

Application Bulletin

Disposal Site Pond Water Deodorized by Carbon Adsorption

Texas Ecologists, Inc. (TECO), a chemical waste disposal firm headquartered near Corpus Christi, recently completed a successful temporary treatment project utilizing a modular, granular activated carbon adsorption system to deodorize more than three million gal of acrid water in two evaporation ponds.

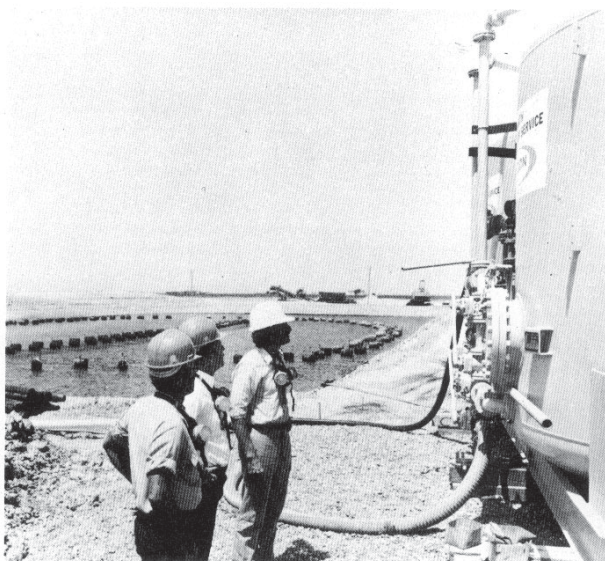
Past disposal procedures at TECO involved holding of liquid wastes in ponds until they could be processed with natural solids, solidified, then buried in a landfill. Early in 1980, however, heavy rainfalls complicated the disposal procedure by greatly increasing the volume of odorous water in the evaporation ponds. There was also some accidental cross-contamination of the evaporation ponds with organics from a sludge pond.

Complaints from residents living near the 240-acre TECO site in Robstown, Texas, and concerns voiced by the Texas Department of Water Resources, urged TECO to find a fast, effective solution to the problem.

Prior to the influx of complaints, TECO had experimented with various chemical treatment programs, including chlorination. Although the addition of 2000 lb of chlorine/day reduced anaerobic odors, it did not solve the basic organic contaminant problem. To complicate matters, a chlorine odor problem had to be dealt with.

In a further attempt to resolve the problem, a one week on-site pilot study was conducted early in May using carbon adsorption. The study confirmed that carbon adsorption would remove odors.

Portable carbon adsorption units were delivered to the site in June 1980. After a crew completed piping and installation of the adsorbers, they were each charged with 20,000 lb of a granular carbon specially designed to remove organics from wastewater. The adsorbers were positioned between the two problem ponds (Ponds 2 and 30). Water from the two ponds was pumped at a rate of 100 gpm through a 4" PVC line into the lead adsorber, purified, then discharged into a newly constructed pond, Pond 3.



Carbon adsorption units release purified water to the forced evaporation pond, Pond 3, which contains the floating carboys fitted with spray evaporation nozzles

Pond 3 water was force evaporated using more than 75 spray nozzles mounted on floating carboys. Operating the spray nozzles 8hr/day hastened the evaporation process four to five fold.

In six weeks, three million gal of odorous water were treated. Use of the temporary carbon treatment system resulted in complete removal of objectionable odors from pond water. A secondary benefit achieved through carbon adsorption was a 70% removal of Total Organic Carbon present in the water. Pond odor cleanup was completed by August 1980, at which time carbon treatment was discontinued.

Modular carbon adsorption system service is available from Calgon Carbon Corporation

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