



## Capturing Industrial Well Water Residuals with a Geotube®



The water in this caustic mixing basin is raised from to 4.6 to 6.5pH which causes the cloudiness from the metals precipitating. A 3” electric pump transferred the water from this basin to the Geotube® container.

### Objective

This New Jersey industrial plant was no longer operational but was required to pump 250-gpm of water continuously from a well on site. The well water had a pH of 4.6 and caustic was added to raise the pH to 6.5. This caused the metals to precipitate out of the water and settle in the waterway at the point of discharge. The metals needed to be captured to avoid discharge violations at the site. WaterSolve LLC was called in to perform a pilot study to capture the metals with a Geotube® container and determine if this would be a cost effective process to solve the problem.

These jars represent the untreated, polymer treated, and filtrate water exiting the Geotube® container.

### Conditioning Chemical

A representative sample of the well water (adjusted to 6.5pH) was sent to WaterSolve’s lab 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 facility during this phase of the program. Solve 137 was the recommended chemical treatment for dewatering this residual in a Geotube®. WaterSolve successfully ran tests using this Solve 137 under laboratory conditions and recommended it for a pilot study on site.

## The Result

WaterSolve LLC was tasked to perform a pilot study to gather information and reveal the effectiveness of a Geotube® in collecting the precipitated residuals from the well water. Two WaterSolve technicians were present at this New Jersey industrial site to place a 20 cubic yard MDS GT500 Geotube® container in a dewatering dumpster and operate the system. A 3" electric pump was placed in the caustic mixing basin with a 3" hose transferring the basin water to the Geotube® container in the dumpster. A polymer make-down unit was equipped with a 0.58-gph LMI pump to regulate the polymer feed rate. The polymer was injected in the mixing manifold of the 3" line and a sample port was installed prior to the Geotube® to provide visual observations of the treated water for adjustments to the polymer feed rate. 250-gpm was transferred to the Geotube® container and the polymer feed rate was 0.008-gph. The floc was like snowflakes inside the Geotube® container and the capture rate was excellent. In 22 hours of pumping there was 2 cubic yards of 11% dry wt. solids captured. The company was very pleased with the results and they are now planning a full scale system to capture the metals and solve their problem very affordably using the Geotube® dewatering system from WaterSolve LLC.



**The 20 cubic yard Geotube® is placed in the dewatering dumpster. A sample port in the lower right of the photo provides visual observation for polymer dose adjustments.**



**The residual was successfully captured as shown in photo taken 18 hours after the last fill which tested 11% dry wt. solids.**



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