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ENVIRONMENTAL WATER TREATMENT SOLUTIONS
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Geotube® Containers are used to help Customer Comply with Discharge Requirements

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Objective:

A ditch on the downstream end of a ground water treatment system at a former industrial site in New Jersey was filled with sediment and needed to be cleaned out to help comply with discharge permit requirements. Dewatering the sediment using Geotube® containers was figured to be an effective option because the site was already successfully using Geotube® containers to capture the solids generated from the groundwater treatment system.

This drainage ditch was filled with sediment that needed to be removed. Hydraulically dredging and dewatering using Geotube® containers was chosen as the most effective means of accomplishing this task.

Chemical Conditioning:

Samples of the sediment collected from various areas of the ditch were sent to the WaterSolve lab in Grand Rapids, MI prior to the project. Dewatering polymers were evaluated based on water release rate, water clarity, and flocculent appearance. In addition, dosing rate(s) were determined during bench-top dewatering experiments and recommendations provided to the client during this phase of the program. The characteristics of the ditch sediment changed noticeably from sample to sample but Solve 137 was determined to be the most effective overall.

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. Ten 30' circ. x 50' length Geotube® containers were placed along the banks of the ditch and were used to dewater and contain the 2,000-cy of sediment.

The Geotube® containers were placed along the bank of the ditch and lay-flat hoses were connected to each fill port so that multiple Geotube® containers could be filled at once.

A hydraulic pump attached to a long reach excavator was used to slurry the sediment and pump it to the Geotube® containers.

Clear filtrate was the result of proper chemical conditioning with Solve 137 prior to entering the Geotube® containers.

The Result

WaterSolve technicians traveled to the site and worked with the on-site contractors to set up the necessary pumps, hoses, polymer feed equipment, and Geotube® containers. A sample port installed prior to the Geotube® containers allowed the technicians to observe the chemical treatment and make adjustments accordingly. After several weeks of operations, the ditch dredging was complete and the Geotube® containers were left in place to further consolidate before they were removed a few months later.