



Targeted Geoscience Initiative Whitehorse Trough Seismic Survey



The rock units shown in green in the above map are of the most interest. We know where they occur on the surface of the earth, but do not know how they are arranged or where they occur at depth. The seismic survey will help us to learn that.



The Seismic Survey will take place entirely within the right-of-ways of the Campbell and Klondike Highways and the Mount Nansen Road.



These vibrator trucks shake the ground in short bursts. The vibrations cannot be felt at the surface.

Consultation Timeline

1. The Yukon Geological Survey first learned of funding opportunities through the Targeted Geoscience Initiative in March of 2003.

2. After exploring options, we developed an initial proposal in April and contacted the Little Salmon Carmacks First Nation in early May.

3. In early June, we met with LSCFN in Carmacks to discuss the final proposal.

4. The Project was submitted in Late June and approved in late August.

5. LSCFN was informed in September that the Project was approved and we met in October to plan information sessions for members of the LSCFN

Why this Work is being done



The Project will also include geological mapping and detailed studies of rock units.

The Project is NOT an exploration program like that carried out by industry, and does not involve the licensing and permitting process required of industry.



The vibrations from the truck are recorded in these sensors which are placed about 25 m apart in a long string along the roadway.

Potential Impacts

The Seismic Survey will take about two weeks to complete.

The work will take place entirely within the Highway Right of Way. No trees will be cut and the ground will not be disturbed

Vibrations from the seismic equipment cannot be felt and will have no impact on people or wildlife.

Who Will Use This Information?

The results of this study will be made public.

It will be used by the Geological Survey to gain a better understanding of the geological history and economic potential of the Whitehorse Trough.

Exploration Companies will use the information to decide if they should explore for oil and gas in the Whitehorse Trough.

LSCFN will be able to gain a better understanding of how likely hydrocarbon exploration will be in their traditional territory and how significant the impacts might be.

The signals are sent along this wire to a recording truck.

Canada







Instruments in this truck are connected to the sensors by wires along the road. They record the intensity of the vibrations and the time they take to travel through the earth from the vibrator truck to the sensors.



This diagram shows how seismic vibrations travel through the earth and reflect of different layers of rock. The depth of the reflector can be calculated by measuring the time it takes for the vibrations to return to the surface.



The black and white chart shows how the seismic reflections are recorded. The coloured chart shows a geological interpretation of the seismic information.