

CASE STUDY:

HDD Pullback Trial

Real time fluid processing during HDD Pullback



Project Description

In the winter of 2021, Apex provided a drilling fluid processing site for a large diameter HDD pipeline installation.

The objective was to deliver the best-in-class fluid recycling system that would achieve spectacular results.

Key KPI's for this project included:

- Zero downtime waiting for drilling fluid to be processed
- 100% fluid recovery from cuttings
- Processing all fluid returns during pullback in real time
- Zero liquid waste, all drilling fluid returned to clear water

Apex delivers real time fluid processing during HDD pullback – First of its kind in North America

The Challenge

Apex was presented with the challenge of assembling the ultimate drilling fluid recycling set-up for a large diameter HDD pipeline installation in British Columbia. The goal of this project was to eliminate vac truck usage, digging sumps and drastically reduce make-up water requirements. Also, the system was to be designed such that there would be no downtime for processing the drilling fluid, it would be able to keep up and maintain all fluid parameters for the duration of the installation.

To add value to the project owner, it was also determined that Apex would be able to process all drilling fluid returns in real-time while the drill-string was pulled back from the borehole. This would be the ultimate test for the efficiency of the Apex system, as this had never been done before on a large diameter pipeline installation. In doing this, Apex would save the project owner money by eliminating vac truck hauling, disposal costs and environmental hazards.









The Solution

Apex fluid management experts designed and implemented a full-scale drilling fluid processing site. All drilling fluid returns were transferred via pumps to separation equipment including 2 Lynx 40 centrifuges, 2 V300S centrifuges and 2 MudCubesTM to remove all cuttings from the drilling fluid.

Cuttings were dropped into 4 sided bins and then hauled off site for disposal. Clean water was stored in 400bbl upright bins for reuse on site. Apex staffed the site with 24-hour operators who ensured all equipment was optimized and for the most efficient fluid processing possible.

The Results

This project was a massive success with all KPI's being met or exceeded. All drilling fluid was processed in real-time without any shutdowns or delays. Fluid properties remained on spec, recovered solids were dry and stackable, and the final stripped water was clean for reuse.

One of the biggest accomplishments during this project was the ability for Apex to process all fluid returns during pullback without the need to vac trucks or onsite storage. All drilling fluid was stripped back to clean water while pullback occurred. At the time pullback was completed, all the water was clean and stored in 400bbl uprights and the solids were ready for disposal in 4 sided bins. This processing site was the first of its kinds in HDD history.

