

PROGRAM NUMBER 229-42-14

AREA ISLAND RIVER N.W.T.

YEAR 1989

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

- LOG

**SEISMIC SECTIONS:**

NUMBER 1

L-2-P-001 MIGRATED SECTIONS

Report of Reflection Seismic Survey

ISLAND RIVER  
Northwest Territories

Program Number 9229-U3-1E

Date of Shooting - January 6, 1989

For

UNOCAL CANADA EXPLORATION LIMITED

Prime Contractor - Sonics Exploration Ltd.

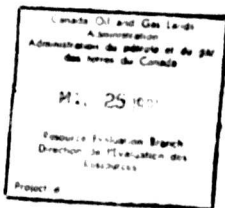
Report by

J. N. Stoll P. Geoph

Unocal Canada Exploration Limited

April, 1991

*J N Stoll*



## TABLE OF CONTENTS

	PAGE
INTRODUCTION	1
LOCALITY MAP	PLATE 1
GENERAL PROSPECT INFORMATION	2 A
PERMITTING ADVANCE WORK	2 B
SURVEY	3 C
SOURCE TYPE	3 D
RECEIVER INFORMATION	4 E
RECORDING INSTRUMENTS AND PARAMETERS	4 F
CLEAN-UP	5 G
LIST OF KEY PERSONNEL	5 H
STATISTICAL DATA	6 I
DATA PROCESSING	7
DISCUSSION OF MAPS AND SECTIONS	8

## 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.

60° 05'

— 1:50,000

EZP-001

EZP-001

60° 00'

121° 15'

000000

121° 10'

121° 05'

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/120

# E. RECEIVER INFORMATION

LRS-L1011	Litton	14 hz.	60%
GEOPHONE MAKE	MODEL	FREQUENCY	DAMPING FACTOR

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):

1500	25	0	25	1500
MAXIMUM	MINIMUM		MINIMUM	MAXIMUM

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

Amplitued 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 mappable from structure.