GEOPHYSICAL REPORT ON SEISMIC TRADE DATA IN THE PEEL RIVER AREA, YUKON-N.W.T. TO THE GOVERNMENT OF CANADA

Shell Canada Limited
Northern Division Exploration
Edmonton, Alberta, April 1970

37-6-6-97

GEOPHYSICAL REPORT ON SEISMIC TRADE DATA IN THE PEEL RIVER AREA, YUKON-N.W.T. TO THE GOVERNMENT OF CANADA

To Accompany Statement of Expenditures
for Work Conducted During
January 1, 1968 to June 30, 1968

SHELL CANADA LIMITED
NORTHERN DIVISION EXPLORATION
EDMONTON, ALBERTA, APRIL 1970

CONTENTS

I INTRODUCTION

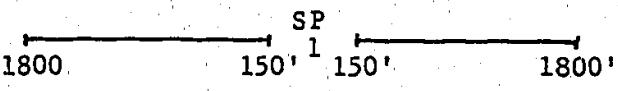
This report is submitted in compliance with the Canada Oil and Gas Regulations on our Permits 3606, 3607, 3608 and 3615 of Group No. 181 in the Peel River Area of the Northwest Territories between 66°30' and 66°50' North latitude and 133°15' and 134°45' West longitude.

II HISTORY OF PERMIT

Shell Canada obtained permits in Group 181 on October 10, 1963 for Work Bonus commitments. Approval for off-permit expenditures was received by letter dated May 3, 1968.

III STATISTICAL DATA OF TRADE LINES

Two hundred and fifty five miles of single coverage of seismic data were obtained in trade from Imperial Oil Enterprises in fall of 1967. It was recorded by Imperial between February and April 1965 using the following field parameters:

Stations:	24 geophones at 150' interval
Geophones:	16 at 18' interval
Spread:	
Shotpoints:	1800' interval
Charges:	three hole pattern in line, 100' long 3 x 5 lbs to 3 x 20 lbs
Depth:	30' to 45' top

IV SHELL OFFICE PROCEDURE

The Imperial FM field tapes were digitized and processed digitally using Shell's own processing facilities. A special computer program was used to derive static corrections for a datum of 400' above sea level,

with a correction velocity of 10,000 ft/sec. Dynamic corrections were derived from NMO studies on monitor records and sonic logs of nearby wells.

The total corrections were applied to the digitized field data and VAR-sections were then produced through Shell's playout facilities. These sections formed the base of our interpretation.

V INTERPRETATION

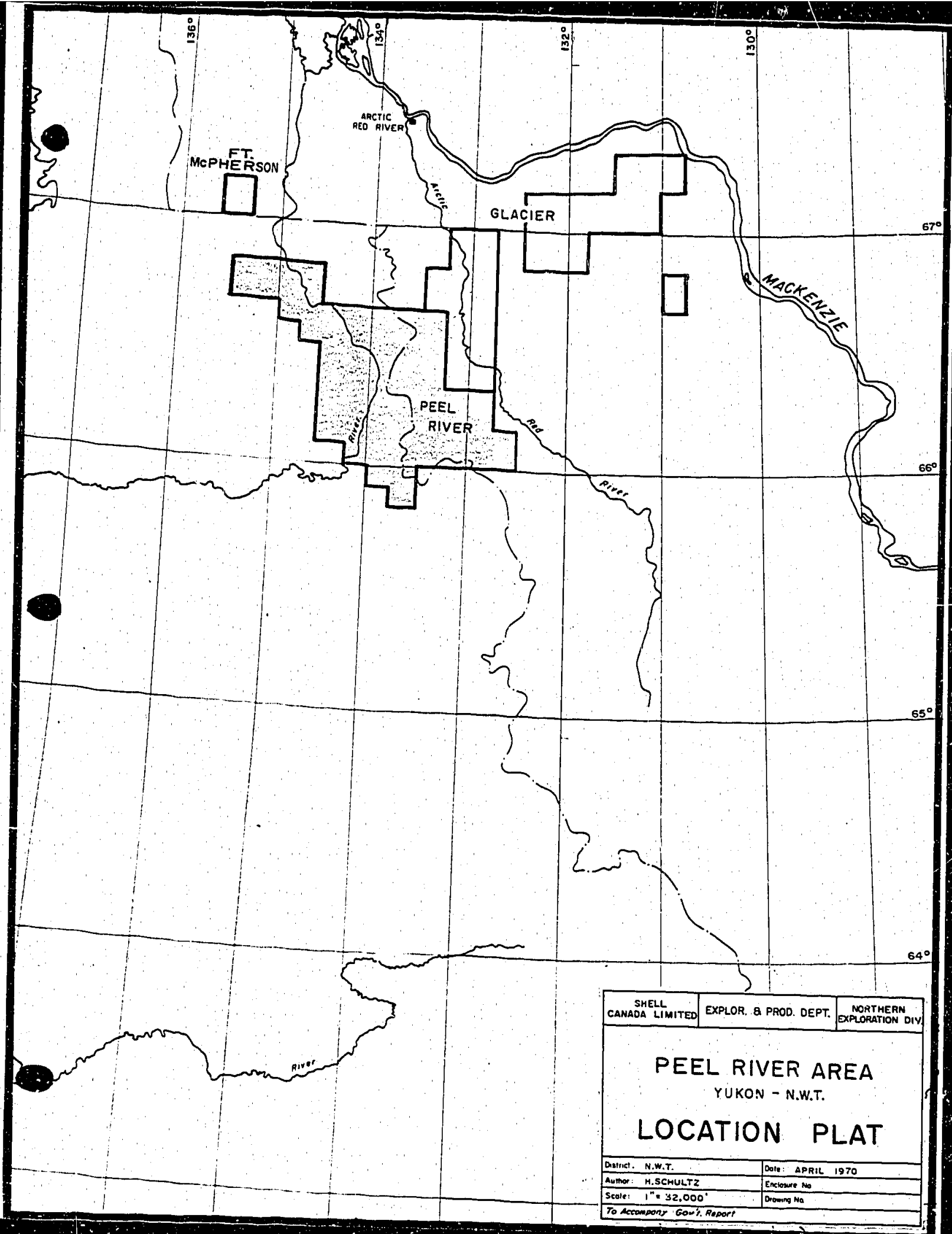
The record quality may be considered as fair to good.

Maps submitted with this report include:

1) Surface Elevation
2) Hume Time Structure
3) Cambrian Time Structure
4) Hume-Cambrian Isotime

The general strike of the Hume and Cambrian events is in a N-S direction, in the southern part of the area a strike of NW-SE is noticable.

A Hume time of 1.0 sec. corresponds to a depth of -5300 (below sea level), and a Cambrian time of 1.8 sec. to a depth of about -14,000 feet (below sea level). The Hume-Cambrian isotime map shows a gentle thickening of this interval in a westerly direction.



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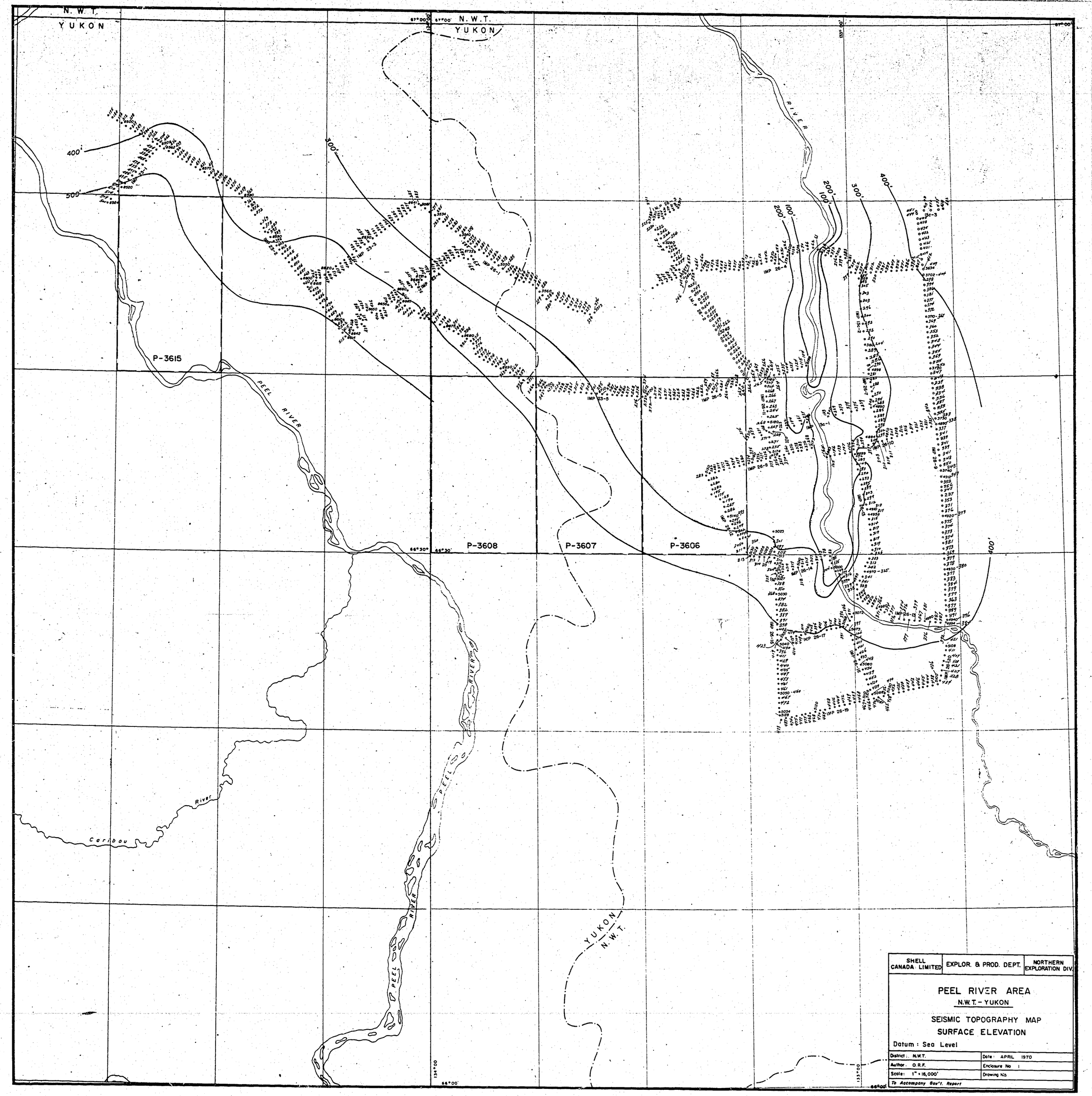
PEEL RIVER AREA

YUKON - N.W.T.

LOCATION PLAT

District: N.W.T.	Date: APRIL 1970
Author: H.SCHULTZ	Enclosure No.
Scale: 1" = 32,000'	Drawing No.
To Accompany Gov't. Report	

Prepared by Northern Division Exploration - Northwest Territories District under the supervision of R.S. Mahannah, Manager, Northern Division Exploration, Shell Canada Limited, April, 1970



N.W.T.
YUKON

67°00'

N.W.T.
YUKON

135°00'

1300
1200
1100
1000
900
800
700

P-3615

PEEL RIVER

66°30'

P-3608

P-3607

P-3606

RIVER

Caribou River

PEEL RIVER

YUKON
N.W.T.

133°00'

66°00'

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PEEL RIVER AREA

N.W.T. – YUKON

SEISMIC TIME STRUCTURE MAP

HUME

Contour Interval : .100 sec. Datum +400'

District . N.W.T.	Date : APRIL 1970
Author . O.R.F.	Enclosure No. 2
Scale: 1" = 16,000'	Drawing No.
To Accompany Gov't Report	

N.W.T.
YUKON

67° 00'

N.W.T.
YUKON

133° 00'

67° 00'

1.900

2.000

1.800

1.700

1.600

1.500

1.400

1.300

P-3615

P-3608

P-3607

P-3606

PEEL RIVER

66° 30'

66° 30'

Caribou River

PEEL RIVER

YUKON
N.W.T.

133° 00'

66° 00'

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PEEL RIVER AREA

N.W.T. - YUKON

SEISMIC TIME STRUCTURE MAP

CAMBRIAN

Contour Interval : .100 sec. Datum : +400'

District N.W.T.	Date APRIL, 1970
Author O.R.F.	Enclosure No 3
Scale 1" = 16,000'	Drawing No A-71
To Acc. Gov't Report	

N.W.T.
YUKON

67°00'

135°00'

N.W.T.
YUKON

P-3615

P-3608

P-3607

P-3606

PEEL RIVER

Caribou River

66°30'

YUKON
N.W.T.

66°00'

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PEEL RIVER AREA

N.W.T. - YUKON

SEISMIC ISOTIME MAP
HUME - CAMBRIAN

District N.W.T.	Date APRIL 1970
Author O.R.F.	Enclosure No 4
Scale 1" = 16,000'	Drawing No A-71
To Acc. Gov't. Report	

24x