

PROGRAM NUMBER Part 42-14
AREA ISLAND RIVER M.U.T.
YEAR 1982 FILED UNDER E.A.

REPORTS

OPERATIONS REPORTS: NUMBER 1

- REPORT OF REFLECTION SEISMIC SURVEY

INTERPRETATION REPORTS: NUMBER

MAPS

SHOTPOINT MAPS NUMBER

INTERPRETATION MAPS: NUMBER 1

- KOTCHO TO SLAVE POINT SECTION

OTHER: NUMBER 1

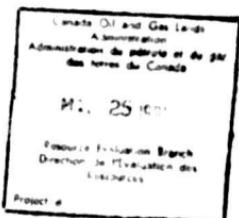
- 200

SEISMIC SECTIONS: NUMBER 1

L-2 P-0-1 MIGRATION 7.7 M.R.

Report of Reflection Seismic Survey

ISLAND RIVER
Northwest Territories



Program Number 9229-U3-1B

Date of Shooting - January 6, 1989

For
UNOCAL CANADA EXPLORATION LIMITED

Prime Contractor - Sonics Exploration Ltd.

Report by
J. N. Stoll P. Geoph
Unocal Canada Exploration Limited

April, 1991

J. N. Stoll

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INTRODUCTION

The Island River area is located in the North West Territories just north of the Etset area of north-east corner of British Columbia. The surface condition is flat muskeg terrain, vegetation is mainly bush growth.

Elevations vary from 625 to 675 metres above sea level.

The survey was conducted by Sonics Exploration Limited, Permit No. 1727, working on behalf of Unocal Canada Exploration Limited.

The work period was from January 1, 1989 to January 6, 1989. The crew was stationed at the Helmut Muskeg Open Camp in the Tooga area of north-east British Columbia as well as a portable cat camp in the Etset area of British Columbia.

The operation was supervised by Mr. J. Jackins of Unocal Canada Limited, and Mr B. Weir of Sonics Exploration Limited. The field operation was co-ordinated by Party Manager Mike Laurin.

Bulldozing operations were conducted by Kledo Construction of Fort Nelson.

EZP-001

EZP-001

121°19'

600000

121°10'

121°05'

60°00'

1.50,000.

A. GENERAL PROSPECT INFORMATION

PROSPECT NAME:	Island River
SONICS SUPERVISOR:	Bob Weir
SONICS JOB NO:	481211
PERMIT NO:	1727
CREW HEADQUARTERS:	Helmet Muskeg Open Camp
TOPOGRAPHY:	Mostly Muskeg All Cut Line
GOVERNMENT APPROVAL NO:	N88B053
RECORDING COMMENCEMENT:	January 6, 1989
RECORDING COMPLETION:	January 6, 1989
TOTAL KM RECORDED:	6.6 km.
TOTAL NO. OF LINES:	1

B. PERMITTING/ADVANCE WORK

COMMENTS ON PERMIT PROBLEMS, LINE CANCELLATIONS OR RE-ROUTING,
COMMUNICATIONS WITH LANDOWNERS, FOREST RANGERS, ETC.

B.1 LINE CLEARING/SLASHING

COMMENTS ON GROUND CONDITIONS, TERRAIN, ETC.

- Frozen Muskeg Conditions

LIST SUB-CONTRACTORS FOR ABOVE AND TYPE OF EQUIPMENT USED

- Kledo Construction - Two LBG Wide Pad DC6

C. SURVEY

- Kelly & Ass. (Calgary)

SUB-CONTRACTOR/SENIOR SURVEYOR: Laurie Lysek

EQUIPMENT USED: T-16 Wild Transit

CONTROL USED: Sokisha Red #2 E.D.M.

D. SOURCE TYPE

DYNAMITE:

TRACES: 120

GROUP INTERVAL: 25 meters

SHOT POINT INTERVAL: 100 meters

CDP COVERAGE: 3000

FOLD: 1500%

SOURCE: Dynamite

NO. OF HOLES PER SHOT POINT: One

HOLE DEPTH: 12 meters

CHARGE SIZE: 2 kg.

GEOPHONES: 9 over 25 meters

FIELD FILTER: Out/128

E. RECEIVER INFORMATION

<u>LRS-L1011</u> <u>GEOPHONE MAKE</u>	<u>Litton</u> <u>MODEL</u>	<u>14 hz.</u> <u>FREQUENCY</u>	<u>60%</u> <u>DAMPING FACTOR</u>
NUMBER OF PHONES PER STRING:			9
DISTANCE BETWEEN PLANTED PHONES IN ARRAY:			3.125 meters
TYPE OF BASE:			2" Spike
SPIKE LENGTH:			2"

F. RECORDING INSTRUMENTS AND PARAMETERS

INSTRUMENT TYPE/MANUFACTURE
(IF DFS V - INDICATE FM BOARD ASSEMBLY
AND DASH NO.): 2 Texas Instruments
DFS V

CHANNELS USED:	120
GROUP INTERVAL:	25m
SOURCE INTERVAL:	100m
COVERAGE:	1500%

SPREAD CONFIGURATION (IN METERS TO CENTRE OF GROUP):

<u>1500</u> <u>MAXIMUM</u>	<u>25</u> <u>MINIMUM</u>	<u>0</u> <u>MINIMUM</u>	<u>25</u> <u>MINIMUM</u>	<u>1500</u> <u>MAXIMUM</u>
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RECORD LENGTH:	3 sec.
SAMPLE RATE:	2ms
FILTERS:	Out/128
PRE-AMP GAIN:	3 bdb

AUXILIARY CHANNEL FUNCTIONS:

AUXILIARY #1:	T.B.
AUXILIARY #2:	U.H.
AUXILIARY #3:	File #

LIST TYPE OF EQUIPMENT USED (TRACKS, WHEELS, PORTABLE):

2	Track Drills and Wheels
1	1987 1 ton 4x4 Recording Unit
1	1987 3/4 ton 4x4 Shooting Unit
4	1987 1 ton 4x4 Cable Units
1	1988 3/4 ton 4x4 Party Manager's Truck
1	1987 3/4 ton 4x4 Mechanic's Truck
2	1987 3/4 ton Fuel Units, Crew Cabs
1	1987 3/4 ton Personnel Carrier
1	1987 1 ton 4x4 Wheeled Line Unit
1	1987 1 ton 4x4 Supply Unit
2	1988 3/4 ton Survey Units

G. CLEAN-UP

**NOTE WHAT WAS DONE AND WHAT REMAINS TO BE DONE
(SEEDING, EROSION CONTROL, ETC.)**

- Slashing and Rollback

H. LIST OF KEY PERSONNEL

CREW SUPERVISOR:	Bob Weir
PARTY MANAGER:	Mike Laurin
OBSERVER:	Doug Bowman/Dan Moore
SURVEYOR:	K. Laurie, B. Lysek - Dave Forrester (Kelly & Ass.)
ADVANCE MAN:	Mike Laurin

I. STATISTICAL DATA

NO. OF KILOMETERS RECORDED: 6.6 km
SURVEY START DATE: January 3, 1989
SURVEY COMPLETION DATE: January 4, 1989
NO. SURVEY DAYS IN FIELD: 2 days
RECORDING START DATE: January 6, 1989
NO. RECORDING DAYS IN FIELD: 1 day

J. GENERAL CONCLUSIONS AND RECOMMENDATIONS
REGARDING OPERATIONS

AVERAGE TEMP: -25° -35°
TRAVEL TIME: Camp -> Job - 3.0 Hours
OPENED: 7 km of access
DRILLING: Clay drilling with boulders.
No water on program. Track
drills walk to Etset 3D for
water.
DATA QUALITY: Good - Excellent

PREPARED BY: M. Laurin
D. Moore

DATE SUBMITTED: February 10, 1989

DATA PROCESSING

Amplituded Recovery	(T) EXP (BT)	B=0.0010
Phase Compensation	Instrument And Geophone	
Deconvolution	Surface Consistent Spiking	
Deconvolution	Zero Phase	
Static Corrections	Elevation, Weathering and Drift	
	Datum Elevation 400 Metres	
	Datum Velocity 3048 Metres/Second	
Velocity Analysis	Type Semblance Plot	
	Common Offset	
	Interval 60 CDP's	
Trace Gather	15 Fold	
Multiple Attenuation	Tau-P	
Mute Pattern	Distance(M) 175 310 750 1500	
	Time(MS) 230 300-400 580-630 1030	
Automatic Statics	Surface Consistent Residual	
	CDP Cross Correlation	
Migration	Finite Difference	
	90% Theoretical Velocities	
Bulk Shift	Plus 60 MS Bulk Shift	
	to tie Previous Datum	
Filter	14/18 - 100/120 Hz.	
Equalization	Time-Variant	
	700 800 1700 1800 MS.	
	100 130 130 100 *	

DISCUSSION OF MAPS AND SECTION

A synthetic seismogram generated from the well M-41 was used for correlating the seismic section EZP-001. The seismic line ties the well at shot point 168. The tie is very good and presented little problem in identifying and mapping key horizons.

A Kotcho to Slave Point map was generated which is the essential map for identifying Slave Point reefal structure. The only structure indicated is near the well tie and is very small in areal extent.

Data quality is very good and the Slave Point Reef edge was easily mapable from structure.