COLUMNAR SECTIONS

VERTICAL SCALE: 1 INCH TO 500 FEET

TE 4556

Permits 2480, 2481, 2482

COMPANY	
TEXACO EXPLORATION CALGARY	ALBERTA CANADA

PROJECT MAP

DEVO PROJECT
(SUPPLEMENT)
NORTHWEST TERRITORIES CANADA
CAMBRIAN

CONTOUR INTERVAL .025 SEC.
SCALE 1 IN. = 1 MILE
DATUM + 450 FT.
DATE DEC. 3, 1965

A. KENNEDY, INTERPRETATION
KEVIN RAE, PARTY NO. 6
H.R. REIMER, SUPERVISOR
R.C. BROWN, CO-ORD. GEOLOGIST

12-6-65-21

ACCURATE EXPLORATION LTD.

G-70

LEGEND

MAJOR ANTICLINAL AXIS
MAJOR SYNCLINAL AXIS
Marine Seismic

FAULT DESIGNATION SYMBOLS

A, B, C, ETC.	LOCATION
1	DISCONTINUITY
2	CERTAIN
3	QUESTIONABLE
4	DIFFRACTED OR SPURIOUS ENERGY
5	KNOWN
6	INFERRED
7	THEORETICAL CONCEPT
8	GEOLOGIC CONCEPT
9	NO RECORDS
T-800	OVERALL FAULT
	DIP OF FAULT
	DIFFRACTED OR SPURIOUS ENERGY

30x

O.C.E.

GEOPHYSICAL REPORT

ON NORTHWEST TERITORIES PERMITS

NOS. 2480, 2481 and 2482

The above permits were examined by means of a marine seismic survey during the period July 10 to July 16, 1965 inclusive.

A. - PROSPECT AREA AND ACCESS

The prospect area is located on the Mackenzie River, N.W.T., between Norman Wells downstream to the point where Longitude 128° 15' crosses the river.

Norman Wells was used as a supply base. Pacific Western Airlines serves the Wells on a regular schedule thrice weekly.

Northern Transportation also operates river barges between Hay River on the south shore of Great Slave Lake and Norman Wells.

B. - RECORDING

(a) Equipment

Instruments consisted of a bank of pre-amplifier filters and a set of Carter FR1 pulse width amplifiers and tape system.

A marine seismic cable equipped with 4 EVP-1's per trace, as per Cable Diagram, was towed by the motor vessel "Tilerak".

The "Tilerak" housed the personnel, instruments, galley and supplies.

A 30-foot Jet Shooting Boat, 40-foot Landing Craft (for emergency purposes only), and a Runabout completed the boat flotilla.

Radios in the Recording and Shooting boats were used for communication and Time Break purposes.

(b) Personnel

The crew consisted of the following personnel:

1 Party Manager
2 Operators
1 Shooter
4 Pilots
1 Mechanic
1 Cook
1 Computer
1 Surveyor

(c) Shooting Procedure

Quarter mile splits were shot every 660 feet using 12 recording amplifiers.

All shooting was done in an upstream direction with No. 1 Station at the boat.

The following procedure was followed in carrying out the firing of a shot.

When the Recording boat was on location as determined by the Surveyor, the boats were throttled back such that the boats were stationary relative to the ground. The Shooting boat pulled into position opposite a marker on the cable. The dynamite charge, attached to a firing line and a balloon, was thrown overboard by the Shooter. The line to the balloon was such that the charge could be suspended on the average of 5 feet below the surface. This pre-determined

depth was varied with the size of the charge. The firing line was of such a length that with the Shooting boat opposite the marker on the cable, the charge would be midway between Stations 6 and 7.

The offset of the Shooting Boat was estimated by the Pilot of the boat.

At a signal from the Operator, the Recording boat and Shooting boat would cut throttle completely and drift back downstream until such time as the boats and cable were stationary relative to the water. At this instant, the shot was fired.

Following the shot, power would be applied to the boats and they would move up 660 feet to the next pre-determined shot point. The above procedure was then repeated.

Shooting in this manner enabled the recording crew to fire anywhere from 80 to 100 shots per 10 hour shift.

A total of 601 shot points were recorded.

C. - SURVEYING

The location of the shot points was determined visually by observing a position of a shot point as related to topographical features such as creeks, rivers, islands, sand bars, trees, etc. and then tieing these features into aerial photographs of the area concerned.

The movement of the boat between each shot point was timed to the nearest second so that in the absence of any topographical feature, the location of the shot point could

be determined by using the travel time between shot points.

The shot points were originally plotted on the aerial photos. These were later transferred to base maps supplied by Texaco.

No Geodetic Survey has been carried out in the area of the prospect.

The District Engineer, Calgary, Water Resources Branch, Department of Northern Affairs & National Resources, has supplied an elevation for the river at Norman Wells for mid-July, 1964. This elevation is 139 feet above sea level. No other reliable elevations are available for points along the river.

The District Engineer has suggested that a change in elevation of one-half foot per mile of the river is a reasonable assumption to make in determining elevations for other points on the prospect.

All data was reduced to +450 foot datum. The correction from shot to datum and cable to datum was computed using a constant velocity of 9000' per second.

Three maps accompany this report:

1. Base of Canol
2. Hume
3. Cambrian

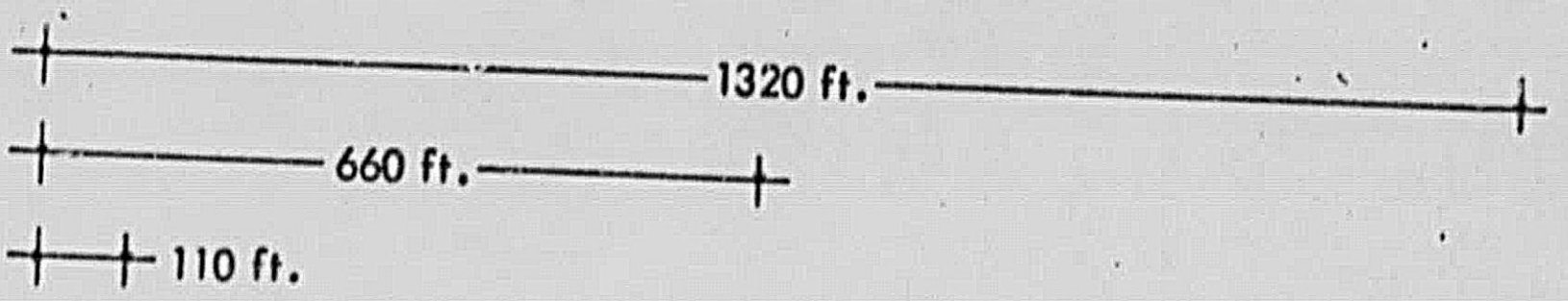
TEXACO EXPLORATION COMPANY

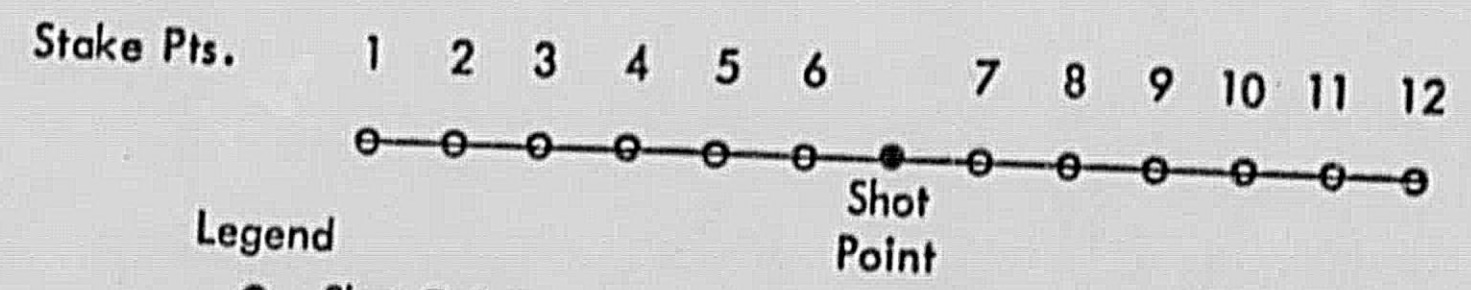
R. F. Zimmerly,
Chief Geophysicist.

Calgary, Alberta,
March 1, 1966

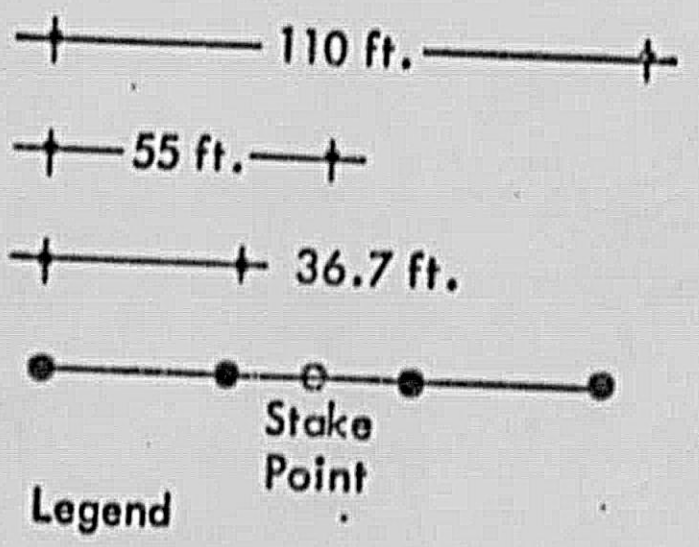
CABLE AND GEOPHONE SCHEMATICS

Cable at rest





Geophones at rest.



Note:

The cable is so designed that when it is at rest during the shot instant the schematic sketches as shown above are applicable.

The cable was constructed with takeouts between stake points 6 and 7. During the Mackenzie River shooting geophones were at these locations and recorded on number 2 trace on the Timefax playbacks.