Your Water, Wastewater, & Materials Dewatering Partner

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Capturing Hydro-Excavated Residual at a Compressor Station

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The Challenge

This natural gas company was using hydro-excavation trucks to expose the pipelines to upgrade their system. They wanted to dewater and store the residual collected by the trucks in Geotube® containers to eliminate any runoff while the material was drying down. The Geotube® container storage of the material gave them safe storage without the worry of runoff until they determined where they would dispose of it.

Chemical Conditioning

A soil sample of the site was sent to the WaterSolve lab to determine the best chemical treatment program to dewater this material. Solve 163 was selected as having the best water release, clarity, and flocculation at the lowest dose.

Geotube® Container Sizing

Geotube® containers are manufactured from high strength polypropylene fabric and designed to allow effluent water to escape through the pores of the fabric while retaining the chemically-conditioned solids. A pad was designed to accommodate three 45’ circumference by 100’ long Geotube® containers. This would allow for a capacity of approximately 1,000 cubic yards of the residual. The actual volume to be removed was hard to determine prior to the project and this would allow extra room for the residual.

The hydro-excavating operator is using the high pressure wand to cut and slice the soil into the hole where it is sucked up by the truck.

This 8” elbow directed the material into the dumpster with minimal splash. The pump is located at the far end. A lot of dilution was needed as some loads were really thick.

The Solution

A sealed dumpster was positioned crossways and a ramp was made for the vacuum trucks to back up and release their loads. A 6” hydraulic pump was placed in the dumpster to pump the material to the Geotubes. A 6” pipeline was connected to the Geotube® containers with a mixing manifold to disperse the Solve 163 polymer being injected by the polymer make-down unit. A frac tank supplied water to the polymer feed system and provided dilution for the thick mud delivered to the dumpster. The loads contained 13 cubic yards of the residual sucked up by the vacuum trucks. This had to be diluted, pumped, and treated with Solve 163 on its way to the Geotube® containers. There were plenty of challenges with gravel, rocks, and chunks of mud throughout the project. Some of the gravel from digging through a parking lot had to be placed in separate loads as they could not be pumped. All three of the 45’ circumference by 100’ long tubes were filled at the end of the project. All the material was stored safely in the tubes and there was no worry about erosion or runoff.

3 Geotube® containers were eventually filled in this containment area. The straw waddles had to be replaced with straw bales to provide more containment for the filtrate water.

The polymer feed unit is injecting the Solve 163 into the pipeline in the center of this photo.