

## Case History:

# Getting Ahead of the Caribou



**Rigorous Terrain – minimize traffic in extreme elements, in and out of site**



**Flexibility and Mobility**

## PitDry™ Process—Innovative Solidification Solution for Spent Drilling Fluids

An oil company has been producing oil and gas in British Columbia's Southern Foothills since 1992. The operator has continuously invested in the area and recently opened up new gas producing wells northwest of Fort St John, the largest city in the northeast region of British Columbia.

The new wells are situated 4,600 feet above sea level in a rigid mountain terrain. The viable way to connect the wells and make production practical was to put a pipeline through the mountains, the landscape and environmental issues meant that going over or round the mountains simply wasn't an option. The only solution was to take the pipeline through the mountains.

To oversee construction of the pipeline, the company engaged the services of a drilling project management company, specializing in laying pipelines across demanding natural terrain.

The drilling project management company recommended using the services of a drilling company which had the equipment and expertise to undertake the drilling, but the project still faced the challenge of what to do with the vast amounts of drill cuttings that would be generated. Shipping the cuttings and spent drilling fluids out of the area by truck wasn't financially viable so processing the cuttings on site was the only option.

In addition to being financially viable, processing on site also offered environmental benefits in terms of less vehicle movements.

The goal was to treat the spent drilling fluids and cuttings to a level that meets the oil company's high environmental standard and then dry what was left to a solid state for burial on-site. To achieve this, the drilling company recommended using CETCO Oilfield Services' PitDry™ slurry solidification product.

PitDry™ is the only product available that quickly converts spent liquid drilling fluids into disposable solids suitable for burial, even in environmentally sensitive areas like British Columbia's Southern Foothills. It is a unique process which allows the operator to simply pump the spent fluid through a PDA-300 mixing machine whilst adding PitDry HDD agent. The resultant outflow dries to a solid in minutes and can then be mixed with soil for burial on site.

Although PitDry offered an ideal solution in terms of solidifying the cuttings and fluids, the project still faced further 'environmental' challenges – challenges of nature.

A total of seven hills had to be accessed with equipment. With slopes of

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Difficult Conditions – Drill Challenges



Tamed by Innovation

up to 28 degrees simply getting CETCO Oilfield Services' PitDry processing system on site was a challenge in its own right. Furthermore the pipeline crosses a caribou migration path, which meant that all of the clean up work had to be completed and the contactors off location before the animals arrived in the area during October.

To compound the challenges of nature even more, a month of rain at the outset of the project made physical conditions very difficult and delayed initial deployment. This combined with the need to winch equipment and manpower up and down the mountains, resulted in mobilization taking three times longer than initially anticipated, thus adding further pressure to what was from the outset a limited time frame for the project.

Despite these challenges the project was completed successfully and on time.

At the peak of the project, the CETCO Oilfield Services equipment was processing more than 20 cubic metres of waste per hour. In total 700 cubic metres of fluid was processed on site, the equivalent of 184,800 US gallons, and 795 tons (722 tonnes) of solidified material was generated as a result of the PitDry process.

Despite the poor mixing and covering properties of the local natural soils, PitDry proved very successful, surpassing all the parameters that apply to a 3:1 mix, bury and cover process, including all microtox, SAR, EC and leachate tests.

All of the equipment utilised performed as planned without any unscheduled downtime and the project was completed as planned before the Caribou arrived.

The project was both cost effective and environmentally sensitive. It made development of the oil company's new gas wells a more viable option and met with the operator's goal, of being as environmentally friendly as possible.

The resulting gas production through the new pipeline will generate revenues for British Columbia's government, which is committed to investing oil and gas revenues to protect and preserve its natural heritage.

# PitDry™ 1 STEP PROCESS

*liquid to solid in minutes*



Simply pump spent fluid through a PDM-300 machine while adding PitDry reagent.