

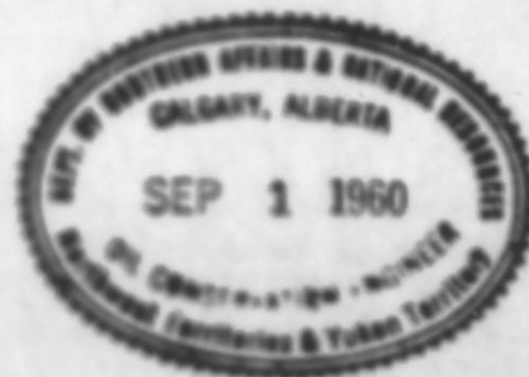
**-TITLE PAGE-**

**Report on Northwest Territories Permits 2472, 2442 to  
2442, 2442, 2442 2442 to 2442**

**Geophysical Survey Conducted by**

**The Imperial owned and operated seismic crew from  
September 1 to September 25, 1959 (Party 56).**

**The Seismic Exploration crew under contract to Imperial  
from January 14 to February 25, 1960 (Party 30).**



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**Report on Northwest Territories Permits 2472, 2842 to  
2848, 2862, 2863, 2923 to 2926**

**Providence Area**

Map References: 85 E, 85 F & 95 H

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| 2. Seismograph Operations - Party 56                            | Page 2 |
| 3. Seismograph Operations - Party 30                            | Page 3 |
| 4. 6 Maps in accompanying envelope:                             |        |
| (a) 3 shot hole locations maps                                  |        |
| (b) 3 contour maps - Middle Devonian Carbonate - <i>Removed</i> |        |



## - PROGRESS REPORT -

### INTRODUCTION

The terrain in the general Ft. Providence area is mainly flat with patches of muskeg and small lakes. Road cuts are quite rough due to large boulders on the surface. The area is covered with scrub brush, Jackpine and Poplar. Heavier timber was encountered as the crews proceeded west in the hills and along the Rabbitskin River.

### SEISMOGRAPH OPERATIONS - PARTY 56

On September 1, 1959, a conventional truck mounted seismic crew owned and operated by Imperial Oil Limited, referred to as Party 56, using standard technique, moved into the general Ft. Providence area.

Shooting commenced along the new highway running northeast from Ft. Providence to Yellowknife. Drilling was rough at the south near the river where boulders and gravel were encountered, changing to boulders and clay with better drilling as the crew moved north. Shale depth varied from 120 feet at the south to as shallow as 25 feet further north.

The weather was predominantly wet during the first week, however the soil did not get too sloppy and soft so as to hamper the crew's operations.

Shooting continued along the highway northeast from Ft. Providence. Drilling was again a problem with hard boulders and gravel being encountered. The rains ended during the second week. Several hours of drilling time was lost winching on and off locations, but it was seldom serious.

Shooting was completed to Mile 31½ on September 18, 1959. Drilling remained much the same except that shale was no longer encountered. Many ditch bridges were required across muskeg areas. A charter trip was made by the ferry September 18 and one drill was moved across the river; the remainder of the vehicles were moved the next day by the scheduled ferry. A boat and motor were rented to move the personnel back and forth across the river between the camp and work site.

Three miles of line were shot from Mile 78½, southward along the highway. Drilling again slowed operations being a bigger problem than on the south side of the river. Locations on much of the line were very wet and soft. A very hard shale was found around 20 feet making drill penetration very slow.

During the last week of operations shooting was completed to Mile 66 on the highway, south of the river. Record quality remained quite good although frequency varied greatly.

Drilling operations were again slowed. Shale was logged at about 20 feet at the north end of the line, coming up to



SEISMOGRAPH OPERATIONS (Cont'd)

12 feet in the middle and was not at all present at the 50 foot depth at the south end of the line. This shale was very hard to drill and was associated with some extremely hard layers above. At the south end on the line boulders and gravel were encountered. To speed up coverage, hole depths were reduced to 40 feet then to 30 feet in the middle of the line as 30 feet seemed optimum shooting depth.

The crew completed their assignment on September 25, 1959 and returned to Dawson Creek, B.C.

SEISMOGRAPH OPERATIONS - PARTY 30

On January 14, 1960 a conventional truck mounted seismic crew, under contract to Imperial Oil Limited, referred to as Party 30, and using standard technique, commenced seismic operations in the area of 61°50' north latitude and 118°00' west longitude.

The terrain was relatively flat and characterized by muskeg and small lakes. Extremely rough drilling was encountered at first because of boulders all the way down to a depth of 50 feet. Shale was later encountered and drilling improved somewhat. No usable records were produced during the week because of instrument breakdowns.

From January 17 to January 23, 1960, the crew worked in Latitude 61°50' and Longitude 118°00' to 118°45'. Drilling remained very hard all week with hard shale and sandstone encountered. Some sand and gravel was found near the surface. Record quality obtained this week was fair to good.

The week of January 24 to January 30, 1960 was extremely cold with recorded temperatures of 60° below zero. In spite of this all equipment continued to operate and there were no serious breakdowns. Water became a problem and long hauls were necessary. Generally the record quality was good all week.

The crew worked in Latitude 61°50' Longitude 119°15' to 120°15' from January 31 to February 6, 1960. Drilling improved considerably and was mostly in clay with very few boulders. Record quality during the week was fair to good with some very poor records being obtained through the low lying areas.

Party 30 worked westward between longitude 120°45' and 121°00' from February 14 to February 20, 1960 and were in the area of Latitude 61°40' and Longitude 120°00' to 120°30' from February 21 to February 25, 1960. The crew completed their assignment on February 25, 1960.

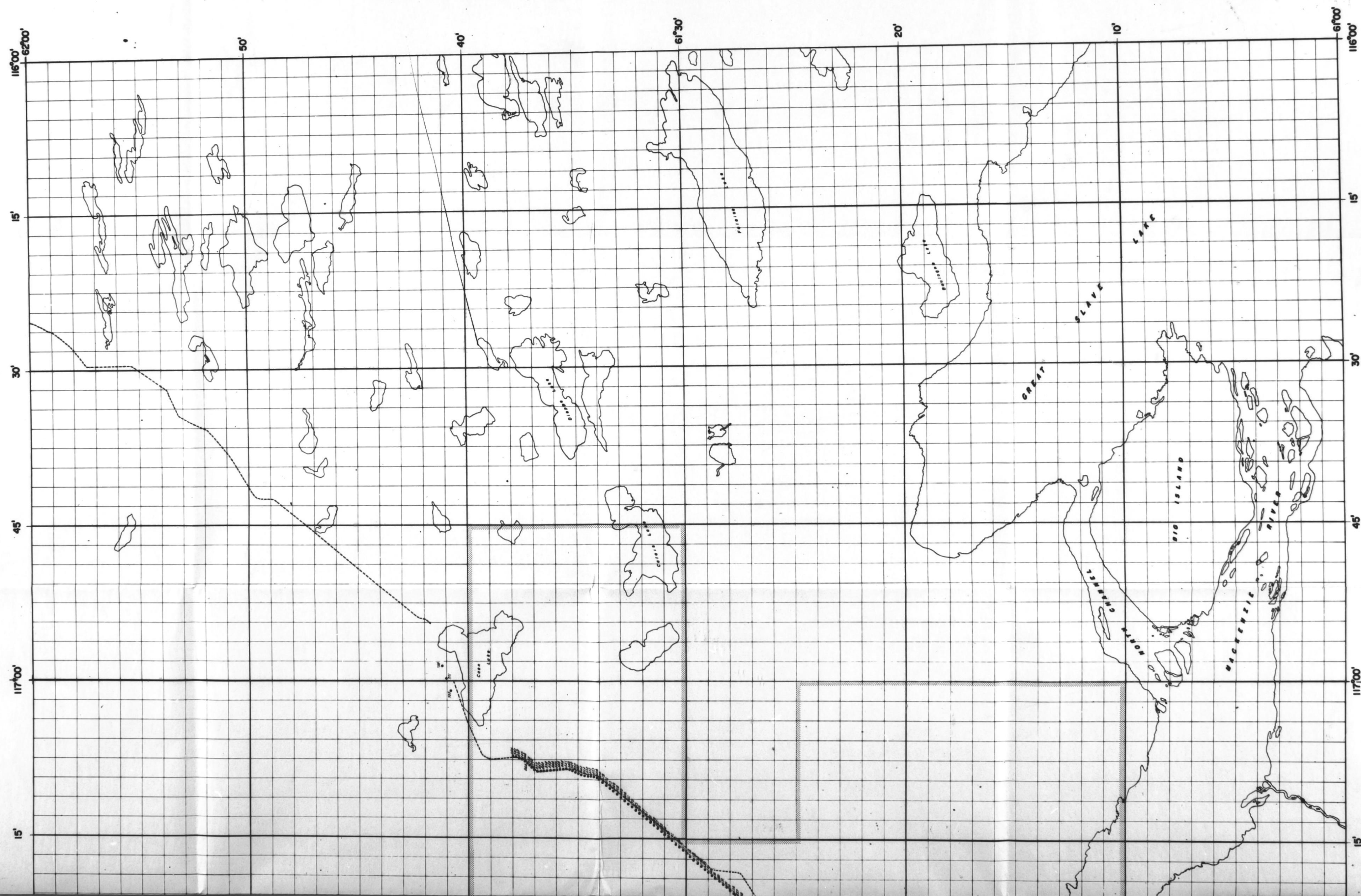
August 16, 1960.

  
G. B. Darling



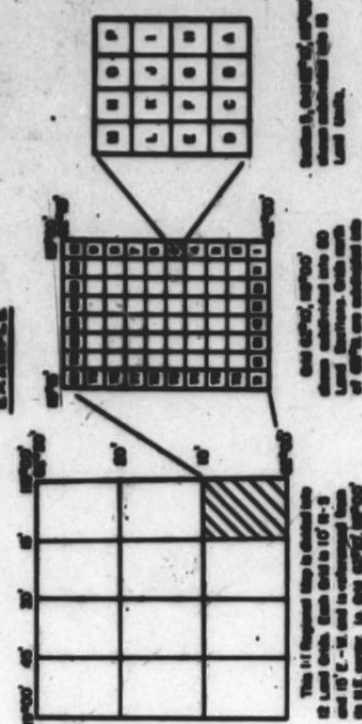




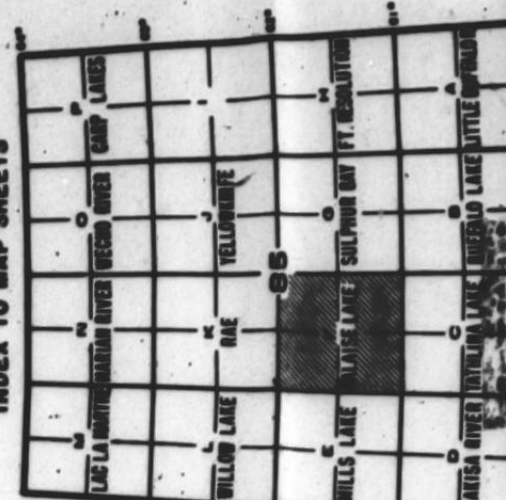


85-F FALAISE L. Seismic SURFACE ELEVATIONS

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INDEX TO MAP SHEETS



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85-F-FALAISE LAKE

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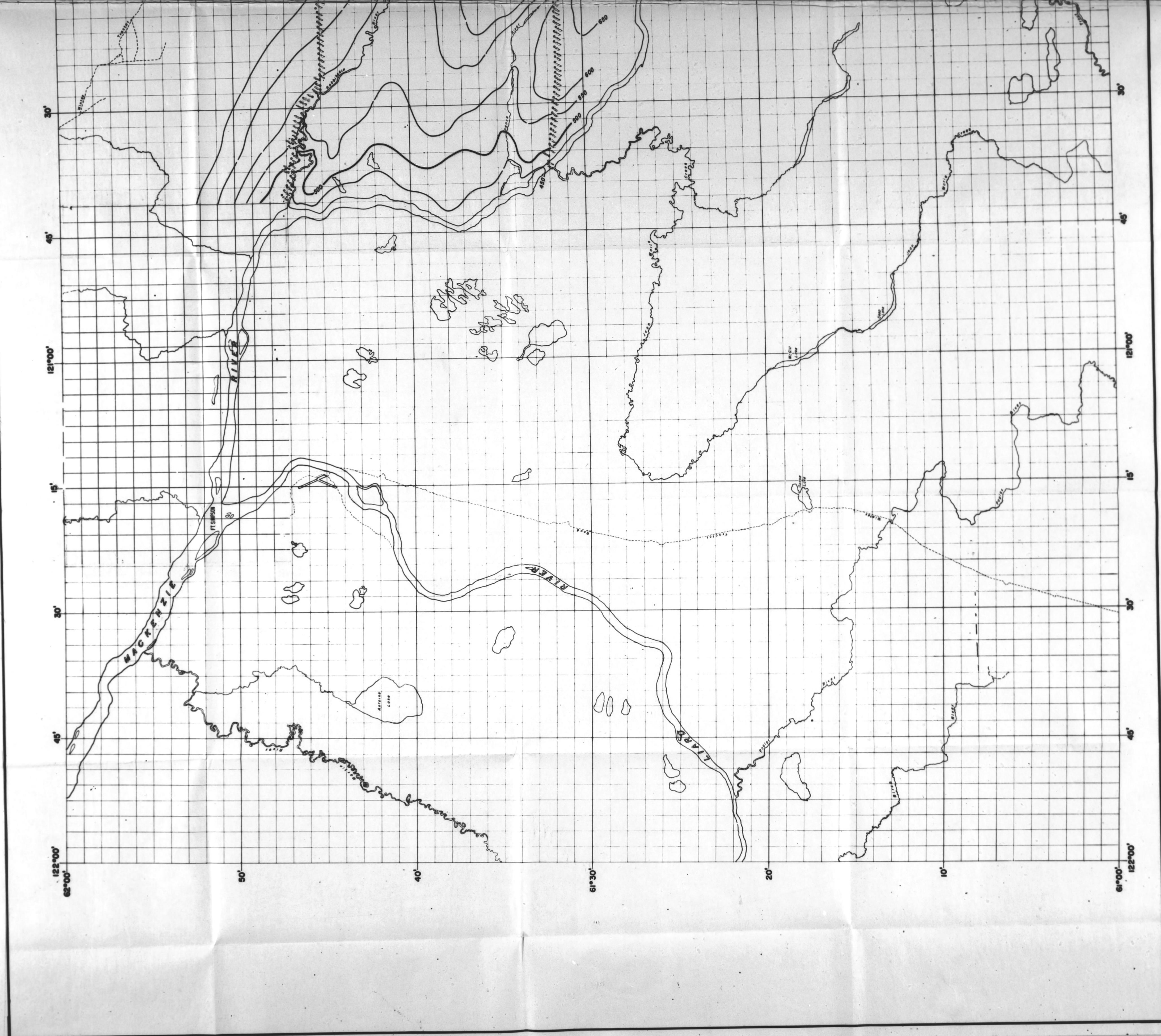
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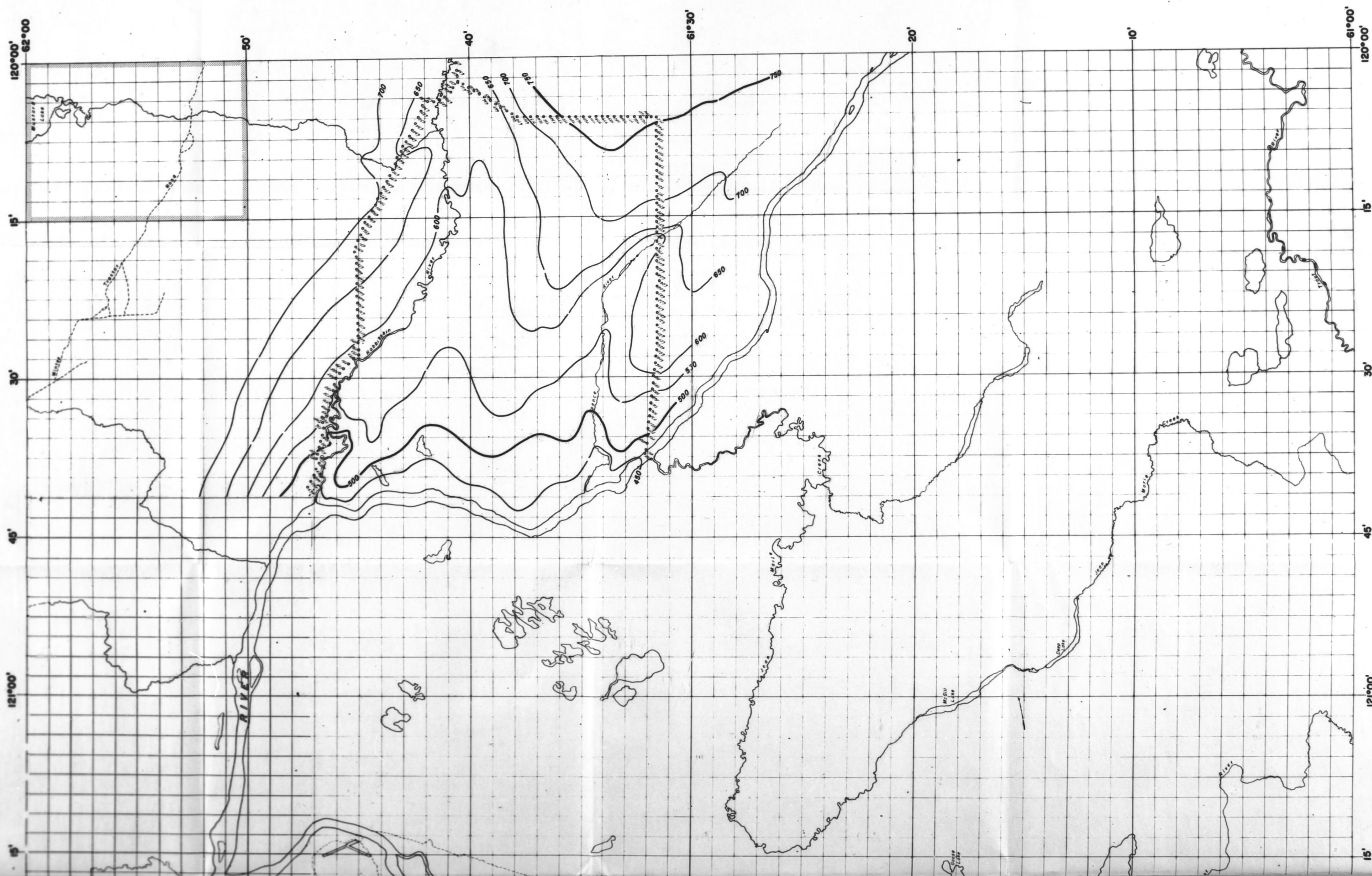


2:1 JEAN MARIE SEISMIC - SURFACE ELEVATIONS

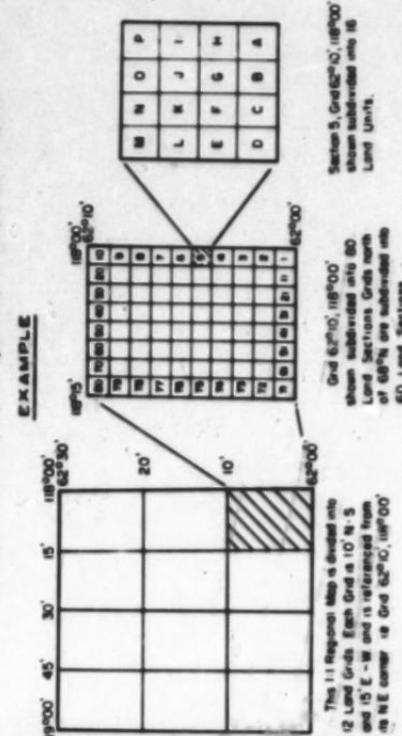




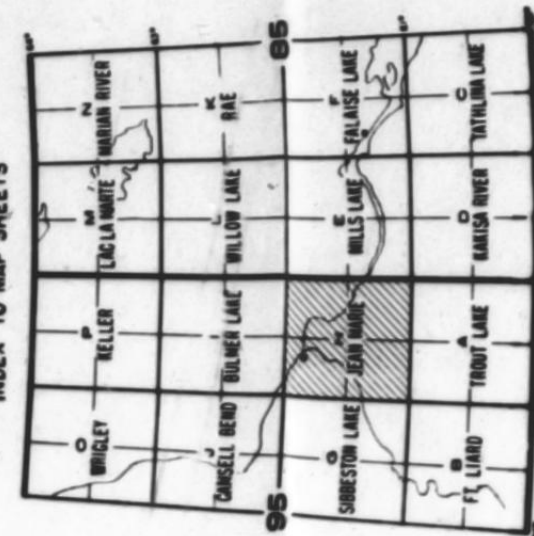
IMPERIAL OIL LIMITED  
EXPLORATION DEPARTMENT PEACE RIVER DISTRICT  
SURFACE ELEVATIONS



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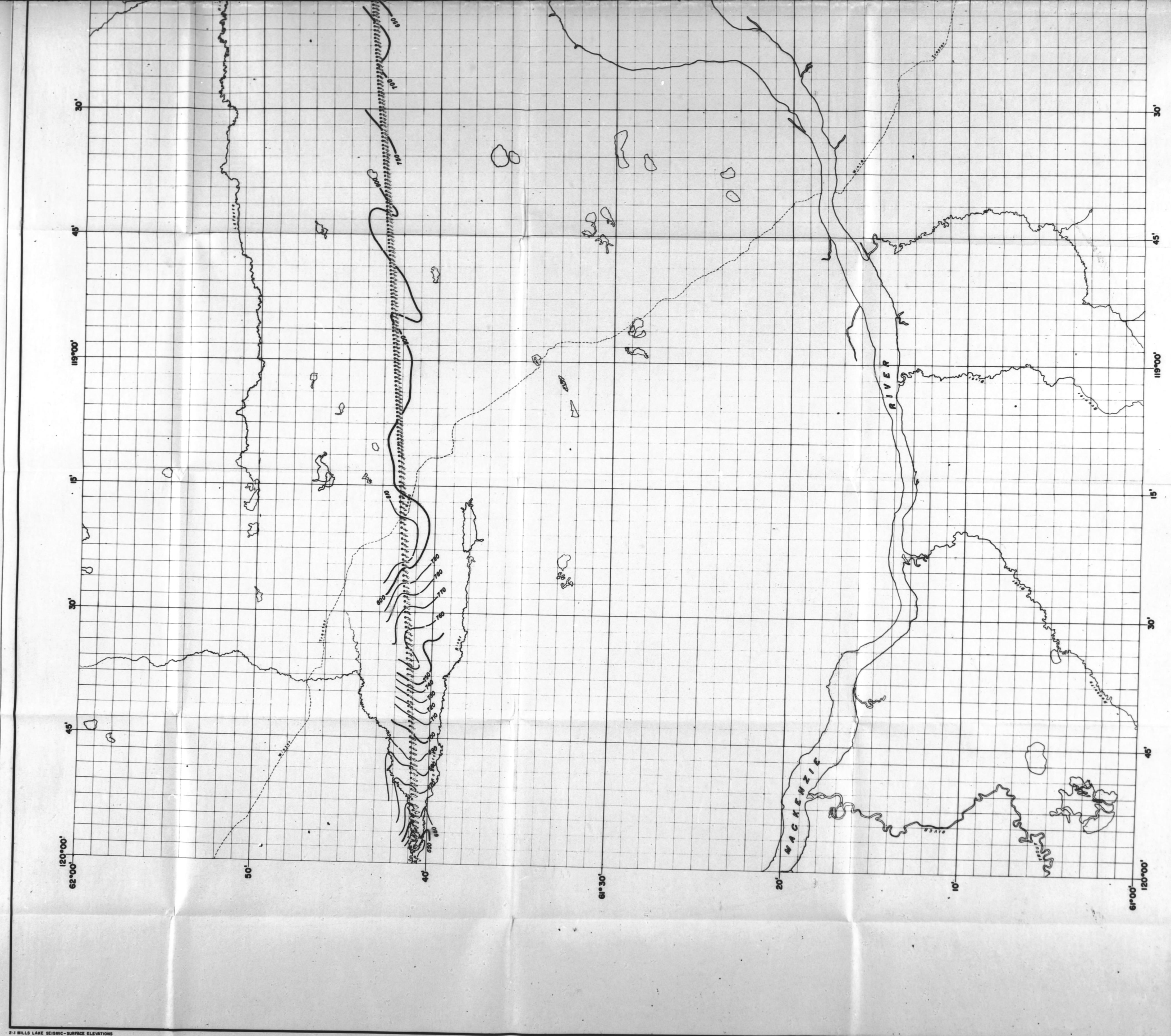
- ADMINISTRATIVE BOUNDARIES
- PROPERTY BOUNDARIES
- QUANTITY SURVEY LOCATIONS & ELEVATIONS
- TIME VALUES
- REFRACTION PROFILES
- DEPTH MAP - CONTOURED ON
- COAL BORDERS & DEPTHS
- PEACE RIVER DISTRICT

JULY, 1980

95H JEAN MARIE

SEP 1 1980  
JULY, 1980





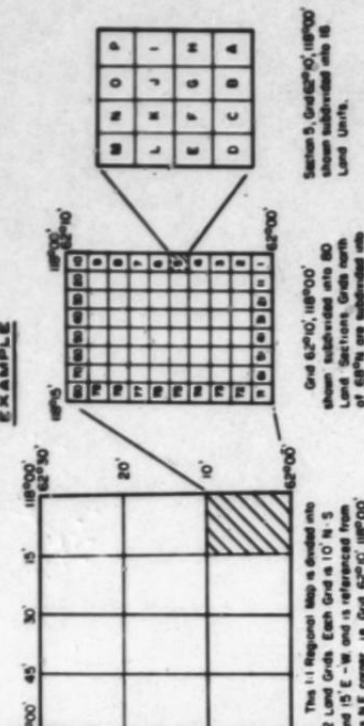
2-1 MILLS LAKE SEISMIC SURFACE ELEVATIONS



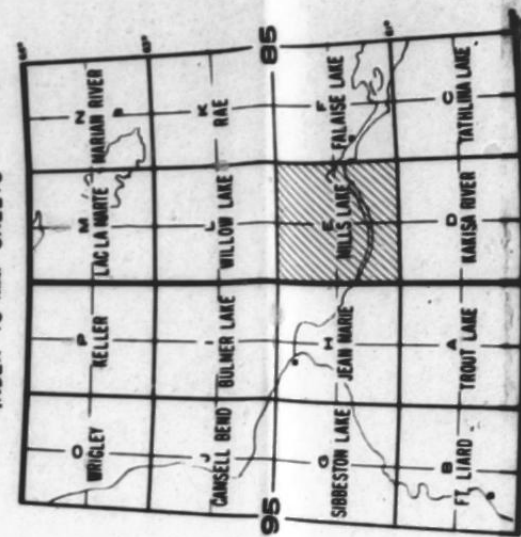


A hand-drawn map on a grid showing a river, a lake, and a road. The river is labeled "RIVER" and flows from the top right towards the bottom. The lake is labeled "LAKE" and is located in the upper left. A road, indicated by a dashed line, runs from the bottom left towards the top right. The map includes a coordinate grid with labels such as 118°00', 119°00', 120°00' along the top and bottom, and 15', 30', 45', 60' along the left and right sides. The text "MILLS LAKE" is written vertically in the upper left area.

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MAP OF

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**SPECIAL ADVERTISING SECTION**  
**SEISMOGRAPH MAP**  
**SURFACE TOPOGRAPHY**

85E MILLS LAKE  
2 MILES TO 1 INCH

Copy (original) G. B. Darling  
7-6-4-23  
6350









This 11 Regional Map is divided into 12 Land Grids. Each Grid is 10' N-S and 15' E-W and is referenced from its N-E corner by Grid 62°10', 118°00'.



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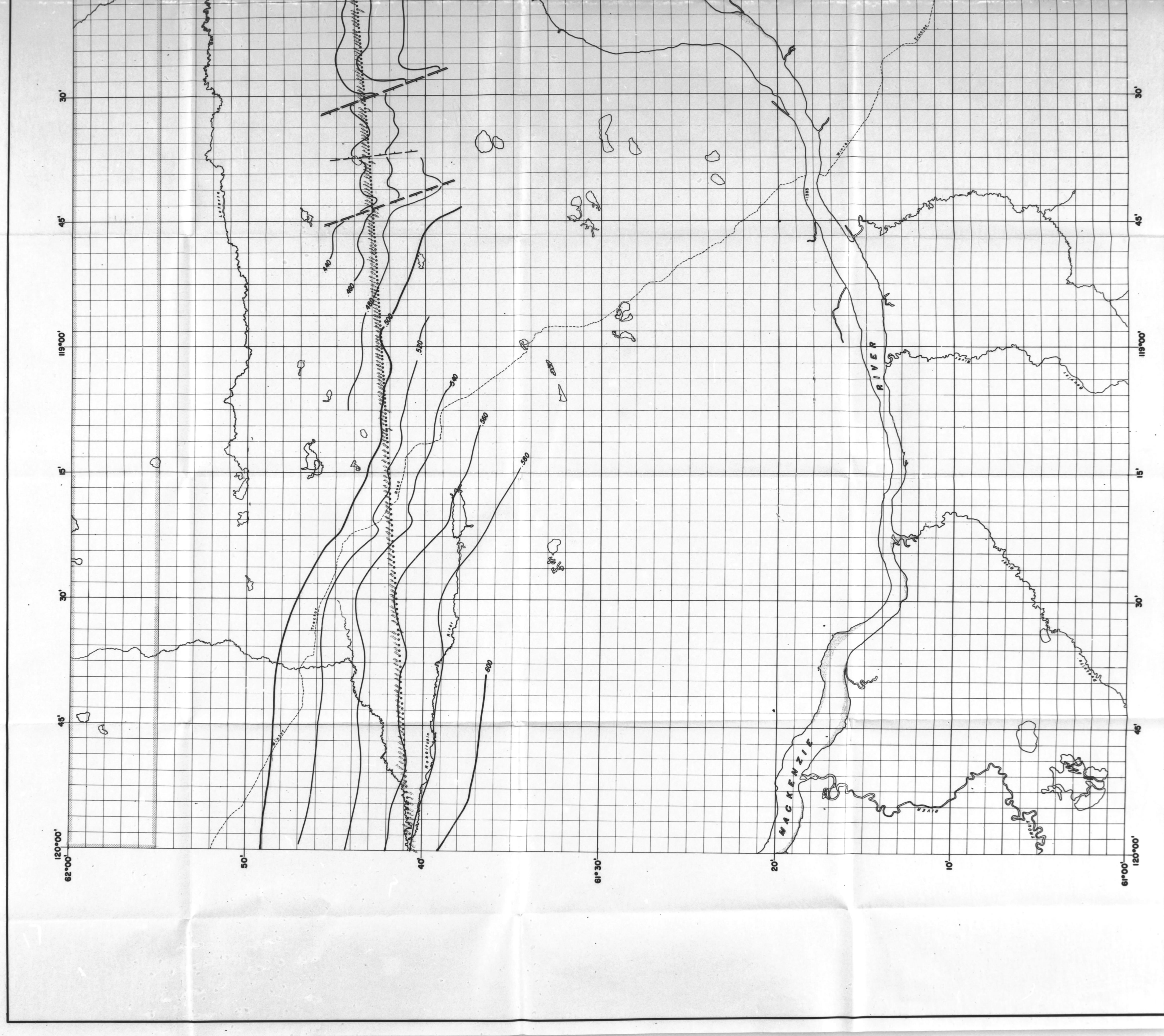
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Datum Plane.....1500 FEET  
Datum Velocity.....8000 F/SEC

**85-F-FALAISE LAKE**

Copy (Original), G. L. Darling  
JUNE 20/60-422

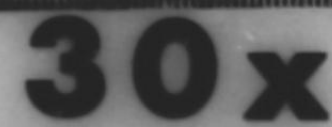
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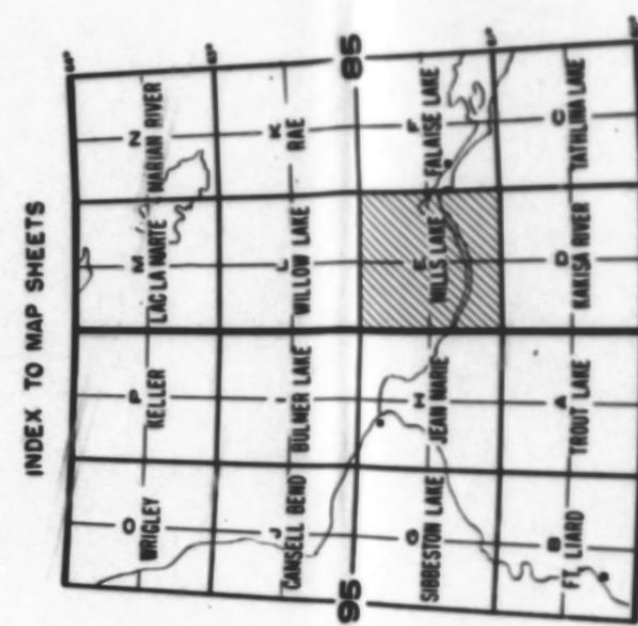


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The diagram consists of three parts. The top part shows a 10-degree grid with a shaded cell. The middle part shows a 10-degree grid with a shaded cell, and a 1-degree cell is highlighted within it. The bottom part shows a 10-degree grid with a shaded cell, and a 1-degree cell is highlighted within it. The shaded cells represent the 10-degree grid cells that contain the 1-degree cell being analyzed.



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M.D. 0'

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☐ AEROMAGNETIC CONTOURS    Contour Interval - 50 gamma.  
☐ GRAVITY CONTOURS    Contour Interval - 0.5 mgals.  
☐ MAGNETIC DECLINATION    IN DEGREES AND MINUTES.  
☐ GRAVITY FINAL VALUES  
☐ GRAVITY CORRECTIONS  
☐ SEISMIC SHOT HOLE LOCATIONS, ELEVATIONS AND TOTAL DEPTHS.  
☐ TIME VALUES FOR SURFACE AND SUBSURFACE RECORDS.  
☐ DEPTH MAP - CONTINUED ON

☐ C - COAL DRIPS & DEPTHS  
☐ S - SAND DRIPS & DEPTHS  
☐ G - GRASS DRIPS & DEPTHS  
☐ PEACE RIVER DISTRICT

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SEISMOGRAPH MAP  
MIDDLE DEVONIAN CARBONATE  
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**85E MILLS LAKE**

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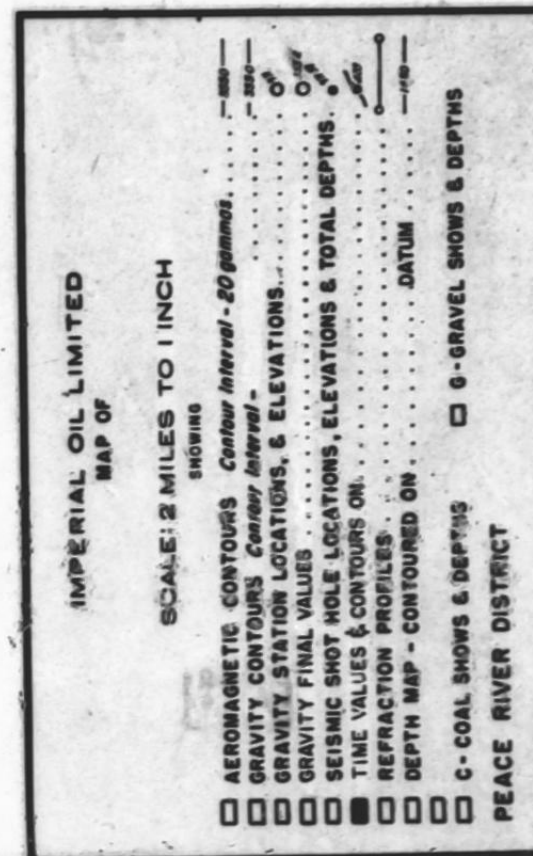
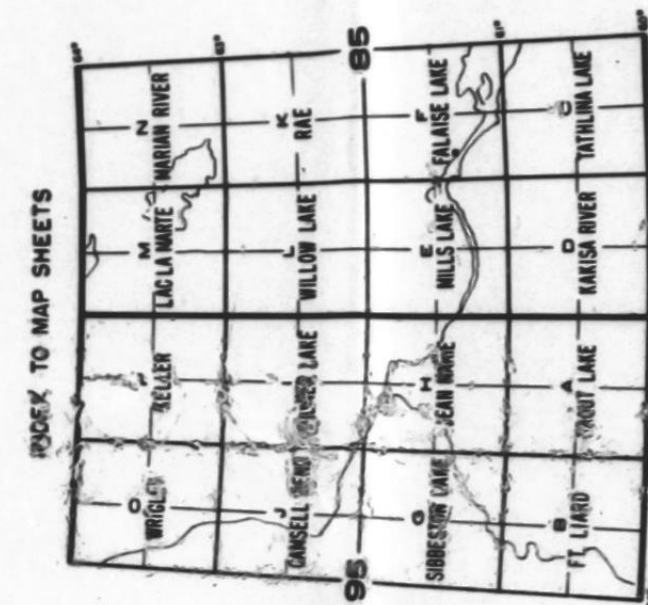
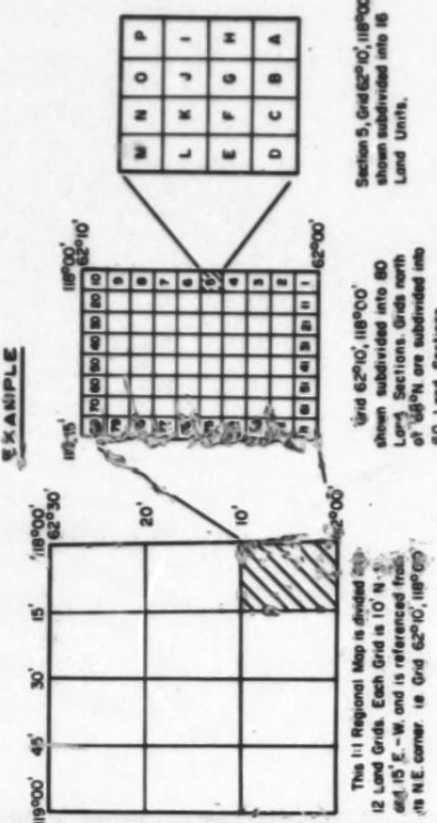




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SEISMOGRAPH MAP  
MIDDLE DEVONIAN CARBONATE

Contour Interval	020 SEC.
Datum Plane	1500 FT.
Datum Velocity	8000 FT./SEC.

95H JEAN MARIE  
2 MILES TO 1 INCH

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