



**Paramount**  
*resources ltd.*

Significant Discovery Licence 8

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**2D Seismic Project (45 km)  
Environmental Assessment**

February 2006

## **CORPORATE PROFILE**

- Canadian energy company incorporated in 1978
- Explore, develop, process, transport and market petroleum and natural gas
- 170 employees in Calgary head office and 60 throughout field offices
- Active in Northwest Territories since 1979

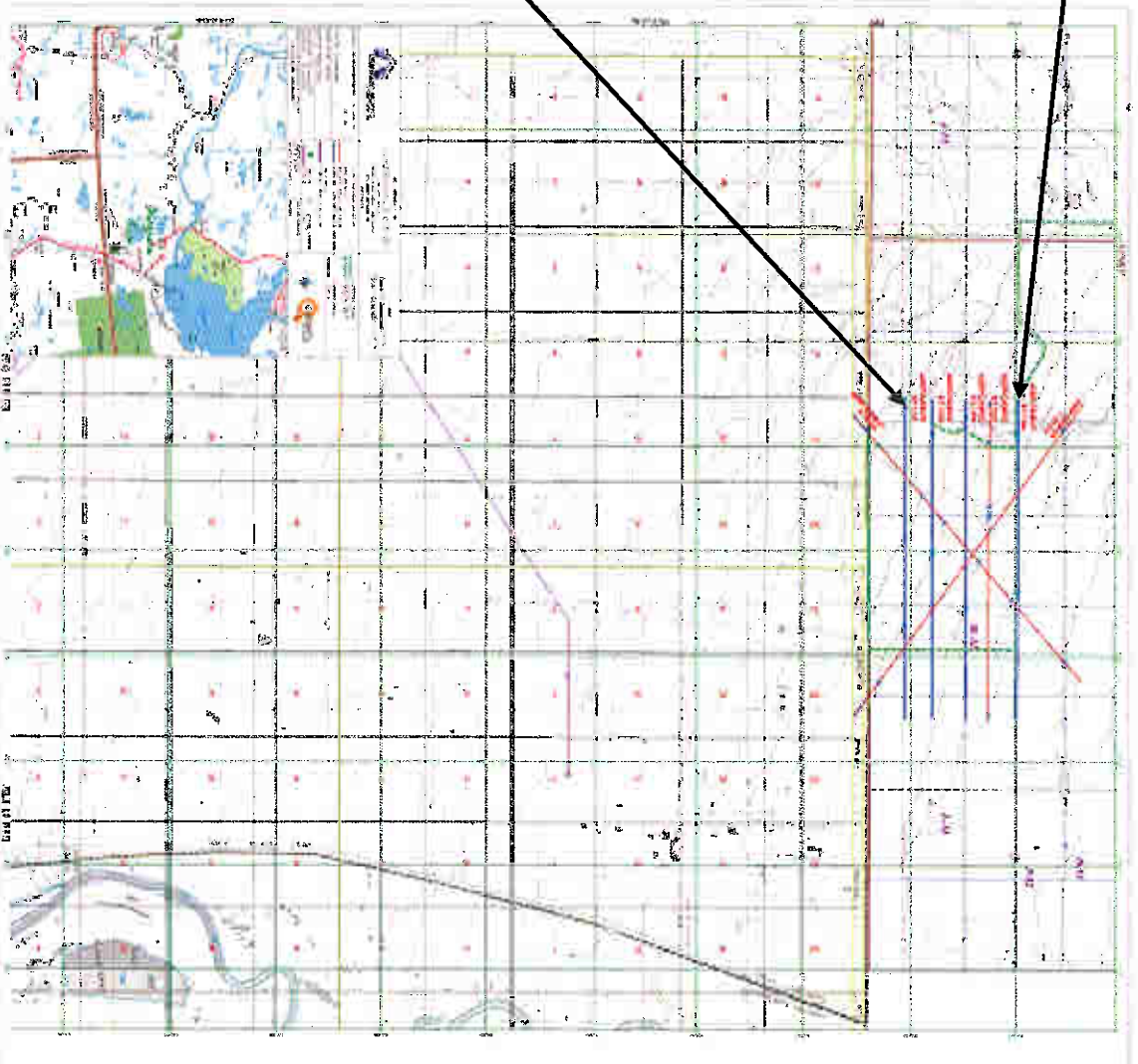




Proposed Line A05P-Cam-01 showing existing regrowth. Looking west.



West end of proposed existing line A05P-Cam-05.





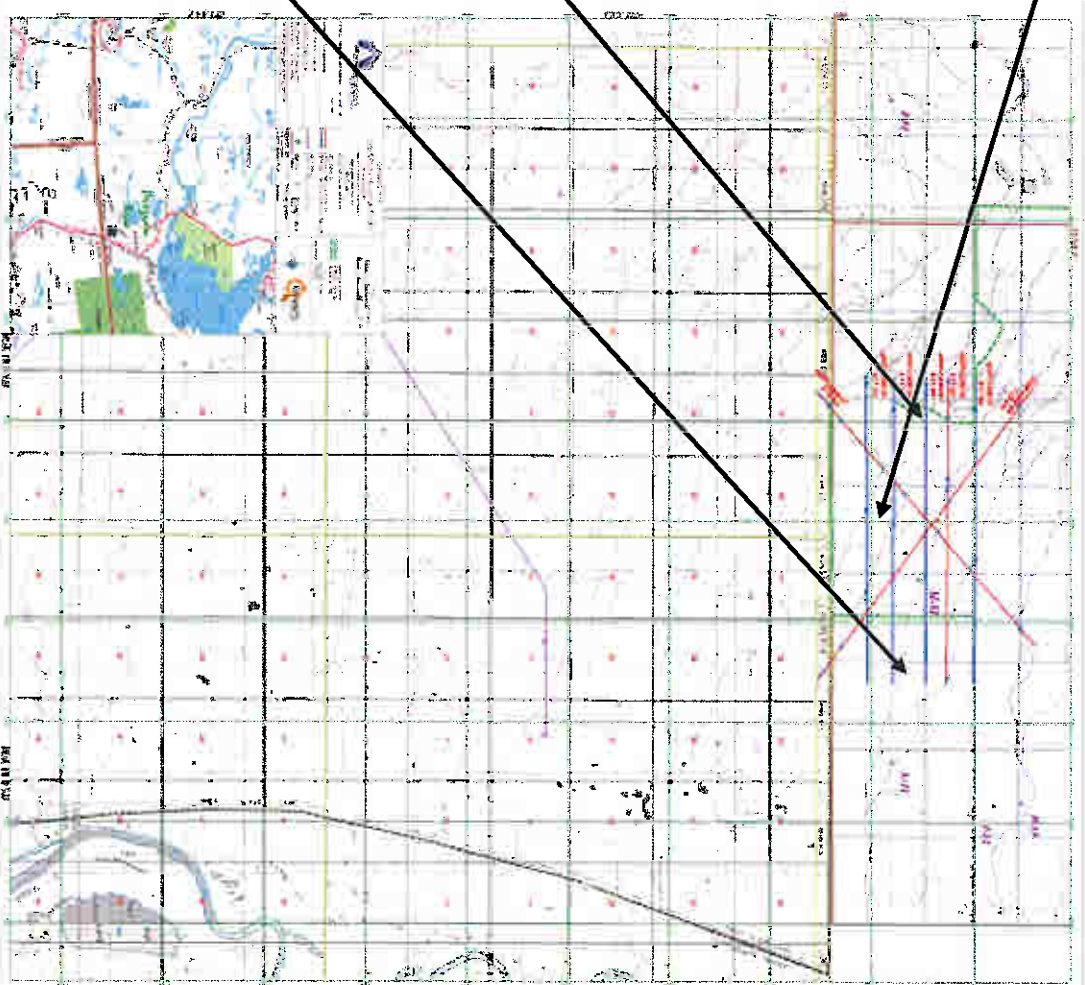
Black Spruce or mixed black/white spruce transitional wetlands comprise the majority of the exploration area.



Aspen & mixed aspen/white spruce stands are found as large tracks along the Cameron Hills escarpment & in smaller patches within the central & eastern regions of the exploration area.



Bogs occur within the SER, grading to black & white spruce transitional wetlands where soils are better drained.



## PROPOSED 2D SEISMIC ACQUISITION ON SDL 8.

### INTRODUCTION

- $\approx$  45 km of 2D seismic
- 57% on existing lines

### DESCRIPTION OF OPERATIONS

- Three major components:
  - Energy source (dynamite or vibrator trucks);
  - Sensor called geophone;
  - Recording device (computers in a special truck) (figure 1).
- When vibroseis is used, a metal plate mounted on the bottom of the vibrator truck (figure 2) shakes the ground to create a sound wave.
- Dynamite – the explosive charge is buried in the ground and detonated to create a wave through the underlying rocks (figure 3).

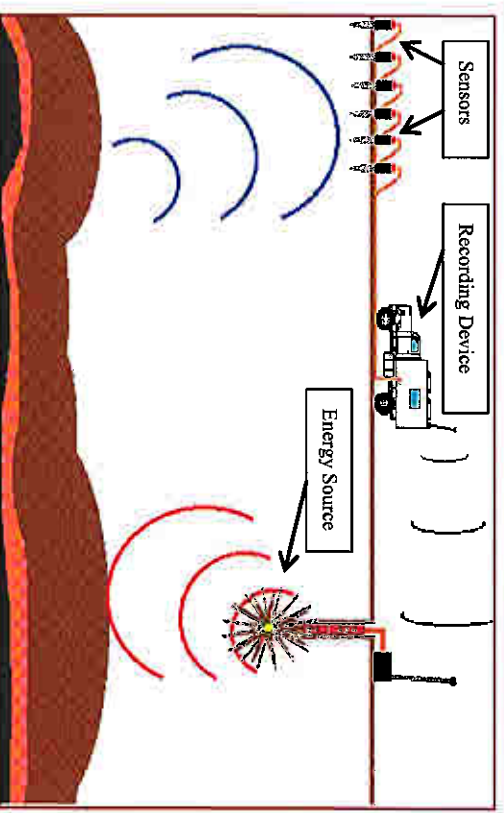


Figure 1 – Seismic Data Acquisition: An acoustic wave is produced that travels through the earth. A portion of this energy returns to the surface and is recorded by sensors (geophones) as a seismic record.



Figure 2 – Vibroseis Trucks



Figure 3 – Portable shallow hole drilling rig used in dynamite programs.

#### **LINE CLEARING**

- Avoidance cutting techniques
  - Large trees are avoided
  - Meandering lines will be cut minimizing line of sight.
  - Width of the lines kept to a minimum
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- Lines will be cleared with small, low ground pressure (LGP) bulldozers (maximum width of 6 meters).
  - Debris will be pushed into windrows on one side of the line alternating every 400 meters.
  - Alternating windrows will minimize the potential wicking effect during forest fires.
  - All the debris will be slashed into 2-meter lengths or less and bucked to lie flat.

#### **PROGRAM DESIGN**

- This is a 2D program which gives two-dimensional sub surface data.
- Uses one line as both the source and receiver line, meaning that the energy source and geophones are both placed on the same line, in the same direction.

#### **ACCESS**

- From highway 35 at Indian Cabins, Alberta
- Winter only
- Stream crossings using clean snow fill, ice bridges adhere to MWLWB & DFO regulation

### **SURVEYING AND CHAINING**

- Will follow line clearing when enough line is produced so survey crews do not catch the line clearing equipment (figure 4).
- The survey crews determine survey coordinates, chain the locations of source & receiver points.
- Besides survey instrumentation and chaining equipment, these crews utilize pickup trucks and Quads.



Figure 4 - Surveyor

### **RECORDING**

- Recording crew follows the surveying and chaining once the majority of the program is prepared.
- The crews start by laying out geophones on receiver lines.
- Geophones are connected in series by cables, which connect directly or remotely to a recording truck.
- The crews laying the geophones will use trucks and quads. The remainder of the crew will drive the vibrator trucks, or drills, and execute the source energy at the source points.

### **CAMPSITE**

- The camp will be located in Alberta at Indian Cabins.

### **WASTE DISPOSAL**

- All garbage will be disposed of at an approved facility.

### **EXPLOSIVES**

- Will be handled and stored in accordance with National Energy Board regulations. Proper storage magazines will be used to store the explosives, and a stringent inventory control.



### **FUELS & FUEL TRANSFER**

- The main fuel storage will be at the Operations Base in Alberta.

### **RESTORATION AND RECLAMATION**

- Program cleanup will be progressive, starting with a final inspection being done at the end of the program.
- All garbage and any material brought into the program area will be removed.

### **SOCIO-ECONOMIC**

- The program area was scouted with participation from a local first nation trapper.
- Potential employment & contracting opportunities include but are not limited to slashing, clearing, camp, catering, fuel.