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**WINTER 1995 NETLA PROGRAM**

**FINAL PLAN REPORT**

**on the**

**PROPRIETARY HELIPORTABLE DYNAMITE SEISMIC SURVEY  
in  
NETLA AREA  
N.W.T.**

**PROGRAM #9229-B059-001E  
LUP N95B340**

**by**

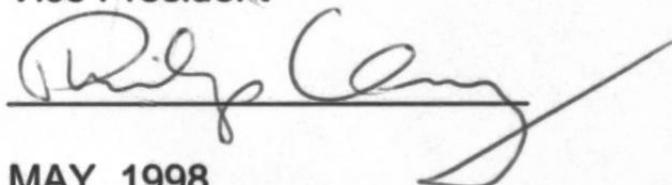
**B.F.R. GEOPHYSICAL CONSULTANTS LTD.**

Duration: January through April 1995

Contractor: Geco Prakla

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Date: MAY, 1998



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## **INTRODUCTION**

B.F.R. Geophysical Consultants Ltd. specializes in speculative seismic programs in foothills and frontier areas of Canada. With the lifting of the exploration moratorium in the Ft. Liard area we perceived an opportunity to establish the beginnings of a modern high quality regional grid of seismic .

While B.F.R. shot non-exclusive data is was found to be effective and efficient to shoot proprietary work for our clients. This proved to be beneficial for all parties involved.

## STATISTICAL SUMMARY

### **Significant Dates:**

<b>Commencement:</b>	February 14, 1995
<b>Start Production:</b>	N/A
<b>Termination:</b>	March 19, 1995
<b>Number of Technical Personnel:</b>	13
<b>Number of Non-Technical Personnel:</b>	36

### **Type and Number of Equipment Used:**

- 1 Air conditioned Recording Cabin mounted on an F700 4x4. Separate diesel driven 17 kVA generator supplying power for air conditioning and instrumentation.
- 1 Party Manager Unit - F250 4 x 4
- 2 Line Units - F350 4 x 4
- 2 Transport units - F700 4 x 4 (or equivalent)
- 1 Support Unit - F250 4 x 4
- 1 Mechanical Unit - F250 4 x 4
- 2 Personnel Carrier
- 1 Battery Charging Unit
- 2 Honda A.T.V. Quads

**Statistical Summary** con't.

**Production Data:**

**Total Distance Surveyed:** 30.6 km

**Time Lost:** Some time was lost due to weather conditions

**Daily Production:**

Feb. 27	09.1
Mar. 01	08.2
Mar. 04	10.1
Mar. 06	3.2

**Total Kms:** 30.60km

**Summary of Conditions Pertaining to Weather and Terrain:**

Very little alpine, with mostly treed and thick underbrush proved to be favorable terrain.  
Very agreeable weather conditions with some high winds and rain.

**Summary of Factors Which Caused Down Time:**

Advanced crew was shut down for 2.2 days due to high wind and rain.

## **DATA ACQUISITION EQUIPMENT and FIELD PROCEDURES**

### **Positioning & Survey Systems:**

Conventional survey methods were used on all lines. The process involved traversing along the line and surveying in the shot points and receiver stations. Heights were surveyed using trigometric leveling. Error tolerances were within 10m horizontally and 1m vertically. Survey computations were reduced using the Nad 27 datum. UTM values are for Zone 10 using a CM of -123° W longitude.

Control was established using GPS to densify existing Federal government markers.

Repeatability is + or - 10m horizontally and + or - 1m vertically using permit tags to re-establish.

<b>Parameters of Energy Source:</b>	Vibroseis
<b>Source Array:</b>	4 Inline centered on half station, over 30m
<b>Detector Equipment:</b>	12 Geophones/String 1.6m Geophone Spacing Sensor SM4 14Hz Geophone Type
<b>Detector Array:</b>	12 Geophones over 20m
<b>Recording System:</b>	I/O System II SEG-D
<b>Recording Parameters:</b>	
<b>Shot Interval:</b>	100 m
<b>Station Interval:</b>	20 m
<b>Channels:</b>	300
<b>Sweep:</b>	10-100Hz, 12 seconds, 8 sweeps

## **Data Acquisition con't**

**Far Offsets:** 3010m

**Near Offsets:** 10m

# GEOPHYSICAL DATA PROCESSING

## FOR SEISMIC REFLECTION DATA:

### Gain Recovery:

**Bandpass Filter:** 3Hz to 120 Hz

### Mute Pattern:

<b>Type of Deconvolution:</b>	Adaptive 5 Component
	- Operator Length : 80 ms
	- Prewhitenning : 0.1 PCT
	- Design Window: * 350-1900 ms @ offset 0 m
	*1800 - 2200 ms @ offset 3010 m
<b>Type of Velocity Analysis:</b>	Standard
<b>Distance Between Analysis:</b>	250m
<b>Picking Method:</b>	Semblance

## STATIC CORRECTION METHOD PARAMETERS:

### Statics

Structural Datum: 600 Meters ASL  
Replacement Velocity 2850m/s

### Elevation

### Statics Residual (1<sup>st</sup> pass)

Automatic Residual Statics Surface Consistent  
Window 0-3000ms

### Surface Consistent

### Statics Residual (2<sup>nd</sup> pass)

Automatic Residual Statics Surface Consistent  
Window 400-1600ms

### 400-1600ms

### Trim Statics

Window 300-2100ms @ 0m offset  
2000-2100 ms @ 3100m offset

## Geophysical Data Processing cont'd.

### **MIGRATION METHOD PARAMETERS:**

85% Theoretical Velocities

- 85% of Stacking Velocities
- minus 90 Degree Angle

### **TIME AMPLITUDE DISPLAY METHOD:**

Trace Equalization:

Length of Scaling Operation: 700-1800ms

Application of Scaling Operations: Mean Window

Film Display: 7.5 inches/sec

Percent of CDP Stack

30 traces/inch

3000

## WINTER 1995 NETLA PROGRAM

### LIST OF LINES AND KILOMETERS SHOT PER LINE

**95-01**

**21.00 km**

**95-02**

**9.60 km**

**TOTAL**

**30.60 KM**

## **ENCLOSURES**

**LINES 95-01, 95-02**

**REPRODUCIBLES**

- 2 Shot Point Map
- 6 Migrated Stack Normal Polarity Section

**PAPER**

- 2 Shot Point Maps
- 6 Migrated Stack Normal Polarity Sections