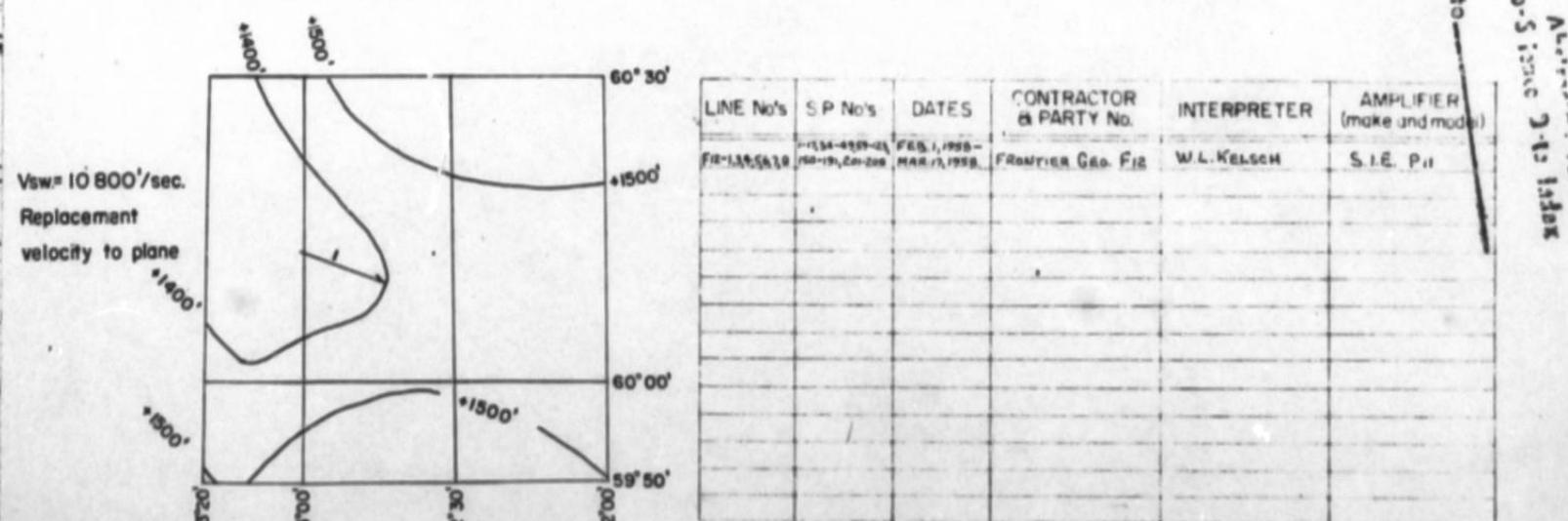


INTERPRETER	AMPLIFIER (make and model)
W.L. KELSEN	S.I.E. PH

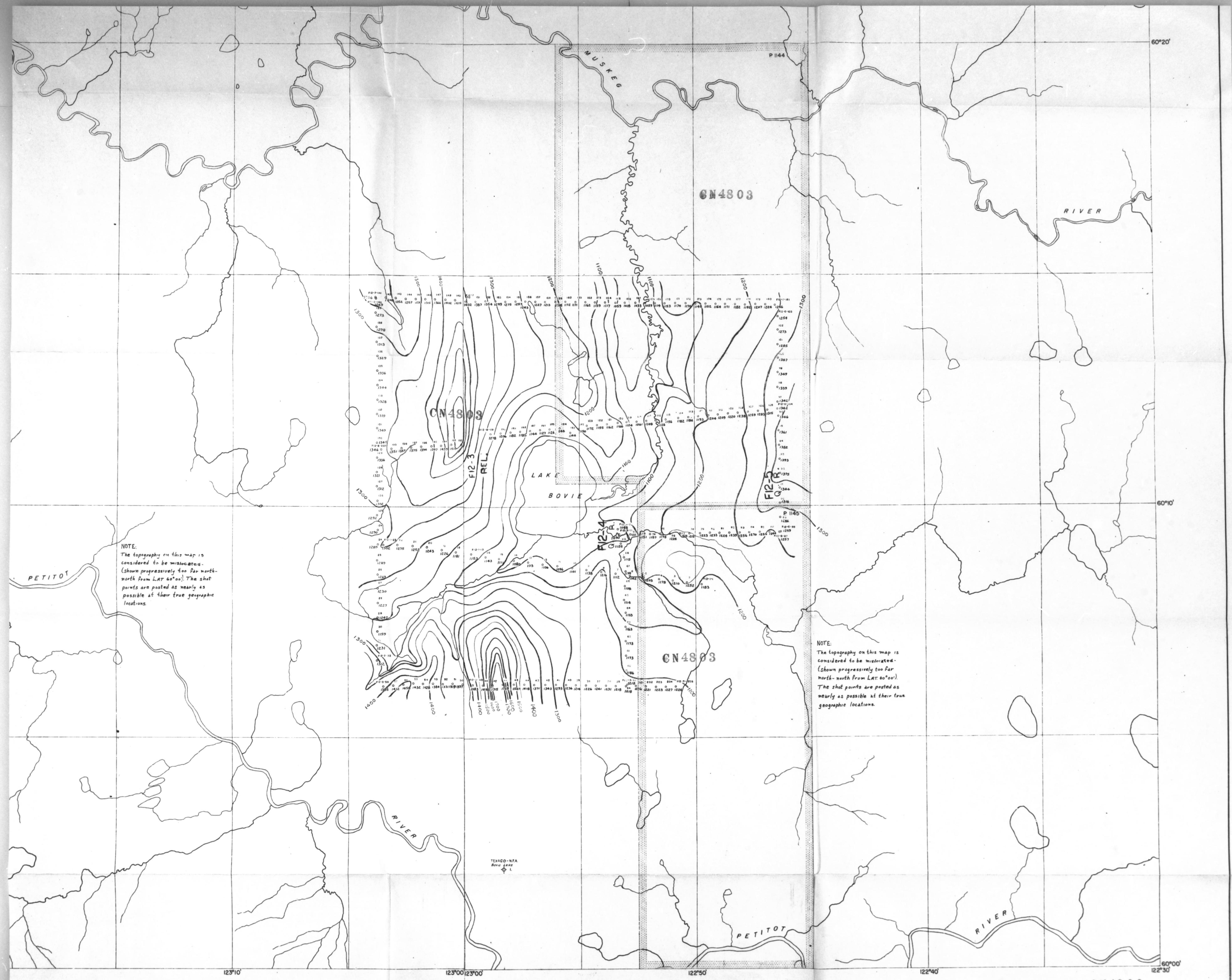
THIS MAP HAS BEEN CHECKED FOR PRESENTATION
Name _____
LAST DAYS SHOOTING REPORTED MARCH 17,

PAN AMERICAN PETROLEUM
NORTH CANADIAN DIVISION
N.W.T.
AREA BOVIE LAKE
VELOCITY
HORIZON APPROX. MISSISSIPPI
TYPE OF MAP STRUCTURE
PARTY NO. F12 CONTOUR INT.
INTERPRETATION BY: W.L. KELLY
REPORT NO. 3 (FINAL) DATE
REMARKS



THIS MAP HAS BEEN CHECKED FOR PRESENTATION BY
Name _____ Date _____
LAST PAGE CHECKING REPORTED: MARCH 17, 1968

PAN AMERICAN PETROLEUM CORPORATION
NORTH CANADIAN DISTRICT
N.W.T. PERMITS 1144, 1145 CANADA
AREA BOVIE LAKE MAP NO CM-19/SW
VELOCITY: SCALE 1" = 4000'
HORIZON APPROX. MISSISSIPPIAN SHALE
TYPE OF MAP STRUCTURE
PARTY NO F 12 CONTOUR INTERVAL 10 MS
INTERPRETATION BY W.L. KELSCH
REPORT NO 3 (FINAL) DATE JUNE 2, 1958
REMARKS



INTERPRETER	AMPLIFIER (make and model)
W.L. Kelsch	S.I.E. PH

THIS MAP HAS BEEN CHECKED FOR PRESENTATION BY
Name _____ Date _____
LAST DAY SHOOTING REPORTED MARCH 17, 1958

PAN AMERICAN PETROLEUM COR
NORTH CANADIAN DISTRICT

N.W.T.
AREA BOVIE LAKE MAP NO C
VELOCITY
HORIZON ELEVATION
TYPE OF MAP: STRUCTURE
PARTY NO: F 12 CONTOUR INTERVAL
INTERPRETATION BY: W.L. KELSH
REPORT NO: 3 (FINAL) DATE JUN 1958
REMARKS

LINE NO.	SP NO.	DATES	CONTRACTOR & PARTY NO.	INTERPRETER	AMPLIFIER (make and model)
			FRONTIER SEAFIX	W.L. KELSH	S.I.E. PH

THIS MAP HAS BEEN CHECKED FOR PRESENTATION BY
Name _____ Date _____
LAST DAY SHOOTING REPORTED MARCH 17, 1958

PAN AMERICAN PETROLEUM CORPORATION
NORTH CANADIAN DISTRICT

N.W.T. Permits 1144, 1145 CANADA
AREA BOVIE LAKE MAP NO CM-19/SW
VELOCITY
HORIZON ELEVATION
TYPE OF MAP: STRUCTURE
PARTY NO: F 12 CONTOUR INTERVAL 50 FT.
INTERPRETATION BY: W.L. KELSH
REPORT NO: 3 (FINAL) DATE JUNE 2, 1958
REMARKS

PAN AMERICAN PETROLEUM CORPORATION
RECORD OF GEOPHYSICAL MAPS TRANSMITTED

to Mr. J. K. Christie, Mines and Lands Division

LOCATION Department of Northern Affairs and Natural Resources

DATE October 20, 1958

OTTAWA, Ontario

ATTACHED IS ONE COPY EACH OF THE ABOVE DESCRIBED PRINTS

RECEIPT OF THE ABOVE PRINTS IS ACKNOWLEDGED.

211

DR. Tracy
(SIGNATURE)

LOCATION North Canadian District

50

(SIGNATURE)

PLATE

Date _____

REPORT OF GEOPHYSICAL SURVEY

REPORT OF SEISMOGRAPH REFLECTION SURVEY

Conducted by

Frontier Geophysical Company

during the period : April 29, 1957 to April 29, 1958 inclusive

in the

NORTHWEST TERRITORIES

Bovie Lake Area

Permit 1144

Permit 1145

prepared by

M.R. HEWITT

District Geophysicist

October 7, 1958

Submitted in accordance with work obligations under Section 25,
Sub.2 (e) and Section 30, Sub-section 1 (c).

TABLE OF CONTENTS

Title Page	1
Table of Contents	2
Text	3
Introduction	3
Seismic Technique	4
Seismic Spread Diagram	5
Shot Hole Plan & Elevation Map	- Permit 1144
" " " " " "	- Permit 1145
"K" Mississippian Structure Contour Map	- Permit 1144
"K" " " " " "	- Permit 1145

T E X T

INTRODUCTION

During the period from April 29, 1957 to April 29, 1958, a reflection seismograph program was conducted by Frontier Geophysical Company, Party No. 12, for Pan American Petroleum Corporation. This party commenced operations in the designated area on February 1, 1958 and worked intermittently until March 17, 1958. A total of 40 days was spent on and adjoining Permit Nos. 1144 and 1145 during this time.

Frontier Geophysical Company, Party No. 12, was under the supervision of Mr. W.L. Kelsch, Party Chief.

The field crews worked out of a bush camp located in that area, while the interpretation offices were located in Calgary. Office computations were carried out simultaneously with the field work.

All lines shot by Frontier Geophysical Company were pre-dosed prior to the time Frontier commenced their seismic program in this area.

TEXT (continued)

SEISMIC TECHNIQUE

Shot holes averaged approximately 45 feet in depth on and adjoining Permits 1144 and 1145. The depth of shot was determined by near surface lithology.

Normal charge size was 10 lbs. per shot. In most cases three or five hole patterns were used, depending on record quality, and were laid out as indicated on Figure 1. The energy was recorded on split spreads as diagrammed on Figure 1. The instruments used for this area by Frontier Party No. 12 were the portable S.I.E. P-11 type.

The reflection method was used to obtain the sub-surface maps, however refraction breaks were used to correct for near surface weathering and drift irregularities.

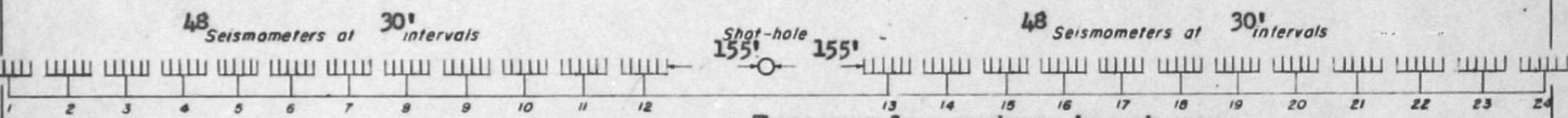
The datum that appears on the sub-surface maps are vertical two-way times, between an arbitrary near surface reference plane and the particular horizon mapped.

The area was worked intermittently during the winter months of February and March with wheeled equipment, with the exception of the recorder which was mounted on a bombardier. No unusual operating problems were encountered on these permits.

Respectfully submitted,

PAN AMERICAN PETROLEUM CORPORATION

By M. R. Hewitt
M. R. Hewitt,
District Geophysicist



There were four geophones in each group.

* Note: Geophone groups overlapped. i.e. the 4th geophone in one group and the first geophone in the adjacent group overlapped.

Outlined below are the three most common spreads used.

Three Hole Pattern

Case I

1. Three holes - 50' apart
2. Distance - centre hole to first geophone in first group 155'.
3. Group Intervals - 90'.
4. Seis. Intervals - 30'.
5. Distance from S.P. to S.P. 1390'.

Case II.

1. Three holes - 75' apart.
2. Distance - centre hole to first geophone in first group - 155'.
3. Group Intervals - 150'.
4. Seis. Intervals - 30'.
5. Distance from S.P. to S.P. 2050'.

Five Hole Pattern

1. Five Holes - 50' apart.
2. Distance - Centre hole to first geophone in first group - 155'.
3. Group intervals - 90'.
4. Seis. intervals - 30'.
5. Distance from S.P. to S.P. 1390'.

Party - Frontier Geophysical No.12
 Area - Bovie Lake, Permits 1144 and 1145.
 Hole to Hole distance 1390' & 2050'.

FIGURE No. 1