



WESTERN DECALTA PETROLEUM LIMITED

Report on a Seismic Survey

of the

GRANDVIEW HILLS AREA

N.W.T. PERMITS:

4295-4300 incl., 4782-4787 incl.,
4814-4817 incl., 4834, 5553-5560 incl.

OPERATOR - WESTERN DECALTA PETROLEUM LIMITED

CONTRACTOR - NORTHERN GEOPHYSICAL LTD.

D.I.A.N.D. PROJECT NUMBER - 19-6-6-72-1

Submitted by John Lachance

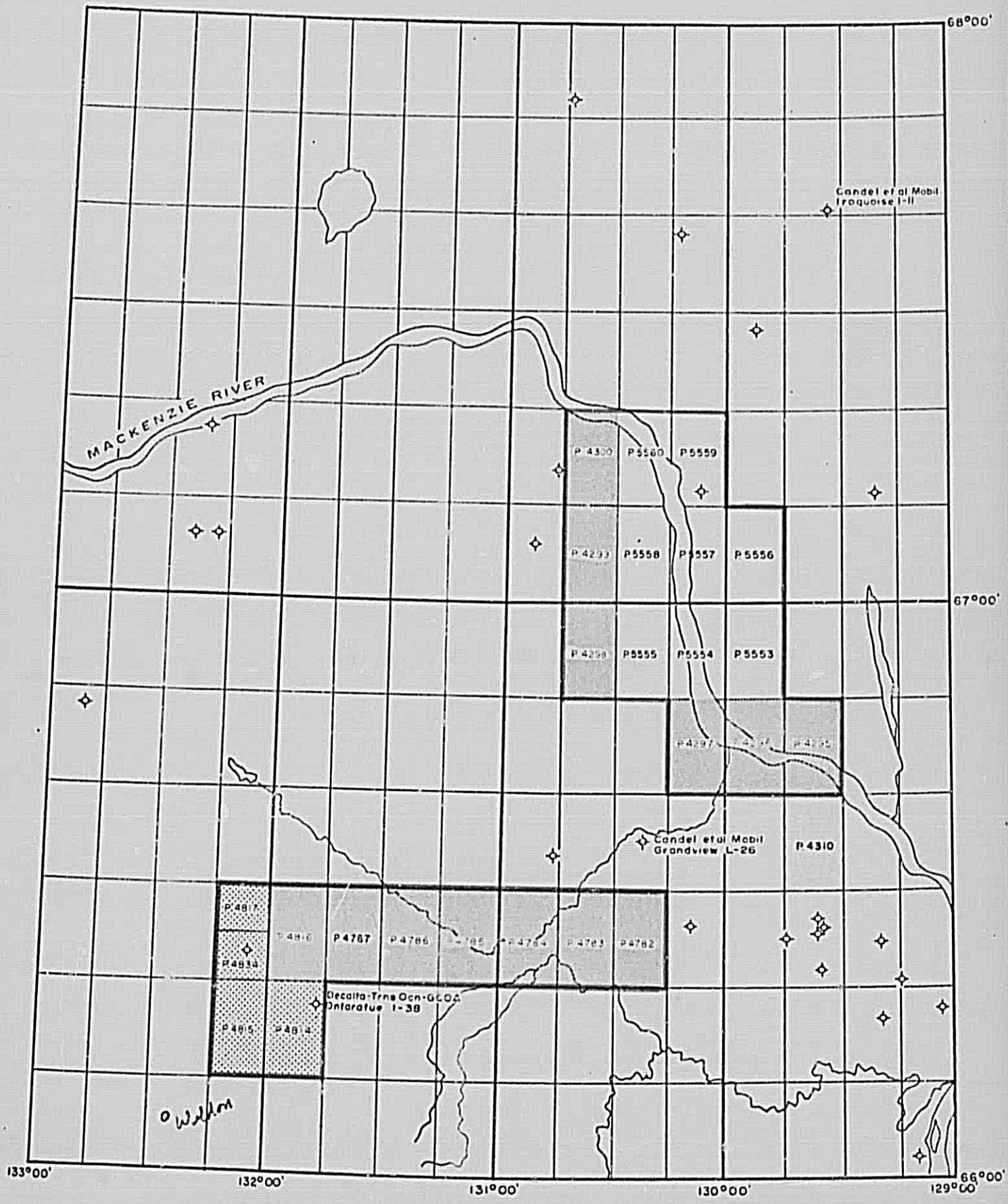
Date Mar 9/73

CONTENTS

| | |
|--------------------|---|
| Location | 2 |
| Program | 2 |
| Party Composition | 3 |
| Equipment | 4 |
| Chronology | 6 |
| Working Conditions | 6 |
| Statistics | 7 |
| Data Processing | 9 |
| Results | 9 |

Enclosures: Reflection Time Maps Middle Devonian Hume
Formation.

106INW, 106JNE, 106JSE, 106JSW, 106KSE,
106OSE, and 106PSW.



PROJECT AREA 19-6-6-72-1

Northern Geophysical Ltd., Party N-3, on behalf of Western Decalta Petroleum Ltd., carried out a seismic survey by Reflection Method in the Fort Good Hope and Little Chicago Area.

The seismic line cutting was sub-contracted to Bruce Rome Construction Ltd.

Shot hole drilling was by Northern Geophysical Ltd., along with sub-contracting to Seisform Drilling.

The seismic camp catering was by Northern Geophysical Ltd.

Surveying was contracted to Felix Survey Ltd.

The seismic survey was performed between January 8th and April 12, 1972.

The party was managed by R. Scott and supervised by A. Dietz.

GENERAL INFORMATION

1.1 Project Location

The program was located between $66^{\circ}10'$ and $67^{\circ}10'$ north, and between $129^{\circ}25'$ and $132^{\circ}30'$ west in the Fort Good Hope and Little Chicago Area.

1.2 Seismic Program

This reconnaissance program was conducted on almost all new cut line, on both sides of the MacKenzie River. Total mileage shot was 343 miles. The Little Chicago Area was quite rolling with creeks and some light timber stand on the west side. The Fort Good Hope Area west was muskeg and sparsley treed. The program was shot using CDP 300% coverage with a 110 ft. group interval.

PARTY COMPOSITION

BASIC SEISMIC CREW

1 Party Manager
1 Clerk Computer
1 Senior Observer
1 Shooter
8 Recording Helpers
1 Mechanic
1 Mechanic's Helper
2 Surveyors
2 Rodmen

BULLDOZING

6 Operators
1 Cat Foreman

CATERING

1 Cook
1 Cook's Helper
1 Camp Attendant

DRILLING

5 Drillers
5 Drill Helpers

FUEL

1 Driver

EQUIPMENT

TECHNICAL - Northern Geophysical Ltd.

1 PT800 - 24 trace digital - binary gain
1 PDR89 tape transport - 9 track - SEG (A) format
Remote firing units
120 strings - Mark L-2 (14 Hz) geophones
15 portable cables and reels - 110 ft. station interval

VEHICLES - Northern Geophysical Ltd.

1 Recording Unit - Nodwell RN110
1 Shooting Unit - Bombardier
1 Cable Unit - Nodwell RN110
1 Cable Unit - Bombardier
1 Survey Unit - 4 x 4 Ford truck
1 Survey Unit - Bombardier
1 Party Manager Unit - 4 x 4 Ford truck
1 Shift Change Unit - Bombardier
1 Utility Unit - Nodwell RN110

DRILLING

2 Northern-Air-Water - Mayhew 1000
2 Seisform-Air-Water - Mayhew 1000
1 Northern-Carey Top Drive
All above units mounted on Nodwell RN110

DOZING - Rome Construction

3 Wide Pad D6C Caterpillar Dozers
Two unit sleigh camp with cats

AIRCRAFT - Northward Aviation

1 Twin Otter on charter based at Norman Wells

EXPEDITING - Northern Geophysical Ltd.

Trailer in Norman Wells with Single Side Band communications to crew. One truck and man in Norman Wells at trailer full time.

CAMP - Northern Geophysical Ltd.

- 1 Kitchen Fold-out - Mounted on Nodwell RN110
- 1 Utility Fold-out - Mounted on Nodwell RN110
- 1 Office Fold-out - Sleigh mounted
- 2 Sleepers - Sleigh mounted
- 1 Sleeper Fold-out - Sleigh mounted
- 1 Shop Power Plant - Sleigh mounted

MISCELLANEOUS - Northern Geophysical Ltd.

- 1 Explosive Storage Magazine
- 2 Cap Storage Magazines
- 1 Kenworth Fuel Truck with 3000 gallon tank
- 2 - 2500 gallon bladders
- 1 - 2000 gallon fuel sleigh

2.1 Chronology

Bruce Rome Construction moved to Little Chicago prospect starting January 12th, 1972 and finished this project on March 3rd, 1972.

Northern Geophysical Ltd. moved to Little Chicago prospect starting January 18th, 1972 and finished on March 5th, 1972.

Above cats started Grandview Hills Area on March 4th, 1972.

Northern Geophysical commenced on Grandview Hills Area on March 5th, 1972 and finished on April 10th, 1972.

All equipment was moved out to the mouth of the Ontario River and stacked along MacKenzie River for the summer.

2.2 Working Conditions

Location

a) Camp Site

b) Communications & Supply

By bush road from Norman Wells

PWA from Calgary and Edmonton

Northward Aviation - Twin Otter - Norman Wells

Radio - SSB from Norman Wells to camp

2.3 Statistics - Conclusion

Local supply was limited to fuel at Norman Wells arranged for, prior to commencement. All other supplies including food, parts and personnel were either trucked or flown via PWA from Calgary and Edmonton. Some difficulty in air freight was experienced due to excessive demand on PWA. Northern Geophysical also used a truck to haul from Calgary and Edmonton on supplies that were not in immediate need.

Fuel hauling via a fuel truck under contract (J.A. Campbell) was used to transport fuel from Norman Wells to the crew. Difficulty in keeping roads open due to drifting was encountered in January and February.

Expendable supplies such as bits and explosives could be purchased at Norman Wells from suppliers such as Walker-McDonald and Explosives Limited.

Little difficulty with timber was experienced, but numerous lakes and muskegs presented some problem (detours and snow fills).

The drilling in the Little Chicago area was not good, clay with quite a lot of loose rock, some gravel. The Grandview Hills area drilling would have to be rated reasonably good. Air drilling was used most of the time with some water conventional drilling with water. Little success was done with the auger drill.

Recorders could shoot whatever the drills could drill most times. Some difficulty encountered with lakes with drag outs and planting of geophones across them. Refracting across lakes from both sides helped multiplicity in a lot of cases. Some rabbit nuisance with cables and geophones was experienced but not a real serious problem.

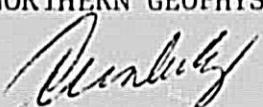
Survey control was brought from MacKenzie River via tellurometer for both vertical and horizontal. Two crews were used at all times to maintain the survey.

Catering was handled by Northern Geophysical.

Working conditions for this type of operation in this area would have to be considered reasonable, considering the nature of the program.

This report respectfully submitted by:

NORTHERN GEOPHYSICAL LTD.


A. W. Dietz

Supervisor

DATA PROCESSING -

Structure sections to datum 500' ASL.

Replacement velocity 10,000'/sec.

Bandpass filter 18-23/70-75

Time domain deconvolution 52 ms operator

length window 0.150-1.150 whitening factor 130%.

300% stack.

RESULTS -

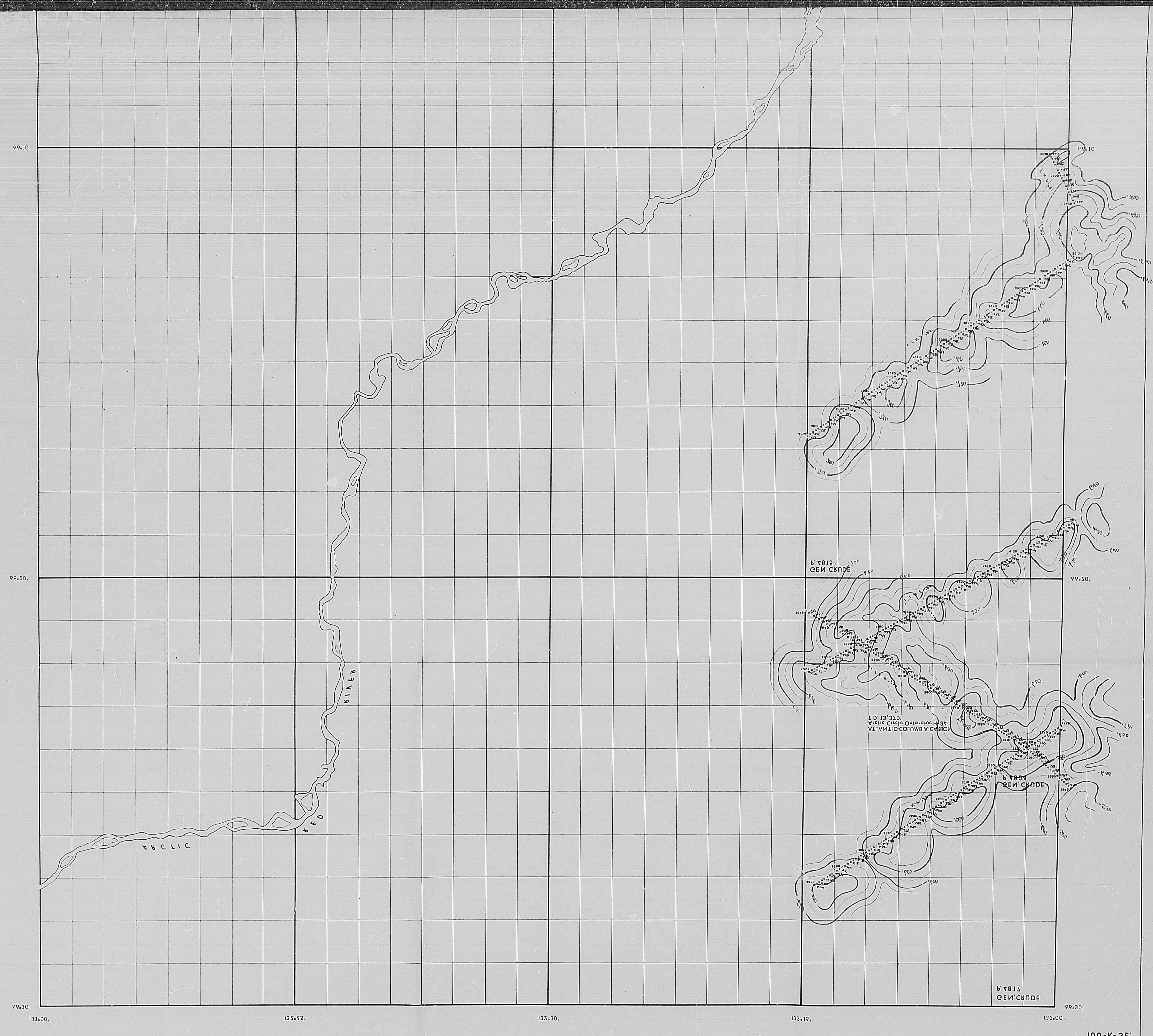
Data were generally very good and time structure maps were drawn on the Middle Devonian Hume Formation.

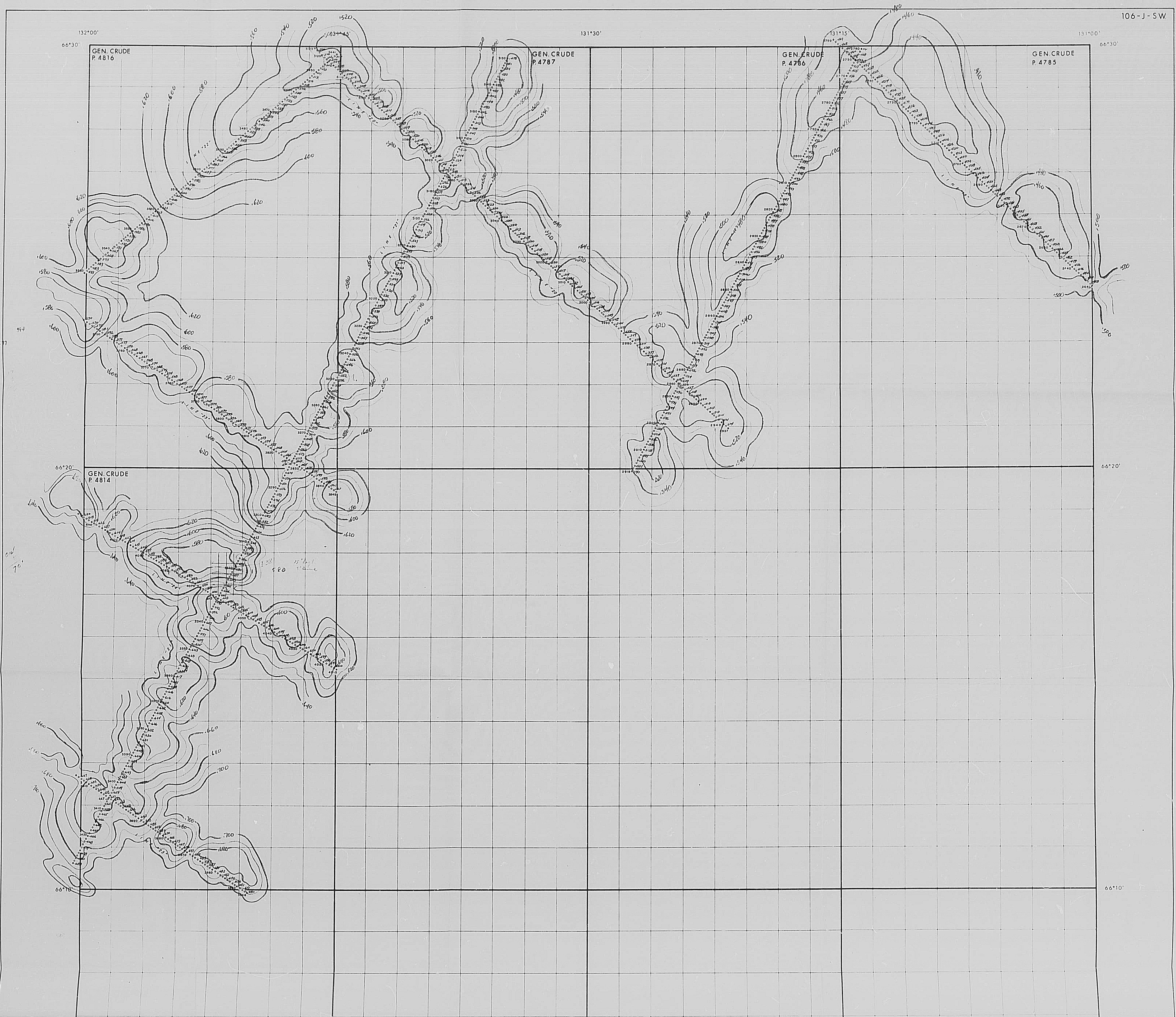
WESTERN DECALTA PETROLEUM LIMITED

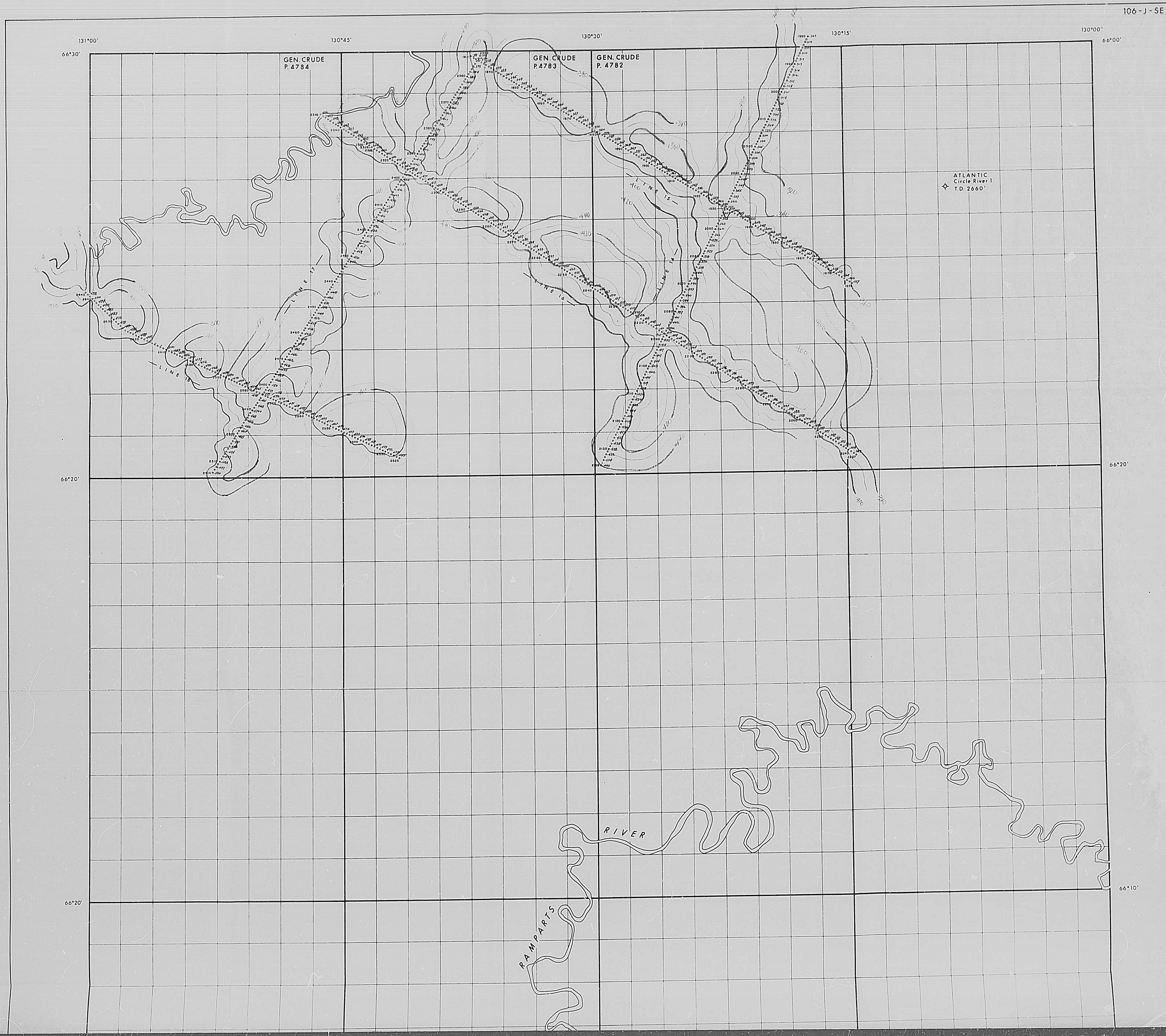
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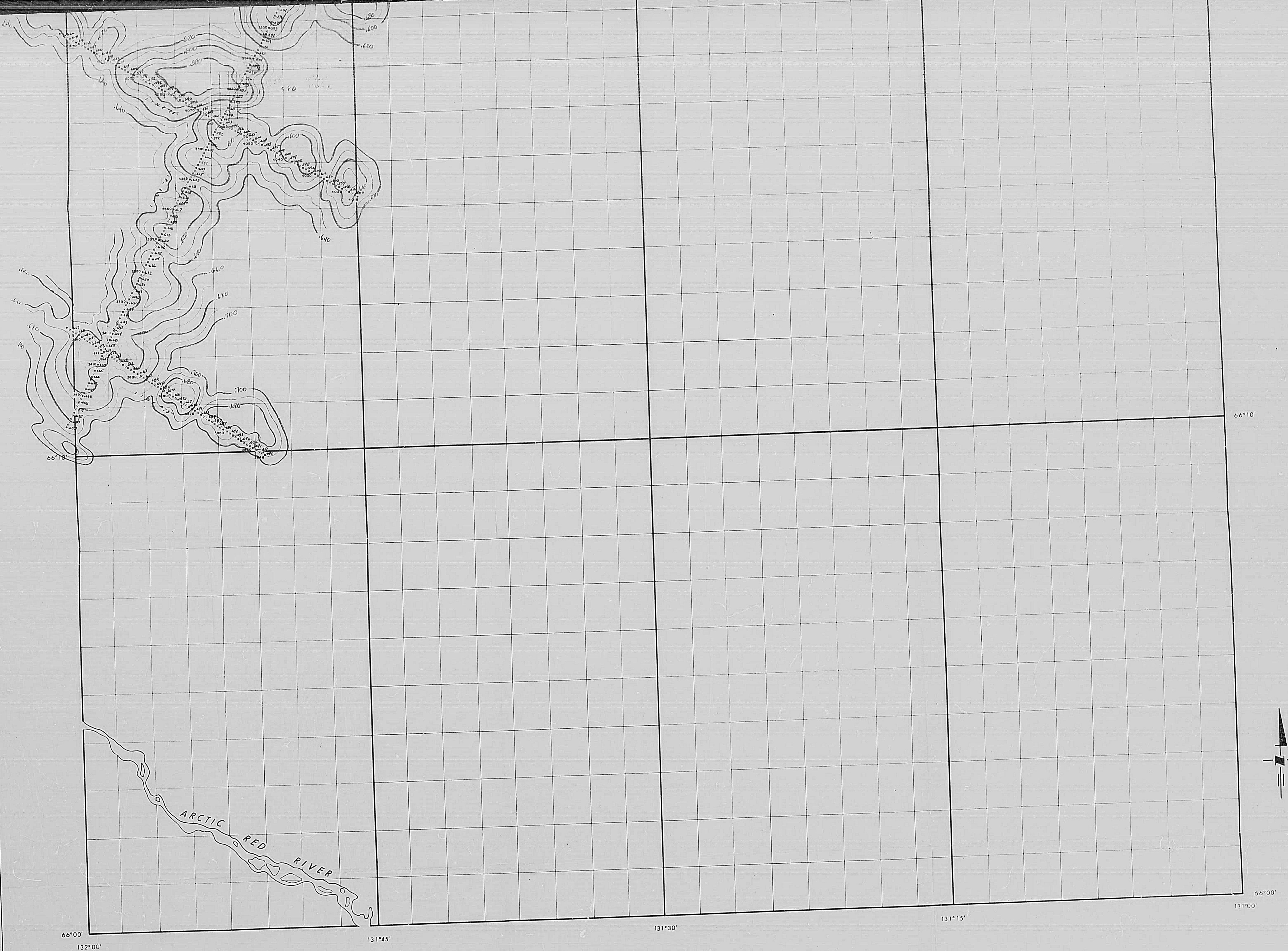




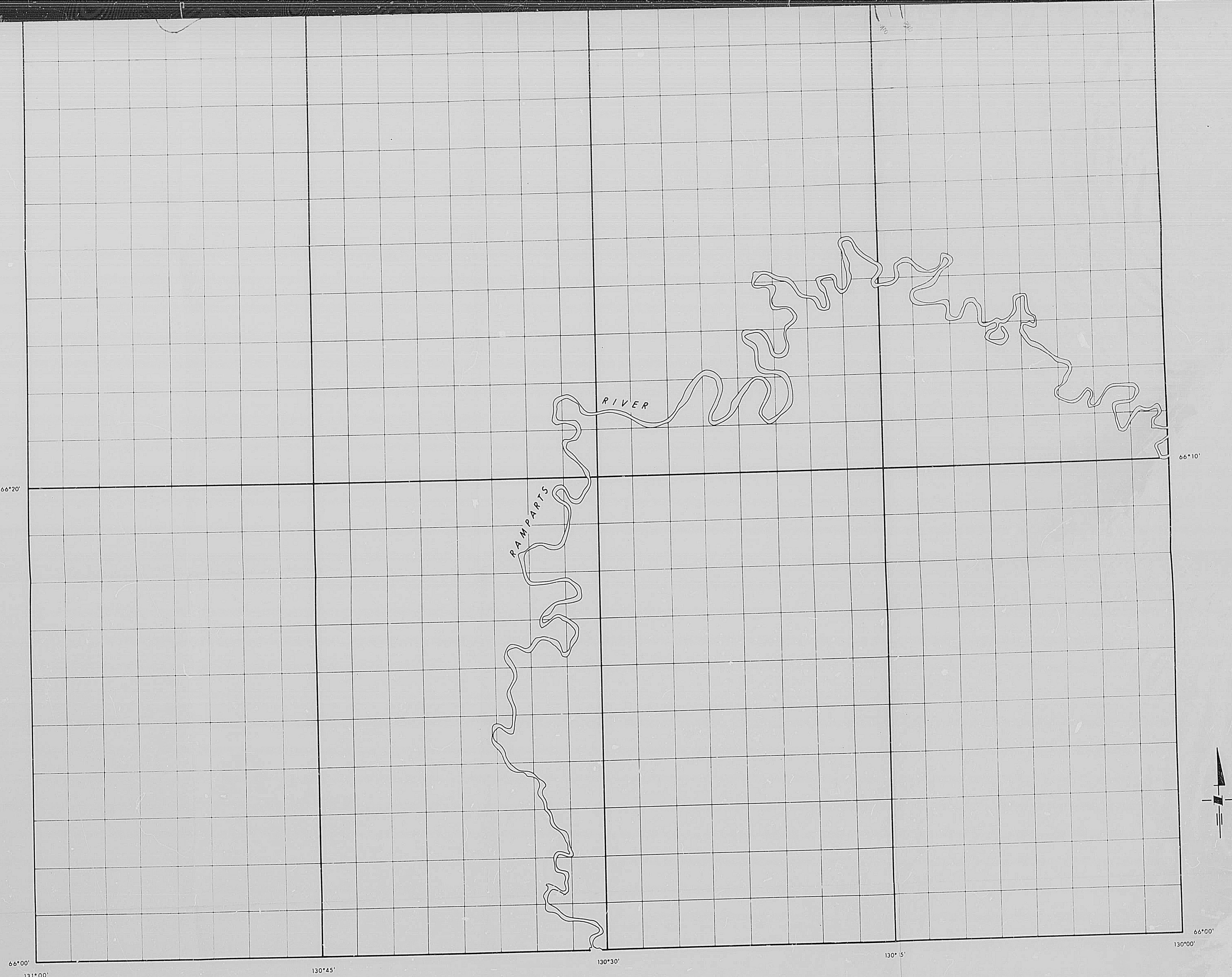




| REVISIONS BY | | WESTERN DECALTA PETROLEUM LIMITED CALGARY, ALBERTA | |
|----------------------------------------------------|------|-------------------------------------------------------|--|
| | | 106-K-SE. | |
| Reflection Time - Middle Devonian - Name Fm | | | |
| C.I. .010 sec. Depth +5000 ft. Rep. Vel 10,000/sec | | | |
| DRAWN BY | DATE | INTERPRETATION BY A. B. MOTALA | |
| CHECKED BY | DATE | DATE JUNE, 1972 | |
| SCALE 1:1:1:1 | | File No. | |

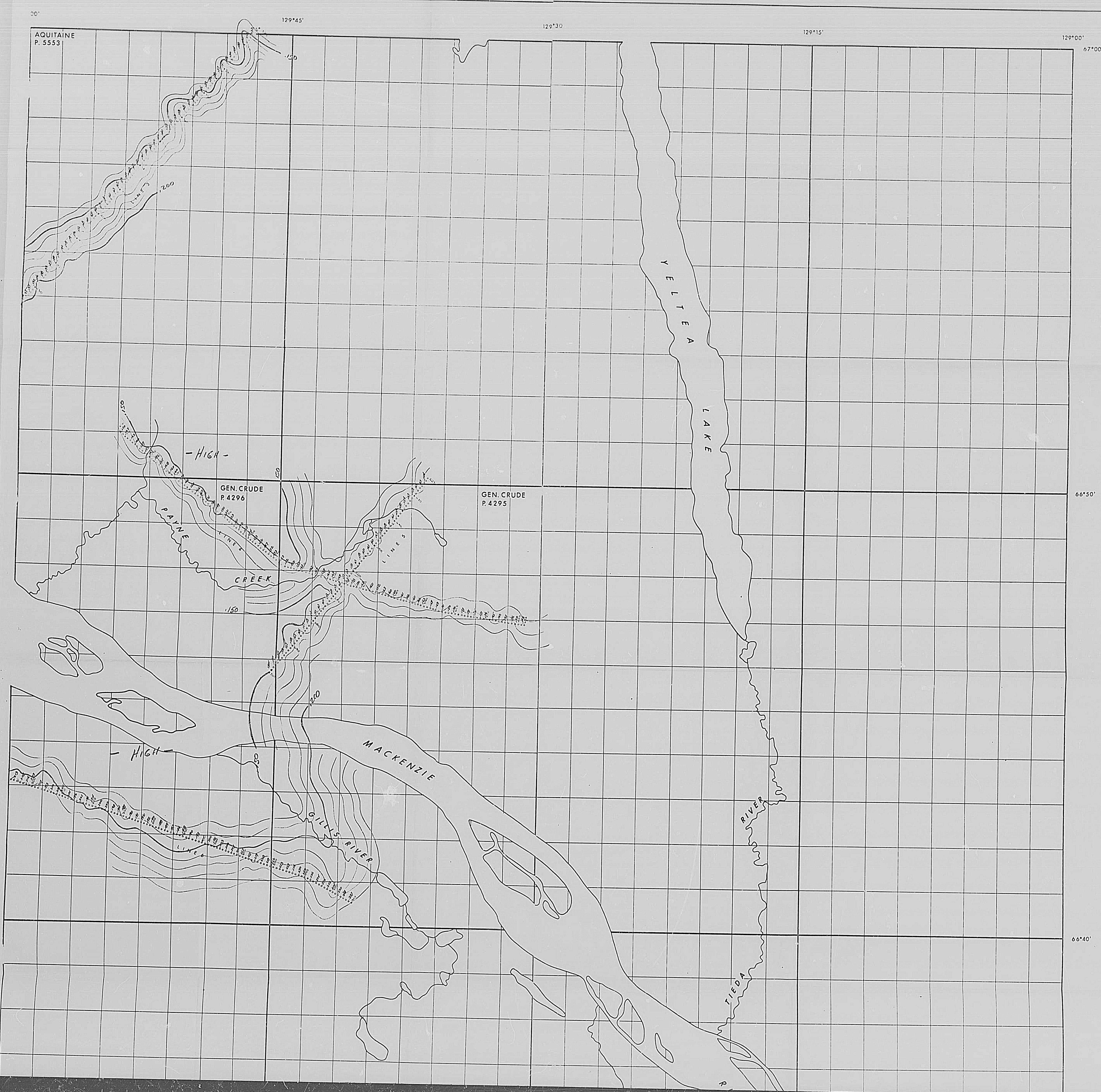


| REVISIONS | | WESTERN DECALTA PETROLEUM LIMITED | |
|------------------------------------------------------------------|-----------|-----------------------------------|--|
| BY | DATE | CALGARY, ALBERTA | |
| 106-J-SW. | | | |
| Reflection Time - Middle Devonian - Home Fm | | | |
| C.I. 010570 Datum 7500 ft.s.l. Rep. Vel. 10,000 ft/sec | | | |
| BROKEN BY | DATE | INTERPRETATION BY L.H. MOTIVA | |
| CHECKED BY | DATE | JUNE 1972 | |
| SCALE | 1:100,000 | File No. | |

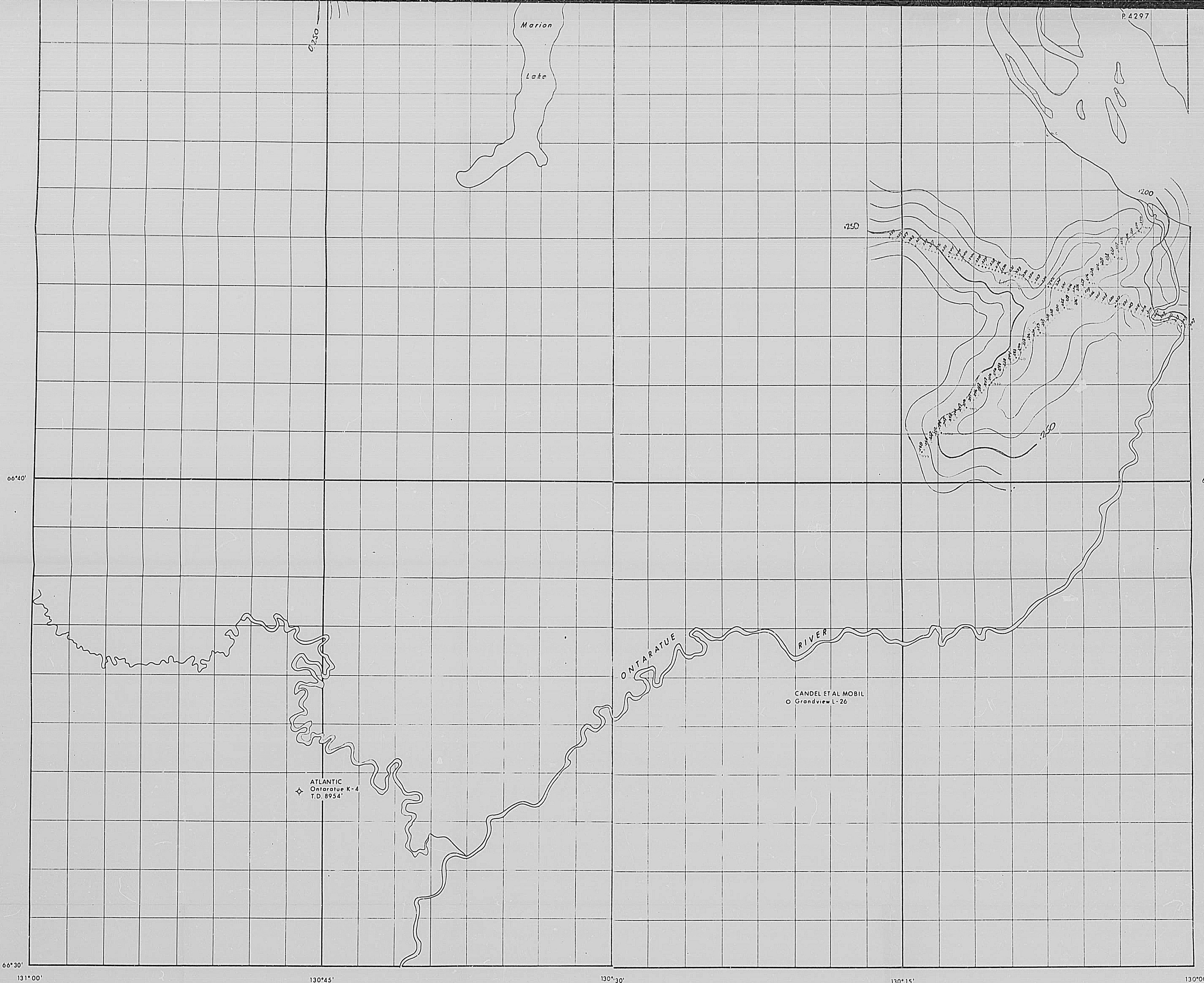


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|-----------------|----------|-------------------------------------------------------|
| REVISIONS BY | DATE | WESTERN DECALTA PETROLEUM LIMITED CALGARY, ALBERTA |
| 106-J-SE. | | Reduction Time - |
| | | Moore Devcam - Hole 106 |
| | | C.I. across Dunes - 10000 ft |
| | | INTERPRETATION BY J. H. MORRIS |
| DRAWN BY | DATE | DATE |
| CHECKED BY | DATE | DATE |
| SCALE | 1:100000 | File No. |





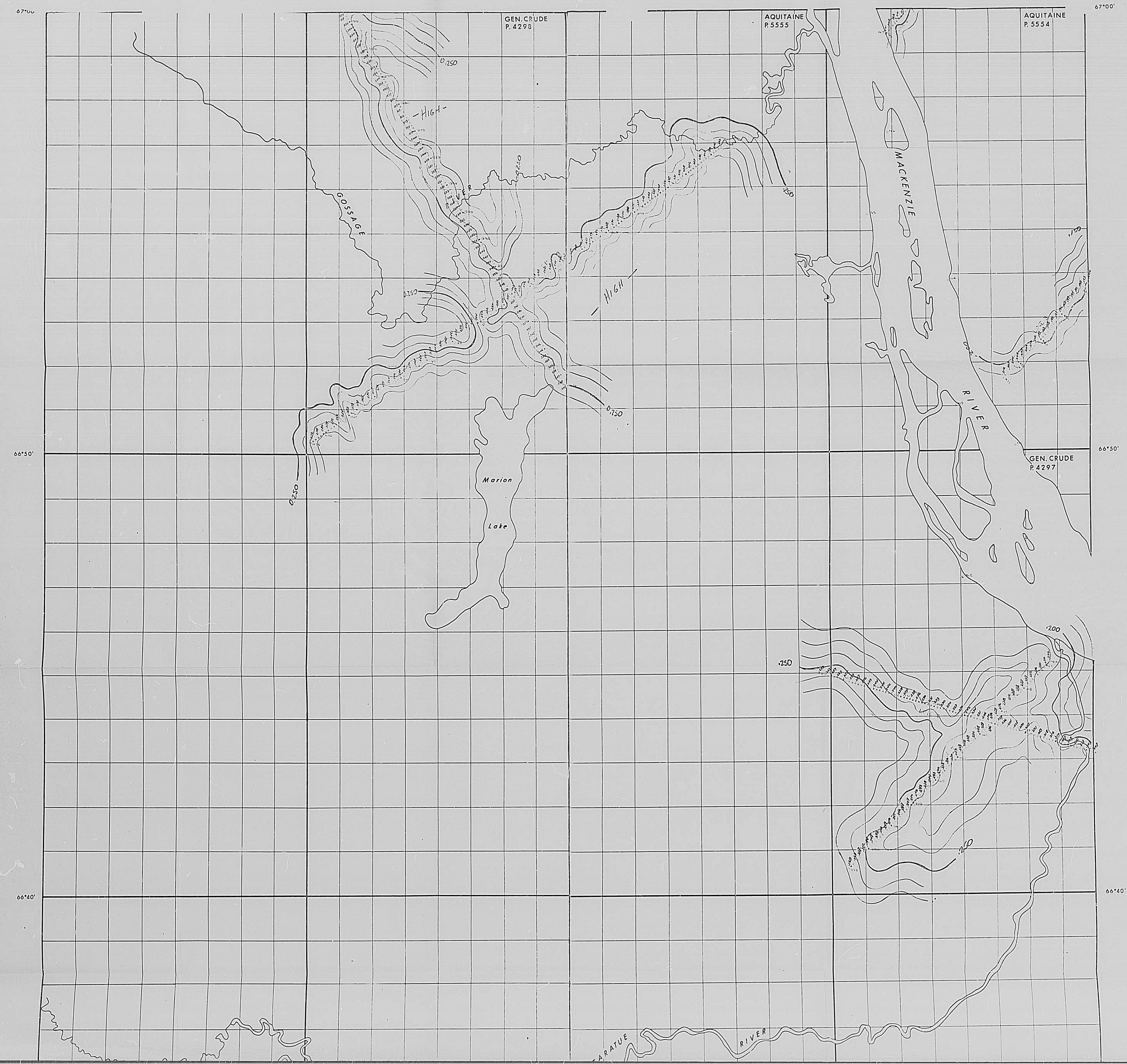


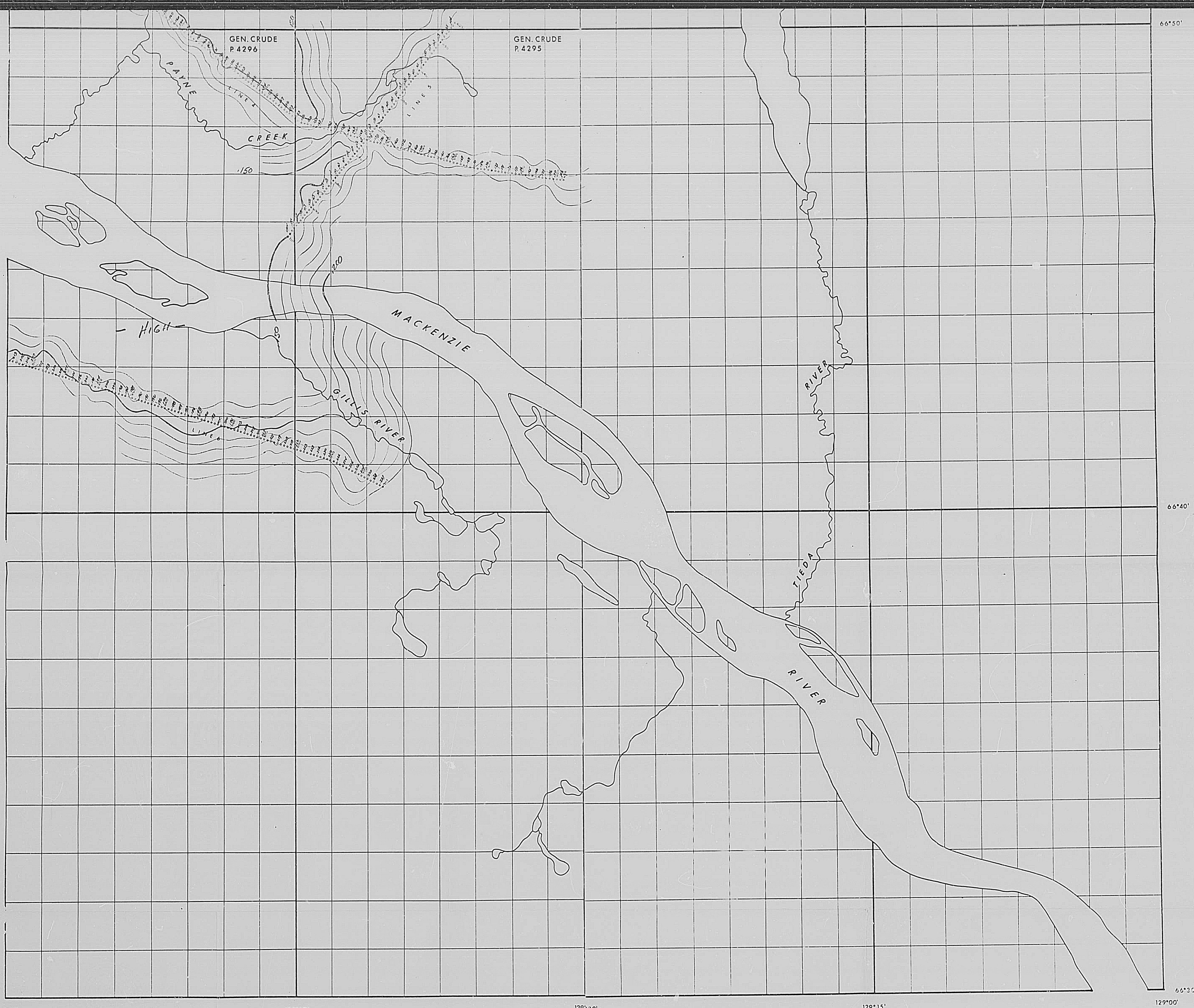


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| DRAWN BY | DATE | INTERPRETED BY | DATE |
| CHECKED BY | DATE | FILE NO. | |
| SCALE | MILE | | |

106 - J - NE

REFLECTION TIME
MIDDLE DEVONIAN HUM FORMATION
C.I. 0.010 SEC. DATUM +500' ASL
REPLACEMENT VELOCITY 10,000'/SEC.
L. A. MOTUK JUNE 1972





*00'

129°45'

129°30'

129°15'

129°00'

66°30'

66°40'

66°50'

REVISIONS

BY

DATE

WESTERN DECALTA PETROLEUM LIMITED
CALGARY, ALBERTA

106-1-NW

REFLECTION TIME
MIDDLE DEVONIAN HUME FORMATION
C.I. 0.010 SEC. DATUM +500' ASL
REPLACEMENT VELOCITY 10,000'/SEC.
L. A. MOTIUK JUNE 1972

| | | | |
|----------|------------|----------|----------------|
| DRAWN BY | CHECKED BY | DATE | INTERPRETED BY |
| SCALD | W.M. | DATE | DATE |
| SCALE | | File No. | |

2 of 2