



Wastewater Lagoon

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The Challenge

A village in upstate New York needed to update their wastewater treatment system. This project consisted of closing the two existing waste lagoons and constructing a new treatment facility with two smaller, more efficient lagoons. WaterSolve, LLC was contracted to chemically treat the wastewater as it was dredged out of the old lagoons and dewatered it using Geotube® containers. WaterSolve's Chemical Control and Tracking System (CCTS) was utilized for this project. Polymer feed rates were automatically adjusted based off of readings from the flow and density meters. The dredging of the lagoons was completed under separate contract. The CCTS also allows WaterSolve technicians to track the daily production and estimate the volume of the material removed. Daily reports were prepared and presented to our client.

WaterSolve's Chemical Conditioning

Representative samples of the pond sludge were tested by a WaterSolve technician in the facilities laboratory. 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 were provided to the mine during this phase of the program. Solve 216B was the recommended polymer for dewatering the wastewater lagoon sludge.



Clear filtrate exiting the Geotube® containers and is returned to the lagoon.



A sample jar of the residual treated with Solve 216B. It has excellent clarity, water release and flocculation.

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 chemical-ly-conditioned solids. Various sizes of Geotube® containers were utilized for this project due to limited lay-down areas.

The Solution

Initial estimates based off of lagoon sampling that was completed by others indicated that the solids from both lagoons would be contained in 256' of 45' circumference Geotube® containers. Soon after the dredging began, it was apparent that there were a lot more solids in the lagoons than previously estimated. From the CCTS daily reports and our own lagoon sampling, WaterSolve, LLC was able to accurately determine the volume of the remaining sludge and quickly deploy the additional Geotube® containers and resources to the site. This portion of the project was deemed a success after the sludge from the wastewater lagoons was removed.



The first three Geotube® containers were deployed.



Additional Geotube® containers were deployed to contain the remaining sludge.



A look at the inside of WaterSolve's CCTS trailer.