MAR 19680122: FORT VERMILION

Received date: Dec 31, 1968

Public release date: Jan 01, 1970

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ECONOMIC MINERALS
FILE REPORT No.
S-AF-144(2)
19680122

REPORT ON FIELD WORK

OF CORE DRILLING

IN THE

FORT VERMILION SULPHUR PROSPECT AREA

OF

ALBERTA, CANADA

FOR

WAINOCO OIL AND CHEMICALS LIMITED

BY

SIGMA EXPLORATIONS LTD.

PROJECT NO. 144

Calgary, Alberta, Canada November, 1968.

INDEXING DOCUMENT No. 700517

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Map No.

1	BORE HOLE LOCATION & NUMBERS MAP

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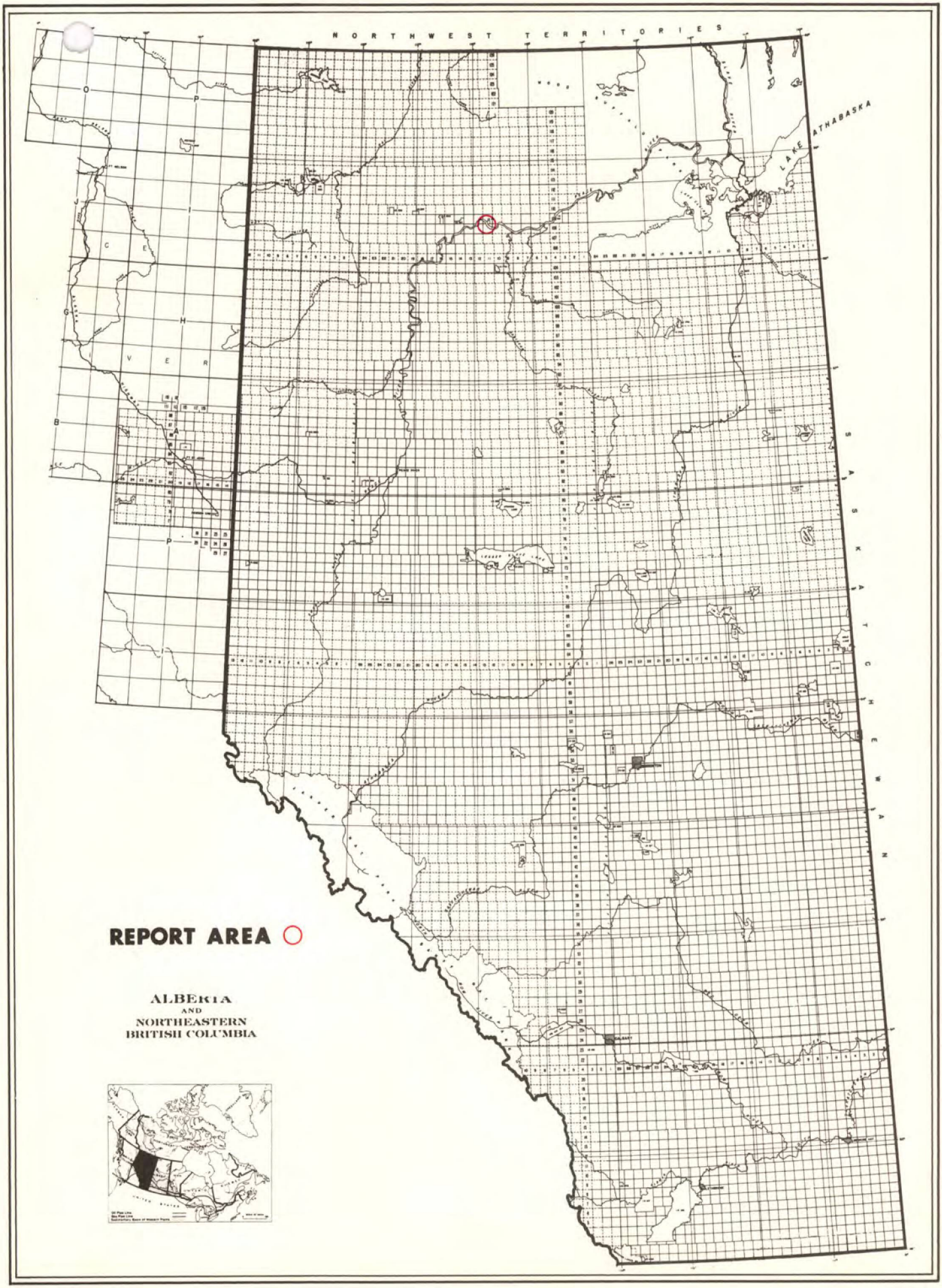


LOCATION OF AREA

This sulphur permit is located in Northern Alberta, Township 108 and 109, Range 11, W.5.M., approximately five miles east of settlement of Fort Vermilion. The permit is divided by the Peace River with approximately half of the permit lying south of the river, one-quarter of the permit area covered by the waters of the Peace River and the balance of the permit lying north of the river, immediately west of the Beaver Ranch Indian Reserve, No. 163.

Topography

Permit No. 144 is located on a broad, flat plain which is cut in a north-west, south-easterly direction by the Peace River. The average elevation of the land in the permit area is approximately 800 feet above sea level, and with the exception of the sharply defined banks of the Peace River, no severe elevation changes are encountered in this area. Drainage across the permit area is generally poorly defined, with all creeks and streams encountered flowing into Peace River. Large sections of muskeg and poorly drained swamp are located in the southern portion of the permit area but more definitive drainage patterns were observed on approaching the bank of the river system.

Because work conducted on this permit was done during periods when weather conditions were dry and warm (July and August, 1968) no severe problems were encountered by the crew in moving about through

the muskeg, as the surface conditions tended to be dry and firm. However, it should be noted that this area is extremely wet during the spring and fall, and would probably be impassable to vehicles other than tracked units during these seasons.

Forest coverage through most of the prospect area graded from light to medium, with heavy stands of commercial-sized timber on Sled Island and along the banks of the Peace River. The balance of the forest cover was mostly poplar and willow and graded from sparse to medium in the area.

Commercial timber operations are carried out in this area during the winter months, but as only existing trails and lines were used for this purpose, it was not necessary to request permission from either the Government or the timber companies to complete this survey.

Access

Access to the area was gained by any one of several trails and roads running eastward along the south bank of the Peace River from Fort Vermilion. Because of the dry conditions at the time of the survey no difficulty was encountered in travelling on these trails with a four-wheel drive power-wagon.

The northern portion of the permit area was easily reached by existing roads but necessitated a trip of some 30 miles. The crew

had to cross the Peace River using the existing ferry service approximately three miles west of Fort Vermilion, and then north to the junction of Highway 58, eastward along the highway across the Ponton and Caribou Rivers, and then south along an improved government road leading to the Beaver Ranch Indian Reserve.

No air strips are located within the permit area, but because of good road accessibility aircraft were not required in any phase of this operation. However, during the course of a general scouting trip, the permit area was checked from the air to determine available cutlines, trails etc. which may not have been marked on existing government maps. Two such lines were found and utilized during the survey.

Weather

The weather conditions encountered during the field operations were warm and dry, but this was mainly as a result of the crew supervisor being given latitude to conduct the survey over an extended time period, when optimum weather conditions existed. Daytime temperatures encountered averaged 60 to 70 degrees, with some early morning fog conditions present near the Peace River.

FIELD OPERATIONS

Field operations were commenced on the permit area June 23, 1968, and were completed on August 27, 1968. During this period a total of 52 drilling locations were completed and 11.9 miles of existing roads and trails were surveyed.

As this survey was conducted at the discretion of the supervisor in the field, it was agreed that no moving time or mobilization fees would be charged for this survey, and thus these matters will not be considered within the scope of this report. No new lines were cut or surveyed and only the existing trails were utilized.

No major problems were encountered in this permit except for the presence of the Peace River which necessitated the long drive by the crew from the south portion of the permit area to the northern part. However, this was not a major problem as it was possible to complete all the southern part of the program first, and only two days were required for survey location and drilling of the northern portion of the work.

Drilling

Drilling was carried out using two General Model GT30 powered hand augers, as well as one conventional hand auger. These drills were equipped with additional section drill stems which made it possible to extend the holes down to a maximum depth of 12 feet in most areas.

Unfortunately, because of the presence of pea-gravels and boulders in the soils found along the river banks, it was not possible to complete all the holes down to the desired depth of 12 feet, and in some instances drilling had to be suspended at depths of 6 to 10 feet. However, some representative sample material was obtained at all

locations and approximately 65% of the holes were completed to the desired depth.

Some difficulties were also encountered by the drillers in taking samples in areas where sticky water-soaked clays were encountered, as this material stuck to the fliting of the drill stems and would not auger out of the hole. This, of course, made drilling progress rather slow as the entire drill stem section had to be lifted out of the ground, cleaned and put back in for another few inches of sample material.

Sampling

An average of two samples per hole were obtained from the holes, with the exception of 8 holes on which samples were only obtained at the 6 foot depth. These samples are "batched" with the normal batching interval running from 0 to 6 feet, and 6 to 12 feet. On holes where three samples were taken, this batching interval was 4 feet, and composite samples were taken at 4, 8 and 12 feet. These samples were transmitted to Chemical & Geological Laboratories, to the attention of the Manager, Mr. Bill Morrison, for storage and instructions from your office as to processing and assaying.

Plugging

Holes were plugged with wooden plugs after drilling to prevent accidents to the workmen while walking up and down the cut lines, or to any wild animals that may stray on the drill locations later.

Surveying

No vertical control was carried over the area but horizontal control was maintained by chaining. A transit was used to check angles at intersections of existing lines to insure correct identification of these lines in the field. Horizontal control was established from maps made from aerial surveys showing existing seismic cut lines and from identifying topographical features on the ground. On the northern portion of the permit legal survey monuments were located along the boundary of the Indian reserve, and ties were made to several of these monuments.

Bore hole locations were permanently marked by blazing trees a few feet from the cut line, and marking the hole number on the tree with felt pens and metal tapes nailed to the tree. Thus each of the hole locations can be easily re-established for future reference.

RESULTS & RECOMMENDATIONS

All material sampled on Permit number 144 was sent directly for storage to Chemical & Geological Laboratories Ltd. in Calgary, Alberta, to the attention of Mr. W. N. Morrison, the manager. These samples are to be stored until instructions are received from your office as to the assays required, or other such dispensation of these samples as you may so desire.

As no results of any of the assays made on samples taken on Permit number 144 are available for review at this time, no further results or recommendations can be included within the scope of this report.

Respectfully submitted,

[redacted]

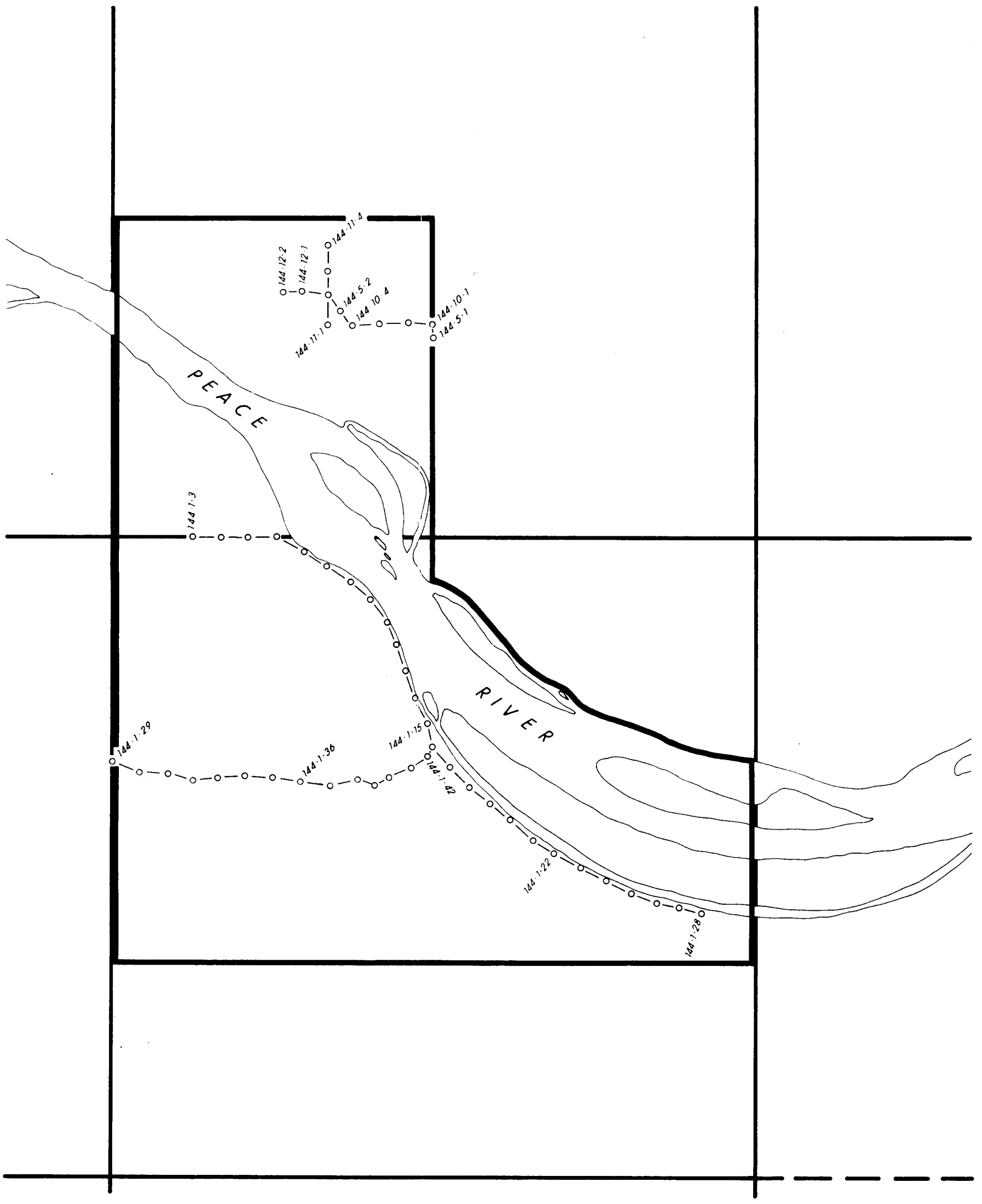
J. D. Fowlie, Supervisor

Approved [redacted]

W. N. Rabey, P. Eng.

Rge. 11

W. 5 M.



Twp. 109

Twp. 108

LEGEND

PERMIT OUTLINE

NEW LINE CUT & DRILLED

EXISTING LINE DRILLED

SIGMA EXPLORATIONS LTD.

309 8th Ave. S.W. Calgary, Alberta Phone 264-7865

SULPHUR EXPLORATION PROGRAM PERMIT No. 144

SCALE: 1" - 1 Mile

SEPT / 1968

19680122 Npp No. 1