

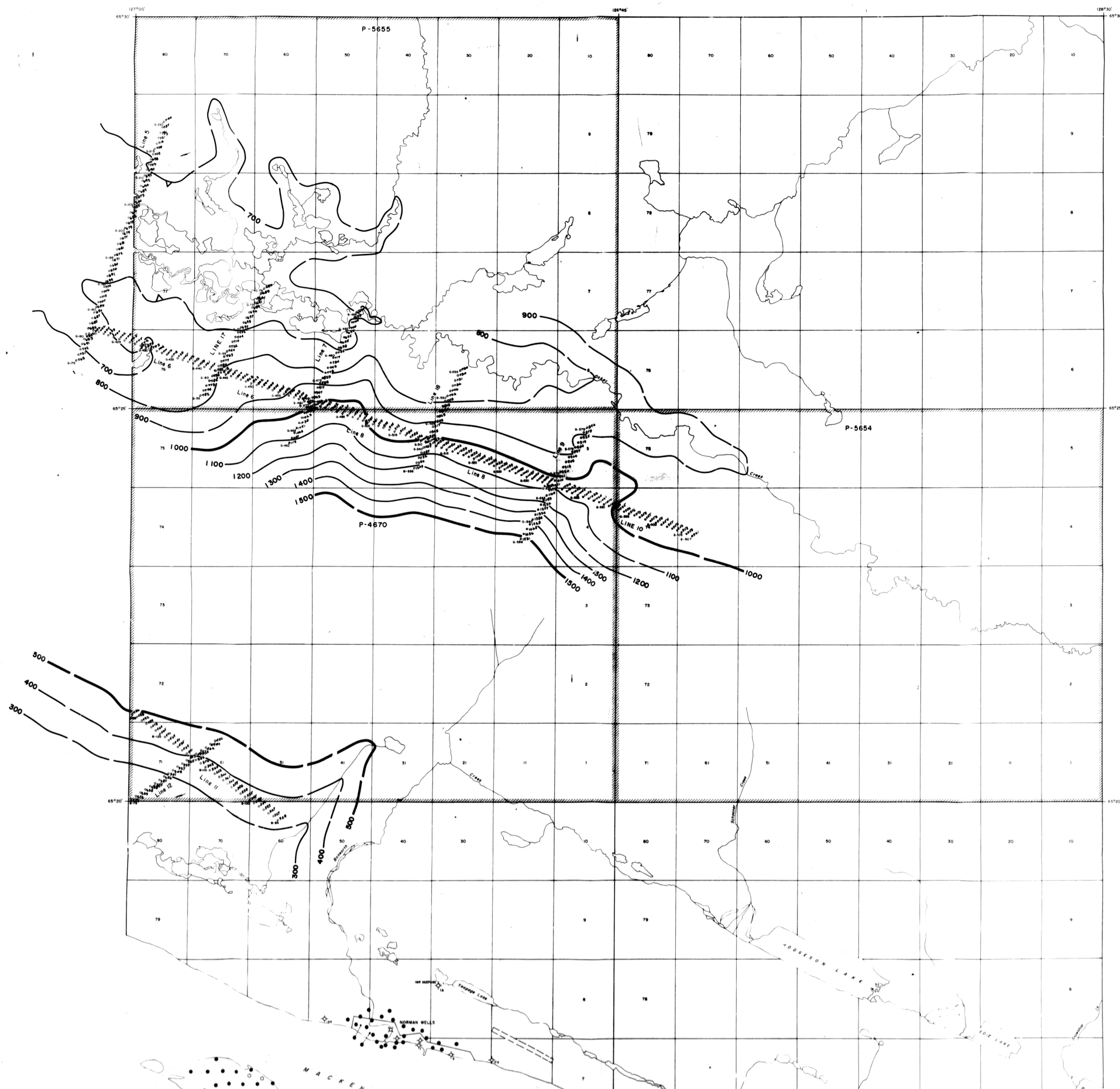
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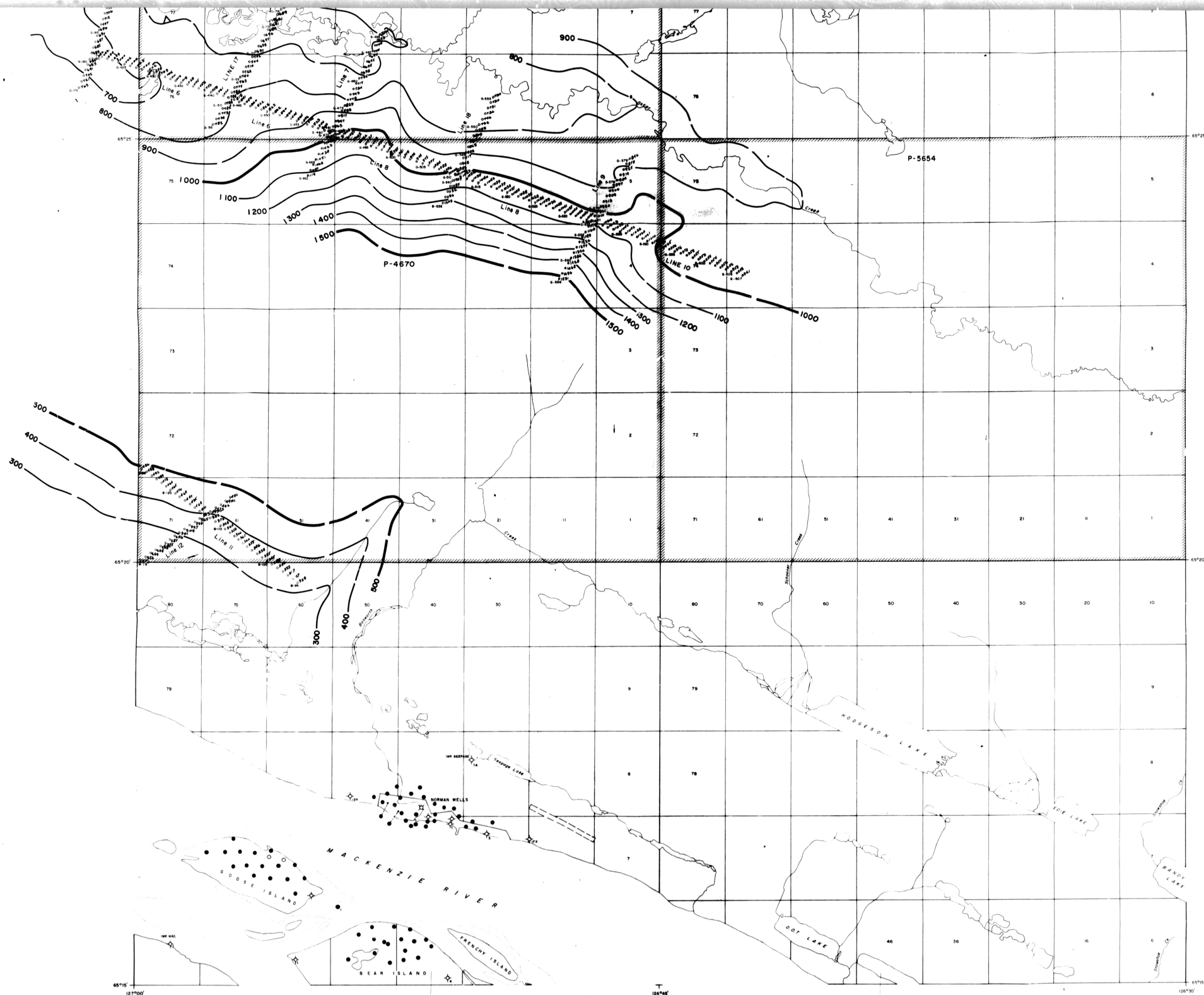
Negs: 4

Confidential

**Not To Be
Released**

1/3





96-E-7
OSCAR CREEK AREA
SURFACE ELEVATION MAP

DATE: 1969	SCALE: 2" = 1 MILE	INTERPRETER: J. PORTER
REVISION: 1	DRAWN BY: J. S.	FILE NO: 96-E-7

26-6-7

OSCAR CREEK - RAIDER ISLAND
Seismic Reflection Report
Banff Oil Ltd.
October 28, 1969 - A. J. Blashyn

DEL

Seismic Reflection Report
Banff Oil Ltd.
October 28, 1969 - A. J. Blashyn

SEISMIC REFLECTION REPORT
OSCAR CREEK - RAIDER ISLAND

FOR

BANFF OIL LTD.

CONTRACTED BY

COMPAGNIE GENERALE DE GEOPHYSIQUE

MARCH 1969

PERMIT NO'S 4281, 4280, 4282, 5655, 5654
4670, 6171, 6170

Abstracted for
Geo-Science Data Index

A. J. Blashyn

OCTOBER 28, 1969

Date _____

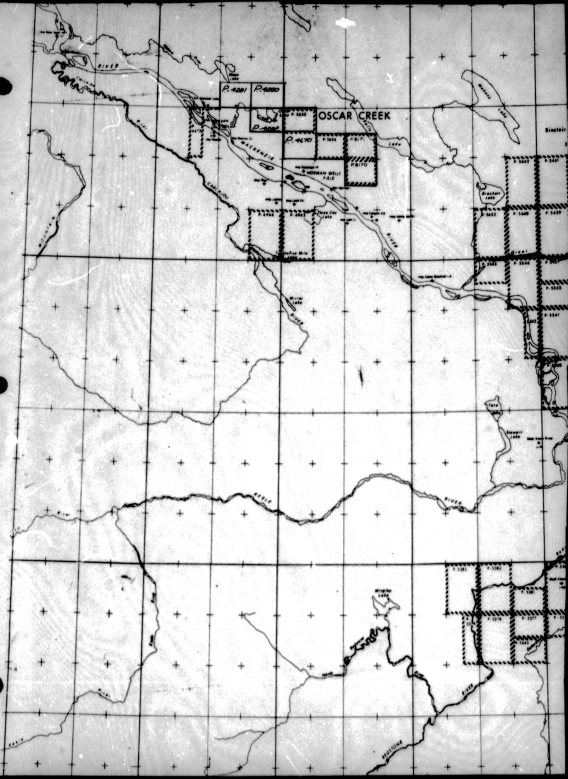


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ENCLOSURES:

Shotpoint Elevation Map
Hume Structure
Canol - Hume Isochron



INTRODUCTION

The Oscar Creek - Raider Island prospect is located in the Northwest Territories approximately 10 miles north of Norman Wells. The prospect area lies within the boundaries of Latitudes $65^{\circ} 15'$ and $65^{\circ} 35'$, Longitudes $126^{\circ} 30'$ and $127^{\circ} 30'$. Field operations, conducted by Compagnie Generale de Geophysique, commenced on March 27, 1969 and were completed on April 22, 1969.

EXPLORATION PROCEDURE

The object of the survey was to delineate the area for Middle Devonian Kee Scarp reef development. The Kee Scarp is productive at Norman Wells with full reef pay thicknesses in the range of 400 feet. Approximately 80 miles of 300% subsurface coverage was shot and processed in structure section form by Banff Oil.

Operations

Field operations were conducted from two campsite locations. The site for the Oscar Creek program was centrally located near shotpoint G114 on line 4. The second site, chosen for the Raider Island portion of the program, was at Norman Wells. Due to the presence of the Norman Range, access to the Oscar Creek program was through the Oscar Creek gap at the west end of the mountain range, a distance of approximately 35 miles from Norman Wells. The crew was serviced by regular commercial flights to Norman Wells and occasionally by Banff Oil aircraft.

A detailed operations resume is provided in the Operations Summary.

Data Processing

All structural and data processing computations were prepared by Integrated Seismic Services personnel in Banff's offices under the supervision of the Project Geophysicist. Playback facilities were provided by the Banff Oil playback centre.

Structure sections, corrected to a datum of +1500 feet at a datum velocity of 7000'/s, were prepared on all lines. The velocity survey at Imperial Loon Creek #1 and a Δt analysis were used to obtain the velocity function for NMO corrections. All sections were produced as galvo-VAR displays with a playback filter of 15-20-70-75.

RESULTS, CONCLUSIONS & RECOMMENDATIONS

Reflection identifications were based on the velocity survey at Imperial Loon Creek #1 and correlations from the Norman Wells prospect. The Canol and Hume reflecting horizons were identified and correlated throughout the area. The approximate Cambrian reflection is present and correlatable only on the Raider Island portion of the program. The Oscar Creek area, north of the Norman Range, exhibits a shallow section and a relatively steep southwest regional dip causing the Canol and Hume sections to outcrop within a short range. Continuity of the reflections became restricted, due to first arrival interference, as the markers approached outcrop conditions. The Canol to Hume isochron and the Hume structure time maps were prepared and submitted with this report.

The Canol to Hume isochron exhibits an anomalous thickening between shotpoints G102 and G106 on line 4. The thickening is approaching full reef magnitude as indicated by the seismic profile across the Norman Wells field. A good quality dip on the Canol reflection of approximately

.060 secs., occurring between shotpoints G105 and G107, resembles the dip observed on the east flank of the reef at Norman Wells. However, the change in the Canol to Hume isochron from approximately .130 secs. to an unusual .060 secs. indicates that some post Hume erosion had taken place. It is feasible that the anomalous dip is indicative of reef development and/or erosional effects.

A secondary thick trend appears in the vicinity of shotpoint G14 on line 1. This thickening, although it is loosely controlled and occurs on poorer quality 100% data, warrants additional coverage for verification. It can be postulated that the thick trends were part of one large reef feature and were subsequently separated by an erosional channel.

The Hume structure time map exhibits a monoclinial trend along the north side of the Norman Range progressing to a synclinal trend at the west end. The subsurface indication of the Mount Richard fault occurs at the north end of line 3 with the abrupt presence of an NG record zone and the occurrence of defraction patterns at depth. Anomalous structural highs on the Hume occur on lines 8 and 10 at shotpoints G520 and G585 respectively. The Canol to Hume isochron thins over these features indicating possible Hare Indian reef development.

On lines 12 and 13 the approximate Cambrian reflection exhibits a greater regional dip than the overlying Hume reflection. This indicates the presence of a post Cambrian unconformity and trapping mechanism. Consideration should be given to the acquisition of land and conducting additional seismic to pursue this lead.

Additional seismic coverage is recommended to further delineate the Kee Scarp and Hare Indian reef leads and also to extend the present coverage to evaluate permits 5654, 6171 and 6170.

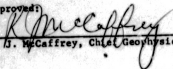
Respectfully submitted,

BANFF OIL LTD.



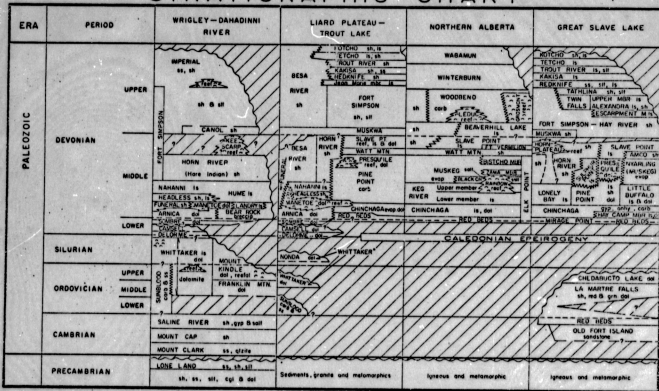
A. J. Byashyn, P. Eng.
Project Geophysicist

Approved:



R. J. McCaffrey, Chief Geophysicist

STRATIGRAPHIC CHART



BANFF OIL LTD.
GEOPHYSICAL OPERATIONS REPORT

AREA OSCAR CREEK PERIOD FROM March 27, 1969 TO April 22, 1969
SHOT BY C.G.G. PARTY S-910
LOCATION Northwest Territories 127° LONG 65° 30' LAT
OR TWS. REGES. W M

CAMP SITE LOCATION Oscar Lake

THE RAIN Valley between Mountain Ranges

COMMUNICATIONS S.S.B. Radio (Very Poor Reception) Phone at Norman Wells.

Mobile Radios

ACCESS Trail From Norman Wells through Oscar Creek Gap

REMARKS

CREW BASICS

CAMP Banff Porta-Built

CATERING Foothills - Edmonton

TYPE OF VEHICLES Track Mounted

SURVEYING

INSTRUMENTS Wilde Theodolite T-O and T-16

BENCH MARKS Moon Lake

TIES Air Photo Mosaics

ELEVATIONS HIGH +1650 LOW +223

REMARKS

BUILDING

CONTRACTOR Borek Construction - Dawson Creek, B.C.

EQUIPMENT 2-D6 2-D7 Own Camp, 1 - Ton Supply Truck

PRODUCTION Approximately 6 miles per day

REMARKS Equipment and personnel was adequate to
provide an efficient operation.DRILLINGCONTRACTOR Two-way Drilling - Calgary
Sedco Drilling - CalgaryEQUIPMENT 2 - Conventionals 1 - Conventional (Air) - Sedco
1 - Top Drive
3 - Water Trucks

PRODUCTION 1.2 hours per Shot-Point

REMARKS Top Drive Drilling Recommended (Auger)

RECORDING

AMPLIFIERS PT - 100 TAPE PMR-20

FILTERS 1/16 - 1/100 Monitor 1/20-1/60 Playback

GEOPHONES Mark L-2 FREQUENCY 20 cps.

NO./TRACE/LENGTH 9/110 CABLES 52 Conductor

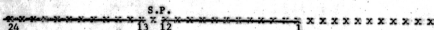
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SHOT POINT INT. -- % COVERAGE 300 SHOT POINTS/MILE 12

SHOT HOLE DEPTH 40 CHARGE SIZE 1 x 5#

SHOT POINT PATTERN DIAGRAM

SPREAD DIAGRAM



PRODUCTION 2.4 Shot-Points per hour

REMARKS	Very poor to fair quality. High frequency data
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PERSONNEL

SUPERVISOR M.Eidsness
PARTY MANAGER J.Tarnowski,O.Dionne
PARTY CHIEF J.Gates
CHIEF COMPUTER --
OBSERVER N.Muscarella
SURVEYOR P.Grisi

INTERPRETATION:

BANFF OIL LTD.
GEOPHYSICAL OPERATIONS REPORT

AREA RADER ISLAND PERIOD FROM April 18, 1969 TO April 19, 1969
SHOT BY C.G.G. PARTY S-910
LOCATION Northwest Territories 127° 15' LONG 65° 15' LAT
OR TWPS. REGS. W M

CAMP SITE LOCATION Norman Wells

TERRAIN Flat - on Mackenzie River

COMMUNICATIONS Phone at Norman Wells - Mobile Radios

ACCESS

REMARKS

CREW BASICS

CAMP Banff Porta-Built

CATERING Foothills - Edmonton

TYPE OF VEHICLES Track Mounted

SURVIVING

INSTRUMENTS Wilde Theodolite T-O and T-16

BENCH MARKS Well Control Imp. Rader Island #1

TIES

ELEVATIONS HIGH +274 LOW +144

REMARKS

BULDOZING

CONTRACTOR Borek Construction - Dawson Creek, B.C.

EQUIPMENT 2 - D6 2-D7 own camp, 1-Ton Supply Truck

PRODUCTION 6 miles per day

REMARKS

DRILLINGCONTRACTOR Two-Way Drilling - Calgary
Sedco Drilling - CalgaryEQUIPMENT 2 - Conventionals 1-Conventional (Air)-Sedco
1-Top Drive
3-Water Trucks

PRODUCTION 1.2 Hours per Shot-Point

REMARKS

RECORDING

AMPLIFIERS PT-100 TAPE PMR-20
 FILTERS 1/16-1/100 Monitor 1/20-1/60 Playback
 GEOPHONES Mark L-2 FREQUENCY 20 cps.
 NO./TRACE/LENGTH 9/10 CABLES 52 Conductor
 SPREAD LENGTH 1320 STATION INT. 110 GEOPHONE INT. Approx. 12'
 SHOT POINT INT. -- % COVERAGE 300 SHOT POINTS/MILE 12
 SHOTHOLE DEPTH 40 CHARGE SIZE 1-x 10#
 SHOT POINT PATTERN DIAGRAM

L
x

SPREAD DIAGRAM

~~XX~~
 29 ^{S.P.} 13 12 1 XXXXXXXXXXXXXXXX

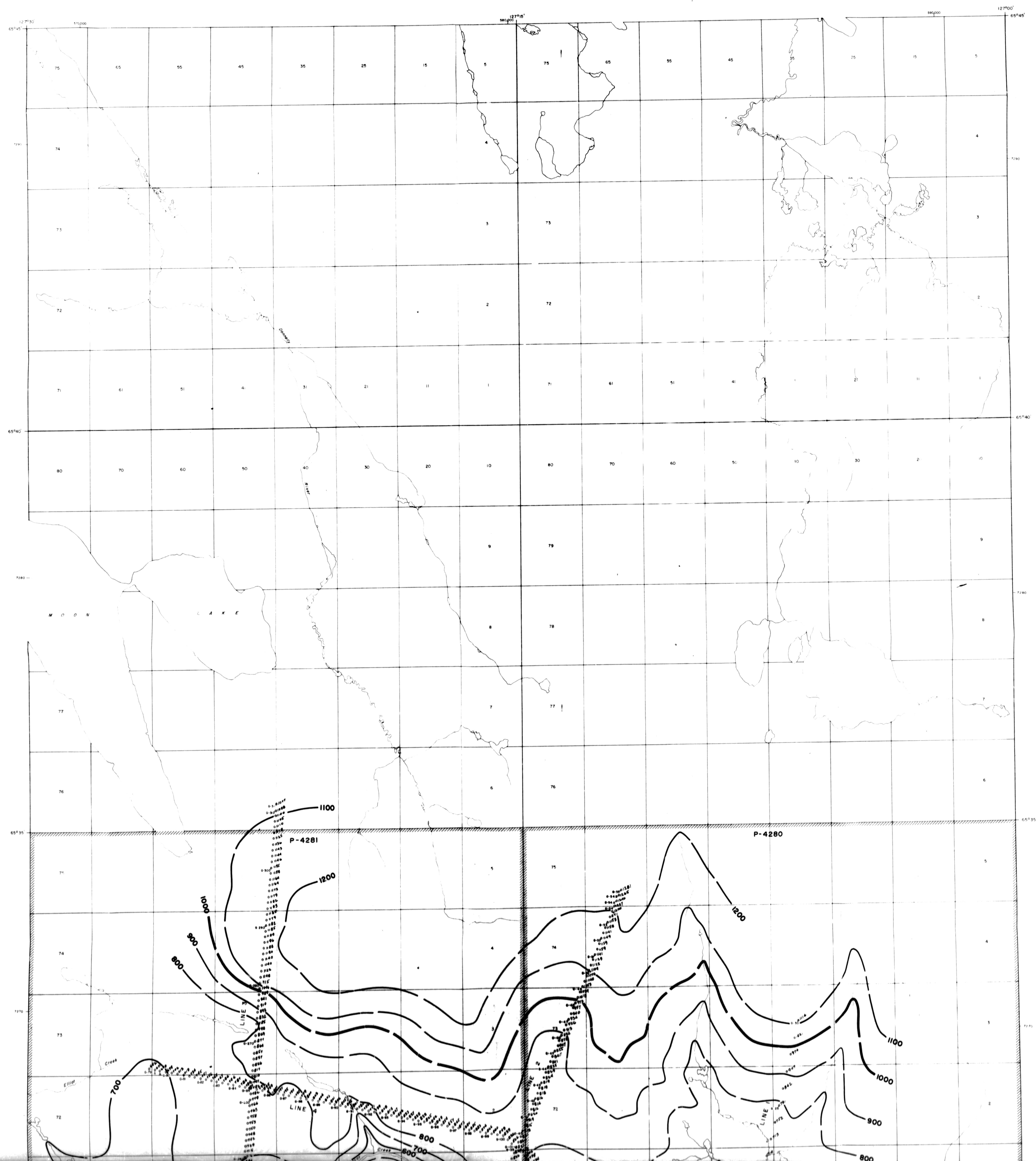
PRODUCTION 2.4 Shot-Points per Hour

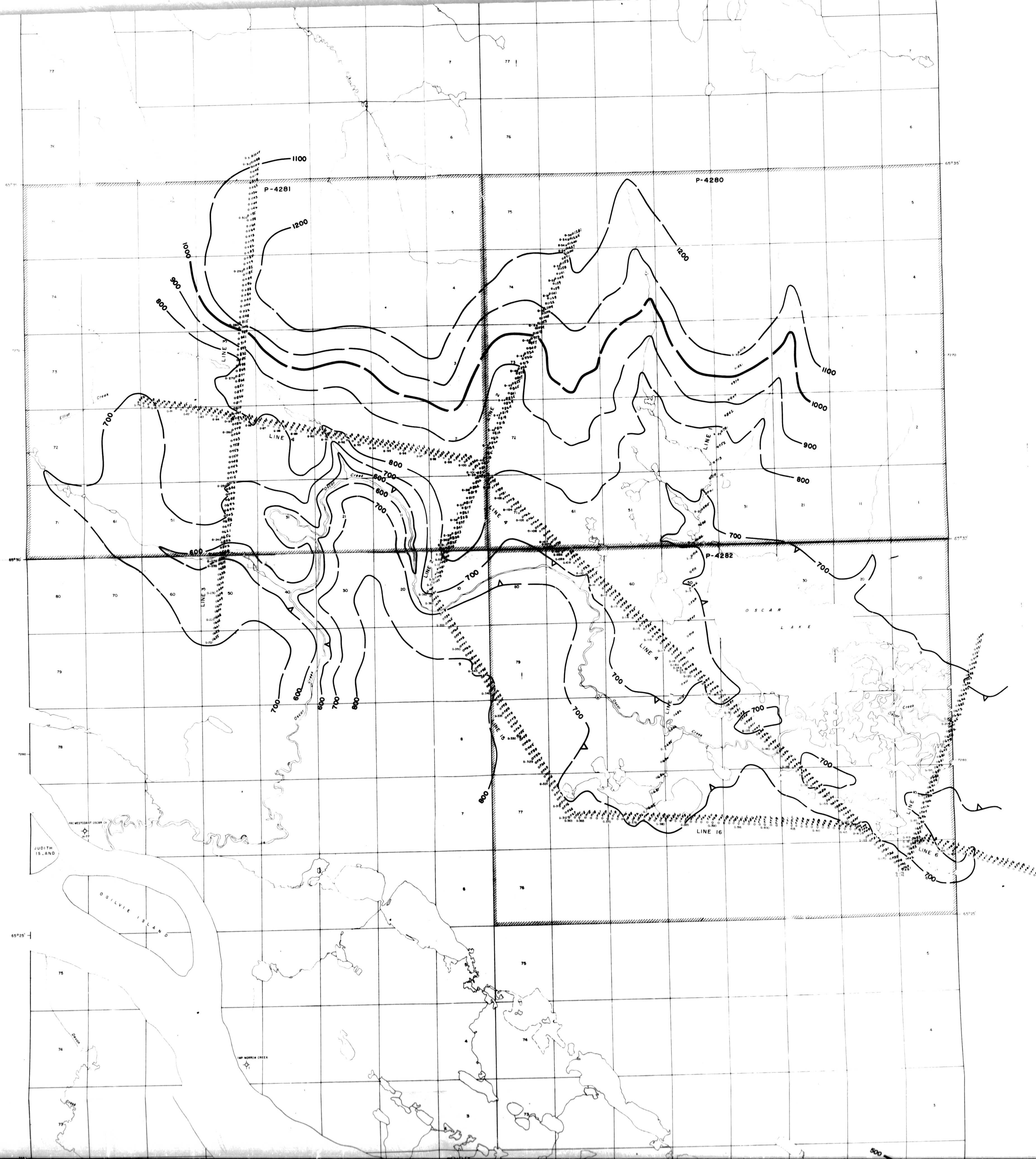
REMARKS Good Data Quality

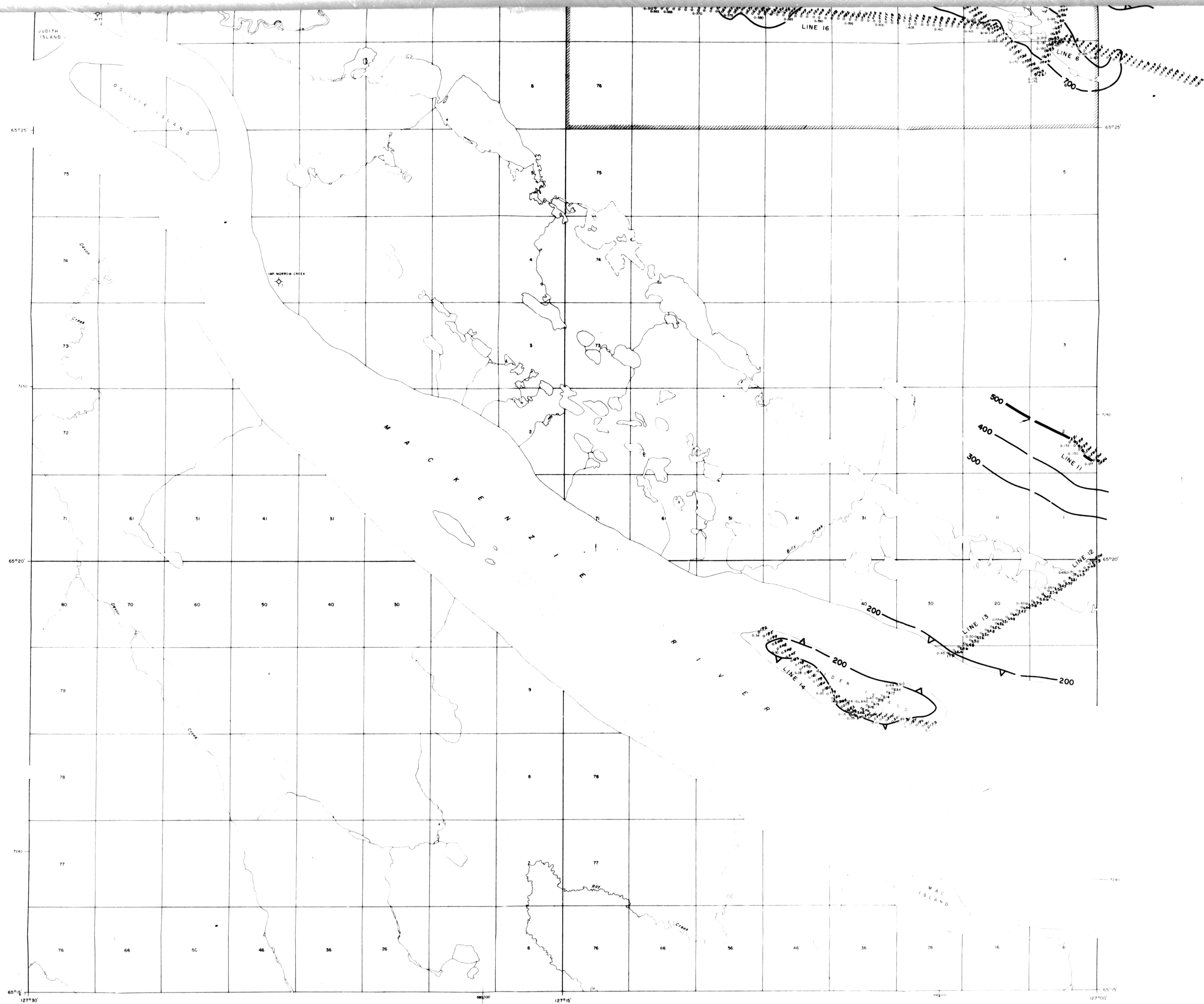
PERSONNEL

SUPERVISOR M.Eidsness
 PARTY MANAGER J.Tarnowski
 PARTY CHIEF J.Gates
 CHIEF COMPUTER --
 OBSERVER N.Muscarfillo
 SURVEYOR P.Grisi

INTERPRETATION:

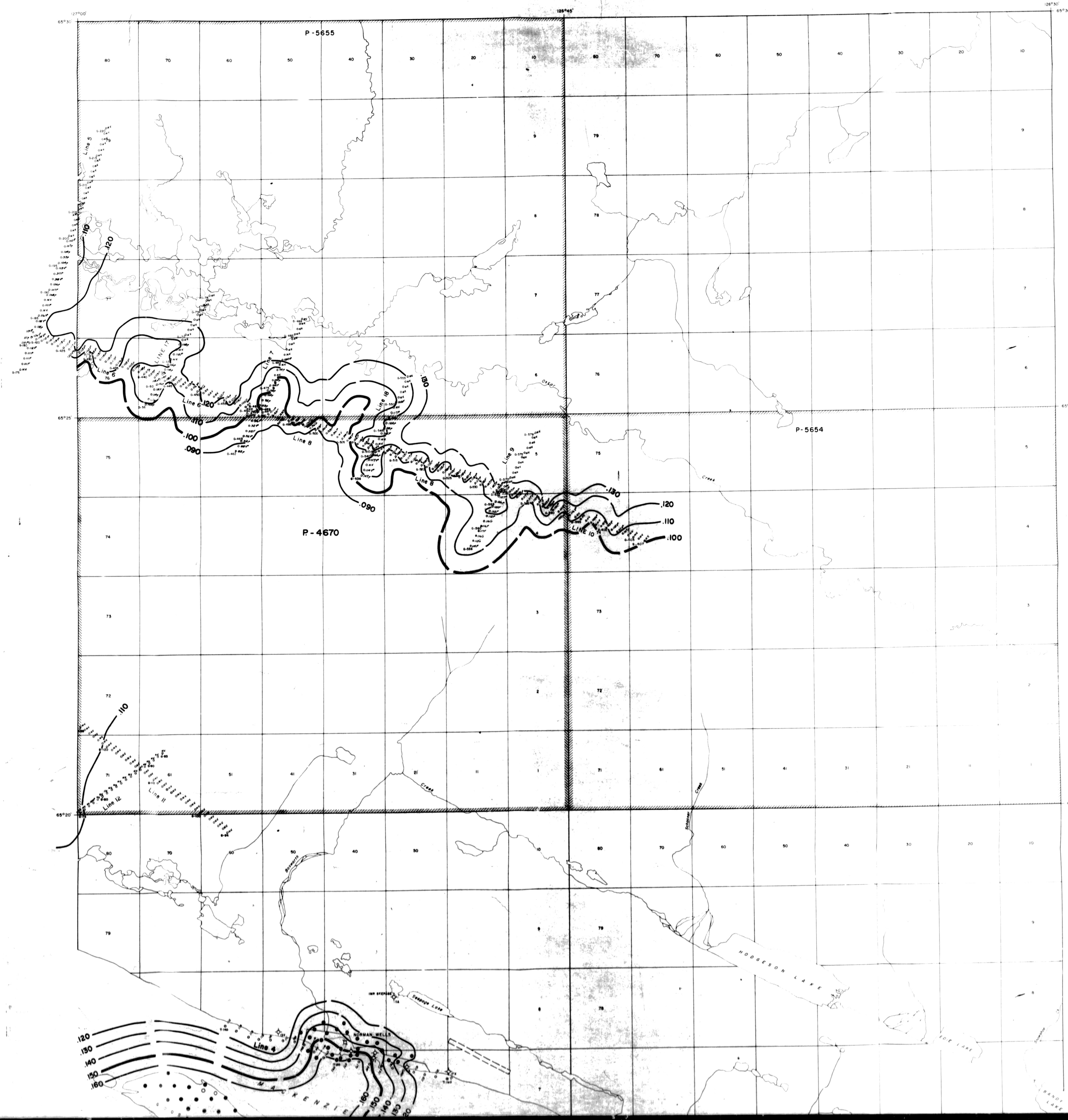


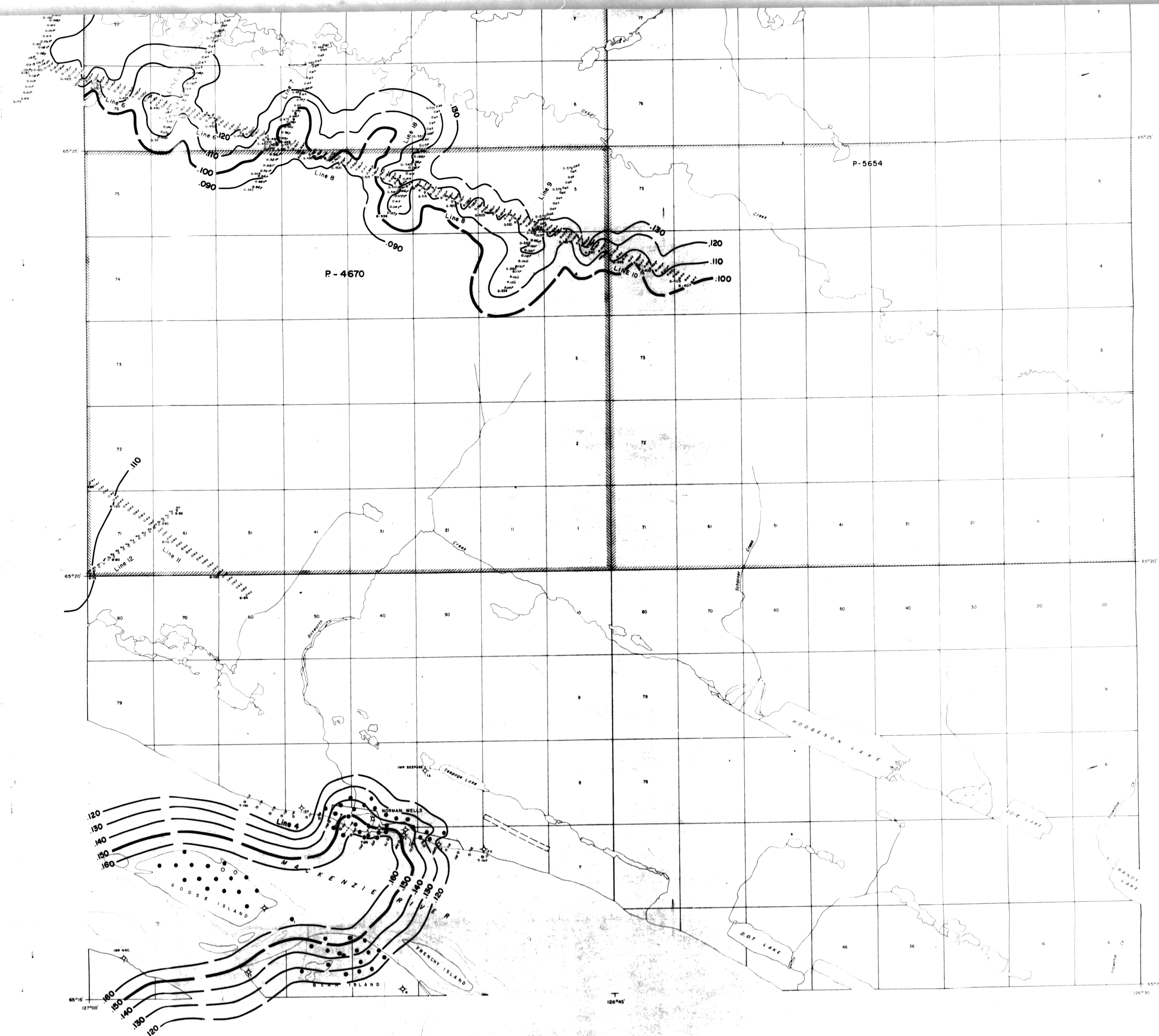




96-E-6
OSCAR CREEK AREA
SURFACE ELEVATION MAP

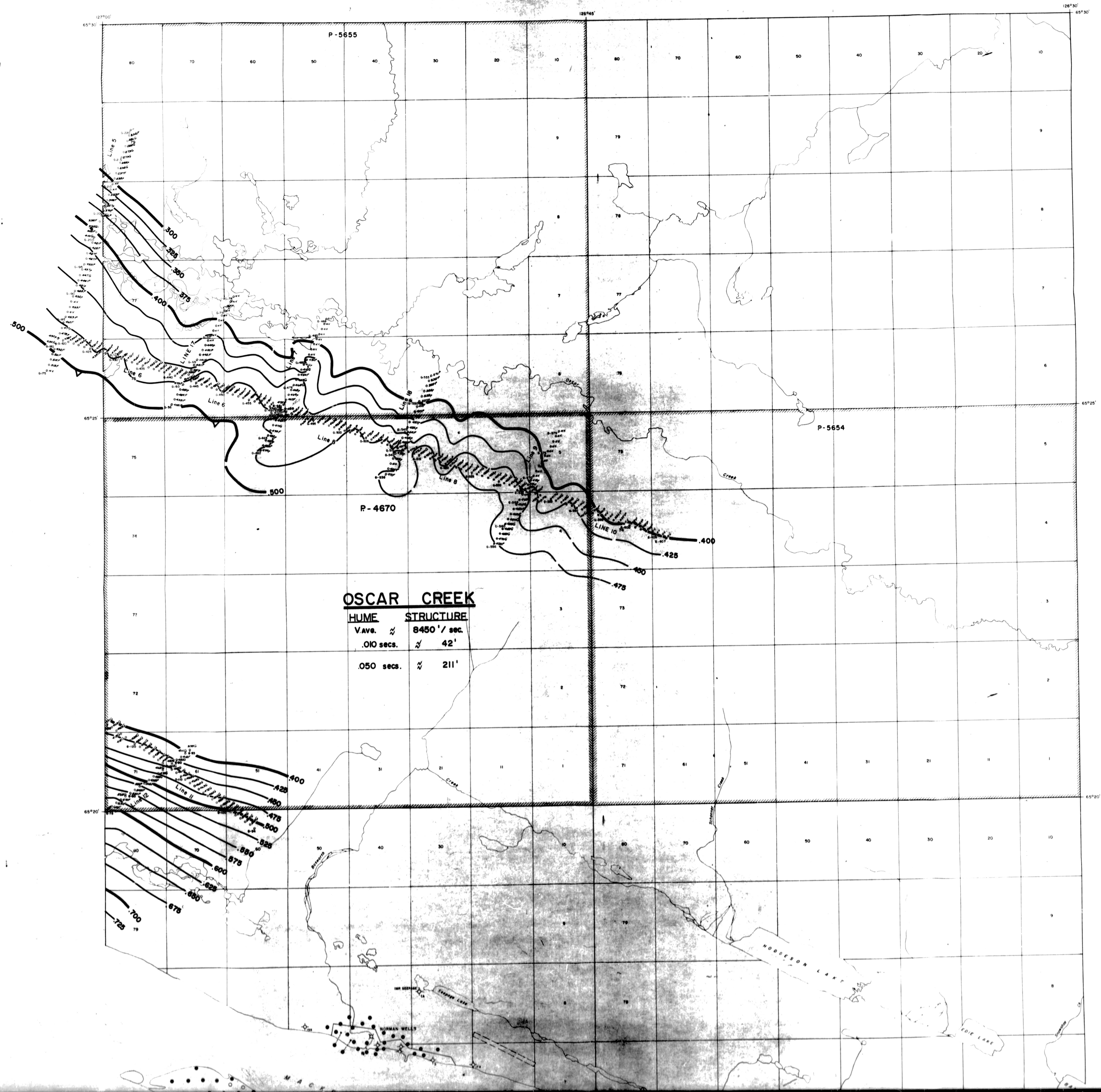
DATE	10/1/69	SCALE	2" = 1 mile	INTERPRETER	R. J. HORTON
REVISION		DRAWN BY	J. S.	FILE NO.	96-E-6

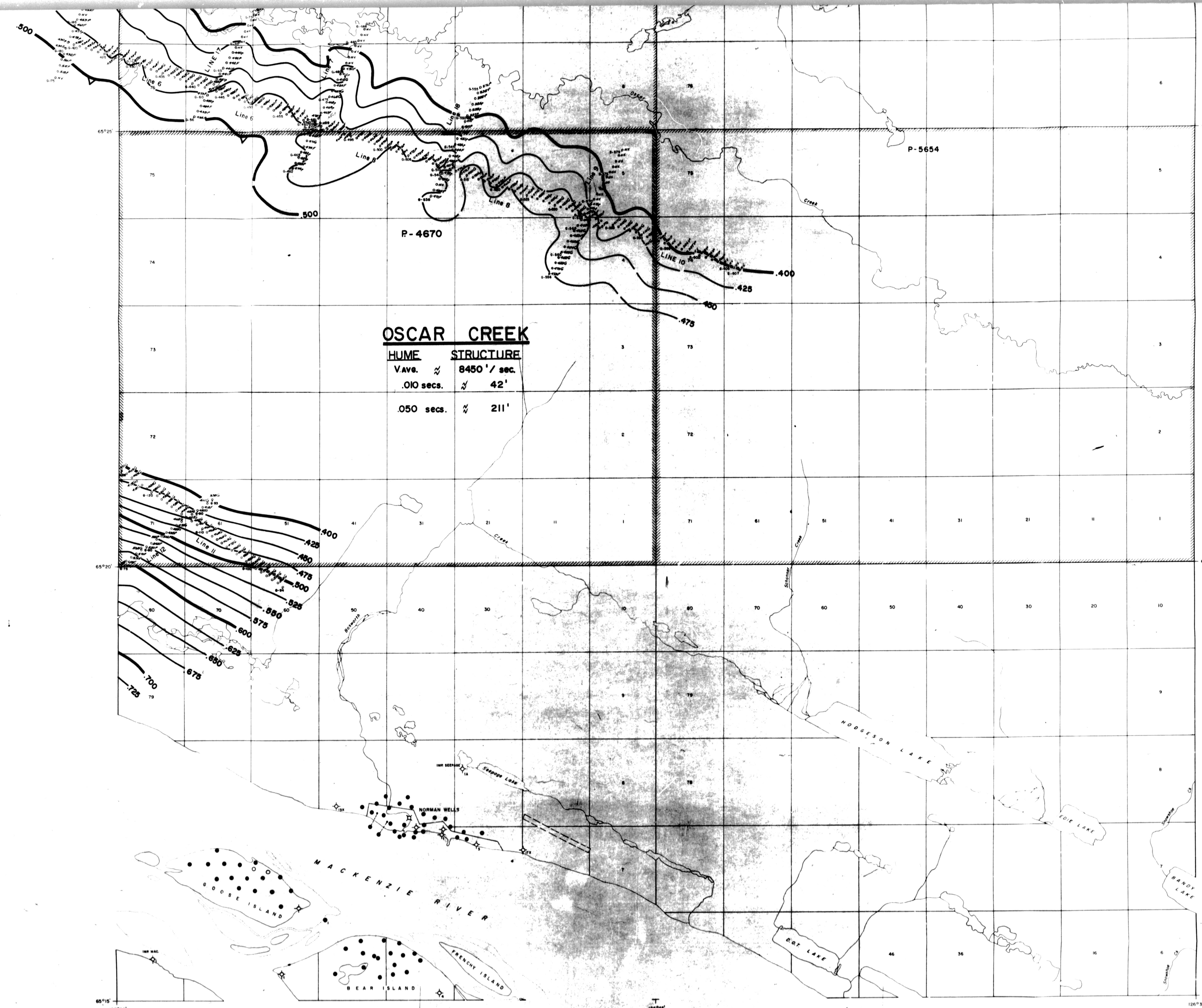




96-E-7
OSCAR CREEK AREA
CANOL - HUME
ISOCHRON

DATE	1968	SCALE	1:50,000	UNIT	FEET
BY	GEOL	DATE	1968	UNIT	FEET
BY	GEOL	DATE	1968	UNIT	FEET

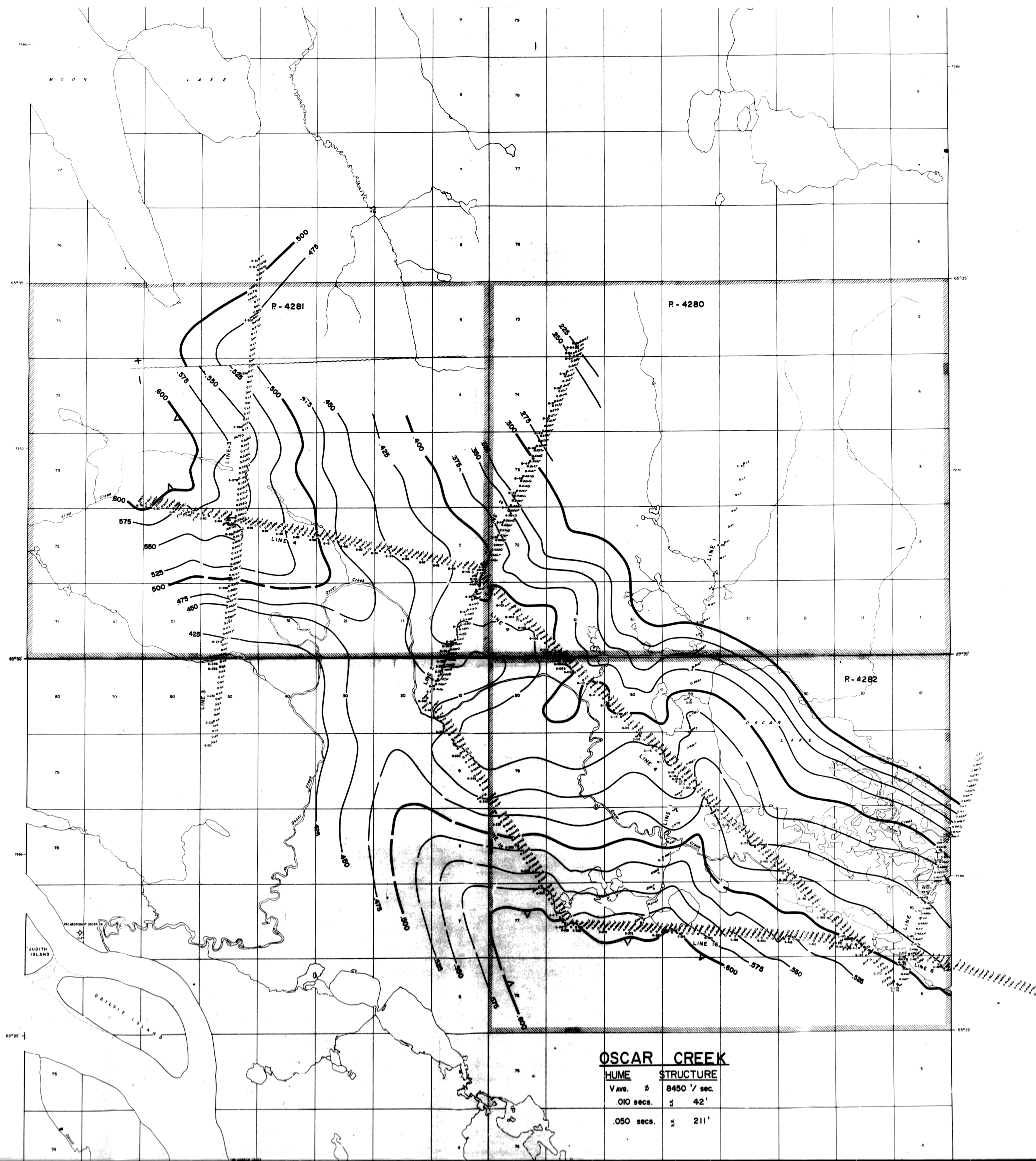


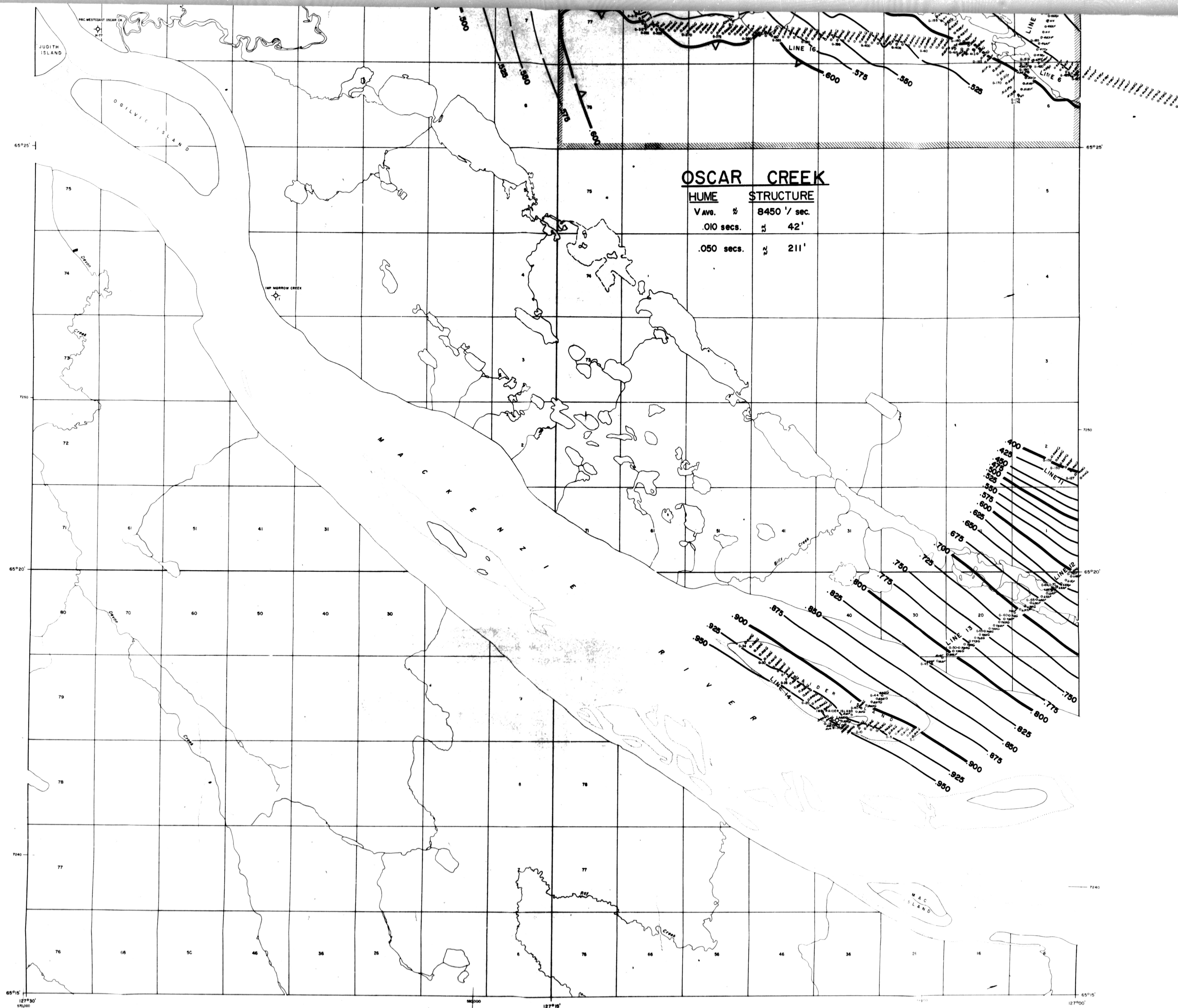


OSCAR CREEK
HUME STRUCTURE
 V. Ave. $\approx$ 8450' / sec.
 .010 secs. $\approx$ 42'
 .050 secs. $\approx$ 211'

96-E-7
OSCAR CREEK AREA
HUME STRUCTURE

DATE: OCT 1969	SCALE: 2" = 1 MILE	INTERPRETER: J. A. BLANDIN
REVISED:	DRAWN BY: J. S.	FILE NO: 96-E-7-5





96-E-6
OSCAR CREEK AREA
HUME STRUCTURE

DATE: OCT. 1969	SCALE: 2" = 1 MILE	REVISION: 1
DESIGNED BY: J.S.	CHARTED BY: J.S.	FILE NO. NWT 517-A

