

SEISMOGRAPH REPORT  
on  
NORTHWEST TERRITORIES PERMITS  
No. 3063 Thru 3073 and No. 2905  
CONDUCTED BY  
NATIONAL GEOPHYSICAL CO. OF CANADA  
for  
HUDSON'S BAY OIL AND GAS COMPANY LIMITED  
AMEZADA PETROLEUM CORPORATION  
MARATHON OIL COMPANY



C O N T E N T S

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INTRODUCTION

Hudson's Bay Oil and Gas Company Limited acting as operator for Northwest Territories Permit No's 3063 thru 3073 and Permit No. 2905, which are jointly owned by Amerada Petroleum Corporation, Marathon Oil Company and Hudson's Bay Oil and Gas Company Limited, conducted a geophysical seismograph survey on the above grouped permits during the period from December 1, 1962 to April 17, 1963. The seismograph operations were contracted by National Geophysical Co. of Canada Ltd. The dozing was contracted by Bain Brothers Construction Limited and the catering of camp services was awarded to Fortier Northey & Associates Holdings Ltd.

All equipment, materials and supplies were assembled at Hay River, Northwest Territories and transported by barge along the MacKenzie River to our off-loading site at 62° 9' N. Latitude and 123° 3' W. Longitude. The preparations for the seismograph work were commenced in May of 1962 when an on-site inspection was made to determine the optimum location for unloading of the equipment which was to take place during the months of July and August. Bulldozing was commenced in November with the seismograph crew commencing operations on December 1, 1962. Operations were conducted continuously throughout the winter with the exception of a few days break at Christmas. The dozing of trails was accomplished by three D7 caterpillar bulldozers. The drilling was done using two air-water combination National drills with one drill being operated on a double shift. National Geophysical's recording seismograph instruments were used in conjunction with a Techno Magnetic tape recorder. A BH HH (18-140 C.P.S.) filter was used to record on tape and for the Monitor Record. A CH EH (26-74 C.P.S.) filter was normally used for playback of the Magnetic Tape.

The field operation employed an average of 26 men with an additional four men headquartered in Ft. Nelson, British Columbia which was the interpretive office. The operation was also supported by Hudson's Bay Oil and Gas Company's Beaver Aircraft employing a pilot and engineer.

STATISTICS

1. Working Days	112
2. Setups	1,058
3. Basement Traverse	241 miles
4. Shots	2,290
5. Dynamite Used	10,705 lbs.
6. Dynamite per Shot	11.1 lbs.
7. Holes Drilled	1,079
8. Footage Drilled	66,205 feet
9. Average Hole Depth	61 feet

MAP DISCUSSION

EXHIBIT I

This is a small scale map which has outlined thereon the permits covered by this report. Due to accessibility the work was confined to that area south of the river and more specifically Permits No. 3063 thru 3068.

EXHIBIT II

This is a shotpoint location map which has shown thereon the location of our base camp along the MacKenzie River as well as the air landing strips which were constructed by us during the operation.

EXHIBIT III

This is a shotpoint location map on which the surface elevations have been tabulated. All surveying was done using a transit and has been tied both vertically and horizontally to the existing Government control in the area.

All elevations are referred to sea level.

EXHIBIT IV

This is a contour structure map on a horizon which has been tentatively identified as the Leiorhynchus Zone. All identifications are subjected to error due to lack of subsurface control to which the data can be tied.

EXHIBIT V

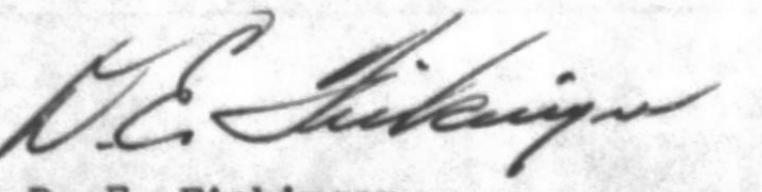
This is a structure contour map which has been tentatively identified as Pre Devonian and is believed to be near the basement.

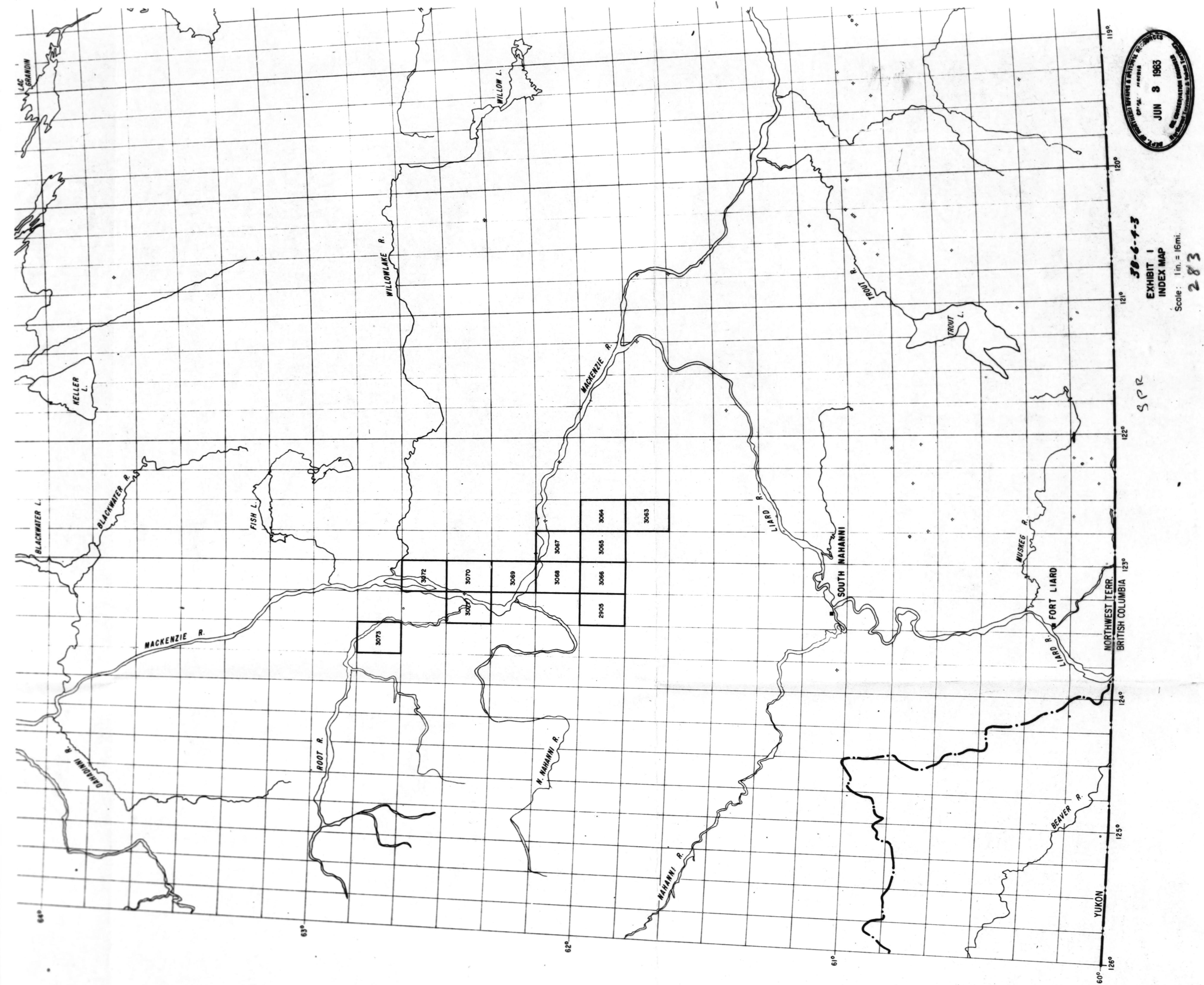
EXHIBIT VI

This is an Isochron of the interval between Leiorhynchus and Pre Devonian horizons.

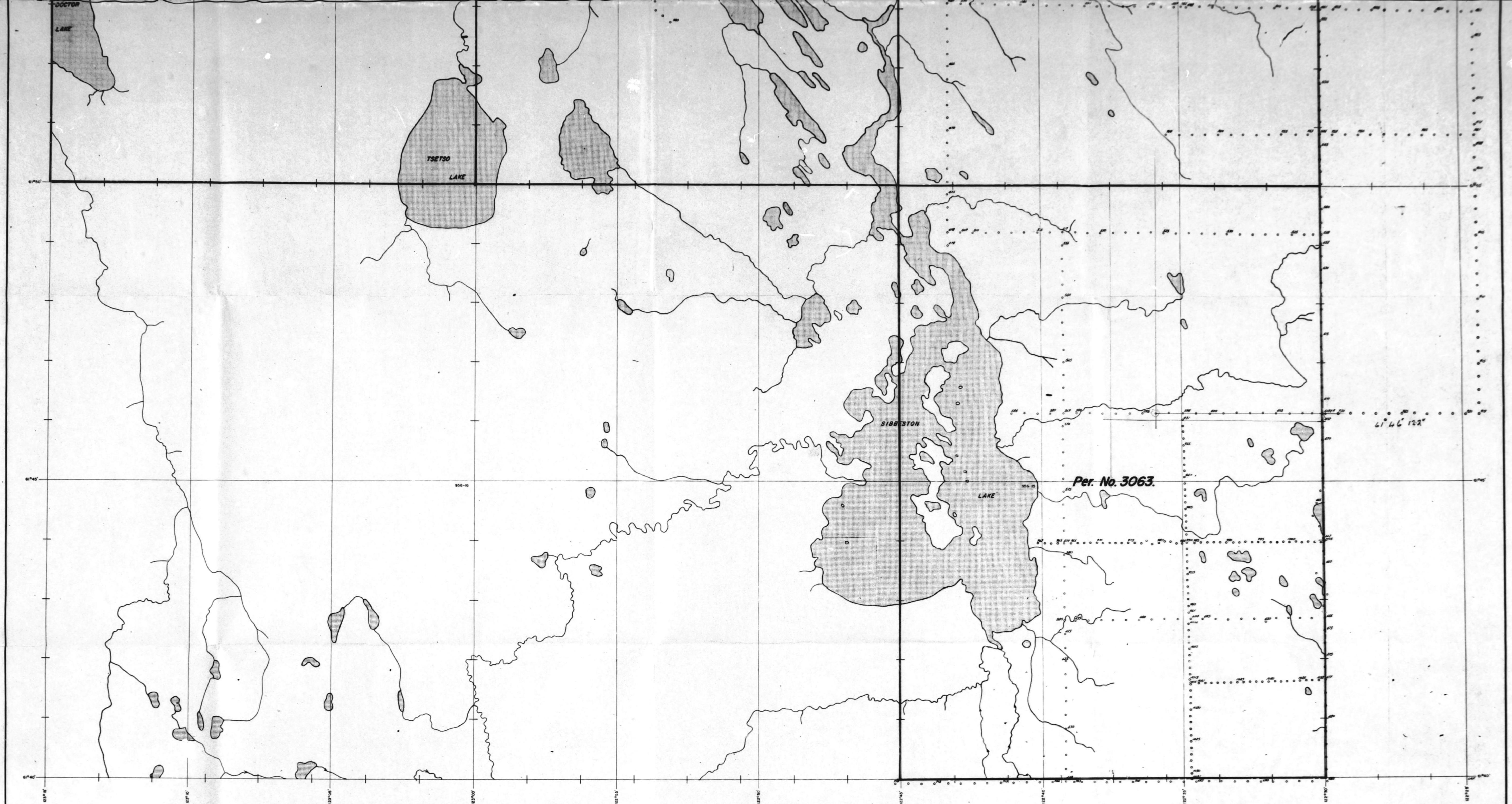
HUDSON'S BAY OIL AND GAS COMPANY LIMITED

\* Not received with report

  
D. E. Fickinger,  
Assistant Chief Geophysicist.



**16x**



PROJECT HISTORY											
PROJECT	PROJECT INTEGRATED	DATE STARTING/ENDING	SHOTPOINTS	PALEO SYMBOL	CORRELATIONS	APPROX. TIME	APPROX. DEPTH	PERSONNEL	EL. REF.	VE	REMARKS
CANSELL BEND		2-7-62 4-17-62	1 - 1051					NATIONAL 2	GOONWA MASURE	8000	80000/200072

LEGEND: SURVEY ON FILE  
 ● WELL LOCATION  
 ■ SURFACE WELL  
 ○ DRY WELL  
 ■ GAS WELL  
 □ DRY & ABANDONED  
 △ CANCELLED LOCATION  
 ▲ UNK SURVEY  
 ■ SHOT POINT  
 ▲ FLARING HOLE  
 △ NOT SHOT  
 □ NOT DRILLED  
 ▲ SURFACE TIME HS  
 △ INDEFINITE CORRELATION TIME  
 ▲ PROB  
 △ FAULT TIME  
 □ NO REFLECTIONS ON RECORDS  
 ▲ AIR  
 △ REPORT TIME  
 ----- SURFACE FAULT  
 ----- DEFECTIVE/RELIABLE  
 ----- PROBABLE  
 ----- POSSIBLE  
 ----- SUGGESTED-CHEMICAL CONTOURING CONVENIENCE  
 ----- SATOR OR HORIZON CHANGE  
 ----- SCALE

EXHIBIT II

DATA ON THIS MAP HAVE BEEN CORRECTED  
 ○ BY NORMAL UPHOLE METHOD  
 ○ FOR DRIFT BY CRITICAL DISTANCE METHOD  
 ○ FOR DRIFT BY TIME-INTERCEPT METHOD  
 ○ BY CURVED PATH METHOD

HUDSON'S BAY OIL & GAS COMPANY SEIS-STRUCTURE MAP  
 OF -  
 CONTOUR INTERVAL  
 PROJECT CANSELL BEND  
 NORTHWEST TERRITORIES  
 CORRELATIONS  
 HORIZON APPROX. TIME  
 SHOT BY COMPUTER PROJECT COMPLETION DATE  
 INTERPRETED BY CONTOURED BY  
 DATE MAY 1963

## CAMSELL BEND

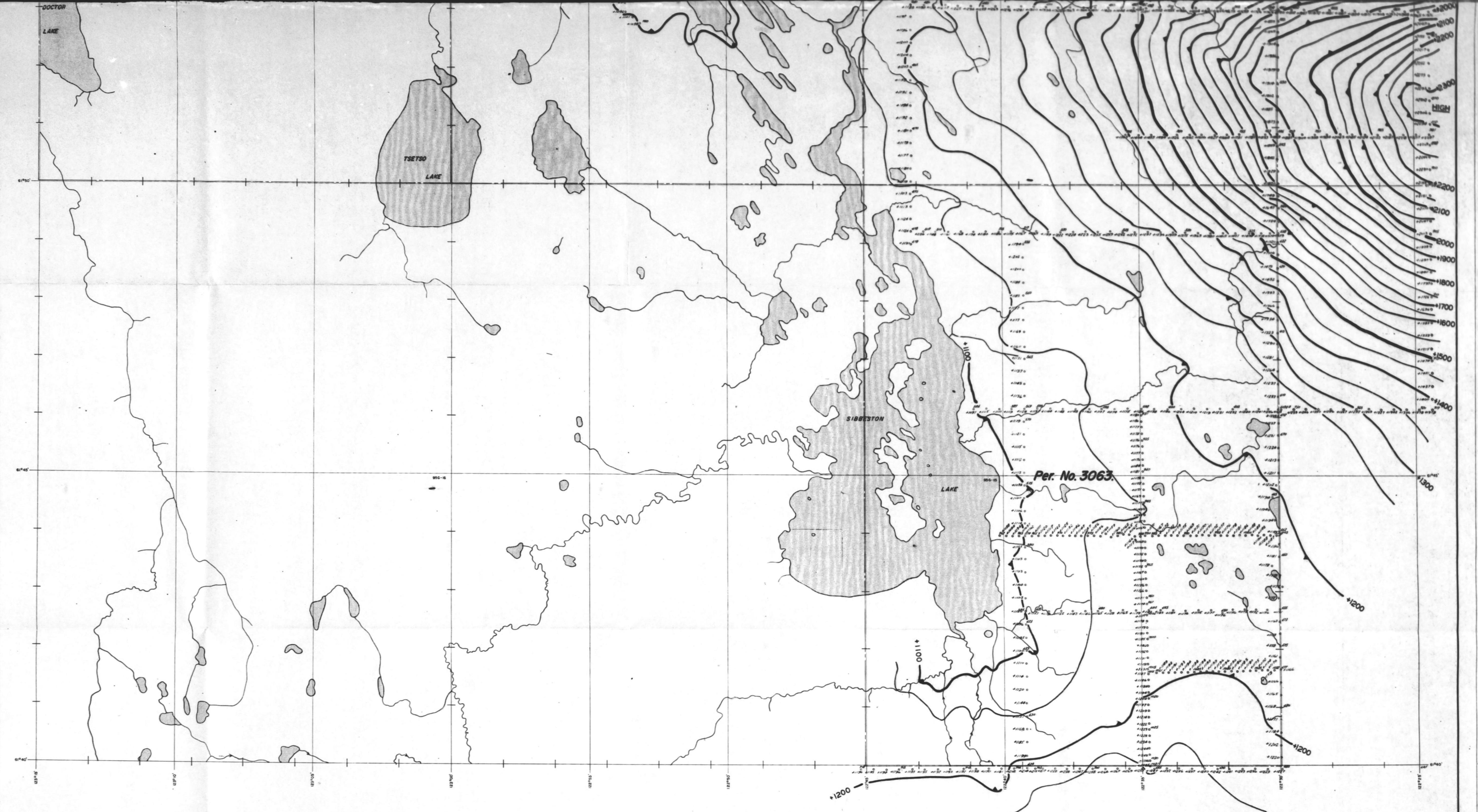
Per. No. 3068

Per. No. 3067.

Per. No. 3065

Per. No. 3064.

LITTLE  
DOCTOR  
LAKE



DATA ON THIS MAP HAVE BEEN CORRECTED:  
 BY NORMAL UPHOLE METHOD  
 FOR DRIFT BY CRITICAL DISTANCE METHOD  
 FOR DRIFT BY TIME-INTERCEPT METHOD  
 BY CURVED PATH METHOD.

*SPR* **EXHIBIT III**

**HUDSON'S BAY OIL & GAS COMPANY SEIS-STRUCTURE MAP**  
**OF: SURFACE ELEVATION 38-6-1-3**

CONTOUR INTERVAL: 50 ft.

PROJECT: **CAMSELL BEND** EL. REF. **VR:**  
**NORTHWEST TERRITORIES**

**CORRELATIONS**

HORIZON:  
APPROX TIME: APPROX DEPTH

NOT BY: **NGC #2**  
COMPUTER: **R.J. LABIN**  
PROJECT COMPLETION DATE: **4-17-63**

PARTY CHIEF: **D.W. GOODWIN & J.P. MAGUIRE**  
CONTOURED BY: **J.P. MAGUIRE**

E-INTERPRETED BY: DATE

**CAMSELL BEND**

