



## ***Geotube® Containers capture precipitated metals at this Gold Mine***

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### **The Challenge**

The objective was to divert the mining runoff water to the treatment plant where caustic was added to raise the pH to 8. This would precipitate the metals. These metals needed to be collected and dewatered so they could be disposed of properly without hurting the environment at a nominal cost.

### **Chemical Conditioning**

A representative sample of gold mine runoff water was tested by a WaterSolve technician in the WaterSolve laboratory. Caustic was added to raise the pH to 8 and precipitate the metals. Dewatering polymers were evaluated based on water release rate, water clarity, and flocculent appearance. Solve 9244 was selected as the best treatment to produce the water release, clarity, and flocculation needed for 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 engineers for the facility wanted Geotube® containers that fit on pallets and could be loaded on trucks with forklifts. 48' by 52" containers were custom made for this application.

### **The Result**

The engineers for the facility set up a series of tubs to treat the runoff water from the gold mining stockpile. The runoff water is pumped to the first tub where caustic is automatically added to get the pH to 8. Air is infused into the water as it enters the second tub. In the third tub chlorine is added to eliminate iron bacteria and Solve 9244 is added as the water makes its way to a series of Geotube® containers to capture the solids. This process does an excellent job of capturing the solids while the water makes its way to the city's wastewater plant for final treatment. The water flow varies from 100-gpm down to 0.1-gpm depending on the weather.

The flocculated water from the treatment system is pumped into this series of Geotube® containers. The solids stay in and the water filters out and into the floor drains. The tarps are placed on the tubes to prevent them from spraying the walls as they are filled.



Left: Runoff water from the mining stockpile passes through this series of tubs as caustic, air, chlorine, and Solve 9244 are added to flocculate the solids.

Right: Once the Geotube® containers are deemed full they are disconnected from the manifold and left to finish dewatering. They are then loaded on a truck and hauled away to a landfill.

