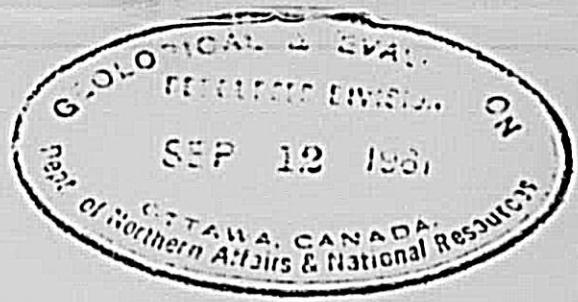


FINAL REPORT ON GEOPHYSICAL OPERATIONS
ON
PERMITS NO. 1003, 1004, 1005



The above permits were evaluated by means of a reflection seismograph survey.

A seismic crew utilizing two drills commenced work on January 26, 1961 and continued until move out on March 3, 1961.

Working conditions were fair throughout the field operations. The crew had some trouble moving the camp in and out of the permit area owing to steep hills near the La Biche River.

The water hauls were longer than average as there are very few lakes in this area. Some rock bit drilling was encountered but the majority of the holes were completed with drag bits.

Fairly heavy timber made it necessary to use three bulldozers during the first part of the operation and two during the latter part.

Vertical and horizontal control was carried with a transit. Monuments No. 597 and 598 were the control points for the survey. All loops were tied within reasonable limits.

The shot points were spaced at 1320-foot intervals wherever possible with a geophone group interval of 120 feet. Average depth of drilling was 45 feet.

Dynamite size was varied from 5/8 lb. to 25 lbs. per shot and the best records were obtained from 10 to 15 lb. charges.

Drift corrections were computed from first arrival plots using the following formula

$$T_C = \frac{(T_1 - T_{uh}) V_1}{2 \cos \frac{V_1}{V_2}}$$

and a replacement velocity of 10,000 feet/sec. to a datum of + 1500 feet.

The normal moveouts of reflections on records shot near the Imperial-Pan Am. La Biche 55-E well and those shot near the central part of the permits indicated the existence of an appreciable velocity gradient. The resulting function of $8800 + .8z$ used for making up the depth sections is a modification of the well velocity function using this gradient.

Attached are the following maps:

1. Surface Elevation Map
2. Mississippian.

TEXACO EXPLORATION COMPANY.

R. F. Zimmerly
R. F. Zimmerly,
Chief Geophysicist.

AES-1r

Encls.

Calgary, Alberta,
September 7, 1961.