WaterSolve LLC
ENVIRONMENTAL WATER TREATMENT SOLUTIONS
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Lumber Mill Needs Space Restored to Settling Pond

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The Challenge

The site superintendent at this lumber mill was challenged with a settling pond getting full of solids. It hadn't been cleaned for a number of years. As he looked into the choices, he found the options of presses and centrifuges were very expensive for mobilization and demobilization, not to mention the cost of operation. He would incur budget breaking costs in a single year to clean and dispose of the residual in the entire pond to justify bringing in this equipment. He contacted WaterSolve to research Geotube® dewatering. He discovered he could remove a fraction of the solids annually and learn to operate the system with labor on site. The process had no mobilization and demobilization as WaterSolve would arrive and install, train, and support the annual operation as needed without the need for big equipment.

Chemical Conditioning

A representative sample of the pond residual was sent to the WaterSolve lab. 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. Solve 151 was selected as the product of choice for optimum performance with this residual.

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. The site superintendent was challenged with a limited space for a pad on which to place the Geotube® containers .It was determined that two 45' circumference by 57' long Geotube® containers would fit in the space provided.

WaterSolve provided the polymer make-down system and the Solve 151 flocculent which was injected into the 6" piping system going to the Geotube® containers.

The sample port in this photo gives the operator a view of the effectiveness of the polymer and adjustments to the dose are made based on these samples. The pinch valves determine which tubes ate being filled.

A pad was constructed on the bank of the pond which allows the filtrate to flow right back into the pond and no pumping is required.

The suction hose is mounted on the cable held by a crane. The suction screen is full of debris. The fire hose is mounted to the suction hose to provide agitation and a steady flow of solids to the Geotube® containers. We learn new techniques on every job we do!!

The Result

A WaterSolve technician was sent to the lumber company after the Geotube® containers and supplies were shipped. He trained the site workers on how to deploy the Geotube® containers and polymer feed system on a pad designed by WaterSolve and prepared by the lumber mill. A self-priming 6" pump was used to transfer the residual from the pond to the Geotube® containers. There were some tumble weeds in the pond and they collected in the strainer on the suction hose which posed a challenge to the project. The site workers eventually mounted the tip of the suction hose on a crane to allow them to move the suction tip around in the pond. They could also bring the tip to the shore and clean the debris off the tip when it was clogged. A fire hose with a spray nozzle was also attached to the tip to help agitate the residual by the tip and bring in more material. This really helped. After 2 days of training the site crew was comfortable with the operation and the WaterSolve technician returned home.

The superintendent has now purchased the equipment and is happy to remove the residual from the pond in yearly increments that only requires him to purchase Geotube® containers and polymer. He can choose when he wants to operate the system and use his own workers for the labor.