

## Application Story

PROJECT | CHIVOR DAM, COLUMBIA  
 Product | Geotube® Marine Structures Technology  
 Application | Underwater Structures

Location | Chivor Dam, Columbia  
 Installation | 1999

### The Challenge:

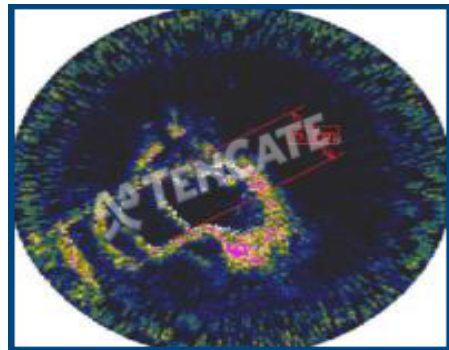
The government built an earthen dam for hydroelectric power generation. It was discovered that a temporary diversion tunnel, used during the dam construction, was inadvertently left open. A slope failure and nearby landslides caused debris and sediments to enter the diversion tunnel [photo 1]. This began to disrupt power generation by causing excess turbine wear and vibration.

### The Solution:

Using Geotube® marine containment technology, an underwater structure of concrete-filled Geotube® units was the key to seal off the tunnel opening. The project used a specially modified barge [photo 2]. GPS technology pinpointed the exact location for the barge to properly position the Geotube® unit. High sump, slow-set concrete was pumped into the containers [photo 3]. They were then lowered from the barge to the tunnel location.

### The Results:

Sonar scans confirmed the proper positioning of the concrete Geotube® units. The containers were blocking the tunnel opening [photo 4].



### Contact Information:

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