

Case Study

Tank Farm Wastewater Contaminated with BTEX and MtBE

Introduction

A large storage tank at a tank farm contained ~200,000 gallons of tank bottom and facility run-off water with BTEX and MtBE contamination. The water was disallowed for discharge into the local wastewater treatment system because of these contaminants. If the contaminant levels could be lowered to acceptable levels, the water could be discharged to the local treatment system. Limits for discharge were established at 50 ppb for MtBE and 5 ppm for total BTEX.

Treatment Method

The storage tank transfer pump was fitted to recirculate the wastewater within the tank. An injection port was fitted on the suction side of the pump so as to serve as a distribution point for VTX chemistry. Wastewater was recirculated within the tank while a VTX and hydrogen peroxide mixture was injected in-line through the recirculation pump. The recirculation process took place over an eight-hour period. Sampling was conducted the next day and tested at a local environmental laboratory.

Results

The following data was collected before and after treatment of the tank bottom water.

Contaminants	Before Treatment	After Treatment
Total BTEX	248 ppm	0.843 ppm
MtBE	86 ppm	Non Detect

Summary

The project was successful in achieving discharge goals. The tank bottom water was discharged to the local wastewater treatment system at a substantial savings to the client.