

# Application Story

**PROJECT** | NORTHEAST UTILITY PLANT  
**Product** | Geotube® Dewatering Technology  
**Application** | Marine Remediation

**Location** | New York City  
**Installation** | 2006

## The Challenge:

Removal and dewatering of contaminated (PCB, hydrocarbons, etc.) sediments that had collected in the cooling water intake tunnel for a power generation plant -- all while meeting strict EPA standards for effluent quality within the neighboring East River in Brooklyn.

Limited access and workspace complicated this tricky situation. The plant had no available land at their location to serve as a dewatering cell. Traditional methods had been slow, costly, and created effluent water that clouded the East River with silt from previous dewatering efforts.

## The Solution:

TenCate™ proposed a creative and innovative solution. This involved a brand new way of creating a dewatering cell. Geotube® dewatering technology was adapted to allow an operation on two barges in the East River adjacent to the plant directly above the silt-clogged intake tunnel [photo 2]. Two layers of custom sized Geotube® containers were stacked in each barge [photo 3].

Using 6-inch suction lines, divers went underwater in the confined tunnel to remove and collect the silt that was then pumped to the SmartFeed® system, a technology that chemically conditions sediment to enhance dewatering and tracks production and process parameters [photo 4]. From there the sediment was pumped to the Geotube® units placed in the barges.

As the silt dewatered within the Geotube® containers, the filtered effluent water drained into the hold of the barges [photo 5]. From there it was pumped back into the East River without any secondary treatment. In fact, the finished effluent water was much cleaner than the

natural water of the East River.

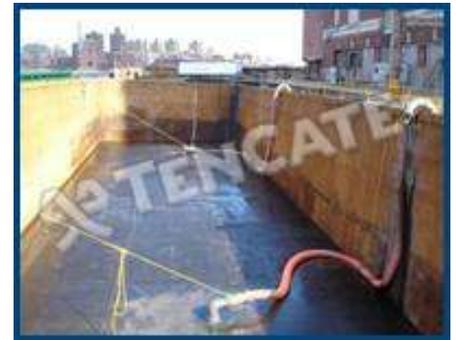
## The Results:

Within 45 days, 67% dry solids were achieved [photo 6]. This was a significant reduction in silt volume. It was reduced from an estimated 52 non-dewatered barges to less than one single barge of dewatered solids. The dried contents of the Geotube® containers were hauled to an EPA-approved landfill in New Jersey [photo 7].

This project was deemed a resounding success and it exceeded expectations in all respects. As a result, the power company used the same dewatering method for a second facility upriver and approved the barge-mounted Geotube® process for its future dewatering specifications on similar cleanout projects.

## Projected Highlights:

- Innovative solution utilized two barges, measuring 50' wide x 140' long [photo 8].
- This project involved a constantly changing level of silt solids and flows -- ranging from 4% to 11% solids and from 400 gpm to 1,500 gpm.
- Silt concentrations were required to be regulated and maintained accordingly. The SmartFeed® patented mobile chemical feed system provided automated polymer mixing injection to the silt prior to it reaching the Geotube® units in the anchored barges [photo 4].
- The SmartFeed® system tracked the real-time performance data and adjusted polymer injection to the optimum level every 15 seconds [photo 4].
- This barge-mounted dewatering plan has many other applications for industrial dredging and dewatering where space is limited. Other applications include aquaculture, lake residential property, resort areas, and other projects requiring high-quality effluent water from sediment or waste removal.



## Contact Information:

Toll Free: 888-795-0808 / [www.geotube.com](http://www.geotube.com)

Geotube® is a registered trademark of TenCate™ Geosynthetics North America © 2010 All Rights Reserved.