SUMMER 1997 FORT LIARD PROGRAM

FINAL PLAN REPORT

on the

NON-PROPRIETARY HELIPORTABLE DYNAMITE SEISMIC SURVEY
in
FORT LIARD AREA
N.W.T.

PROGRAM #9229-B059-006P
LUP N95B340

by

B.F.R. GEOPHYSICAL CONSULTANTS LTD.

Duration:	February through March 1997
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Date: MAY 8, 1998

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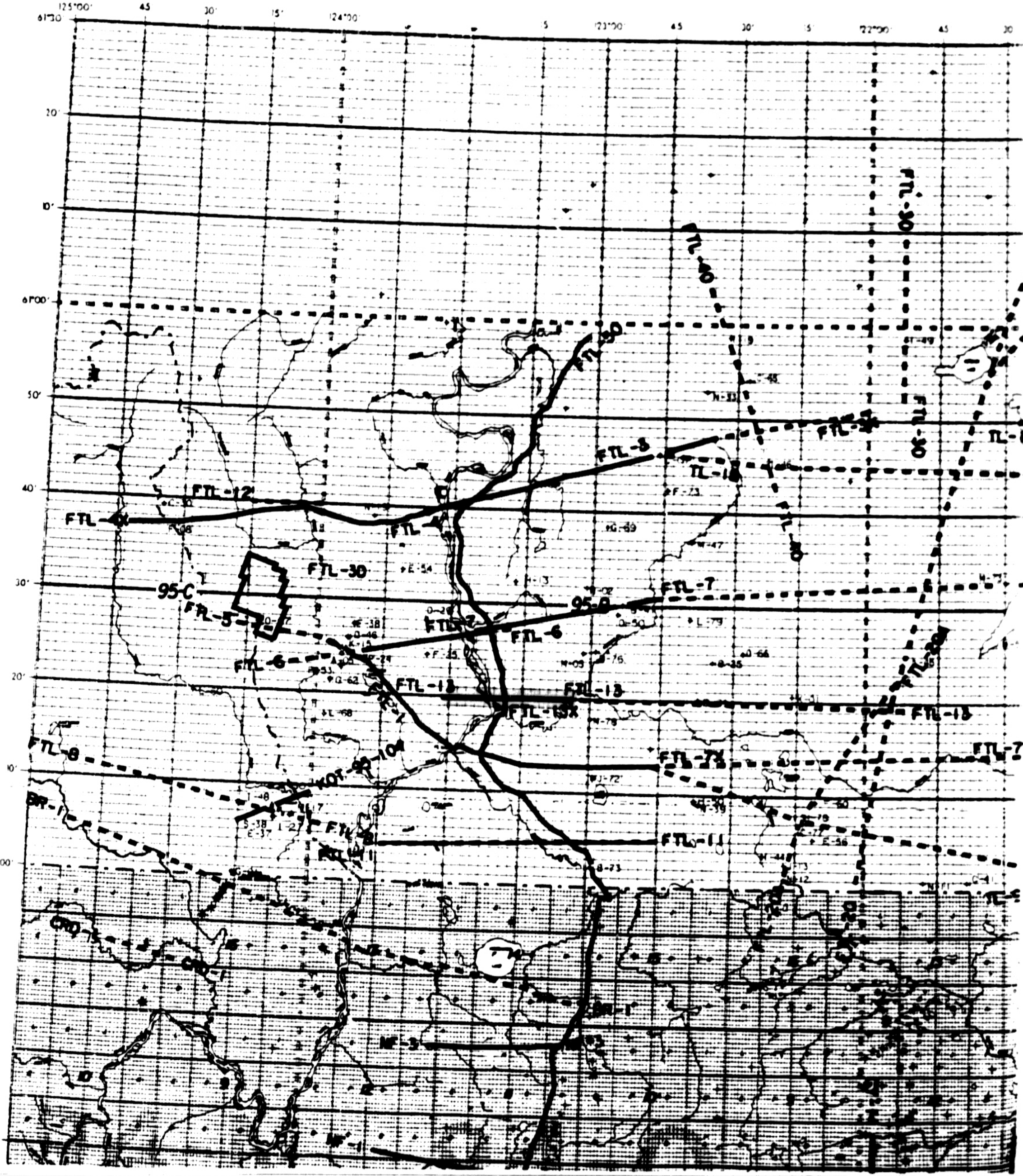
INTRODUCTION

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 .

Using a combination of existing data, access well and geology, we proposed a program that we felt would provide a grid of seismic that would help establish a new geological framework for the area.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FTL-13
FTL-11
FTL-8
TL-1
TL-13
95-C
95-B
KOT-92-104
BR-1

STATISTICAL SUMMARY

Significant Dates:

Commencement:	February 13, 1997
Start Production:	March 26, 1997
Termination:	March 29, 1997

Number of Technical Personnel: 48

Number of Non-Technical Personnel: 15

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
- 4 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 Snowmobiles/Quads

1 Vibrator Technician Unit

1 Fuel Unit and Spare Parts Trailer

4 Mertz M18HD Buggy Vibrators

Statistical Summary con't.

Production Data:

Total Distance Surveyed:	**24.680km**
Time Lost:	No time was lost due to weather conditions
Daily Production:	24.680 kilometers were shot in 8 days

Summary of Conditions Pertaining to Weather and Terrain:

Mostly muskeg awith some heavy underbrush. Line crossed the Liard River.

Summary of Factors Which Caused Down Time:

N/A as no time was lost.

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.

Parameters of Energy Source:	Vibroseis
Source Array:	4 Vibes
Detector Equipment:	Cable - 400 Channels - Split Spread 6 Geophones per Group 2.5m Geophone Spacing Type OYO 10 Hz
Detector Array:	9 Geophones over 20m
Recording System:	I/O System II SEG-D
Recording Parameters:	
Shot Interval:	40/80 m
Station Interval:	20 m
Channels:	400

Data Acquisition con't

Far Offsets:	3007.5 m
Near Offsets:	22.5 m

GEOPHYSICAL DATA PROCESSING

FOR SEISMIC REFLECTION DATA:

Gain Recovery: Spherical Divergence Correction

Bandpass Filter: 12-14-80-90Hz

Mute Pattern: all offsets

Type of Deconvolution: Surface Consistent Spiking
- Operator Length : 120 ms
- Prewhitening : 0.1 PCT
- Design Window:
  - 0250-2800 ms @ 15 m
  - 950 - 2900 ms @ 3200 m

Type of Velocity Analysis: Interactive Velocity Analysis

Distance Between Analysis: N/A - analysis on whole line velocity panels

Picking Method: Stack panels

STATIC CORRECTION METHOD PARAMETERS:

Statics Refraction

DRM refraction statics

Datum elevation 500 m

Replacement Velocity: 4000 m\s

Iterations 6

Geophysical Data Processing cont'd.

MIGRATION METHOD PARAMETERS:

Finite Difference Migration

Using 90% of V6 NMO velocity

TIME AMPLITUDE DISPLAY METHOD:

Time Variant Scaling: **7 Gates**

DISPLAY PARAMETERS:

Horizontal:	50 TPI
Vertical:	7.5 IPS

SUMMER 1996 FORT LIARD PROGRAM

LIST OF LINES AND KILOMETERS SHOT PER LINE

FTL - 13	**24.680 km**

ENCLOSURES

LINE FTL-13

MYLARS

2	Shot Point Map
2	Migration Stack Section
2	Structure Stack Section

PAPER

2	Shot Point Maps
2	Migration Stack Sections
2	Structure Stack Sections

DISK

1	Survey Floppy