

PEREGRINE Ventures, Inc.

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Final Report: Thunder River Prospect, Inuvik, NWT, Canada

Introduction

Peregrine Ventures, Inc. was contracted by Vintage Petroleum and Devlan Exploration to perform field services for a Gore-Sorber exploration survey in the Thunder River Prospect, Inuvik, Canada. The Thunder River Prospect is an exploration field without production containing both new and old 2D seismic lines. It is located approximately 100 miles southeast of Inuvik, and 70 east of Arctic Red River (Tsiigehtchic), just south of the Mackenzie River near 67 20 00 N and 131 45 00 W. Installation of the Gore-Sorber modules took place between the 25th and 29th of July, 2001, and retrieval between the 14th and 17th of August, 2001. The program consisted of 196 grid modules and 2 model wells using 15 modules per model site.

Survey Design

The survey was designed along existing seismic lines. These included: DTR 001, DTR 002, DTR 003, BNX 12, BNX 16, DTN 004, DTN 005, BNW 10, BNW 11, BNW 12, BNW 13, A000200115, A000200080, and 1 seismic line 6 km to the north of A000200080. All of these lines were sampled, as well as a line extending south from the Mackenzie at approximately 131 15 00 west Longitude. This sampling line was not located on top of an old seismic line.

Sample locations were reached via helicopter, leaving from Inuvik, and refueling at Arctic Red River, and a fuel cache in the sampling area.

GPS, Geodetic Projection and Datum

Sample locations were recorded using a handheld Garmin 12XL GPS unit, accurate to within approximately 15 meters without post-processing. Sample locations were recorded at the landing spot of the helicopter, and not at the actual sampling location. Sampling locations ranged from 20m to 35m from the helicopter-landing site. Sampling locations were recorded in UTM projection, NAD27 Canada datum.

Environment/Terrain

The local terrain is Tundra covered with sparse Fir and Spruce forest. The area is littered with lakes of all sizes, and there are numerous swampy areas in the vicinity of these lakes. Permafrost lay just beneath the ground surface, in some instances directly underneath the thick mossy insulating ground vegetation. These areas were impossible to sample without a drill. In other areas where the ground moss was less thick, 18in of soil was encountered. It is doubtful that the permafrost was located at depths greater than 25in in any place. At any one helicopter landing spot, it was necessary to probe the ground until a suitable sampling site was discovered (18in of soil).

The area is mostly flat with some relief due to local erosion near the Mackenzie River and in the eastern portion of the survey. Temperatures ranged from 55F to 85F, which directly related to cloudy or clear skies. On the last day of installation, we encountered low-lying thunderstorms which forced us to land in the bus to wait out two storms. The second to last day of retrieval was a down day due to rain and low clouds. The sun set for only a couple hours on retrieval, and work hours were only restricted by refueling needs, and fatigue.

Permitting

All lands sampled were permitted by Scott Patterson of Devlan Exploration, Inc. Permission was obtained from all necessary parties prior to entering these lands.

Logistics/Field Procedures

The two significant logistical hurdles were fuel and the availability of helicopter landing sites. The Bell Long Ranger burns approximately $\frac{1}{4}$ of a barrel, or 150 liters per hour. Because of the distances from the sampling area to either Inuvik or Arctic Red River, it was required that we sling fuel into the sampling area from Arctic Red River. DIAND (Department of Indian Affairs and Northern Development) allows up to 20 barrels being stored in the field without a permit. Over the course of installation, Jim Evans of Trans North Helicopters slung 13 barrels of fuel into the field. Two to three barrels were slung at a time. This allowed us to spend the entire day sampling in the field. It did, however, consume a significant amount of helicopter time. During the standby period between installation and retrieval, Trans North established a fuel cache via barge on the Mackenzie River, just west of our sampling area. This greatly facilitated our refueling requirements.

Most of the seismic lines we followed were too narrow and overgrown to land the Long Ranger at will. It was required that we fly reconnaissance searching for good landing sites. The result was that most of the samples were not placed on seismic lines, but were placed near lakeshores or other open locations. Sample spacing varied significantly from the preplanned 1 km grid, and samples were not placed in a perfectly straight line, but jumped around based on availability of landing sites. Overall coverage, however, was maintained, and the survey design was not significantly altered.

Approximately 70% of the landings were considered enclosed space landings. The main rotor is approximately 10-12 ft high and extends about the same in all directions. Trees and dead snags were 20 ft plus, so an area free of large trees is needed. The tail rotor is only about 4 ft off of the ground. Low willows and other brush were abundant, and we typically put down very carefully, working the tail rotor between the willows. Add to this the need to land into the wind, and it is easily understood why landings were so technical. To assist in these difficult landings, Devlan and Vintage hired a Gwich'in environmental monitor to work on this project.

The last consideration to sampling, was avoidance of contamination from jet fuel and jet fuel exhaust. Since we typically landed into the wind, and it is much safer to walk forward from a helicopter, the vast majority of the samples were placed upwind from the potential air contamination. No exhaust fumes were detected in the air during sampling. A small percentage (5%) of the samples were placed downwind from the helicopter, however, no exhaust fumes were detected during sampling for these samples either. For these samples, an extra effort was made to get far enough from the helicopter to avoid any exhaust odors. Upon retrieval, the prevailing winds were not coming from the same direction as on installation. Efforts were made to land the helicopter downwind from the sample, but this was not always possible. Ambient samples were taken for both Jet Fuel B and Jet exhaust, and shipped to W.L. Gore and Assoc. for analysis.

Daily Production

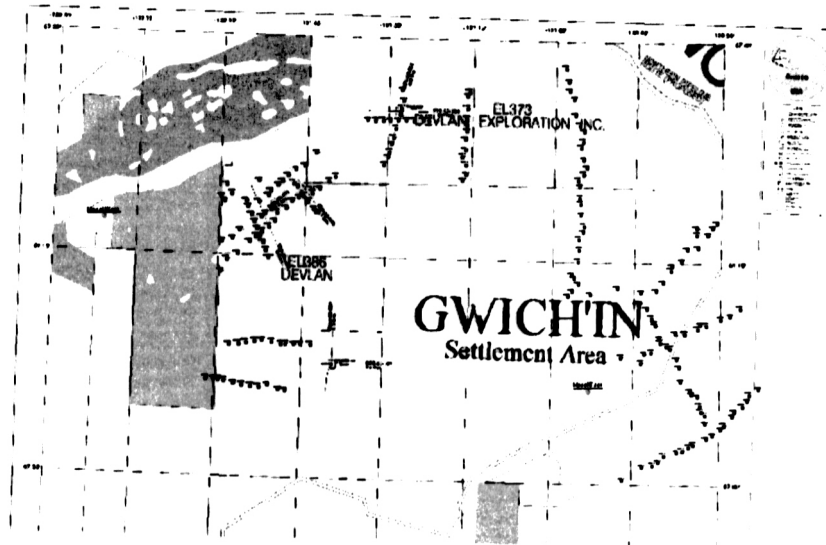
Daily samples installed ranged from 30 to 61 per day. The variance was due to the need to sling fuel that day, and availability of landing sites. Retrieval ranged from 61 to 67 samples retrieved per day and required only 3 work days to complete compared with 4 - 5 for installation.

HSE

There were no HSE incidents to report. Safety revolved around helicopter procedures and protocol. Trans North did an excellent job in maintaining the Long Ranger, and communicating safety procedures including hover exits, which were necessary at times. We typically cleared some trees and vegetation at each tight landing spot, so as to facilitate our retrieval landings.

Retrieval

The first two days of retrieval we worked with Geoff Reed of Discovery Helicopters (subcontracted by Trans North) in a Jet Ranger. Although the aircraft is slightly smaller than the Long Ranger, we had no difficulty with the enclosed space landings. The third day was a down day due to rain. The fourth day we flew with Joel Clarkston of Trans North, again without difficulty. A total of three samples were found laying on the ground next to the hole, presumably pulled out by animals, and potentially do not have data. No samples were lost.



Sample locations are in red!

Map is oriented with UTM grid up!