

MAR 19690061: SENEX CREEK

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ECONOMIC MINERALS

FILE REPORT No.

S-AE-074(1)

19690061

APPENDIX A TO REPORT

DATED DECEMBER 1968

OF CORE DRILLING

IN THE

SENEX CREEK EAST SULPHUR PROSPECT AREA

OF

ALBERTA, CANADA

FOR

WORLDWIDE ENERGY COMPANY LTD.

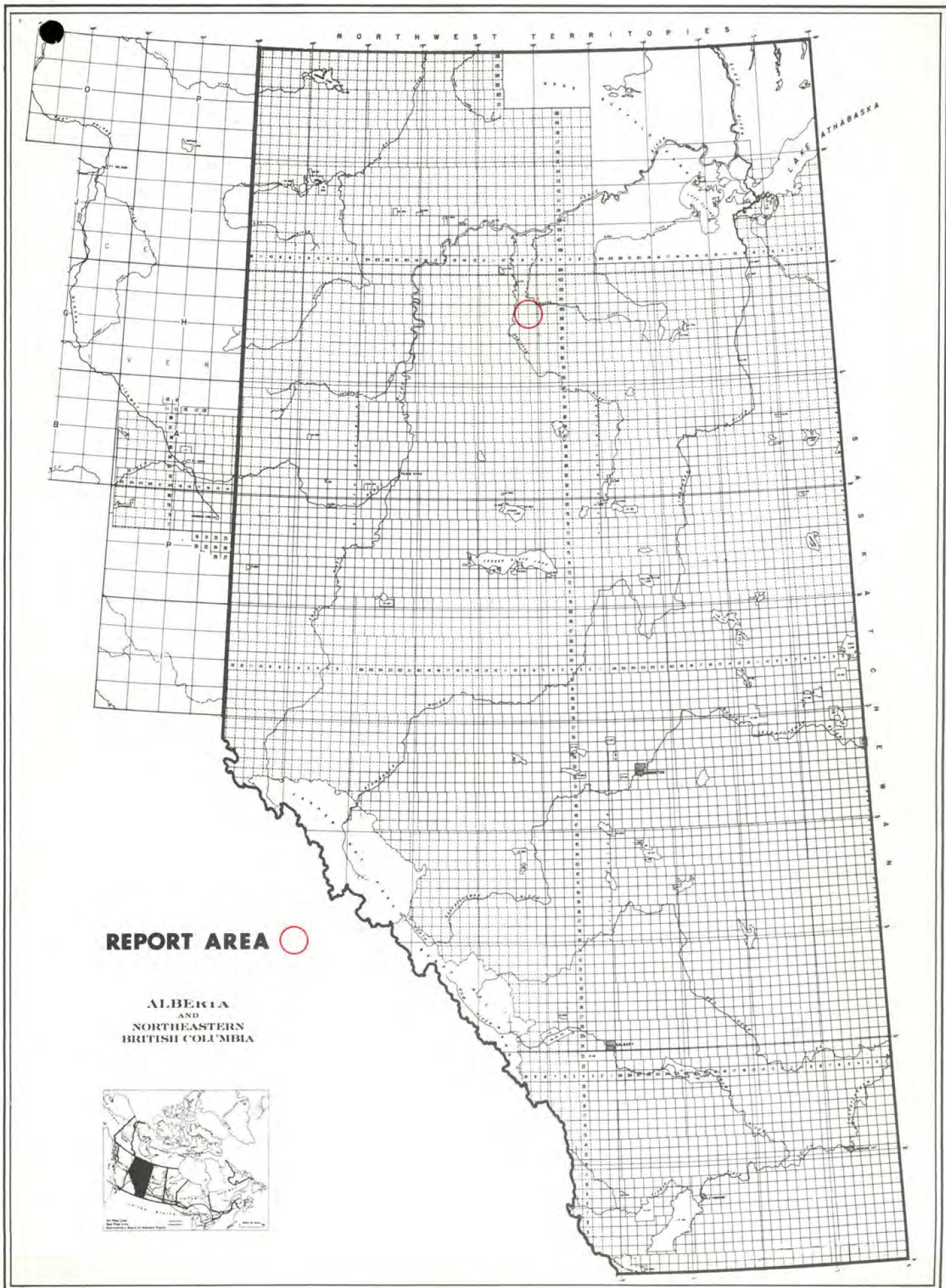
BY

SIGMA EXPLORATIONS LTD.

PROJECT NO. 74

Calgary, Alberta

April 1969



REPORT AREA ○

**ALBERTA
AND
NORTHEASTERN
BRITISH COLUMBIA**



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VALUES

APPENDIX "A" TO REPORT DATED DECEMBER 1968

GENERAL DISCUSSION

As details of the location and general conditions of Permit Number 74 have been discussed in a previous report submitted December 1968, it is not considered necessary to discuss these matters further in this report.

The program carried out on Permit Number 74 during January 1969, was a continuation of the helicopter investigation conducted in December 1968. During the second phase of this program, drilling and soil sampling were carried out over the major extent of the permit, with particular emphasis being placed on the north end of the area. Existing seismic lines in the area were utilized and it was possible to make a complete evaluation of the area of interest without necessitating the cutting of any new line.

Exploration conducted during January 1969 was mobilized to include bulldozing and drilling capabilities, which equipment was not available during the December helicopter survey. Thus subsurface investigation and soil sampling down to a depth of 22 feet was possible by snow-ploughing existing seismic lines with the bulldozer and drilling test holes using a Sewell Auger to obtain the necessary samples.

The climatic conditions and general surface topography encountered in this area was very similar to those encountered in Permit Number 71, with severe cold weather existing during the

entire time the survey was being conducted. The terrain in this area is extremely flat and muskeg conditions are present over nearly all of the permit area. It should be also noted that it would be virtually impossible to conduct any type of survey over this area except during times when frost was present in the ground as the part of the permit surveyed consisted exclusively of moss and muskeg which would be completely unstable when not frozen.

PROGRAM

The program conducted during January 1969 was based on field observations made by the writer during a helicopter survey conducted in December. Assays of samples indicated that maximum sulphur values may be located in the north end of the permit area, and associated with the water course along Owl Creek.

After discussions between Mr. Granger and Mr. Fowlie, it was decided to conduct a general reconnaissance over the northern two-thirds of the area covered by Permit Number 74, and that maximum concentration of crew time would be made in the north end of the survey area. As only a small budget was available for exploration, drilling was limited to only 87 holes, and these holes were all drilled in the northern two-thirds of the permit.

OPERATIONS

Snow-ploughing and drilling operations were commenced on this permit January 21, 1969 and were completed January 30, 1969. As suggested in the report submitted in December 1968, holes were

drilled to a depth of 22 feet and four samples were obtained in each of the holes. Muskeg conditions were found to exist over all of the area and the average hole log indicated that this muskeg was present to depths of 5 to 10 feet in most areas.

Horizontal control for bore hole locations was obtained from maps prepared by the Alberta Government Forest Service. No vertical control was carried over the permit area, however bore holes were permanently identified by blazing and marking trees adjacent to the location, thus providing a lasting identification point at each drill hole. All 87 holes were drilled to a depth of 22 feet at horizontal intervals of 1000 feet. 340 samples were taken in this permit and 20 miles of existing seismic line was snow-ploughed and drilled.

RESULTS & RECOMMENDATIONS

Results obtained from surface samples taken during the helicopter survey of December 1968, indicated that the most potential area for sulphur exploration was indicated to be in the north end of Permit Number 74, and tended to be associated with the general drainage pattern of Owl Creek. Three samples from this area showed a significant concentration of elemental sulphur and yielded values of somewhat less than 1% by weight. It was thus considered desirable to concentrate the majority of the drilling program in this area.

However assay results of the bore holes drilled early in 1969 showed that although significant amounts of sulphur are present in the vicinity of Owl Creek, there are also minor sulphur accumulations spread widely over much of the north of the prospect area. These occurrences tend to be sporadic, and like Permit 71 seem to indicate higher than normal concentrations of elemental sulphur, however no commercial accumulations or areas where such deposits may physically be entrapped were noted over the area investigated.

Generally over the prospect area the average observed value in most of the bore holes ranged from "Traces" to approximately 1.5% elemental sulphur. Special exceptions to these were observed at bore hole locations 74-1-16, 74-1-22, 74-1-23, 74-2-10 and 74-2-12. Each of these holes contained sulphur values in excess of 2% and bore hole 74-2-12 contained an assayed 6.33% of elemental sulphur.

Some reasonable doubt of the authenticity of these results must be kept in mind however because of the known high muskeg content,

and excess water content of these samples. Previous experience has indicated that assay results of such samples often times yield results showing high discrepancies and should therefore be treated with some degree of caution.

Before any definite conclusion could be reached regarding the validity of these assays, it would be recommended that umpire assays be taken from an independent source for each of the high value samples, and the results of such assays be averaged for more conclusive results.

The final recommendation with regard to this area must however be, that because of the remoteness of the permit geographically, and the inaccessibility of the area to existing means of transportation, combined with the fact that the permit is located entirely on a large flat muskeg plain where movement of men and heavy equipment could only be possible during the very cold winter months, that any further exploration of this area would be completely unwarranted at this time. It is suggested therefore that any existing options on Permit Number 74 be dropped, and that for the time being the property be surrendered to the Government of the Province of Alberta.

Respectfully submitted,



J. D. Fowlie, Supervisor

CHEMICAL & GEOLOGICAL LABORATORIES LIMITED

OPERATOR: SIGMA EXPLORATIONS LTD.

- J. FOWLIE

REPORT NUMBER:

C69-4479

DATE SAMPLED: ---

DATE RECEIVED: January-February, 1969

DATE REPORTED: March 7, 1969

Kind of Sample: Soil

<u>SAMPLE NUMBER</u>	<u>DEPTH (In Feet)</u>	<u>ELEMENTAL SULFUR (% by Weight on Dry Sample)</u>	<u>SAMPLE NUMBER</u>	<u>DEPTH (In Feet)</u>	<u>ELEMENTAL SULFUR (% by Weight on Dry Sample)</u>
71-20-18	5	0.83	71-20-30	5	Trace
71-20-18	10	Trace	71-20-30	10	0.26
71-20-18	15	0.22	71-20-30	15	Trace
71-20-18	23	Trace	71-20-30	23	0.17
71-20-19	5	Trace (M)	71-20-31	5	Trace
71-20-19	10	0.05	71-20-31	10	Trace
71-20-19	15	0.49	71-20-31	15	Trace
71-20-19	23	Trace	71-20-31	23	0.53
71-20-20	5	Trace (M)	71-20-32	5	Trace
71-20-20	10	Trace	71-20-32	10	Trace
71-20-20	15	0.24	71-20-32	15	0.36
71-20-20	23	Trace	71-20-32	23	Trace
71-20-21	5	0.43 (M)	71-20-1	5	1.68
71-20-21	10	0.49	71-20-1	10	0.05
71-20-21	15	Trace	71-20-1	15	0.83
71-20-6	15	0.43	71-20-1	20	Trace
71-20-6	20	0.74	71-20-2	5	Trace (M)
71-20-7	5	Trace (M)	71-20-2	10	2.14
71-20-7	10	Trace (M)	71-20-2	15	0.52
71-20-7	15	Trace	71-20-2	20	3.06
71-20-7	20	Trace	71-20-3	5	Trace (M)
71-20-8	5	Trace (M)	71-20-3	10	Trace (M)
71-20-8	10	Trace	71-20-3	15	1.44
71-20-8	15	Trace	71-20-3	20	Trace
71-20-8	20	Trace	71-20-4	5	0.32
71-20-9	5	0.15	71-20-4	10	Trace
71-20-9	10	Trace	71-20-4	15	Trace
71-20-9	15	Trace	71-20-4	20	Trace
71-20-9	20	0.64	71-20-5	5	1.50
71-20-29	5	Trace (M)	71-20-5	10	Trace
71-20-29	10	Trace (M)	71-20-5	15	1.20
71-20-29	15	Trace (M)	71-20-5	20	1.80
71-20-29	23	0.38	71-20-6	5	0.26

continued.....

CHEMICAL & GEOLOGICAL LABORATORIES LIMITED

OPERATOR: SIGMA EXPLORATIONS LTD. - J. FOWLIE

REPORT NUMBER: C69-4479

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DATE RECEIVED: January-February, 1969 DATE REPORTED: March 7, 1969

Kind of Sample: Soil

<u>SAMPLE NUMBER</u>	<u>DEPTH (In Feet)</u>	<u>ELEMENTAL SULFUR (% by Weight on Dry Sample)</u>	<u>SAMPLE NUMBER</u>	<u>DEPTH (In Feet)</u>	<u>ELEMENTAL SULFUR (% by Weight on Dry Sample)</u>
71-20-6	10	0.44	71-20-10	5	0.70
71-20-21	20	Trace	71-20-10	10	Trace
71-20-22	10	Trace	71-20-10	15	0.64
71-20-22	15	0.57	71-20-10	20	1.27
71-20-22	23	Trace	71-20-11	5	Trace (M)
71-20-23	5	Trace (M)	71-20-11	10	0.23
71-20-23	10	Trace	71-20-11	15	0.60
71-20-23	15	Trace	71-20-11	20	1.38
71-20-23	20	0.25	71-20-12	5	Trace
71-20-24	5	Trace	71-20-12	10	Trace
71-20-24	10	Trace	71-20-12	15	0.23
71-20-24	15	Trace	71-20-12	20	0.68
71-20-24	20	Trace	71-20-13	5	Trace
71-20-25	5	Trace (M)	71-20-13	10	0.21
71-20-25	10	Trace	71-20-13	15	0.40
71-20-25	15	Trace	71-20-13	23	Trace
71-20-25	20	Trace	71-20-14	5	Trace
71-20-26	5	Trace (M)	71-20-14	10	0.70
71-20-26	10	Trace (M)	71-20-14	15	Nil
71-20-26	15	2.21	71-20-14	23	0.26
71-20-26	20	Trace	71-20-15	5	Trace
71-20-27	5	Trace	71-20-15	10	0.26
71-20-27	10	Trace	71-20-15	15	0.17
71-20-27	15	Trace	71-20-15	23	0.40
71-20-27	20	Trace	71-20-16	5	0.12
71-20-28	5	Trace	71-20-16	10	0.25
71-20-28	10	1.80	71-20-16	15	1.01
71-20-28	15	Trace	71-20-16	23	0.39
71-20-28	20	2.17	71-20-17	5	0.34
			71-20-17	10	Nil
			71-20-17	15	0.15
			71-20-17	23	Nil

continued.....

CHEMICAL & GEOLOGICAL LABORATORIES LIMITED

OPERATOR: SIGMA EXPLORATIONS LTD. - J. FOWLIE REPORT NUMBER: C69-4479

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<u>SAMPLE NUMBER</u>	<u>DEPTH (In Feet)</u>	<u>ELEMENTAL SULFUR (% by Weight on Dry Sample)</u>	<u>SAMPLE NUMBER</u>	<u>DEPTH (In Feet)</u>	<u>ELEMENTAL SULFUR (% by Weight on Dry Sample)</u>
74-1-1	5	Trace	74-1-20	5	Trace
74-1-1	10	Trace	74-1-20	10	0.60
74-1-1	15	Trace	74-1-20	15	Trace
74-1-1	23	Trace	74-1-20	23	Trace
74-1-2	5	Trace	74-1-21	5	Trace
74-1-2	10	Trace	74-1-21	10	Trace
74-1-2	15	Trace	74-1-21	15	Trace
74-1-2	23	Trace	74-1-21	23	Trace
74-1-3	5	Trace	74-1-22	5	Trace (M)
74-1-3	10	Trace (M)	74-1-22	10	Trace
74-1-3	15	Trace (M)	74-1-22	15	2.16
74-1-3	23	Trace (M)	74-1-22	23	Trace
74-1-4	5	Trace	74-1-23	5	0.99
74-1-4	10	Trace	74-1-23	10	2.35
74-1-4	15	Trace	74-1-23	15	1.17
74-1-4	23	Trace	74-1-23	23	0.50
74-1-5	5	Trace (M)	74-1-24	5	Trace
74-1-5	10	Trace	74-1-24	10	Trace
74-1-5	15	Trace	74-1-24	15	Trace
74-1-5	23	Trace	74-1-24	23	Trace
74-1-6	5	Trace (M)	74-1-25	5	Trace
74-1-6	10	Trace	74-1-25	10	Trace
74-1-6	15	Trace	74-1-25	15	0.45
74-1-6	23	Trace	74-1-25	23	Trace
74-1-18	5	Trace	74-1-26	5	0.54
74-1-18	10	Trace	74-1-26	10	0.83
74-1-18	15	Trace	74-1-26	15	1.80
74-1-18	23	Trace	74-1-26	23	1.02
74-1-19	5	Trace	74-1-27	5	Trace
74-1-19	10	Trace	74-1-27	10	Trace
74-1-19	15	Trace	74-1-27	15	Trace
74-1-19	23	Trace	74-1-27	23	Trace

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74-1-28	5	Trace (M)	74-1-17	5	Trace
74-1-28	10	Trace (M)	74-1-17	10	Trace
74-1-28	15	Trace (M)	74-1-17	15	Trace
74-1-28	23	Trace (M)	74-1-17	23	0.80
74-1-29	5	Trace	74-1-30	23	Trace
74-1-29	10	Trace	74-1-31	5	Trace (M)
74-1-29	15	1.03	74-1-31	10	Trace
74-1-29	23	Trace	74-1-31	15	Trace (M)
74-1-11	5	Trace	74-1-31	23	Trace (M)
74-1-11	10	Trace	74-1-32	5	Trace (M)
74-1-11	15	0.32	74-1-32	10	Trace (M)
74-1-11	23	Trace	74-1-32	15	Trace (M)
74-1-12	5	Trace (M)	74-1-32	23	Trace
74-1-12	10	Trace (M)	74-1-33	5	Trace
74-1-12	15	Trace	74-1-33	10	Trace
74-1-12	22	Trace	74-1-33	15	Trace
74-1-13	5	Trace (M)	74-1-33	23	0.36
74-1-13	10	Trace (M)	74-1-7	5	Trace (M)
74-1-13	15	Trace (M)	74-1-7	10	Trace
74-1-13	23	Trace	74-1-7	15	Trace
74-1-14	5	0.42	74-1-7	20	1.30
74-1-14	10	Trace (M)	74-1-8	5	Trace
74-1-14	15	Trace	74-1-8	10	0.73
74-1-14	22	Trace	74-1-8	15	Trace
74-1-15	5	Trace	74-1-8	23	0.16
74-1-15	10	Trace	74-1-9	5	Trace
74-1-15	15	Trace	74-1-9	10	Trace
74-1-15	23	2.04	74-1-9	15	Trace
74-1-16	5	Trace			
74-1-16	10	Trace			
74-1-16	15	1.28			
74-1-16	23	Trace			

continued.....

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74-2-1	5	Trace	74-2-9	5	Trace
74-2-1	10	0.35	74-2-9	10	0.80
74-2-1	15	Trace	74-2-9	15	Trace
74-2-1	23	Trace	74-2-9	23	Trace
74-2-2	6	Trace	74-2-10	5	Trace (M)
74-2-2	10	Trace	74-2-10	10	Trace (M)
74-2-2	16	Trace (M)	74-2-10	15	Trace
74-2-2	23	Trace (M)	74-2-10	23	4.81
74-2-3	5	Trace (M)	74-2-11	5	1.61
74-2-3	10	Trace (M)	74-2-11	10	0.75
74-2-3	15	Trace	74-2-11	15	Trace
74-2-3	23	0.52	74-2-11	23	Trace
74-2-4	5	Trace (M)	74-2-12	5	Trace (M)
74-2-4	10	Trace (M)	74-2-12	10	Trace
74-2-4	15	Trace (M)	74-2-12	15	Trace
74-2-4	23	Trace	74-2-12	23	6.33
74-2-5	5	Trace	74-2-13	5	Trace
74-2-5	10	Trace	74-2-13	10	Trace
74-2-5	15	Trace	74-2-13	15	Trace
74-2-5	20	0.18	74-2-13	23	Trace
74-2-6	5	Trace	74-2-14	5	Trace
74-2-6	10	Trace	74-2-14	10	Trace
74-2-6	15	Trace (M)	74-2-14	15	0.73
74-2-6	23	Trace (M)	74-2-14	23	Trace
74-2-7	5	Trace	74-2-15	5	Trace
74-2-7	10	Trace	74-2-15	10	Trace
74-2-7	15	1.52	74-2-15	15	0.73
74-2-7	23	1.03	74-2-15	23	Trace
74-2-8	5	Trace			
74-2-8	10	Trace			
74-2-8	15	Trace			
74-2-8	23	0.65			

continued.....

CHEMICAL & GEOLOGICAL LABORATORIES LIMITED

OPERATOR: SIGMA EXPLORATIONS LTD. - J. FOWLIE

REPORT NUMBER: C69-4479

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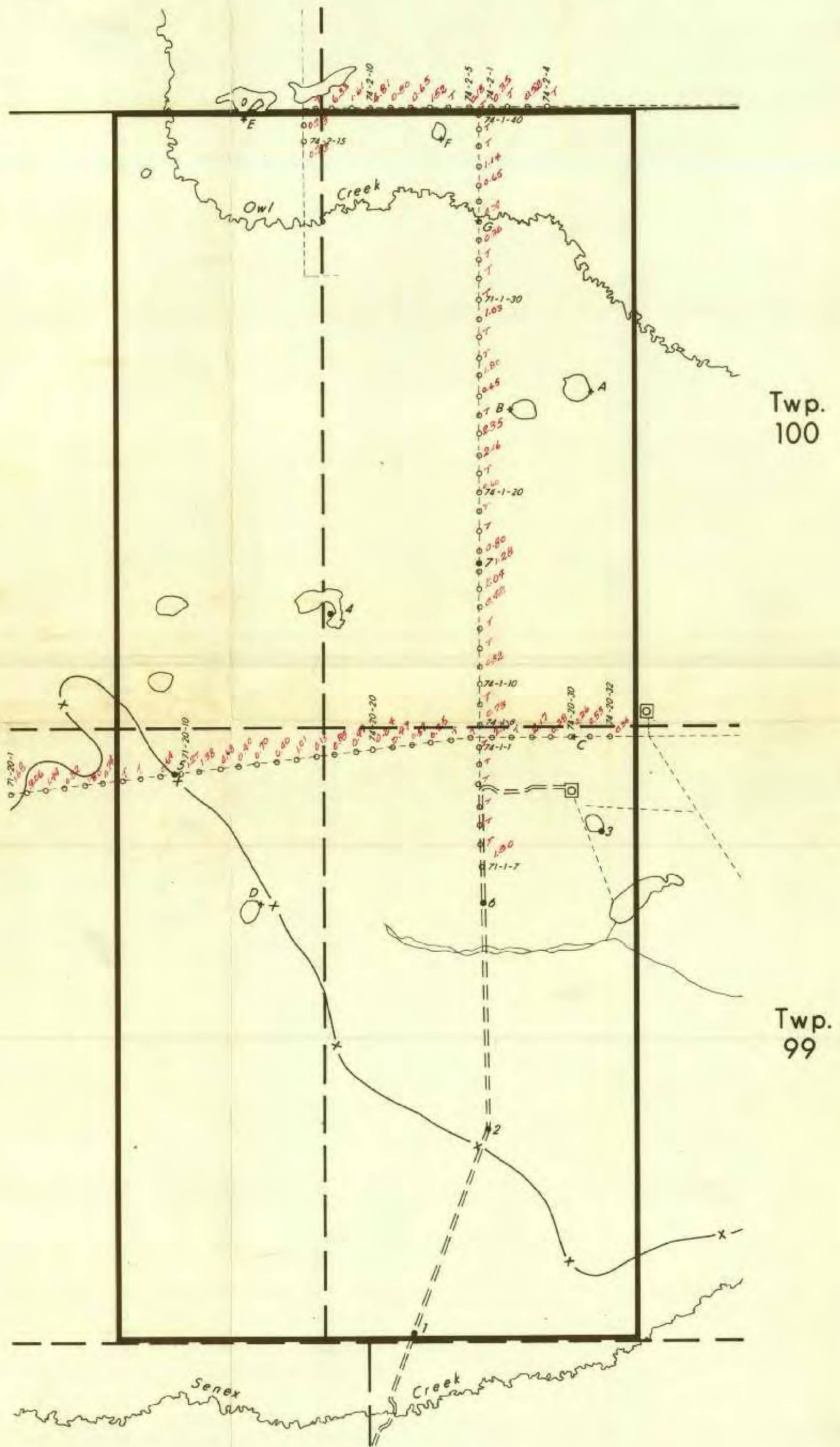
Kind of Sample: Soil

<u>SAMPLE NUMBER</u>	<u>DEPTH (In Feet)</u>	<u>ELEMENTAL SULFUR (% by Weight on Dry Sample)</u>	<u>SAMPLE NUMBER</u>	<u>DEPTH (In Feet)</u>	<u>ELEMENTAL SULFUR (% by Weight on Dry Sample)</u>
74-1-34	5	0.74	74-1-39	5	Trace (M)
74-1-34	10	0.25	74-1-39	10	Trace
74-1-34	15	Trace	74-1-39	15	Trace
74-1-34	23	Trace	74-1-39	23	Trace
74-1-36	5	Trace	74-1-40	5	Trace (M)
74-1-36	10	Trace	74-1-40	10	Trace (M)
74-1-36	15	0.65	74-1-40	15	Trace (M)
74-1-36	23	Trace	74-1-40	23	Trace
74-1-37	5	0.81			
74-1-37	10	1.14			
74-1-37	15	Trace			
74-1-37	23	Trace			
74-1-38	5	Trace (M)			
74-1-38	10	Trace (M)			
74-1-38	15	Trace (M)			
74-1-38	23	Trace (M)			

Rge. 8

Rge. 7

W.5M.



Σ SIGMA EXPLORATIONS LTD.
 309 8th Ave. SW Calgary, Alberta Phone 264-7865

SULPHUR EXPLORATION PROGRAM
PERMIT No. 74

SCALE: 1" - 1 Mile

JAN/1969

19670061 Map No. 1

SULPHUR PROSPECTING PERMIT NO. 74

SIMMONS DRILLING LTD.,
614 - 6th. AVENUE S.W.,
CALGARY, ALBERTA.

DATE OF ISSUE — JANUARY 2, 1968
AREA — 38,400 ACRES.

TP. 100

846/11
TP. 99

R. 8

R. 7

R. 6 W. 5 M.