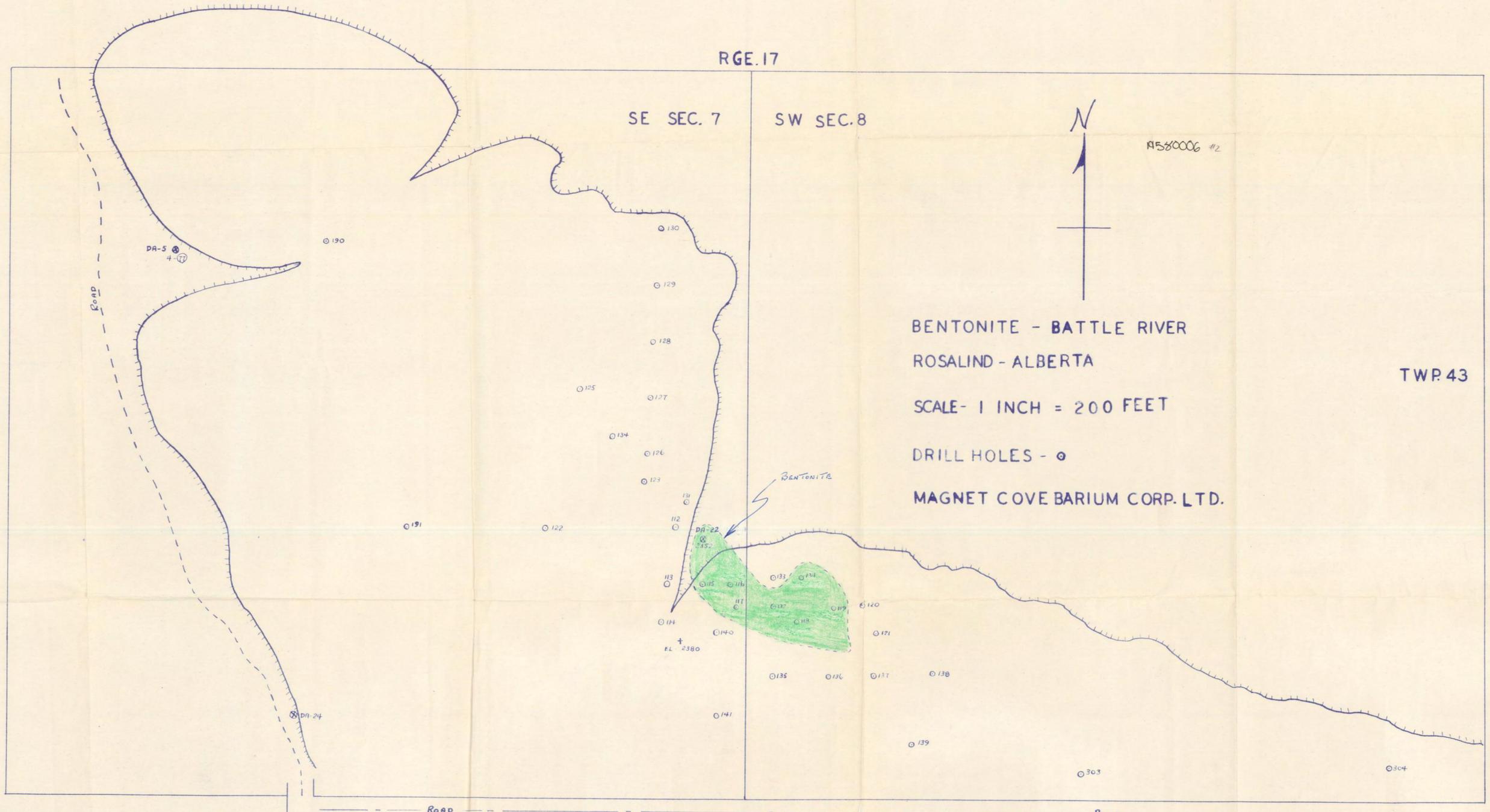
ROSALIND - ALBERTA

TWP 43

SCALE - 1 INCH = 200 FEET

DRILL HOLES - ○

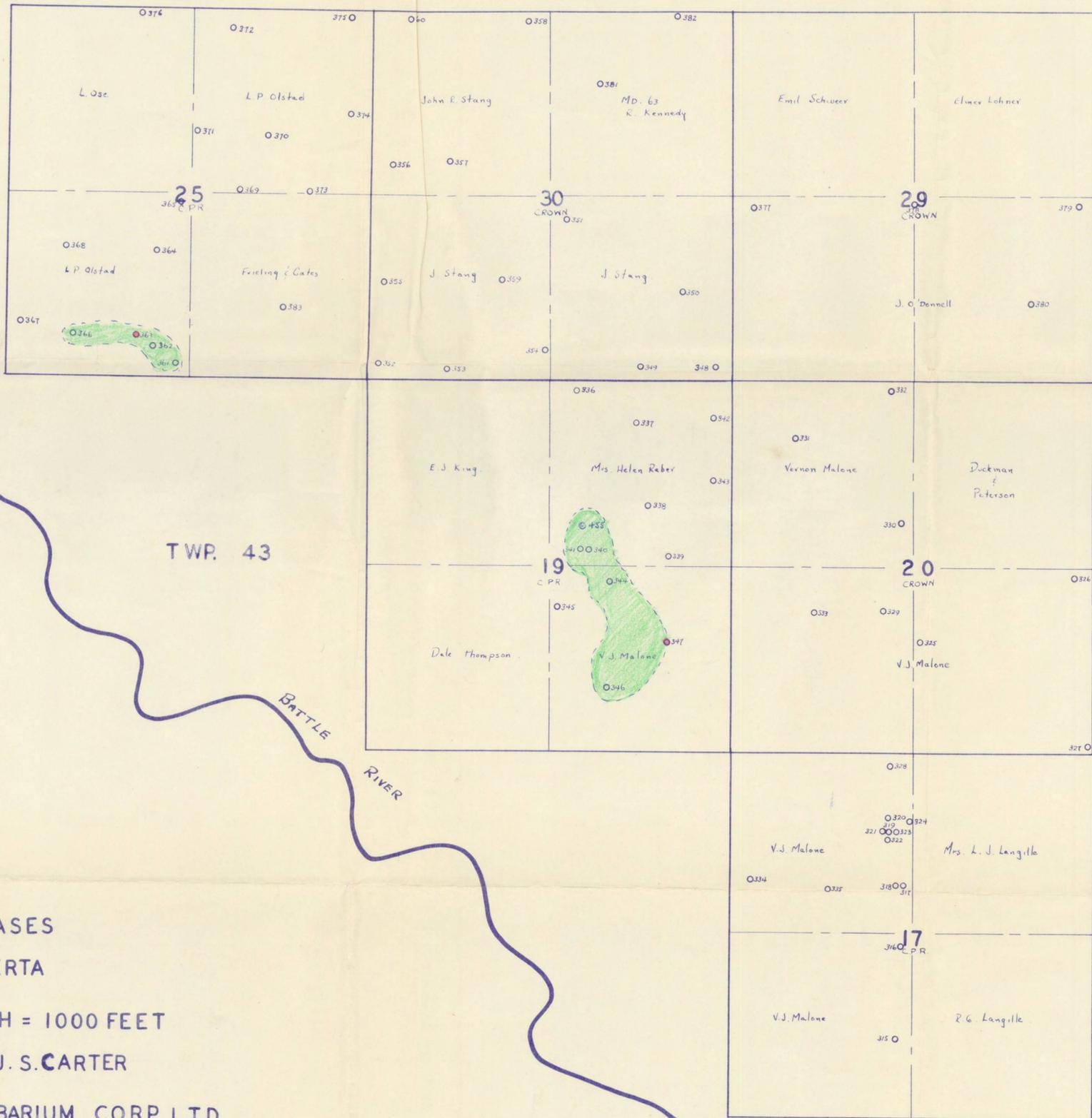
MAGNET COVE BARIUM CORP. LTD.



JUNE 10 1958 - J.S. CARTER

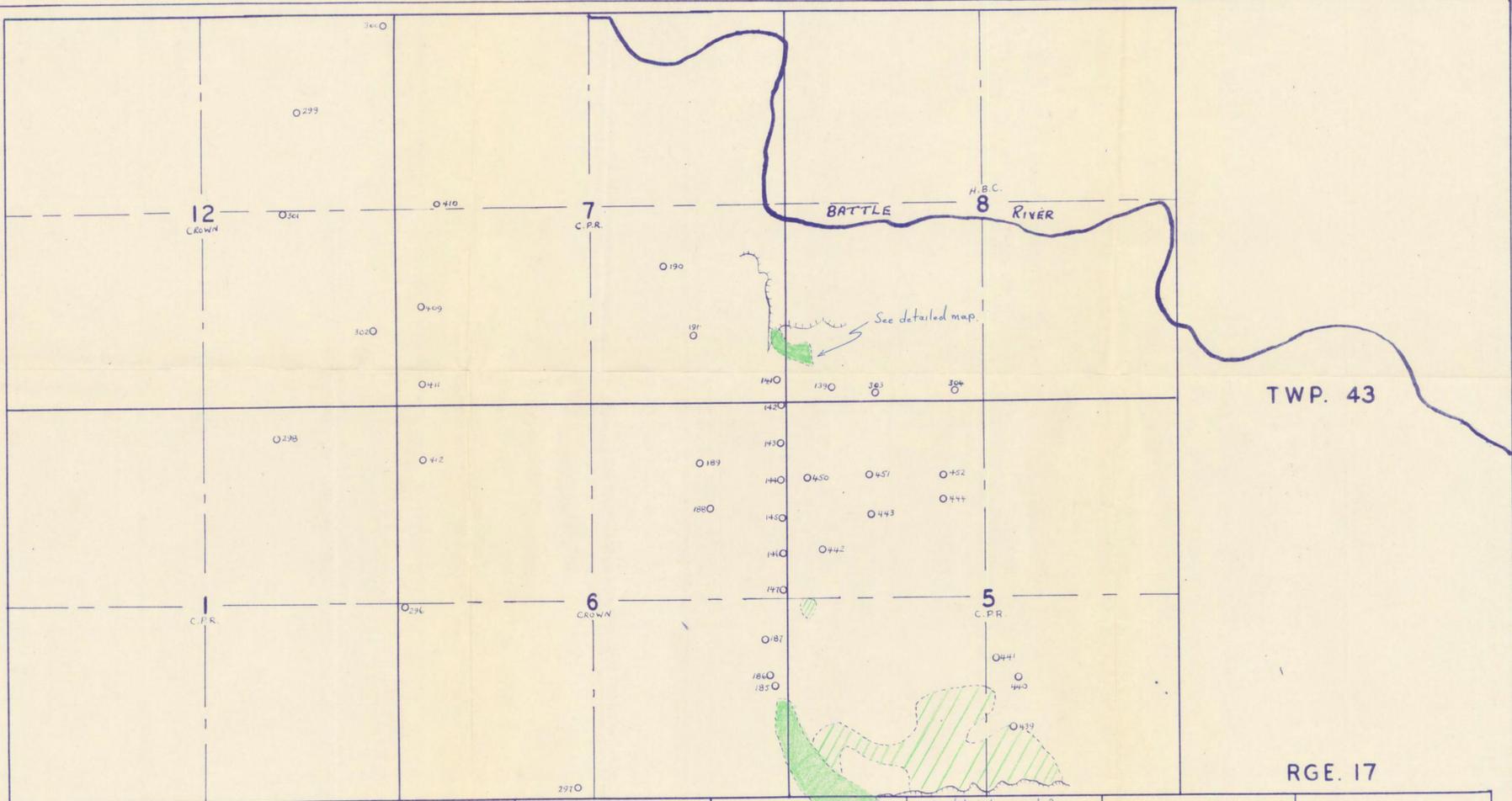
RGE. 18

RGE 17



BENTONITE LEASES
 ROSALIND-ALBERTA
 SCALE- 1 INCH = 1000 FEET
 MAY 28 1958 J. S. CARTER
 MAGNET COVE BARIUM CORP. LTD.

-  — BENTONITE
-  — DRILL HOLES (TASTED SEE ATTACHED REPORT)

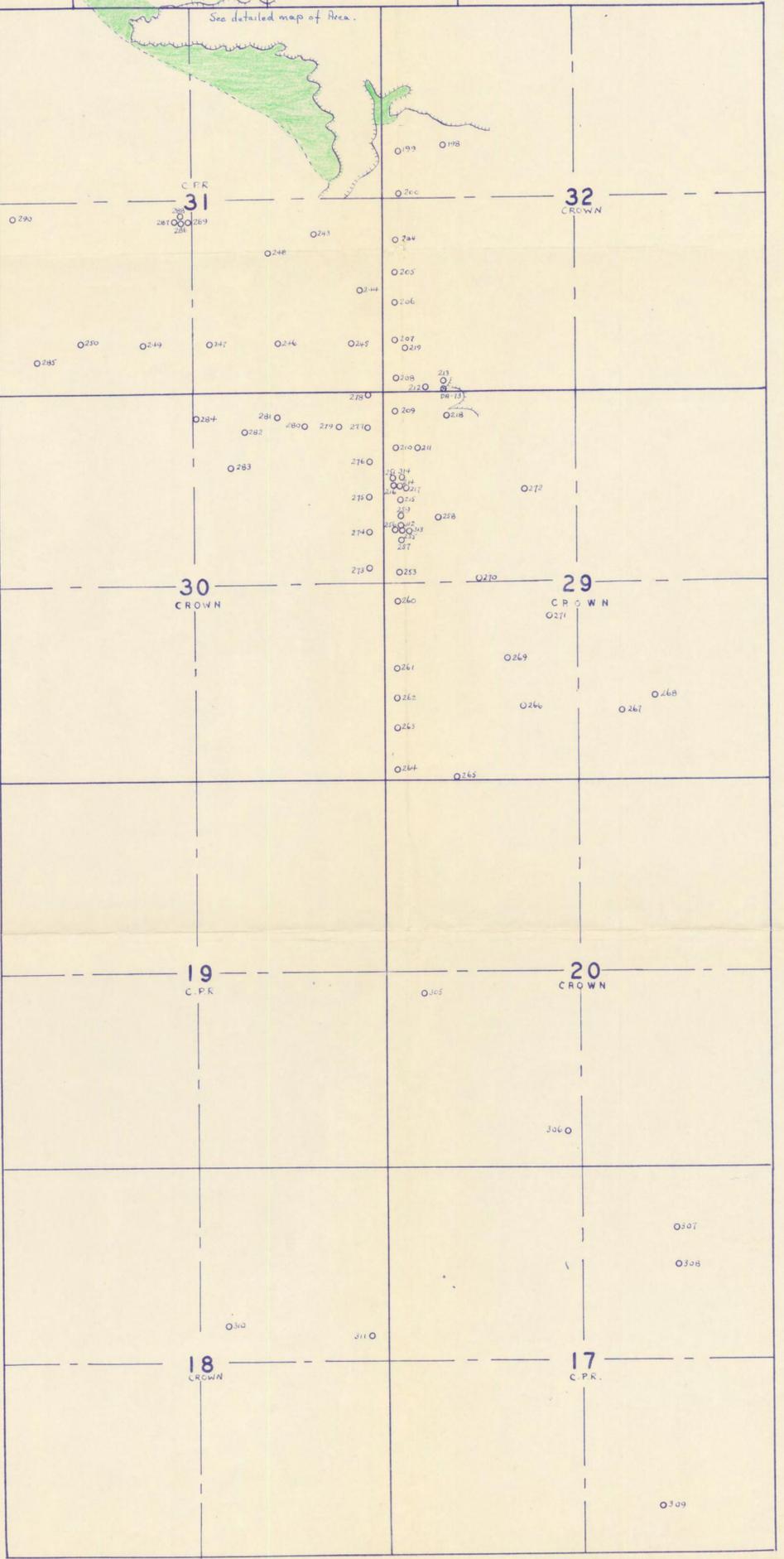


BENTONITE LEASES
 ROSALIND ALBERTA
 TO SHOW

LOCATION OF DRILL HOLES
 SCALE - 1 INCH = 1000 FEET

JUNE 6 1958 J. S. CARTER
 MAGCOBAR LTD.

- - BENTONITE BEDS
- ▨ - BENTONITE & VOLCANIC ASH
- - DRILL HOLES



SE 1/4
SEC. 6
Crown

SW 1/4
SEC. 5
C.P.R.

SE 1/4
SEC. 5
C.P.R.

NW 1/4
SEC. 31
C.P.R.

NE 1/4
SEC. 31
C.P.R.

NW 1/4
SEC. 32
Crown



BENTONITE-BATTLE RIVER ROSALIND-ALBERTA

SCALE- 1 INCH = 200 FEET

- ⊗ HAND AUGER HOLES
- ⊙ DRILL HOLES

MAY 25 1958 J.S.CARTER
MAGNET COVE BARIUM CORP. LTD.

- BENTONITE
- BENTONITE & Volcanic Ash.
- - DRILL HOLES TESTED - SEE ATTACHED REPORT.

