

MAR 19690071: VERMILION

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INTERNAL CORRESPONDENCE

ECONOMIC MINERALS

FILE REPORT No.

S-AF-183(1)

To: Mr. J. S. MacDonald

From: D. W. Holmes

Subject: Final Report - Atlantic Sulphur Permit
No. 183, Twp. 106, Rges. 12, 13 & 14, W5
Vermilion Area - Alberta

Date: January 3, 1969

- Enclosures:
- (1) Paleozoic Structure Map
 - (2) Sulphur Permit Map - December, 1968
 - (3) Atlantic Shotpoint Map
 - (4) Sulphur Analyses
 - (5) Shothole Sample Descriptions

Introduction

The Atlantic Richfield Company filed for sulphur permit #183 containing 39,680 acres on March 21, 1968. A limited program of surface and sub-surface mapping has been conducted over the area. In addition a large number of shothole samples have been collected and examined over the permit (see enclosed shotpoint map). Samples were collected at 15, 30, 45 and 60 foot depths.

Discussion

Photographs were examined over the subject area, however they proved to be of little value to our study. The photos showed a low lying area of muskeg and swamp mixed with considerable light forest and bush. No surface expressions of sulphur or outcrops were recognized.

The paleozoic structure map although sparsely controlled shows considerable relief on the Wabamun erosional surface. What relationship, if any, the Wabamun has to the sulphur occurrences has not been established.

All the shothole samples collected on the Arco permit were examined under a binocular microscope. The upper 15' - 30' zone generally contained tan to light grey colored mud with some silt. Small gypsum crystals were commonly seen as well as occasional iron stain. Small quartz and feldspar pebbles were encountered in some samples.

The lower section (30' - 60') generally consisted of light grey to grey colored muddy shales. In many cases only mud was encountered in this interval. No sulphur was seen in any of the shothole samples. The samples are presently stored at Stacs Exploration Services Ltd., 2042 - 10th Avenue S.W.

Twenty-five scattered samples were sent out to Chemical and Geological Laboratories for sulphur analysis. The analyses (see enclosed sheet) show extremely small quantities of sulphur to be present on Atlantic's permit. The highest sulphur analysis obtained was 1.31% sulphur. This value compares very poorly with the generally accepted minimum cut-off of 20%.

We have thus completed our exploration of sulphur permit #183 and have obtained very negative results.

For this reason we recommend cancelling our reservation on the next rental date of March 21, 1969.

D. W. Holmes

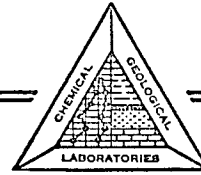
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Encl.

PLEASE CONFINE EACH LETTER TO ONE SUBJECT

INDEXING DOCUMENT NO. 700567

CHEMICAL & GEOLOGICAL LABORATORIES LTD.



14240 - 115th. Avenue, Edmonton, Alberta.
4605 - 12th. Street, N. E., Calgary 67, Alberta.

December 13th., 1968.

Atlantic Richfield Company,
650 Guinness House,
Calgary, Alberta.

Attention: Mr. D. Holmes

Dear Sir:

Re: Laboratory Report #C68-4424
50 shot hole samples composited in two's
that make up 25 samples for elemental sulphur
determinations. (Arco Vermilion Samples.)

<u>SAMPLE NUMBER</u>	<u>DEPTH</u>	<u>% ELEMENTAL SULPHUR BASED ON DRY WEIGHT</u>
20-804	15-30'	Trace
136	15-30'	Trace
154	15-45'	Trace
188	15-45'	Trace
196	15-30'	Trace
206	30-45'	Trace
225	15-30'	Trace
290	15-30'	Trace
308	15-30'	0.68
410	15-30'	0.71
456	15-30'	0.34
446	30-45'	0.60
440	15-60'	Trace
438	15-30'	0.81
426	30-60'	1.31
497	30-45'	0.82
488	15-30'	Trace
482	30-45'	0.89
472	15-30'	Trace
466	15-45'	0.89
502	15-30'	0.24
526	30-45'	0.45
531	45-60'	0.14
533	15-30'	0.46
535	15-30'	0.36

W. M. Morrison.

SHOTHOLE SAMPLES DESCRIPTION

ARCO SULPHUR PERMIT #183 (ALB 1609)

- 535 - mud, light tan, trace of quartz
- 534 - mud, tan
- 533 - mud, light tan trace of gypsum
- 532 - mud, grey
- 531 - mud, grey, trace of gypsum
grained quartz and feld, trace of gypsum
- 530 - mud, tan, occasional pink stain, trace of quartz grains,
some gypsum
- 529 - mud, grey, trace of gypsum
- 528 - mud, light tan, some gypsum
- 527 - mud, light grey, trace of pink stain, trace of gypsum
- 526 - mud grey, pink stain, some gypsum, some quartz grains
- 525 - mud, grey, trace of gypsum
- 524 - mud, grey, trace of gypsum
- 523 - mud, light tan, trace of gypsum
- 522 - mud, tan
- 514 - mud, grey, trace of gypsum
- 512 - mud, slight trace of gypsum, tan
- 510 - mud, slight trace of gypsum, tan
- 508 - mud, trace of gypsum, very light tan
- 506 - mud, trace of gypsum, grey
- 505 - mud, some gypsum, grey

- 504 - mud, some gypsum, grey
- 503 - mud, some gypsum, grey
- 502 - mud, grey and tan, silty, some gypsum
- 501 - mud, grey, some gypsum
- 500 - mud, grey
- 499 - mud, light tan, trace of gypsum
- 498 - mud, grey
- 497 - mud, tan, common scattered gypsum blebs
- 496 - mud, tan, common scattered gypsum blebs
- 495 - mud, tan, common scattered gypsum blebs
- 494 - mud, trace of gypsum, tan
- 489 - mud, trace gypsum, tan
- 488 - mud, common gypsum crystals
- 487 - mud, trace gypsum crystals
- 486 - mud, brown
- 484 - mud, trace of gypsum, brown
- 482 - mud, some pinkish stain, tan
- 480 - mud, some pinkish stain, tan
- 478 - mud, some pinkish stain, trace of gypsum, tan
- 472 - mud, trace of gypsum, light tan
- 470 - mud, brown
- 468 - mud, grey
- 466 - mud, light tan, trace of gypsum
- 464 - mud, light grey
- 462 - mud, light grey, gypsum
- 460 - mud, light grey, common gypsum
- 458 - mud, light grey, some quartz grains, trace of gypsum

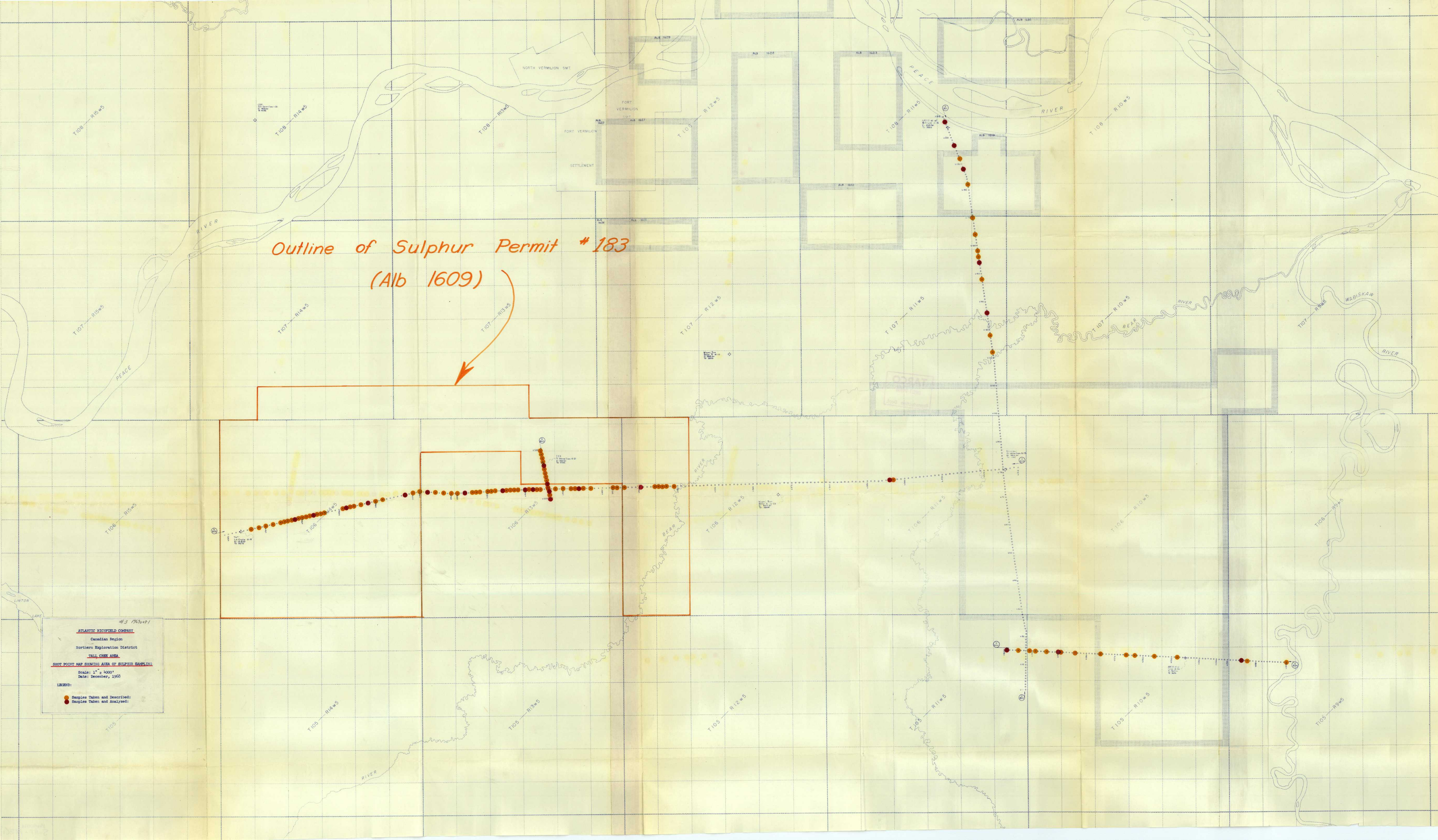
- 456 - mud, light tan to light brown, trace of gypsum, silty
common light brown iron stain and small blebs of iron.
- 454 - mud, grey
- 453 - mud, grey, trace of pink stain
- 452 - mud, tan, trace of gypsum
- 450 - mud, tan, trace of gypsum
- 449 - mud, light grey, trace of gypsum
- 448 - mud, light grey, trace of pink stain, trace of gypsum
- 446 - mud, light tan, trace of gypsum
- 445 - mud, grey, gypsum
- 444 - mud, grey gypsum
- 443 - mud, light grey, common gypsum crystals
- 442 - mud, grey
- 440 - mud, grey, trace of pink stain
- 439 - mud, tan, slightly silty
- 438 - mud, light tan, gypsum
- 437 - mud, grey, trace of gypsum
- 436 - mud, light grey
- 434 - mud (shale), grey, some pink stain
- 432 - mud, light tan, silty, common gypsum, quartz grains
- 430 - mud, tan
- 428 - mud, tan, trace of quartz, trace of pink stain, trace
of gypsum
- 427 - mud, tan, trace of quartz, trace of pink stain, trace
of gypsum
- 426 - shale, trace of pink stain, grey
- 425 - mud, tan-grey, some gypsum

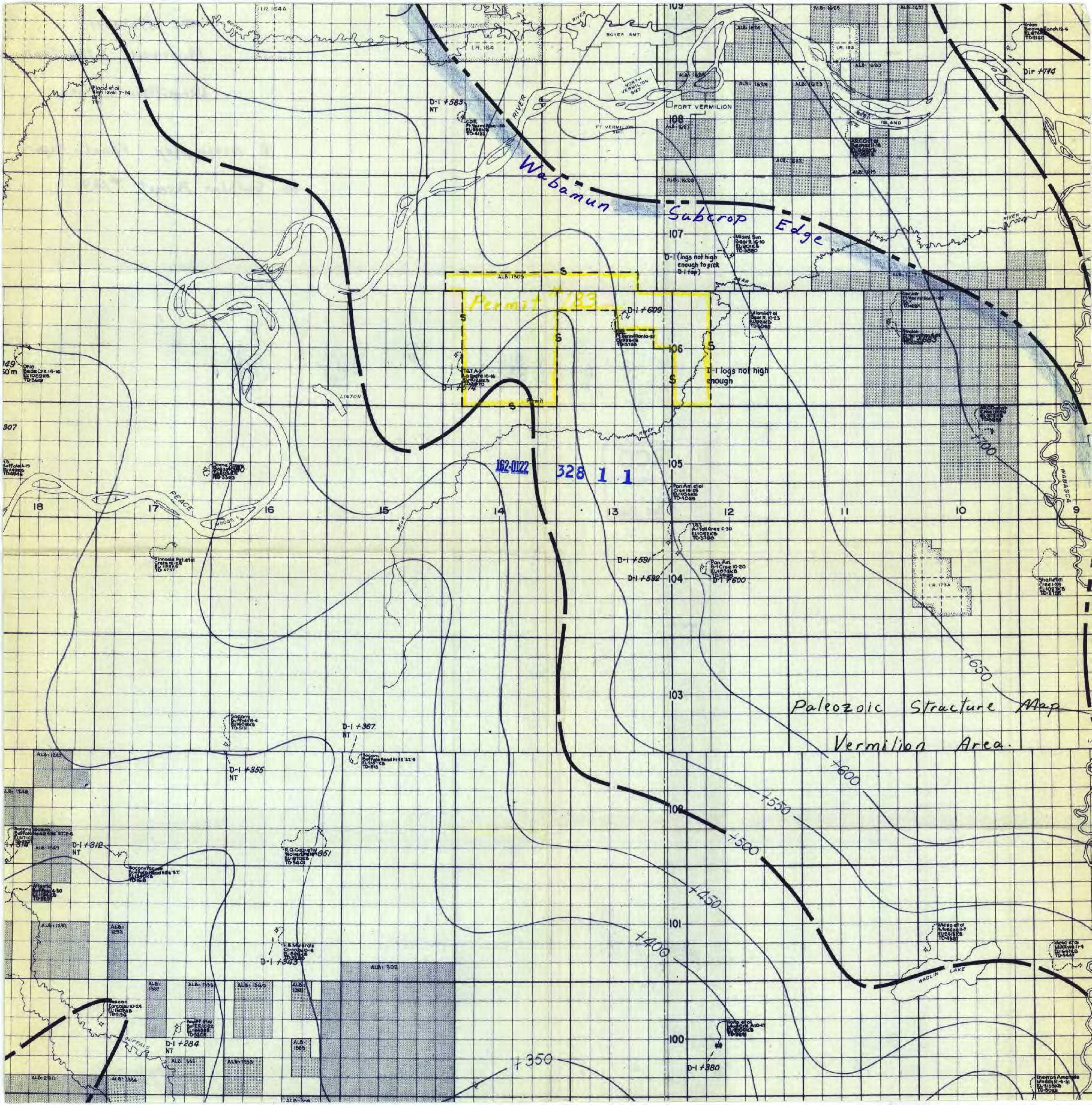
- 423 - mud, tan
- 417 - mud, light tan, some gypsum
- 416 - mud (shale), trace of pink stain, common gypsum
- 414 - mud, light tan, silty, some gypsum
- 410 - mud, light tan, common gypsum
- 406 - mud, tan-grey
- 405 - mud, light grey
- 404 - mud (shale), grey, trace of pink stain
- 403 - mud, light tan
- 401 - mud, light tan, trace of gypsum
- 344 - mud, light grey, trace of pink stain
- 343 - shale, dark grey, micro micaceous
- 308 - mud, light grey, some large gypsum crystals
- 304 - mud (shale), light grey
- 300 - mud, tan, silty
- 298 - mud, light tan, trace of pink stain, silty
- 294 - mud, light tan, common quartz and feld
- 290 - mud, light pink-tan, common quartz and feld
- 289 - mud, tan, silty common quartz grains
- 284 - mud, light grey, silty, trace of pink stain
- 275 - mud, light tan, sandy
- 266 - mud, light tan, sandy
- 263 - mud, light tan, sandy
- 256 - mud, light tan, sandy, trace of pink stain
- 248 - mud, light grey, sandy, common pink stain
- 225 - mud, light tan - light brown, slightly sandy
- 223 - mud, light tan, very sandy
- 209 - mud, light tan, very sandy

- 206 - mud, light tan, some pink stain
- 196 - mud, light grey - tan, trace of gypsum
- 192 - mud, light tan, trace of iron stain
- 188 - mud, light tan, some gypsum
- 182 - mud, light tan, common gypsum crystals
- 170 - mud, light tan, trace of gypsum
- 164 - shale, light grey
- 158 - mud (shale)
- 156 - mud, light tan, some gypsum
- 154 - mud, Kahki, silty, common gypsum
- 148 - mud, tan, trace of gypsum
- 136 - mud, light tan, common gypsum
- 128 - mud, tan, trace of pink stain
- 122 - mud, tan, some gypsum
- 20-804 - mud, tan-pink, very sandy, trace of iron stain.

Outline of Sulphur Permit #183
(Alb 1609)

ATLANTIC SIDERFIELD COMPANY
Canadian Region
Northern Exploration District
TALL CREEK AREA
SHOT POINT MAP SHOWING AREA OF SULPHUR SAMPLING
Scale: 1" = 4000'
Date: December, 1960
LEGEND:
● Samples Taken and Described:
● Samples Taken and Analyzed:





Wabamun

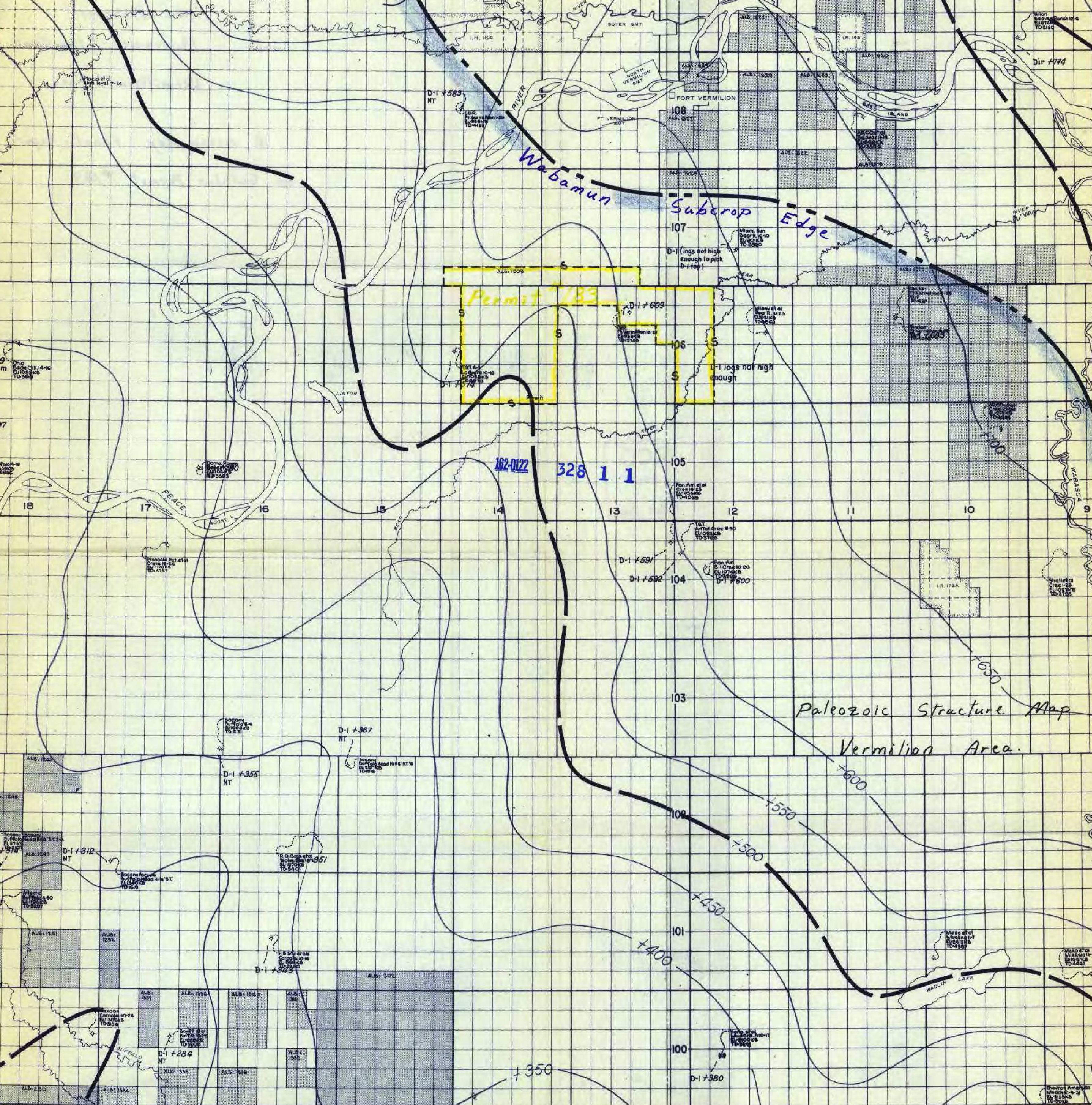
Subcrop Edge

Permit 183

Paleozoic Structure Map

Vermilion Area.

162-0122 328 1 1



2

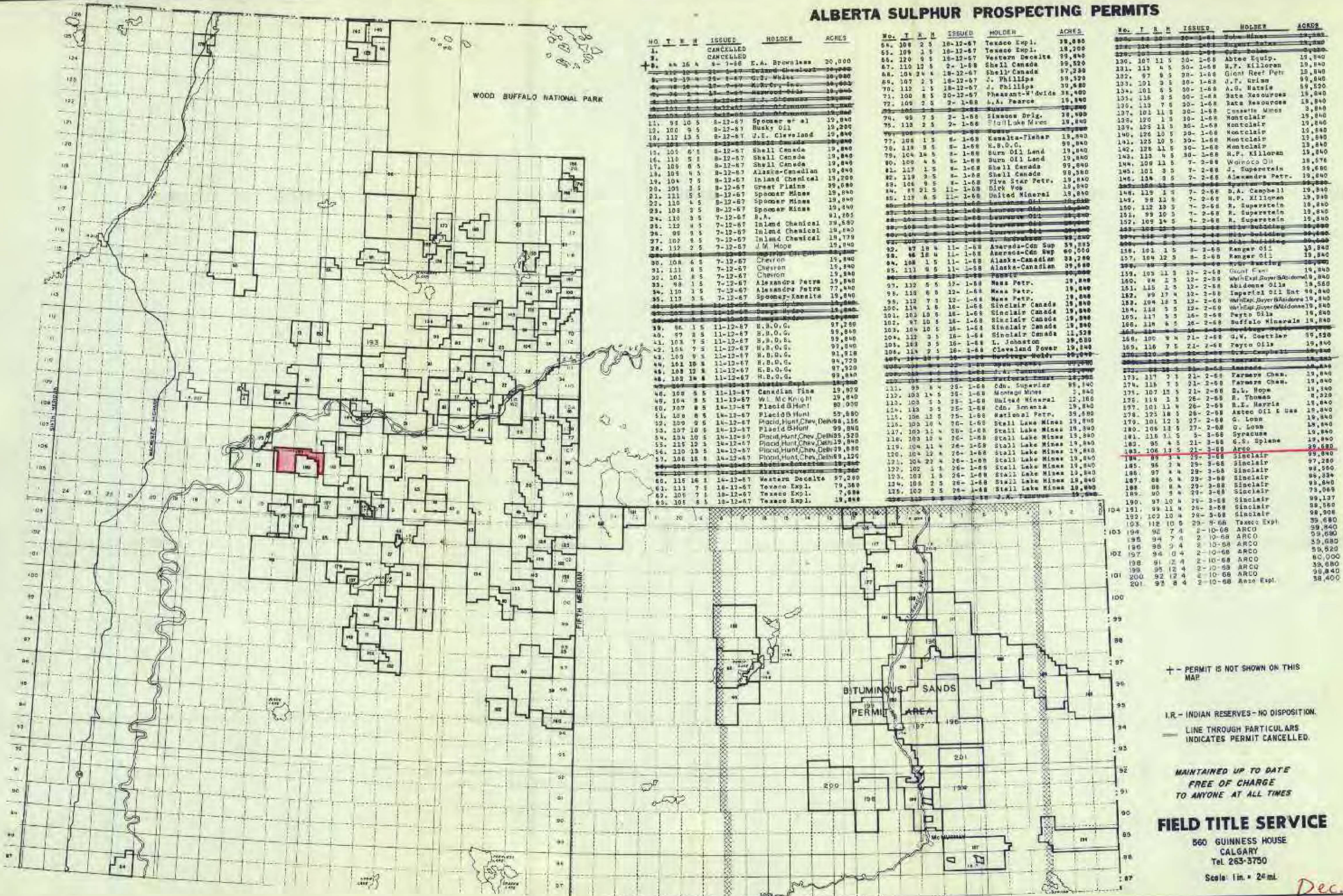
#1 19690071
Paleozoic Structure
Vermillion Area

To Accompany Final Report
on Sulphur Permit #183

TARCO
DEC 1 8 1968
Reproduction Dept.

19690071
S-AF-183 (1)

ALBERTA SULPHUR PROSPECTING PERMITS



NO.	T	R	E	ISSUED	HOLDER	ACRES
CANCELLED						
CANCELLED						
10.	16	A	4	3-68	E.A. Brownless	20,000
11.	98	10	5	8-12-67	Spooner Mines	19,840
12.	100	9	5	8-12-67	Husky Oil	19,200
13.	117	13	5	8-12-67	J.E. Cleveland	19,840
14.	105	6	5	8-12-67	Shell Canada	19,840
15.	110	5	5	8-12-67	Shell Canada	19,840
16.	109	6	5	8-12-67	Shell Canada	19,840
17.	109	4	5	8-12-67	Alaska-Canadian	19,840
18.	104	7	5	8-12-67	Inland Chemical	19,200
19.	105	3	5	8-12-67	Great Plains	89,680
20.	111	5	5	8-12-67	Spooner Mines	19,840
21.	110	4	5	8-12-67	Spooner Mines	19,840
22.	103	3	5	8-12-67	Spooner Mines	19,840
23.	110	3	5	7-12-67	H.A.	91,265
24.	113	3	5	7-12-67	Inland Chemical	19,840
25.	99	3	5	7-12-67	Inland Chemical	19,840
26.	107	3	5	7-12-67	Inland Chemical	19,840
27.	112	2	5	7-12-67	J.M. Hope	19,840
28.	112	2	5	7-12-67	J.M. Hope	19,840
29.	108	6	5	7-12-67	Chevron	19,840
30.	111	8	5	7-12-67	Chevron	19,840
31.	101	8	5	7-12-67	Chevron	19,840
32.	98	1	5	7-12-67	Alexandra Petra	19,840
33.	98	1	5	7-12-67	Alexandra Petra	77,440
34.	110	3	5	7-12-67	Alexandra Petra	19,840
35.	112	3	5	7-12-67	Spooner-Kansite	19,840
36.	110	4	5	7-12-67	Spooner-Kansite	19,840
37.	110	4	5	7-12-67	Spooner-Kansite	19,840
38.	96	1	5	11-12-67	H.B.O.G.	97,280
39.	97	2	5	11-12-67	H.B.O.G.	99,840
40.	97	3	5	11-12-67	H.B.O.G.	99,840
41.	103	7	5	11-12-67	H.B.O.G.	99,840
42.	104	7	5	11-12-67	H.B.O.G.	99,840
43.	108	9	5	11-12-67	H.B.O.G.	91,918
44.	101	10	5	11-12-67	H.B.O.G.	94,720
45.	103	12	5	11-12-67	H.B.O.G.	97,920
46.	102	14	5	11-12-67	H.B.O.G.	99,840
47.	107	2	5	11-12-67	Abaco Expl.	19,840
48.	107	5	5	11-12-67	Canadian Pipe	19,840
49.	104	8	5	11-12-67	W.L. McKnight	19,840
50.	107	8	5	11-12-67	Pland-Hunt	99,000
51.	108	8	5	11-12-67	Pland-Hunt	59,880
52.	109	9	5	11-12-67	Pland-Hunt/Chev, Delmar	156
53.	107	10	5	11-12-67	Pland-Hunt	99,840
54.	104	10	5	11-12-67	Pland-Hunt/Chev, Delmar	320
55.	112	12	5	11-12-67	Pland-Hunt/Chev, Delmar	19,840
56.	110	13	5	11-12-67	Pland-Hunt/Chev, Delmar	95,880
57.	108	18	5	11-12-67	Pland-Hunt/Chev, Delmar	120
58.	105	15	5	11-12-67	Abaco-Donetta	19,840
59.	115	16	5	11-12-67	Abaco-Donetta	78,260
60.	111	7	5	18-12-67	Western Decolte	97,280
61.	111	7	5	18-12-67	Texaco Expl.	79,360
62.	106	7	5	18-12-67	Texaco Expl.	7,880
63.	105	6	5	18-12-67	Texaco Expl.	19,840

NO.	T	R	E	ISSUED	HOLDER	ACRES
64.	108	2	5	18-12-67	Texaco Expl.	18,080
65.	109	1	5	18-12-67	Texaco Expl.	18,080
66.	120	9	5	18-12-67	Western Decolte	99,840
67.	110	12	5	2-1-68	Shell Canada	99,320
68.	104	24	4	18-12-67	Shell Canada	97,280
69.	107	2	5	18-12-67	J. Phillips	99,320
70.	112	1	5	18-12-67	J. Phillips	99,320
71.	100	6	5	20-12-67	Phasant-Welds	18,400
72.	109	2	5	2-1-68	L.A. Pearce	19,840
73.	101	1	5	2-1-68	Stall Lake Mines	19,840
74.	99	7	5	2-1-68	Sixons Drig.	19,840
75.	113	2	5	2-1-68	Stall Lake Mines	19,840
76.	106	2	5	2-1-68	Stall Lake Mines	19,840
77.	108	1	5	H-1-69	Kansite-Fisher	99,840
78.	118	3	5	H-1-69	H.B.O.G.	19,840
79.	104	14	5	H-1-69	Burn Oil Land	19,840
80.	100	4	5	H-1-69	Burn Oil Land	19,840
81.	112	1	5	H-1-69	Shell Canada	99,840
82.	119	1	5	H-1-69	Shell Canada	99,840
83.	104	9	5	H-1-69	Shell Canada	19,840
84.	98	21	5	H-1-69	Five Star Petr.	19,840
85.	112	4	5	H-1-69	Dirk Vos	19,840
86.	112	4	5	H-1-69	United Mineral	19,840
87.	112	4	5	H-1-69	United Mineral	19,840
88.	112	4	5	H-1-69	United Mineral	19,840
89.	112	4	5	H-1-69	United Mineral	19,840
90.	112	4	5	H-1-69	United Mineral	19,840
91.	112	4	5	H-1-69	United Mineral	19,840
92.	112	4	5	H-1-69	United Mineral	19,840
93.	112	4	5	H-1-69	United Mineral	19,840
94.	108	1	5	11-1-68	Aparosa-Com Sup	39,085
95.	96	18	4	11-1-68	Aparosa-Com Sup	60,000
96.	108	1	5	11-1-68	Alaska-Canadian	39,280
97.	113	4	5	11-1-68	Alaska-Canadian	39,640
98.	113	4	5	11-1-68	Alaska-Canadian	39,640
99.	112	5	5	12-1-68	Mesa Petr.	19,840
100.	113	6	5	12-1-68	Mesa Petr.	19,840
101.	102	15	5	12-1-68	Sinclair Canada	19,840
102.	97	10	5	12-1-68	Sinclair Canada	19,840
103.	109	10	5	12-1-68	Sinclair Canada	11,528
104.	112	3	5	12-1-68	Sinclair Canada	19,840
105.	103	3	5	12-1-68	Sinclair Canada	19,840
106.	112	4	5	12-1-68	L. Johnston	19,840
107.	112	7	5	12-1-68	Cleveland Power	19,840
108.	112	7	5	12-1-68	Cleveland Power	19,840
109.	112	7	5	12-1-68	Cleveland Power	19,840
110.	112	7	5	12-1-68	Cleveland Power	19,840
111.	95	4	5	25-1-68	Abco Superier	99,840
112.	103	1	5	25-1-68	Montego Mines	3,840
113.	103	3	5	25-1-68	United Mineral	12,160
114.	113	3	5	25-1-68	Abco Superier	19,840
115.	106	12	5	25-1-68	National Petr.	99,880
116.	103	10	4	26-1-68	Stall Lake Mines	19,840
117.	103	10	4	26-1-68	Stall Lake Mines	19,840
118.	103	10	4	26-1-68	Stall Lake Mines	19,840
119.	104	11	4	26-1-68	Stall Lake Mines	19,840
120.	104	12	4	26-1-68	Stall Lake Mines	19,840
121.	104	27	4	26-1-68	Stall Lake Mines	19,840
122.	102	1	5	26-1-68	Stall Lake Mines	19,840
123.	103	1	5	26-1-68	Stall Lake Mines	19,840
124.	103	1	5	26-1-68	Stall Lake Mines	19,840
125.	102	2	5	26-1-68	Stall Lake Mines	19,840
126.	102	2	5	26-1-68	Stall Lake Mines	19,840
127.	102	2	5	26-1-68	Stall Lake Mines	19,840
128.	102	2	5	26-1-68	Stall Lake Mines	19,840
129.	102	2	5	26-1-68	Stall Lake Mines	19,840
130.	97	10	4	29-3-68	Sinclair	99,840
131.	99	11	4	29-3-68	Sinclair	99,840
132.	102	10	4	29-3-68	Sinclair	99,840
133.	112	10	5	29-8-68	Taxaco Expl.	99,680
134.	92	7	4	2-10-68	ARCO	59,960
135.	94	7	4	2-10-68	ARCO	59,960
136.	98	9	4	2-10-68	ARCO	59,960
137.	94	9	4	2-10-68	ARCO	59,960
138.	91	2	4	2-10-68	ARCO	59,960
139.	95	2	4	2-10-68	ARCO	59,960
140.	92	2	4	2-10-68	ARCO	59,960
141.	93	8	4	2-10-68	Anzo Expl.	38,400

+ - PERMIT NOT SHOWN ON THIS MAP

I.R. - INDIAN RESERVES - NO DISPOSITION.

— LINE THROUGH PARTICULARS INDICATES PERMIT CANCELLED.

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FIELD TITLE SERVICE
560 GUINNESS HOUSE
CALGARY
Tel. 263-3750
Scale: 1 in. = 20 mi.

Dec. 1968

#2 19670071

SULPHUR PROSPECTING PERMIT No. 183

ATLANTIC RICHFIELD COMPANY,
650 - GUINNESS HOUSE,
727 - 7th AVENUE S.W.,
CALGARY, ALBERTA

DATE OF ISSUE - MARCH 21, 1968
AREA - 39,680 ACRES

TP. 107

84K/
178
SE
84J/4
SW.

TP. 106

TP. 105

R. 14

R. 13

R. 12 W. 5 M.