

Case Study

From TenCate Geotube

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Geotube® Dewatering Technology For Lagoon Cleanout At Poultry Processing Plant

Large Mexican poultry processing plant saves by utilizing Geotube Dewatering Technology

THE CHALLENGE:

In 2006, one of Mexico's largest poultry processing plants was experiencing high levels of BOD discharge into the local river because their two sludge lagoons were full sludge with a high percentage of solids. The plant was expanding operations and had no place to store the additional sludge that would be generated or any onsite means of removal and dewatering. The problem was compounded because the excess Biological Oxygen Demand (BOD) discharge exceeded their operating permit limits and local environmental regulators were requiring immediate action.

THE SOLUTION:

The plant environmental management team contacted the TenCate Geotube distributor in Mexico City, GyG. The team wanted a solution that could be implemented almost immediately and would be less expensive than the traditional mechanical dewatering or pump and haul lagoon clean out methods. After an initial site visit, GyG and TenCate Geotube recommended that the plant convert the onsite baseball field to a Geotube dewatering cell by placing an impermeable liner on the field surface



One of two lagoons filled with sludge:

over which a 3 dimensional net could be placed to facilitate drainage and accelerate dewatering. Next, the first of two layers of 90' circumference GT500 Geotube units could be unrolled in the cell. After filling and dewatering, the second layer of 90' circumference Geotube units could be installed if necessary. The sludge could be pumped from the lagoons by

an 8" auger head dredge to the Geotube dewatering system through a piping manifold. It was recommended that a cationic polymer be utilized to flocculate the sludge and accelerate dewatering and to improve the quality of the effluent. This polymer could be blended on site in 500 gallon mix tanks and injected in line.

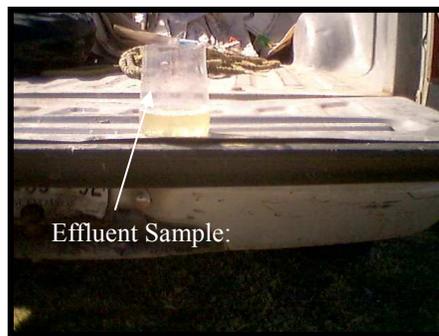


First layer of 90' circumference GT500 Geotube units:

THE RESULTS:

The proposed solution was implemented and the results are as follows. Over a period of 90 days more than 25,800 m3 of sludge at 12% solids were removed from the two onsite lagoons by using the 8" auger head dredge and were pumped into 7 - 90' circumference by 217' long and 5—90' circumference by 188' long GT500 Geotube units for dewatering. All of the dredging and dewatering functions were conducted without a single interruption of plant operations. The dredge bulked the sludge to 5% solids for pumping, which resulted in more than 62,000m3 being pumped through the Geotube Dewatering System. Effluent from the Geotube units was clear with more than 95% of the solids being removed. The two onsite lagoons have been restored to operating levels and discharge into the adjacent river are below BOD permitted limits. The sludge is continuing to dewater in the

Geotube units and will be made available to local farmers for fertilizer.



Effluent Sample:



Geotube continues to Dewater:



Geotube Dewatering Cell:

Project Snapshot

Owner: Mexico's largest poultry processor

Contractor: TESA

Location: North Central Mexico

Challenge: Urgent need for removal of solids from onsite lagoons to continue operations without interruption.

Approach: Dredge and dewater sludge from lagoons using TenCate Geotube Dewatering Technology.

Results: The Geotube Dewatering solution was implemented and completed in less than 90 days at a lower cost than traditional mechanical or pump and haul methods and without a single interruption to plant operations.



TenCate's
GT 500
specialized fabric for dewatering.

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