

R. 17. 12. 1900 - 1901
A. 1900-1901
B. 1900-1901
C. 1900-1901

62



SEISMIC REFLECTION REPORT

BRACKETT LAKE

NORTHWEST TERRITORIES

FOR

BANFF OIL LTD.

CONTRACTED BY

COMPAGNIE GENERALE DE GEOPHYSIQUE

FEBRUARY 1969

PERMIT NO'S 5442, 5441, 5652, 5440, 5439, 5438
5545, 5544, 5437, 5436, 5543, 5542,
5541, 5540

A. J. Blashyn

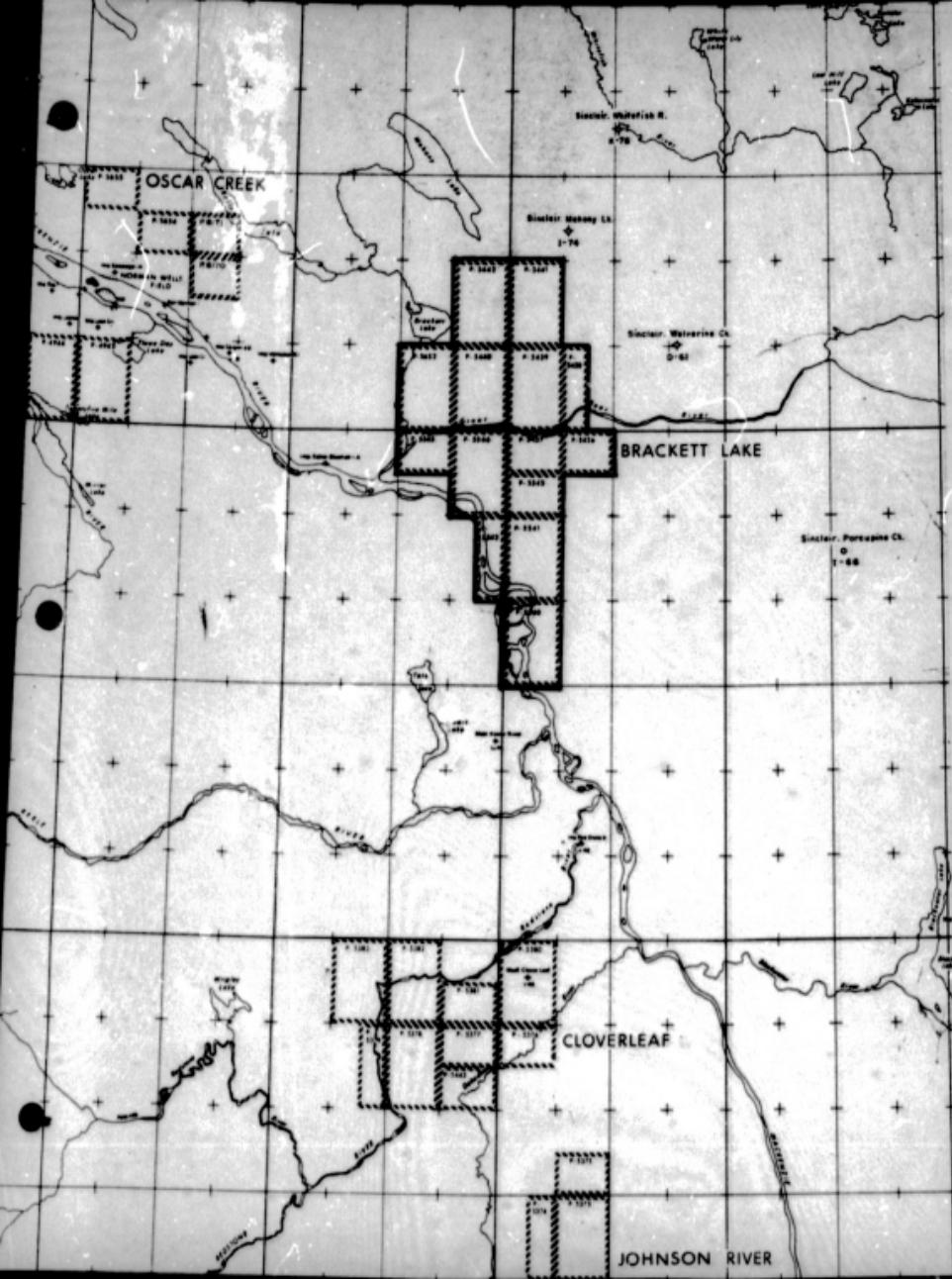
OCTOBER 20, 1969

Abstracted for
Geo-Science Data Index

Date _____

TABLE OF CONTENTS

	<u>PAGE</u>
INDEX MAP	
INTRODUCTION	1
EXPLORATION PROCEDURE	1
Operations	1
Data Processing	2
RESULTS, CONCLUSIONS, RECOMMENDATIONS	2
STRATIGRAPHIC CHART	
STATISTICAL SUMMARY	
 <u>ENCLOSURES:</u>	
Shotpoint Elevation Map	
Hume Structure Time	
Canol - Hume Isochron	



INTRODUCTION

The Brackett Lake prospect is located in the Northwest Territories immediately east of the settlement of Ft. Norman. The prospect area lies within the boundaries of Latitudes 64° 30' and 65° 20', Longitudes 124° 30' and 125° 30'. Field operations, conducted by Compagnie Generale de Geophysique, commenced on February 13, 1969 and were completed on March 1, 1969.

EXPLORATION PROCEDURE

The object of the survey was to acquire some preliminary seismic coverage in the area and to satisfy permit work obligations. The zones of interest in this area are post Hume and upper Ordovician reef developments and structural definition. A 45 mile reconnaissance line was shot along the CNT - Calex road system. Due to the configuration of the road, the line was shot as 100% on the curves and 300% where it was sufficiently rectilinear.

Operations

Field operations were conducted from two campsite locations in an effort to minimize driving times. The crew was serviced by Banff's F-27 aircraft and regular commercial flights to the Norman Wells airfield. Occasional small aircraft charters used the airstrip at Ft. Norman. The wheeled supply vehicle, which was added to the operation at this time, greatly reduced the supply run times to Ft. Norman and Norman Wells.

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.

A structure section, corrected to a datum of +500 feet at a datum velocity of 8000'/s, was prepared on the 45 mile line. Effects of the LVL, where applicable, were removed using an uphole-intercept method. The velocity function for NMO corrections was derived from a Δt analysis of the field records. The section was produced as a galvo-VAR display with a playback filter of 15-20-55-60.

RESULTS, CONCLUSIONS & RECOMMENDATIONS

Due to the lack of well velocity control, reflection identifications were based on correlations from the Cloverleaf and Norman Wells areas. The Hume and Canol reflections were identified and correlated throughout the area. Approximate Pre Cambrian and Proterozoic reflections were correlated but not mapped. A strong 1st order Surface to Hume multiple is present over a major portion of the line. With the excessive relief exhibited by the Hume reflection, the multiple varies greatly in its zone of occurrence. The Hume structure time and Canol to Hume isochron maps were prepared and submitted with this report.

The Hume structure map shows the presence of two anomalous structural features. An intrusive diaper feature located between shotpoints G115 and G118 and a fault system between shotpoints G80 and G83.

The diaper exhibits .200 secs. or approximately 1100 feet of displacement on the west flank and .430 secs. or 2365 feet on the east flank at the Hume level. Salt dome characteristics such as the lack of reflections in a homogenous section and onlapping reflectors on the flanks are present.

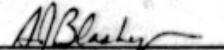
The fault exhibits approximately .123 secs. or 675 feet of throw at the Hume level.

The Canol to Hume isochron exhibits an anomalous thickening indicative of reef development near shotpoint G70. A good quality dip occurs on the Canol reflection.

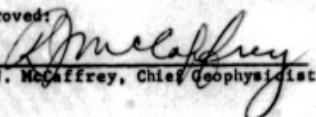
It is recommended that additional work be conducted in the area in the form of a gravity survey to verify the presence and location of salt intrusives; and seismic to delineate the diaper (s) and the post Hume reef lead.

Respectfully submitted,

BANFF OIL LTD.


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

Approved:


R. J. McCaffrey, Chief Geophysicist

STRATIGRAPHIC CHART

ERA	PERIOD	WRIGLEY - DAHADINNI RIVER	LIARD PLATEAU - TROUT LAKE	NORTHERN ALBERTA	GREAT SLAVE LAKE	
PALEOZOIC	DEVONIAN	UPPER	IMPERIAL sh, sh	ROTCHO sh, sh TETCHO ls, sh TROUT RIVER sh KAKISA sh, sh REDKNIFE sh ARMED MOUNTAIN sh	WASAMUN	
					WINTERBURN	
		MESA RIVER sh	FORT SIMPSON sh, sp			
	MIDDLE	CANOL sh	HORN RIVER (Horn Indian) sh	WOODSEND sh cor EDDIE JESSE sh	HOTCHO sh, sh TETCHO ls TROUT RIVER ls, sp KAKISA sh REDKNIFE sh, sh	
	LOWER	NAHANNI ls	HUME ls HEADLESS sh, ls FUNCHAL ls, sh MOUNTAIN LAKE ls ARNEA ls HUME ls DARKEE ls DELTAINE ls	MUSKWA SLAVE PT feet, ls, 0 dol RESA RIVER sh HORN RIVER sh WATT MTN HORN RIVER NAHANNI ls HEADLESS ls FUNCHAL ls ARNEA ls HUME ls DARKEE ls DELTAINE ls	BEAVERHILL LAKE IS SLAVE POINT WATT MTN WATT MTN HORN RIVER HORN RIVER NAHANNI ls HEADLESS ls FUNCHAL ls ARNEA ls HUME ls DARKEE ls DELTAINE ls	FORT SIMPSON - HAY RIVER sh MUSKWA sh SLAVE POINT HORN RIVER HORN RIVER NAHANNI ls HEADLESS ls FUNCHAL ls ARNEA ls HUME ls DARKEE ls DELTAINE ls
	SILURIAN	WHITTAKER ls sh	MOUNT KIRKLAND FRANKLIN MTN dol	MUSKEG ls STANLEY evap BLACKTOP HORN RIVER CHINCHAGA ls RED DEUS	SUGIUCHI Mtn STANLEY evap BLACKTOP HORN RIVER CHINCHAGA ls, dol RED DEUS	
	ORDOVICIAN					
	JETTOMITE sh, dol	NINDA ls WHITTAKER FRANKLIN MTN dol			ELK POINT LITTLE BAY POINT dol dol	
	CAMBRIAN	SALINE RIVER sh, sp, dol	NINDA ls WHITTAKER FRANKLIN MTN dol	CHEDARWOOD LAKE LA MARTHE FALLS sh, red & grn dol	CHEDARWOOD LAKE LA MARTHE FALLS sh, red & grn dol	
	PRECAMBRIAN	MOUNT CAP sh				
		MOUNT CLARK sh, qtzite				
		LONE LANTZ sh, sh, sh	Sediments, granites and metamorphics	Igneous and metamorphic	Igneous and metamorphic	
		sh, ss, sil, qtz & dol				

BANFF OIL LTD.
GEOPHYSICAL OPERATIONS REPORT

AREA	Brackett Lake	PERIOD FROM	February 13, 1969	TO	March 1, 1969
SHOT BY	C.G.G.	PARTY	S-910		
LOCATION	Northwest Territories	125°	LONG	65°	LAT
OR	TWPS.		RGENS.	W	M
CAMP SITE LOCATION	Line 1				
TERAIN	Flat to Rolling Hills				
COMMUNICATIONS	S.S.B. Radio Intermittent Reception				
	Phone available from Ft. Norman, Mobile radios.				
ACCESS	Calex Road system from Norman Wells.				
REMARKS	Wheeled supply truck improved operating efficiency.				

CREW BASICS

CAMP	Banff Porta-Built
CATERING	Foothills - Edmonton
TYPE OF VEHICLES	Track Mounted

SURVEYING

INSTRUMENTS	Wilde Theodolite T-0 and T-16
BENCH MARKS	Ft. Norman

TIES	Air Photo Mosaics
------	-------------------

ELEVATIONS	HIGH	*509	LOW	#241
------------	------	------	-----	------

REMARKS Line was shot on Calex Road

BULDOZING

CONTRACTOR Borek Construction - Dawson Creek, B.C.

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

PRODUCTION Approximately 9 miles per day

REMARKS Equipment and personnel was adequate to provide an efficient operation.

DRILLING

CONTRACTOR Two-Way Drilling - Calgary

Sedco Drilling - Calgary

EQUIPMENT 2-Conventionals 1-Conventional (Air) Sedco

1-Top Drive

3-Water trucks

PRODUCTION Approximately 2.3 hours per shot-point (120'-180')

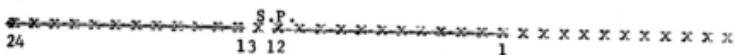
REMARKS Drilling efficiency improved. Long drive times restricted better production rate.

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
SPREAD LENGTH	1800	STATION INT.	150
SHOT POINT INT.	110	% COVERAGE	100&300
SHOTHOLE DEPTH	50	SHOT POINTS/MILE	3 and 9
		CHARGE SIZE	2x10# and 3x10#

SHOT POINT PATTERN DIAGRAM

K	L	M
x	x	x

SPREAD DIAGRAM

PRODUCTION Approximately 1.3 shot-points per hour

REMARKS 300% was shot on straight portions of line

100% was shot on remainder. Data quality very

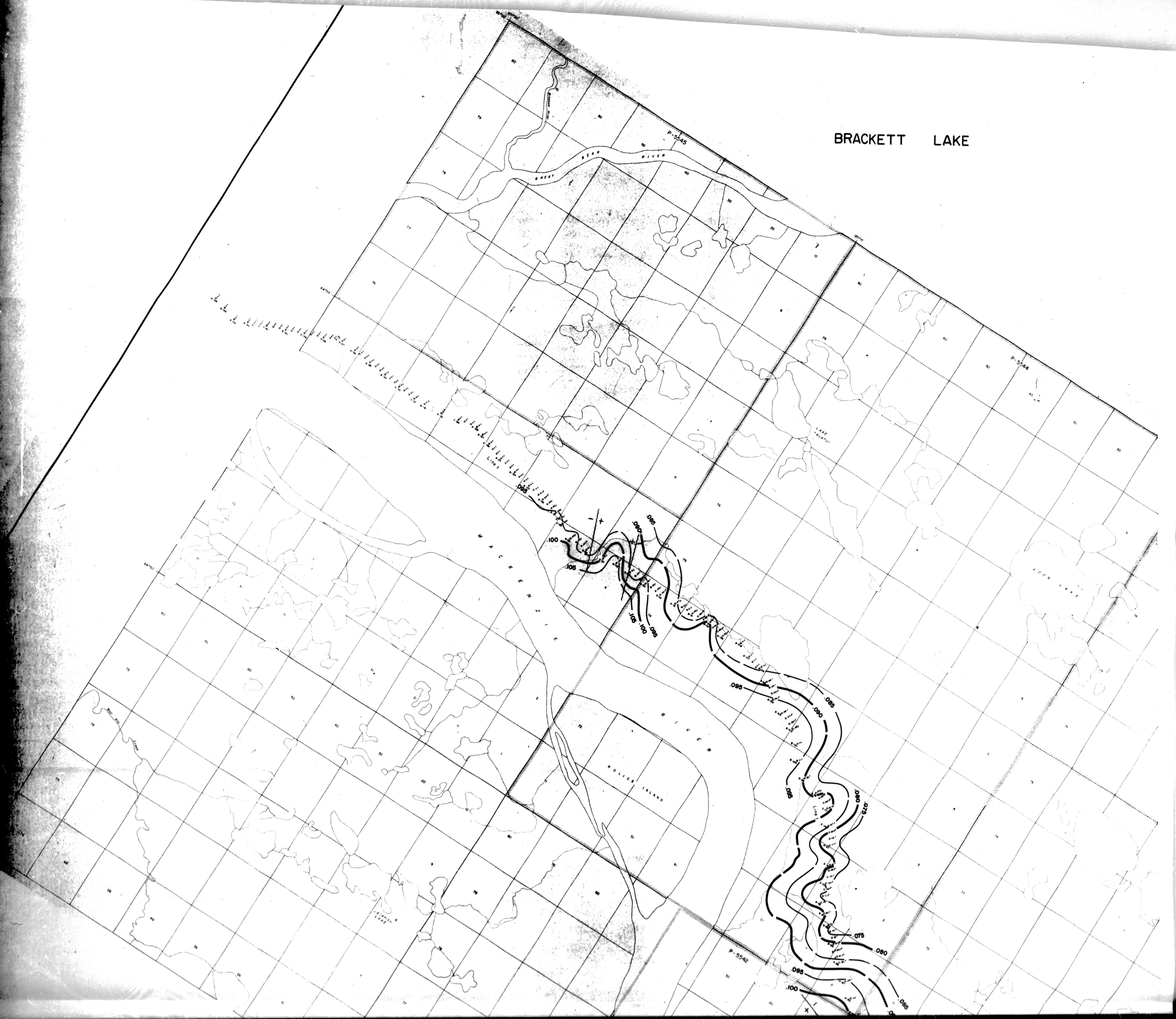
poor to good - shallow reflectors.

PERSONNEL

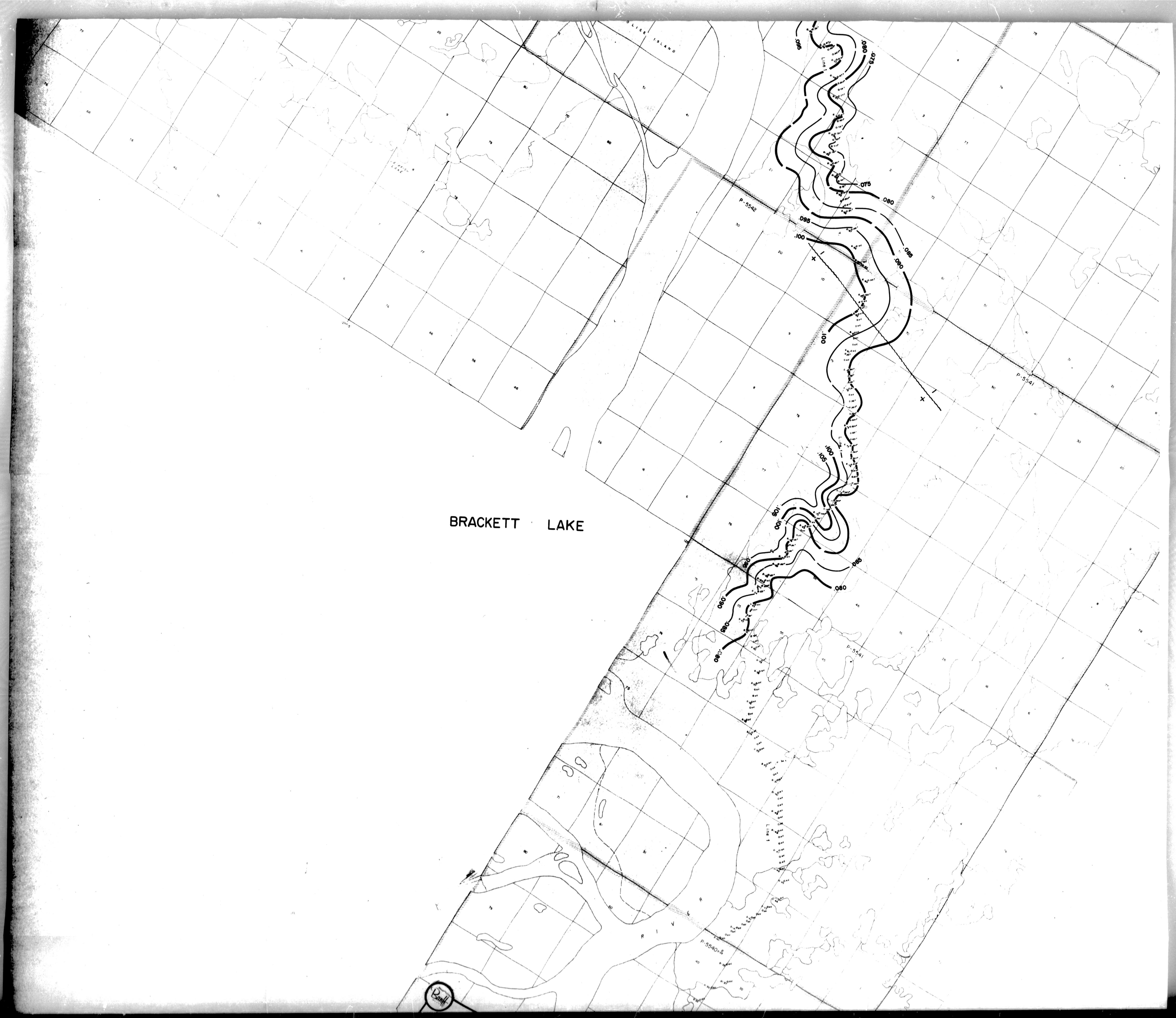
SUPERVISOR	M.Eidsness
PARTY MANAGER	O.Dionne
PARTY CHIEF	-
CHIEF COMPUTER	-
OBSERVER	N.Muscarello
SURVEYOR	P.Grisi

INTERPRETATION:

BRACKETT LAKE



BRACKETT LAKE

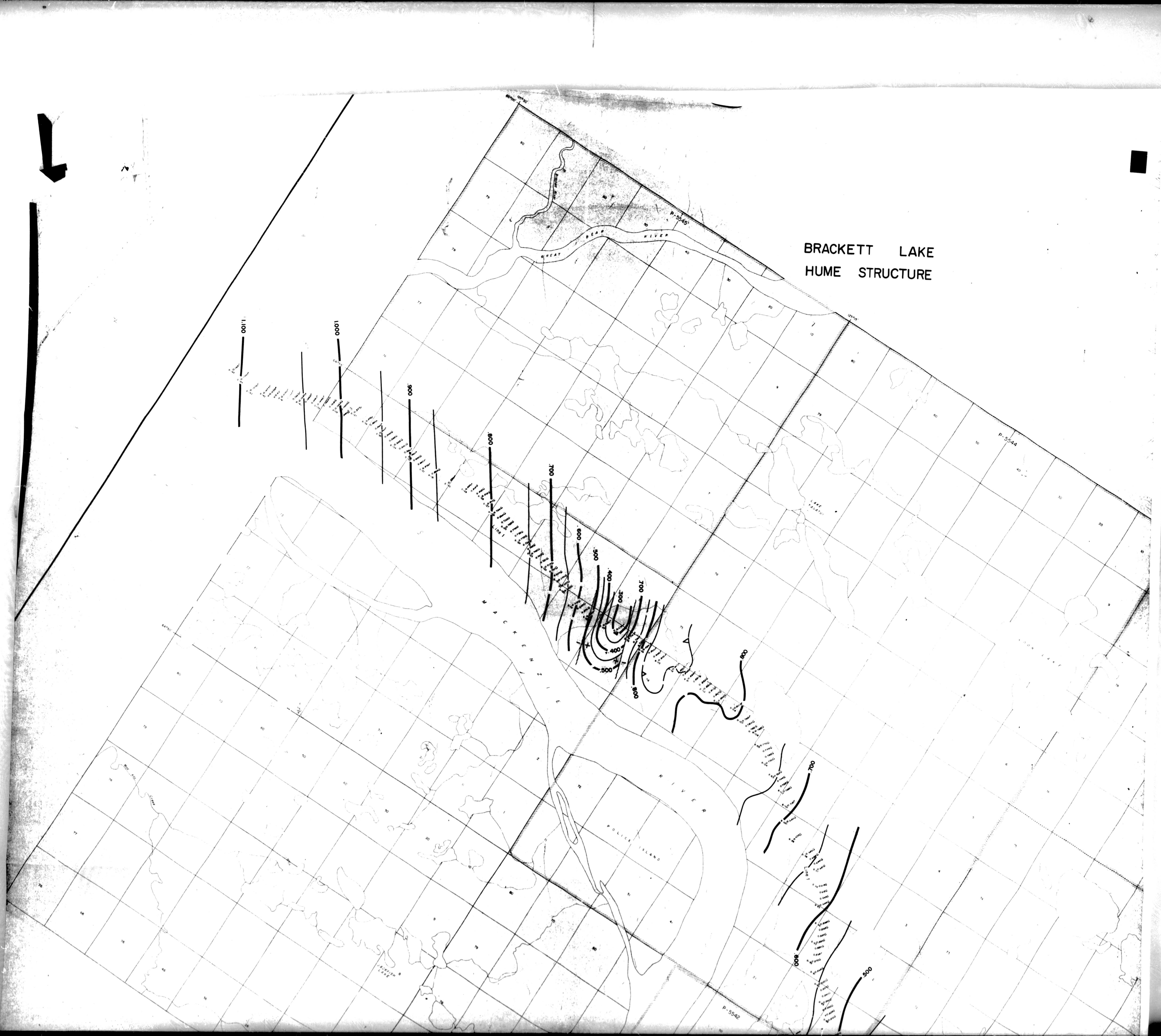


BRACKETT LAKE



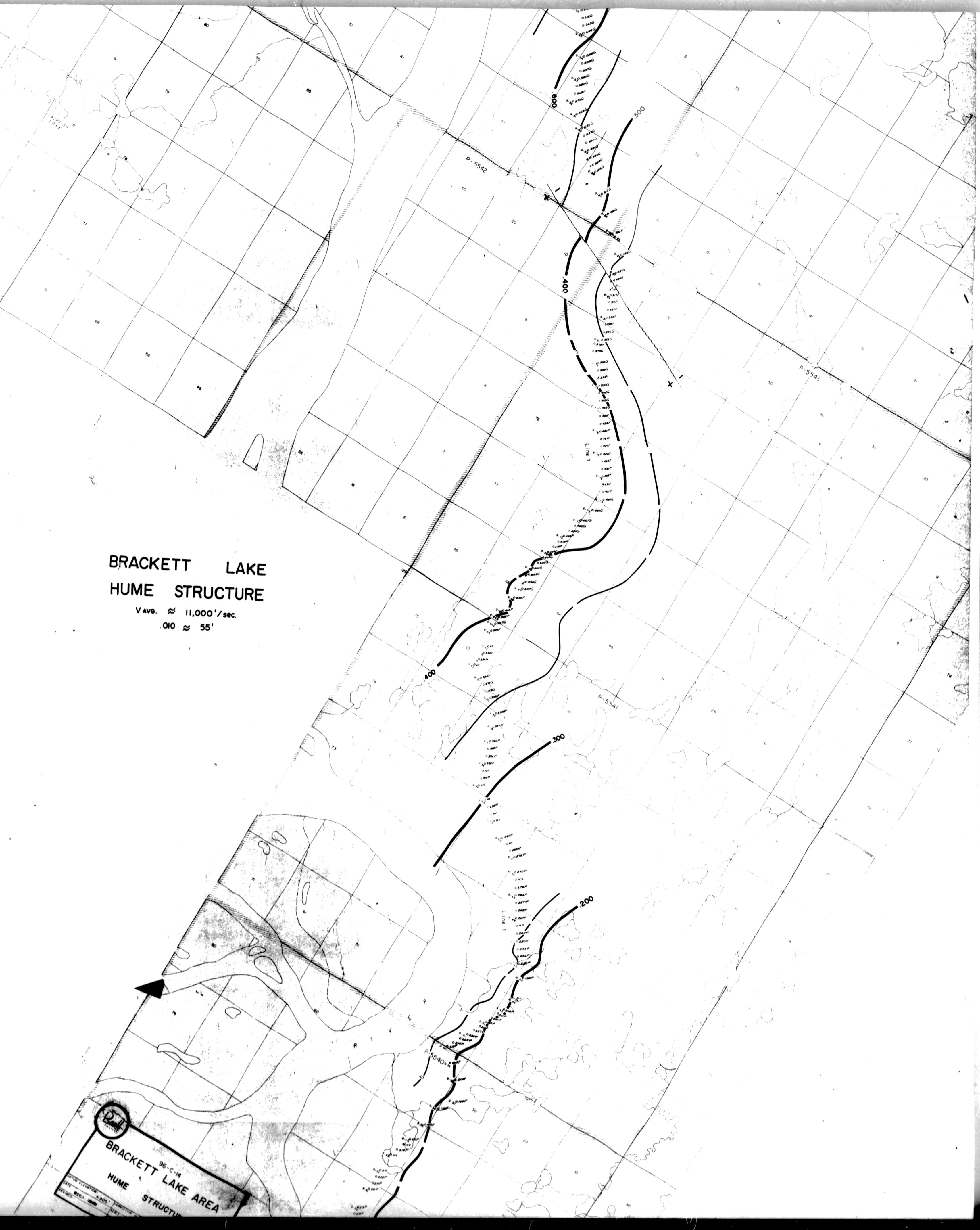


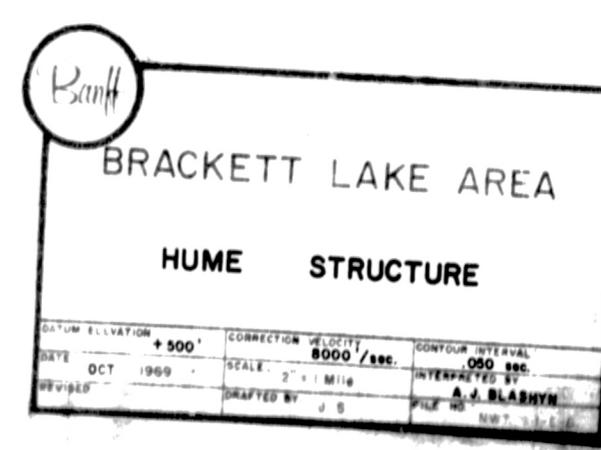
BRACKETT LAKE HUME STRUCTURE



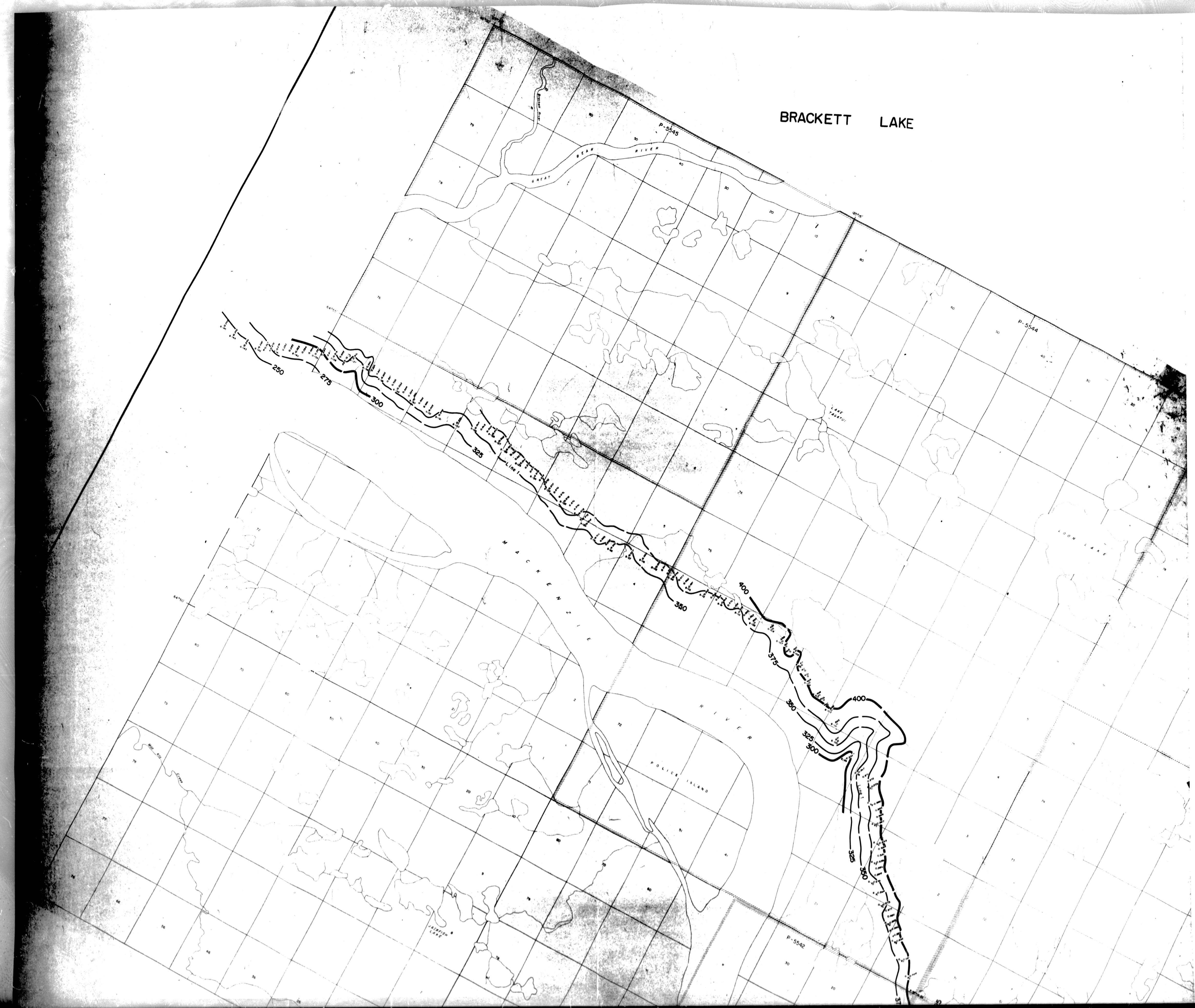
BRACKETT LAKE
HUME STRUCTURE

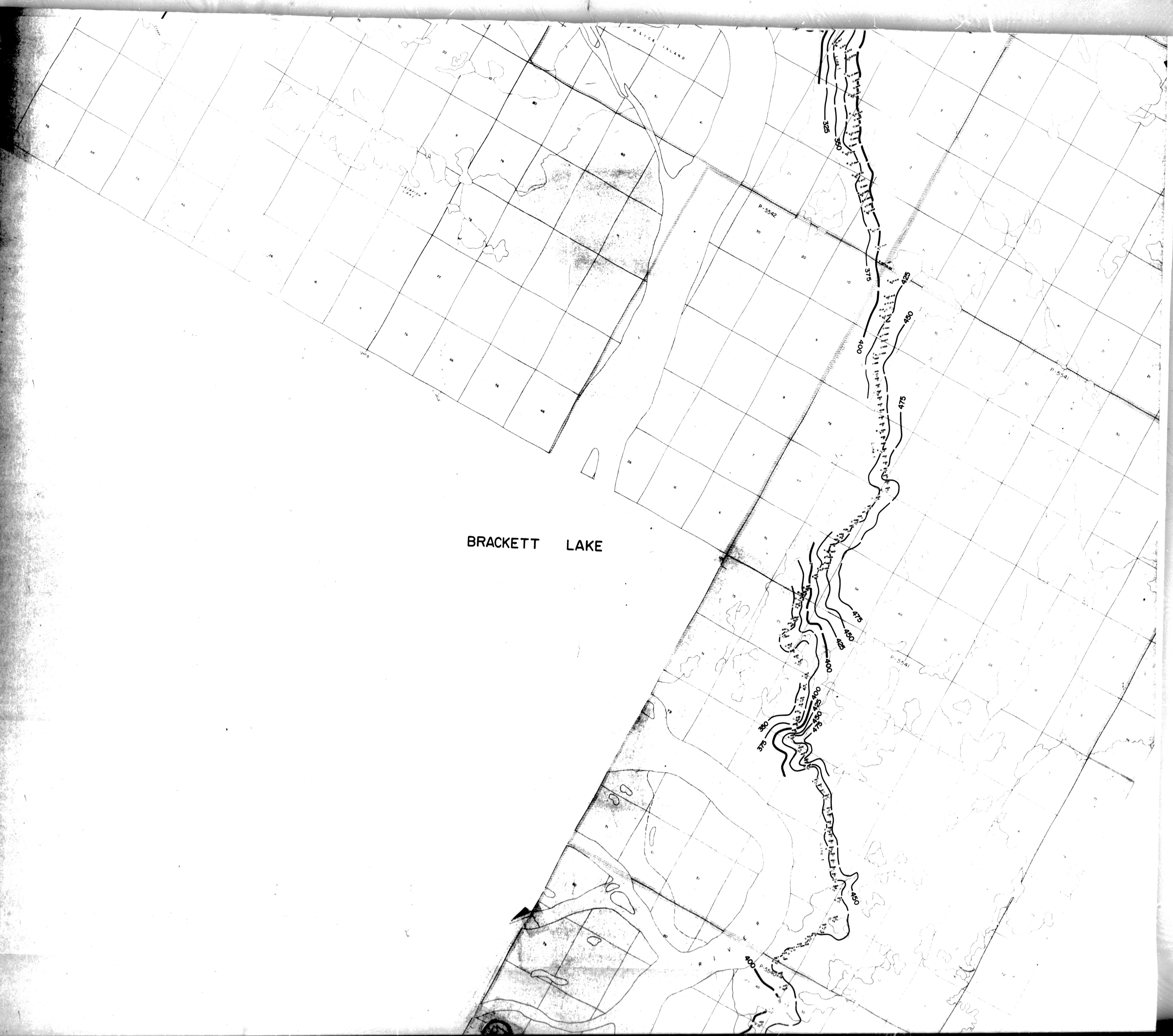
V Ave. \approx 11,000' / sec.
D10 \approx 55'





BRACKETT LAKE





BRACKETT LAKE

