MAR 19570015: CENTRAL ALBERTA

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ECONOMIC MINERALS

FILE REPORT No.

19570015

FINAL REPORT

LETTER OF PRIVILEGE TO EXPLORE FOR

BENTONITE

Issued June 17, 1955 to

BAROID OF CANADA, LTD.

Operating Under

PERMIT NO. 198

HREHIRCHEK-PYLYPOW AREA

Your File No. 79213

This report concerns 19,200 acres located in T57, R1; T58, R1; T57, R2; T58, R2; all West of the Fifth Meridian as shown on the accompanying plats.

December 26, 1957

R. Keith Collins



FINAL REPORT

Letter of Privilege Issued June 17, 1955 Expired June 30, 1957

Your File No. 79213

All lands held under this reservation are shown on the accompanying plats.

Exploration for bentonite on a portion of these lands was conducted with a Parmanco drill. Samples of bentonite obtained by drilling were sent to our laboratory in Colony, Wyoming and tested by standard industry methods.

The accompanying maps of those quarter-sections upon which drilling was conducted show the location of each hole, and its identifying number. Below the number we have shown the initial yield of the various samples from that hole. The yield is expressed in barrels of drilling fluid per ton. Below the hole number we have shown first, the inches of bentonite and secondly, the depth of overburden in feet and inches.

Thickness of the bentonite varies so rapidly and within such wide limits in this area that any estimate of tonnage is suspect. We have however, estimated that the drilled out areas within this reservation contain approximately 71,000 tons of bentonite of which approximately 29,000 tons could be utilized in the production of drilling mud.

Bentonite in this area occurs in the Edmonton Formation which occurs in the Montana Epoch, Upper Cretaceous Period of the Mesozoic Era.

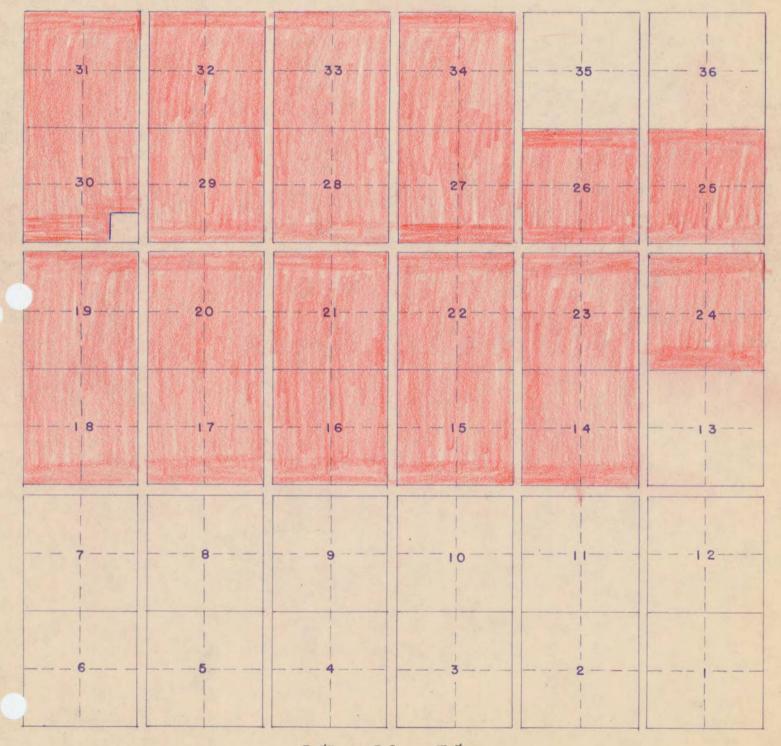
This formation was laid down as a delta along a shoreward zone of the Fox Hills Sea at a time of extensive volcanic activity to the West. Among the conditions of delta sedimentation are foreset bedding, lensed arrangements, local thin cross-bedding and interlamination of strata of different mechanical composition.

The geologic history of the Edmonton formation indicates the type of bentonite deposits we could expect to find. The field work we have done has shown this to be true. The overburden and bentonite deposits have followed closely the delta deposition patterns. The bentonite deposits are found as small, scattered lenses at no fixed horizon in the formation. The bentonite deposits show that deposition is usually by foreset bedding. Typically, the deposits show interlamination between clean bentonite and muddy or dirty bentonites, but in this area do not contain any rock.



Government File No. 79213

Letter of Privilege Issued June 17, 1955 Expired June 30, 1957



| | T Is | | | | |
|----|------|----|-----------|-----|--|
| 3 | 32 | 33 | 34 | 35 | —————————————————————————————————————— |
| 30 | 29 | 28 | 27 | 26 | 25 |
| | | | | | |
| 19 | 20 | 21 | 22 | 23 | 24 |
| 18 | I7 | 16 | I5 | | 13 |
| 7 | 8 | 9 | . 10 | | I2 |
| 6 | | | 3 | | |
| | | | | 1 1 | |

| 31 | 32 | 33 | 34 | 35 | 36 |
|----|----|----|----|----|----|
| | 29 | 28 | 27 | 26 | 25 |
| 19 | | | 22 | 23 | 24 |
| 18 | 17 | 16 | 15 | 14 | 13 |
| 7 | 8 | 9 | | | 12 |
| 6 | 5 | 4 | | 2 | |
| | | | | | |

T 58 - R 2 - W 5

| 31 | 32 | 33 | 34 | 35 | 36 |
|----|----|----|----|----|----|
| | | | | | |
| | 29 | 28 | 27 | 26 | 25 |
| | | | | | |
| | | | | | |
| 19 | 20 | 21 | 22 | 23 | 24 |
| | | | | | |
| 18 | | | 15 | 14 | |
| | | | | | |
| | | | | | |
| 7 | 8 | 9 | | | 12 |
| | | | | | |
| | | | | | |
| 6 | 5 | 4 | | 2 | |
| | | | | | |

T 58 - R1 - W 5

Some thin beds of bentonite were found which were not laminated, but yield was very poor.

This entire area was not drilled, however, the area generally was unfavorable except for one small area.

The enclosed maps of the following lands cover all drilling under this Letter of Privilege:

```
# 1 NE of Section 22, T57, R1, W5
# 2 NW of Section 22, T57, R1, W5
# 3 SE of Section 22, T57, R1, W5
# 5 NE of Section 22, T57, R1, W5
# 6 NW of Section 21, T57, R1, W5
# 10 NW of Section 21, T57, R1, W5
# 11 SE of Section 21, T57, R1, W5
# 12 SW of Section 21, T57, R1, W5
# 2 SW of Section 21, T57, R1, W5
# 3 SW of Section 30, T57, R1, W5
# 10 SW of Section 19, T57, R1, W5
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0198-552 0-47101 0198-580 Or47'04 0-47'0V 0-H7'0' 0198-517 0198-563 0-471011 0198-567 6-47'0" 0 -470" 0198-519 B-47'08 ⊙198-562 O-717104 0198-558 0198-598 6-47'0" 0198-513 0-30'0" 0198-575 01-47 10" 0-47101 0-47'0" 0198-574 6-47 0 4 0-47'0" 0198-561 0.47104 0198-582 0-47101 0-4701 0198-583 0-4710° 0198-602 0-47'0' 0-4501 0198-598 0-47'0 V 0148-604 6-47'0" 0198.605 0-47104 0-42'0" 0198-597 23.0 0198-624 84"-38'0" 0-4700 0-47'0' 0-47'0" 0-470 0198-589 6-476 F 0 198-619 O-301-611 0-47'0" 0-4707 0198-608 O-H7'01 0198-616 0-470 0198-591 0198-588 **0-47'0'** 0198-590 8-47'0" 0-300" 0-42'0" 0-H7'0" 0-4700

> PERMIT NO. 198 GEOPHYSICAL LIC. NO. 1581 1955

BAROID OF CANADA LTD.

DRILL HOLE MAP

SE 4 SEC. 22 - T57-R | W-5M,

ALBERTA, CANADA

SCALE 1"= 100' OCT. 1955

1957 0014 # 3

RK.COLLINS

0198-724 97:04 0-47-0" 014-722 @ 1 48 - 672 @-4750" 0148-674 0148-714 0-43:0" @ 198-675 0-4760" @198-713 0-47-0" 0 198 - 7/0 0 198-714 0-33-0" 0198-721 0-47-0" 0198-676 0-47-0" ⊙ 198-715 0-37'0" 0 198-718 0-47-0" 0148-707 0-47-0" @198-677 0-47-0" @148-716 0-4710" 0198-706 0-47-0" 0-47-0" 198-678 0-47-0" @148-708 0-4750" 0 148-704 0-45-0" 0 198-717 0-47-0" 0198-679 0-47'0" 0-47-0" 0 148-685 0-47-0" 0198-698 0-4710" 0-47-0" @ 198-698 0-47-0" € 198 - 680 C- 37'-0" 0-47:0" 0198-695 0-47-0" 0149-693 @198-687 0-47!0" 0198682 @ 198-696 O-471-0" 0148-694 BAROID OF CANADA LTD. DRILL HOLE MAP S.W. QTR. SECTION 22 T. 57 R.I

WEST OF 5TH MERIDIAN DRILLED - 1955 JUNE 1956

SCALE - I" = 100 FT. PERMIT No. 198 GEOPHYSICAL LIC. No. 1955

19570015 #4

0-33'011 0198-517 0-37'0" 0-53-011 0 198-516 0 198-516 0198-503 0-2704 0198-233 0190-656 0'- 47'0" 0-40'0" 0'-22'0" 0-47'6" 0-4701 0/98-655 0-47101 0198-504 0198-657 0198-505 0198-659 0-47101 0198-645 0-47'0" 0198-660 0-37'0" 0/98-506 **6 ₽ 33'6"** 0-4710" 0198-507 6-371011 0198- 508 6-471011 0147101 0198-653 0198-644 61-471011 0198-509 0198-539 O- 43'0" 0198-514 0-331011 0198-669 B-471011 0198-643 0-47 D1 0198-665 6-47'0' 0198-663 0-470" 0-47101 0148-538 0-27:0 0198-537 O-4310 0-4710 V 0198-513 0198-540 0198-543 O-4710' 9198-640 0 - 47'0 ° 0-470" 0198-510 6-371011 0-431011 21 4-636 0-43'0" @198-226 0'26'8" 0198-512 0 198-511 0 = 3 7 10 11 0198-535 0198-667 01-430° 0198-546 G1-4710 11

> PERMIT NO. 198 GEOPHYSICAL LIC. NO. 1581 1955

BAROID OF CANADA LTD.

DRILL HOLE MAP

NW 4 SEC. 22 - T57-RIW-5M.

ALBERTA, CANADA

SCALE I'= 100' OCT. 1955

/9570015 # 2 **RK. COLLINS**

0-371011 0198-519 0-3710" 0198-549 0-3701 0198-523 0198-528 0-370" 0-8701 0-37'0" 0-37'0" BAROID OF CANADA LTD.

PERMIT NO. 198

GEOPHYSICAL LIC. NO. 1581 1955

DRILL HOLE MAP

NE 4 SEC. 22 - T57-R I W-5M.

ALBERTA, CANADA SCALE I"= 100' OCT. 1955

19570015

RK.Collins

BAROID OF CANADA DRILL HOLE MAP S.W. QTR. SECTION 21, T. 57. R.I WEST OF 5TH MERIDIAN DRILLED - 1955. JUNE - 1956. PERMIT No. 198 GEOPHYSICAL LIC. No. 1955 19570015

0-48-0 0148-742 0198-748 0.43-0" 6198-741 0-4710" 0.47:0" 0- 175 0" @148-151 0-4710" 0 148 -758 0 -47-0" 0.376" 0-42-0" 0 198-788 0-4720" 0198-144 0-42-0" 0 198-747 0-32-0" @ 198-739 0-47:0" BAROID OF CANADA LTD. DRILL HOLE MAP SE QTR. SECTION 21, T.57 R.I WEST OF 5TH MERIDIAN DRILLED - 1955 JUNE - 1956 PERMIT No. 198 GEOPHYSICAL LIC. No. 1955 SCALE - I" = 100FT. 19570015

6198-210 0-4010" 0-4010" @ 198-261 @ 3010" 0 198-262 0-2314" € 198-212 G-30-0" 0-40-0" 0.40.0" 0-23-4" 0198-267 0148-258 0-40'0" 0-40-0" 0 146-255 0148-240 B 198-241 20 21 BAROID OF CANADA LTD. DRILL HOLE MAP

BAROID OF CANADA LTD.

DRILL HOLE MAP

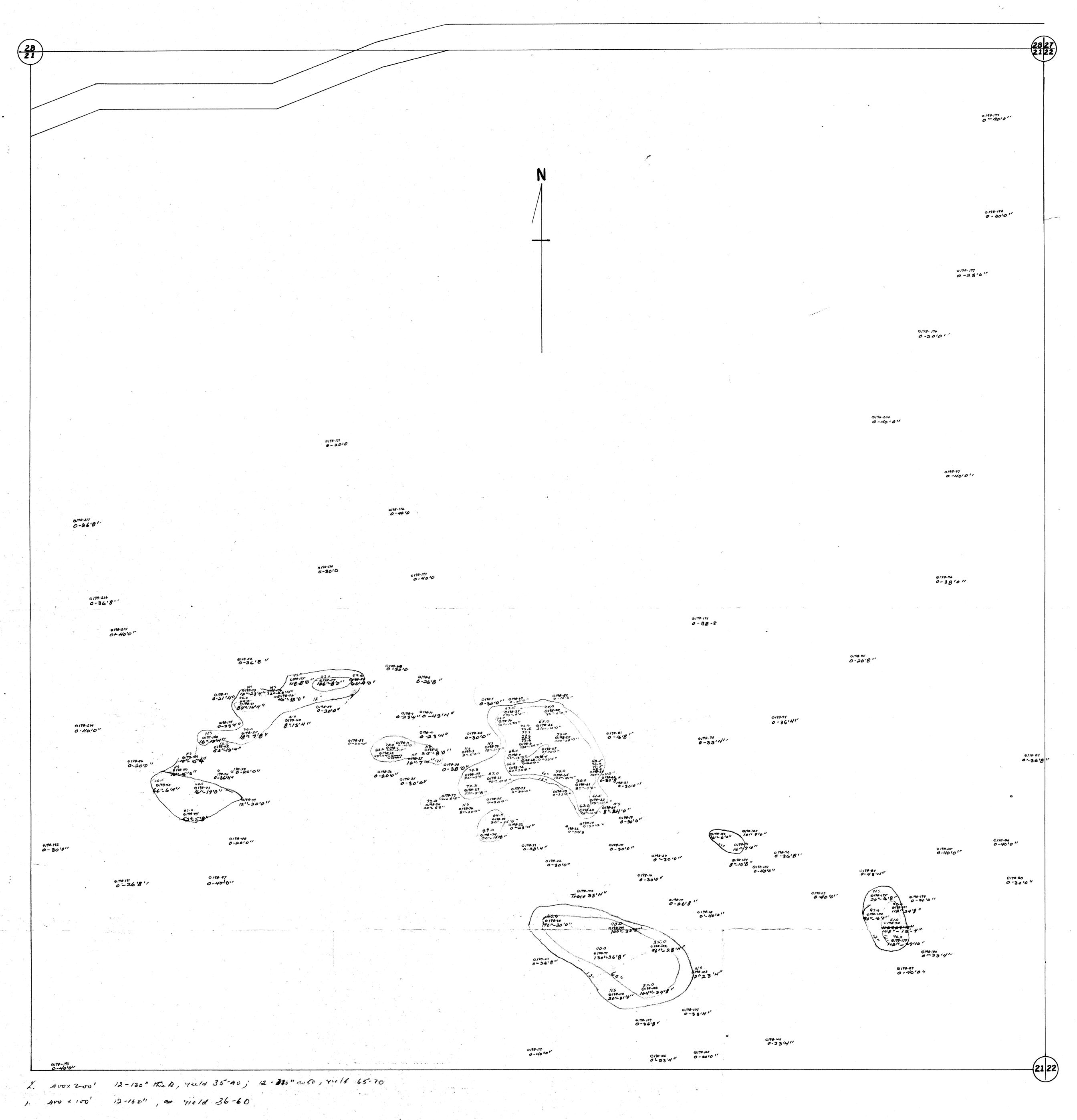
NW QTR. SECTION 21 - T. 57 R. I

WEST OF 5 TH. MERIDIAN

DRILLED - 1955

JUNE, 1956.

PERMIT No. 198 GEOPHYSICAL LIC. No. 1955 19570015 # 6



PERMIT NO. 198 GEOPHYSICAL LIC. NO. 1581 1955 BAROID OF CANADA LTD.

DRILL HOLE MAP

NE 4 SEC. 21 - T57-R1W-5M.

ALBERTA, CANADA

SCALE 1"=100' AUG. 1955

REVISED OCT. 1955

19570015 #5

RX. COLLINS

Section

Sec

BAROID OF CANADA

DRILL HOLE MAP

S.W. QTR. SECTION 19 T.57, R.1

WEST OF 5TH MERIDIAN

DRILLED - 1955

JUNE, 1956

PERMIT No. 198 SCALE - 1" = 100 FT.

GEOPHYSICAL LIG. No. 1955

19570015

0-50'0" 0108-137 0198-142 0-431411 0198-143 0 198-139 0 150 10 11 0-36'8" 0-33 4 1 0/18-149 0-1010 0-50104 0'050' 0 198-150 O-40'D ' 0198-135 0-50'0'1 019-131 0198-133 O-5010 " 0198-151 D-361811 0198-194 0178-130 ©198-153 G-40'0'' 0198-128 0 ~ \$ 0 10 11 0-30'0' 0198-127 8-23'4" 0198-123 0~10-011 0198-161 0 ^ 30 ' 0 "

> PERMIT NO. 198 GEOPHYSICAL LIC. NO. 1581 1955

BAROID OF CANADA LTD.

DRILL HOLE MAP

SE 4 SEC. 30 - T57-R 1W-5M.

ALBERTA, CANADA

SCALE 1"=100' AUG. 1955

REVISED OCT. 1955

/9570015 #9 RK. COLLINS