Your Water, Wastewater, & Materials Dewatering Partner

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# *Dredging Sediment from a Settling Pond into Geotube® Containers*

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The dredge is approaching the bank as it removes the residual and pumps it to the Geotube® containers.

## Objective

A dredge pumped the residual from the settling pond into Geotube® containers so it would dewater and pass paint filter testing and then be hauled to a landfill. The mill would then have a clean pond for proper settling in the years to come.

## Chemical Conditioning

A representative sample of the pond sludge was tested by a WaterSolve technician in the WaterSolve laboratory. Dewatering polymers were evaluated based on water release rate, water clarity, and flocculent appearance. A dual treatment using a coagulant (Solve 426) followed by a flocculant (Solve 154) was selected as the best treatment to produce the water release, clarity, and flocculation needed for this residual.

The sample taken from a sample port reveals excellent flocculation and water clarity.

The polymer make-down unit is diluting the Solve 154 flocculent and injecting it into the 6” pipeline.

Pumping has begun and the Geotube® containers are beginning to dewater the pond residual.

This Geotube® container is beginning to rise as it is being filled. It is dewatering very well.

## 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. Measurements of the residual in the ponds indicated there was 4,000 cubic yards of residual to be removed. WaterSolve recommended 3 Geotube® containers 120' circumference by 100' long totaling 4,380 cubic yards of usable space for this project.

## The Result

The dredge contractor used a 6" pipeline to transfer the residual from the dredge to the Geotube® containers. The Solve 426 was injected into the pipeline at a rate of 6-gallons per hour and the Solve 154 was made-down and injected at a rate of 6 to 9 gallons per hour. The filtrate water was pumped back to the settling pond with a 4" hydraulic pump. The environmental manager on site was very happy with the clarity of the filtrate being pumped back to the pond. Cattails around the perimeter of the pond offered a challenge for the dredge operator, but the project was very successful in getting the pond clean and the residual dewatered by the Geotube® containers.