

60-6-1-50

Abstracted for
Geo-Science Data Index

Date _____

REPORT OF GEOPHYSICAL AND SEISMOGRAPH REFLECTION SURVEY

Conducted By

United Geophysical Company of America

for

Pan American Petroleum Corporation

This Report Covers the Period from October 3, 1964 to November 29, 1964

On and Off North Beaver River Permit 1007

Prepared by

M. A. Knock

Exploration Group Supervisor

July 7, 1965

Submitted in accordance with Government Regulations

Under Section 29(C) of the Territorial Lands Act

TABLE OF CONTENTS

	<u>Page</u>
Title Page	1
Table of Contents	2
Text	3
Introduction	3
Seismic Technique	4
Seismic Spread Diagram (Figure #1)	5

Shot Hole Plan and Elevation Map, North Beaver

River Permit 1007

Structure Contour Map, North Beaver River

Permit 1007

(Maps are enclosed in envelope at back of report)

T E X T

INTRODUCTION

During the period October 3, 1964 to November 29, 1964, a seismograph reflection program was conducted by United Geophysical Company of America for Pan American Petroleum Corporation, on and off North Beaver River Permit 1007. United Geophysical Company of America worked continuously during the months October and November, 1964 spending approximately 50.25 days in the above mentioned area.

The lines shot by United Geophysical Company of America were bulldozed trails cut by Bruce Rome Construction Ltd., simultaneously with the crew's operations.

United Geophysical Company of America was under the supervision of J. Lebeau. The camp was located in the North Beaver River area. The interpretation was carried on simultaneously with the field work. The interpretation offices were located in Calgary.

Equipment used by United Geophysical Company of America in this area was track mounted (Nodwell Tractors and Trailers). The crew operated out of a mobile track mounted camp which was moved periodically throughout the area surveyed.

Supply was almost entirely conducted by aircraft based at Fort Nelson. The most unusual operating problem encountered was that presented by prevalence of rock in the area due to the operations being conducted above the timberline on rock outcrops.

T E X T

SEISMIC TECHNIQUES

Shot holes averaged 50 feet in depth. The depth of shot was determined by observation of record quality. Best results were obtained from shots at depths of 40 to 50 feet except where rock outcrop was prevalent. Shots detonated in rock required heavy charges to get energy into the ground whereby depths were increased accordingly. Charge sizes varied from 10 to 100 pounds. Number of holes varied from 1 to 5. Single holes were used east of the LaBiche River where the program was of a reconnaissance type. One Mayhew 1000 drill was used to drill the holes operating on a double shift basis where required. Circulation was maintained by using an air compressor in the rock drilling.

Special configuration is shown on Figure #1.

The instruments used were United Geophysical Type 1-38A Amplifiers using Techno Type magnetic tape and oscillograph camera display.

The reflection method was used to obtain subsurface data and the refraction method was used to correct near surface weathering and drift irregularities.

The data appearing on the subsurface maps are vertical two way times between an arbitrary reference plane and the particular level mapped.

Respectfully submitted,

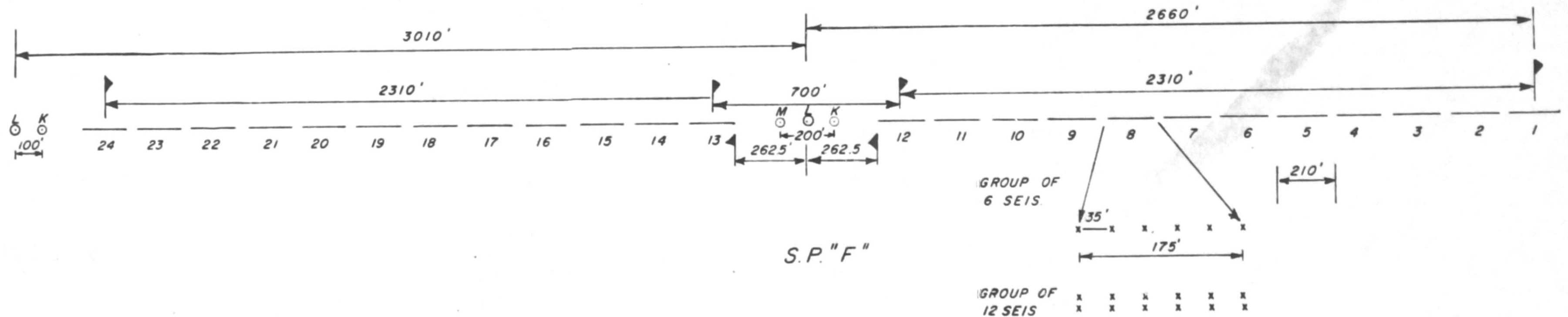
PAN AMERICAN PETROLEUM CORPORATION

By:


M. A. Knock

Exploration Group Supervisor

NORTH BEAVER RIVER
TYPICAL SPREAD LAYOUT
 LINES 404, 403; 401 = S.P.'S 3141 to 3212



NORTH BEAVER RIVER

TYPICAL SPREAD LAYOUT.

LINES 301, 400, 402; 401=S.P.'S. 3117 to 3141



12 SEIS:

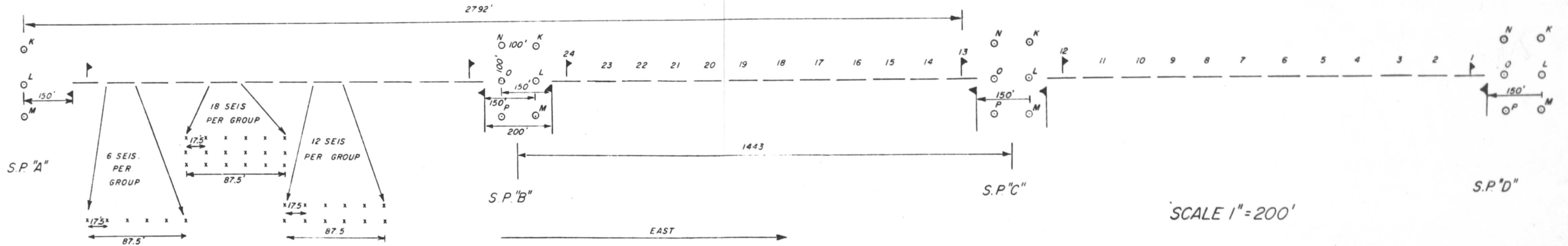
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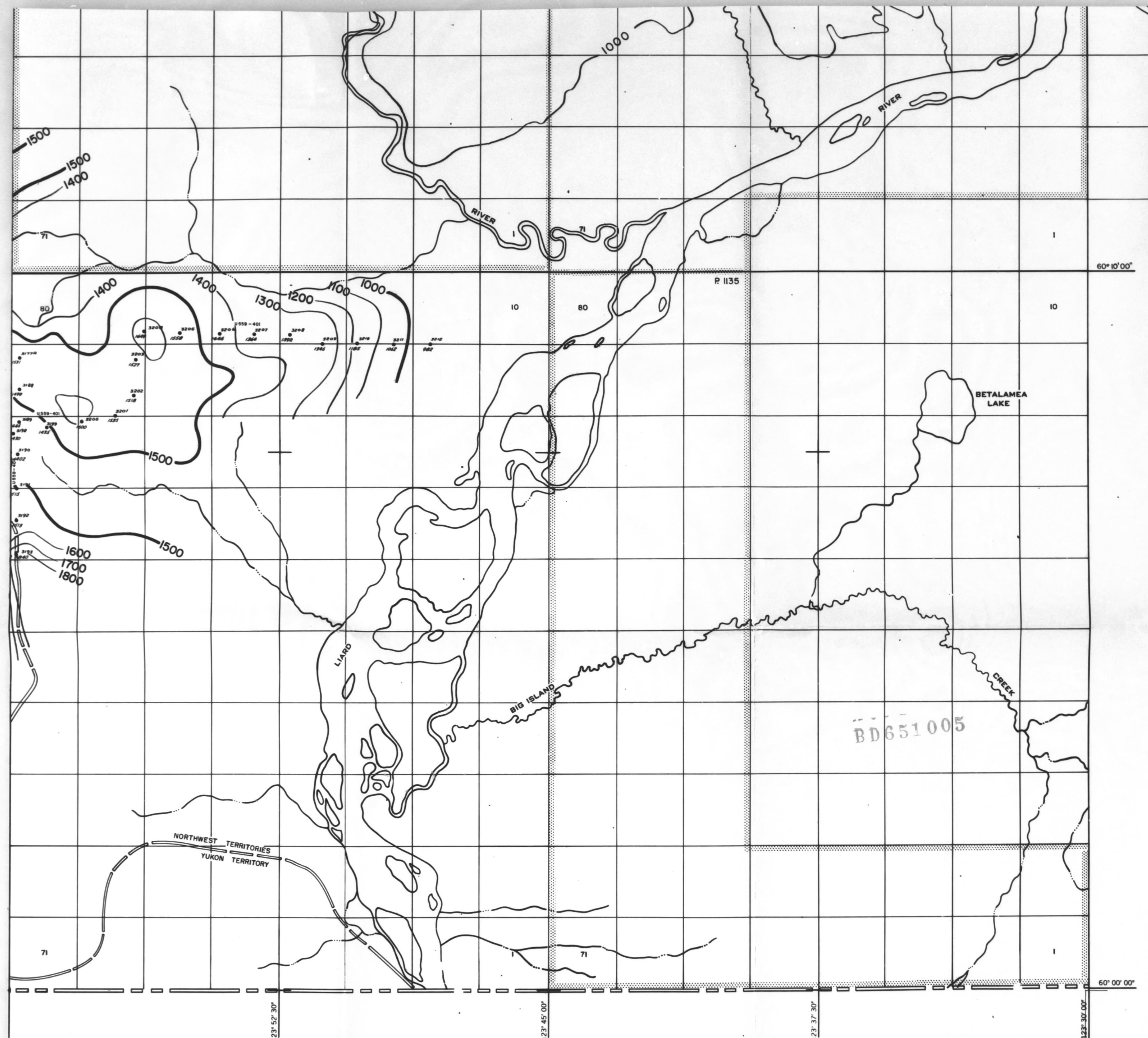
SCALE - 1"=200'

SCALE - 1"=200'

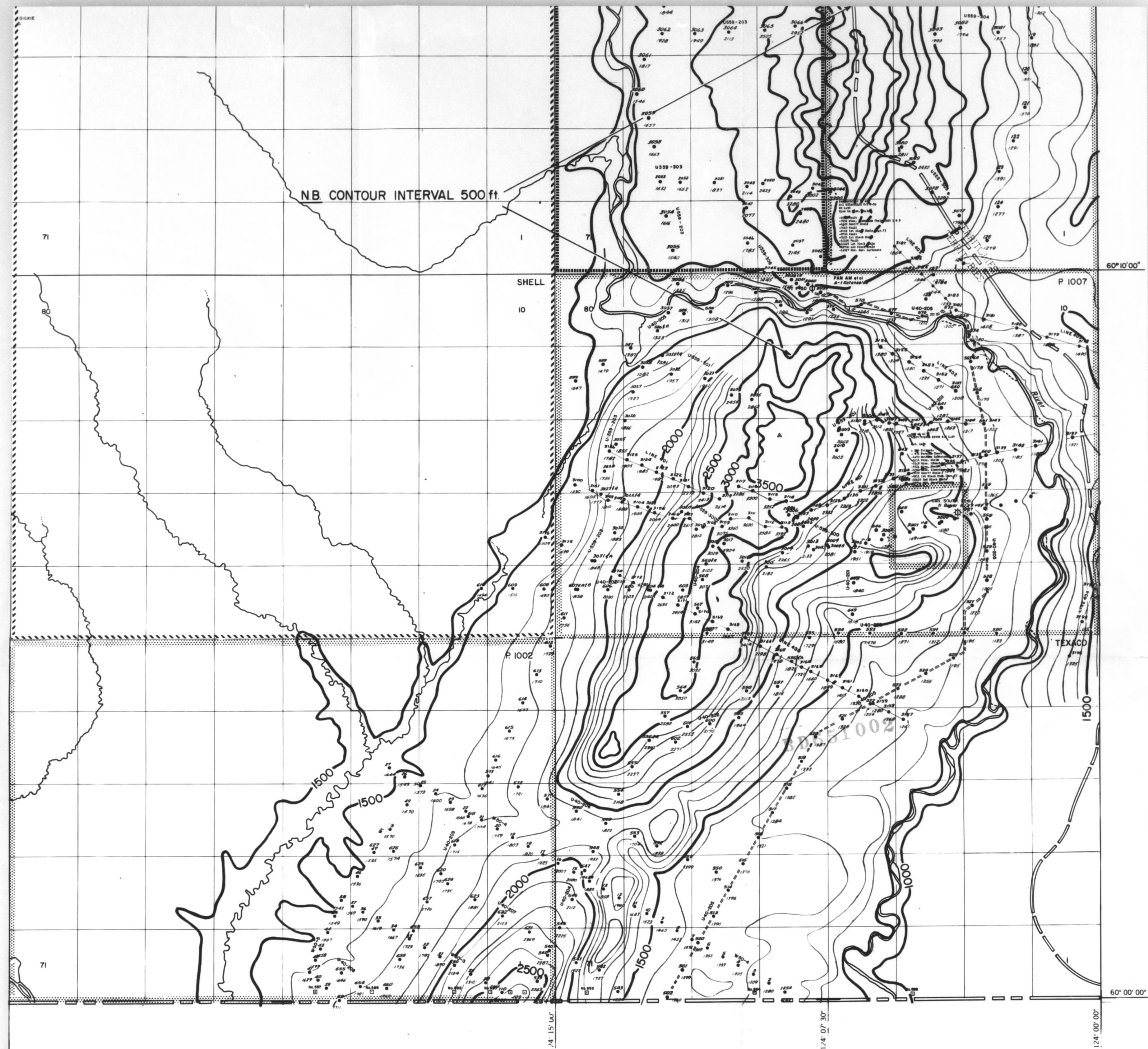
NORTH BEAVER RIVER
TYPICAL SPEAD LAYOUT
 FOR LINES 300X; & 401 = S.P'S 3126 to 3119

IN SHOOTING S.P."B" SINGLE ENDER EAST:
 HOLES 'N','O','P' ARE USED.
 IN SHOOTING S.P."D" SINGLE ENDER WEST:
 HOLES 'K','L','M' ARE USED.





MAP EVALUATION		SHOOTING HISTORY (Not in detail)				INTERPRETIVE HISTORY				PAN AMERICAN PETROLEUM CORPORATION CANADIAN DIVISION		
Qualification considers type of map or play, amount of relief considered critical, quality of data and density of control, (geophysical or geological). _____ Geological data _____ Reliable Geophysical Data _____ Qualitatively Reliable Geophysical data _____ Unreliable Geophysical Data		INCL DATES	SHOT BY	SHOT FOR	S.P. AND/OR LINE No's	FINAL REPORT No.	DATE	INTERP.	CO. AFFIL.	APPROX. LOC. ON MAP	AREA: Fisherman Lake	GRID: CM-18/SW
		APR. 1959	U.S. 144	PAN AM	SP 13, 15, 18	NOV. 27, 1962	J. B. CAMERON	PAN AM	COPE	PROVINCE: Yukon and NWT	SCALE: 1" = 4000'	
		AUG. 1962	W.S. 163	PAN AM	LINE 163-1, 2, 3, 4, 5, 6	E - 62 - 57	S. E. SINGE	PAN AM	NORTH HALF	HORIZON: SURFACE		
		JUL. 1964	U. 559	PAN AM	40 - 49	C - 75 - 64	J. H. HARDING	PAN AM	NORTH HALF	TYPE OF MAP: STRUCTURE	CONTOUR INT. 100'	
		OCT. 1964	U. 559	PAN AM	LINE 401, 404	C - 9 - 65	J. H. HARDING	PAN AM	S.W. 1/4	SHOT BY:	FOR:	
										INCL. DATES:	CO. AFFIL.:	
										INTERP. BY:	DATE:	
										REPORT No.		
										REMARKS:		
										BD651005		
										GEOLOGICAL INT:	DATE	
										FROM GEOPH. REPORT No(s)	DATED	
										REMARKS:		
										CLASS I		



MAP EVALUATION		SHOOTING HISTORY (Not in detail)				INTERPRETIVE HISTORY				PAN AMERICAN PETROLEUM CORPORATION CANADIAN DIVISION		
Qualification considers type of map or play, amount of relief considered critical, quality of data and density of control, (geophysical or geological)		INCL DATES	SHOT BY	SHOT FOR	SP AND/OR LINE NO.	FINAL REPORT No.	DATE	INTERP	CO AFFIL.	APPROX LOC ON MAP	AREA: Katanelee	GRID: CM-17/SE
Geological data		MARCH 1957	W.C. W30	PAN AM	LINES 9-50-3-6-5	46	AUG. 1, 1957	J.H. JOHNSON	W.C.	SOUTH EDGE	PROVINCE: Yukon and NWT	SCALE: 1" = 4000'
Reliable Geophysical Data		JAN/FEB 1962	W.C. W40	PAN AM	LINES 9-40-30-10-208	1	MAY 31, 1962	B.M. WHITE	W.C. B-39	SOUTH EDGE	HORIZON:	
Qualitatively Reliable Geophysical Data		JULY-OCT 1962	W.C. W62	PAN AM	LINE 6	E-62-51	MAY 29, 1962	J.H. HARDING	PAN AM	SOUTH THIRD	TYPE OF MAP: SURFACE	CONTOUR INT.
Unreliable Geophysical Data		MARCH 1963	VEL SURVEY	CAN. SOUTH ET #1	LINE V	E-62-57	NOV 27, 1962	D.E. BOWEN	PAN AM	EAST EDGE	SHOT BY: STRUCTURE	FOR: 100'
						E-63-19	JUNE 20, 1963	J. HARDING	PAN AM	EAST (Center)	INCL DATES:	
		AUG.-OCT. 1963	U.C.C. 559	PAN AM	LINES 370-306-203	C-1-64	JAN. 2, 1964	J. HARDING	PAN AM	EAST HALF	INTERP BY:	CO AFFIL:
		JUNE-DEC. 1964	FRONTIER P-7	PAN AM	LINES 300-7-63	SP. REPORT	JAN. 29, 1965	C.M. ALLISON	PAN AM	W/4	REPORT No:	DATE
		OCT.-NOV. 1964	U.C.C. 559	PAN AM	LINES 300-301	C-6-65	FEB. 15, 1965	J.H. HARDING	PAN AM	SE/4	REMARKS	
											BD651002	
											CLASS I	

This map, report, or supplement Registration No. _____ dated _____ which is to be destroyed after _____ (Refer to serial number _____)

Map distribution: ☐ Division ☐ General Office

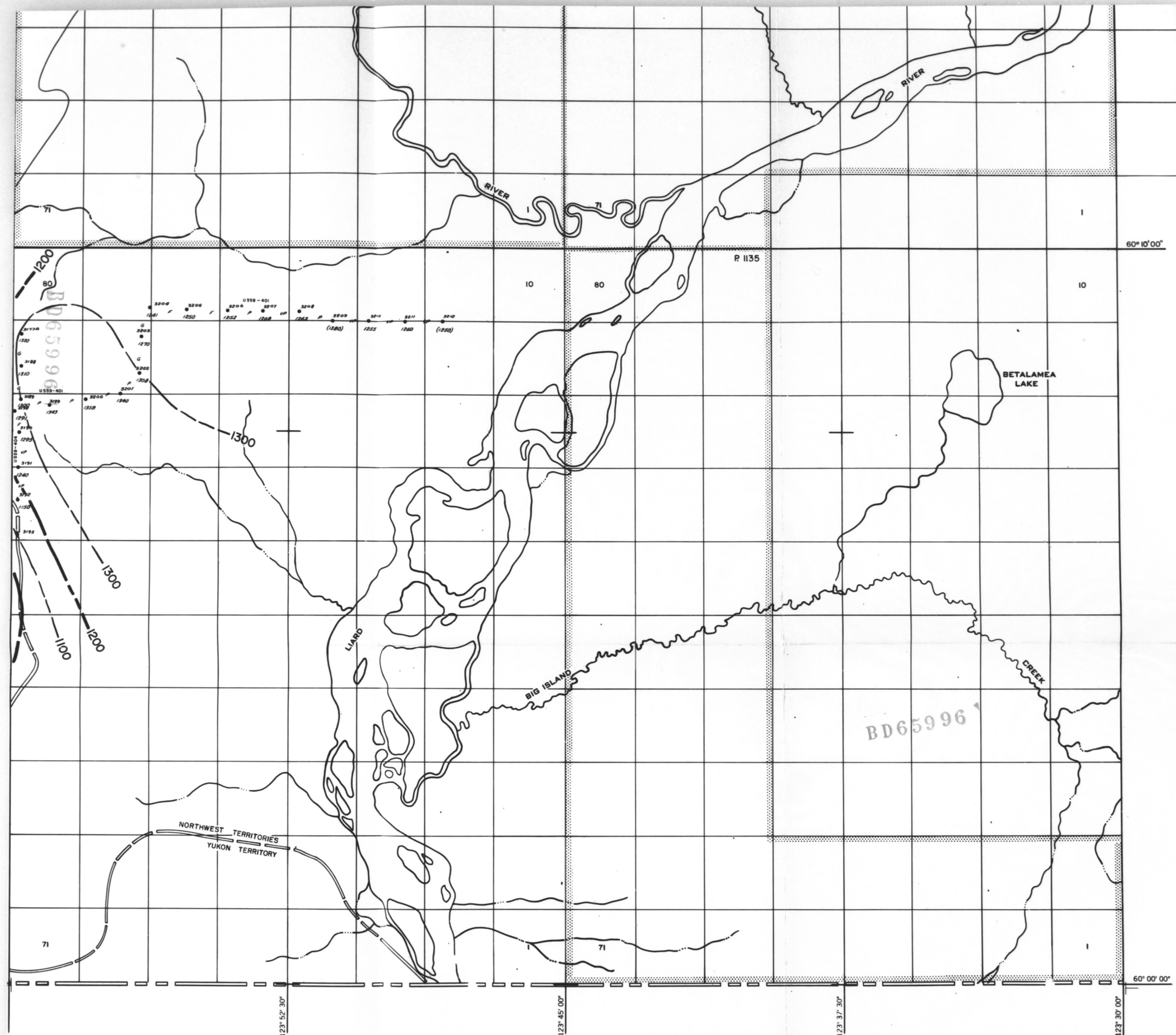
Other maps prepared this report: _____

This map checked by: _____ Pan Am Geophysical/Geologist

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VELOCITY PLAT AND EFFECT OF REF. PLANE AND/OR VELOCITY ON TIME MAP

LEGEND:
• Geophysical Survey
• C.V.L.
• Synthetic Memory
• Contoured Memory



MAP EVALUATION
Qualification considers type of map or play, amount of relief considered critical, quality of data and density of control, (geophysical or geological).
Geological data
Reliable Geophysical Data
Qualitatively Reliable Geophysical data
Unreliable Geophysical Data

POOR TO FAIR

SHOOTING HISTORY (Not in detail)				
INCL. DATES	SHOT BY	SHOT FOR	S.P. AND/OR LINE No's	FINAL REPORT No.
JUL-AUG 1959	USC 144	PAN AM	SP 43, 45, 46	INC-60-5
JUL-OCT 1962	WSC 163	PAN AM	LINES 163-1, 2, 3, 4, 5, 6	C-14-5
JUL-AUG, SEPT, 1964	U. 559	PAN AM	40-49	C-15-54
OCT-NOV 1964	U. 559	PAN AM	LINES 40, 44	C-16-65

INTERPRETIVE HISTORY				
DATE	INTERP.	CO AFFIL.	APPROX. LOC. ON MAP	
APRIL 27 1960	J. R. CAMERON	PAN AM	SP 43	
NOV. 27, 1962	S. T. BURKE	PAN AM	NORTH HALF	
NOV. 16, 1964	S. J. CROSS	PAN AM	NORTH HALF	
FEB. 15, 1965	J. H. HARDING	PAN AM	S.W. 1/4	

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Map prepared this report: ☐ DIV ☐ GEO

This map checked by: ☐ Pan Am Geophysical/Geologist

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VELOCITY PLAT AND EFFECT OF REF. PLANE AND/OR VELOCITY ON TIME MAP

SEE CH-17/SE FOR VEL. CONTROL

FLAT PLANE 1500

LEGEND:
 ○ Conventional Survey
 ● C.V.L.
 ⊙ Synthetic Repeat
 ⊙ Computed Velocity

PAN AMERICAN PETROLEUM CORPORATION
CANADIAN DIVISION

AREA: Fisherman Lake GRID: CM-18/SW
 PROVINCE: Yukon and NWT SCALE: 1" = 4000'
 HORIZON: CARBONIFEROUS SAND
 TYPE OF MAP: STRUCTURE CONTOUR INT. 100ms
 SHOT BY: FOR:
 INCL. DATES: CO AFFIL.:
 INTERP. BY: DATE:
 REPORT No. DATE:
 REMARKS:
 BD65996
 GEOLOGICAL INT: DATE
 FROM GEOPH. REPORT No(s) DATED
 REMARKS:
 CLASS 1