Project Name:	**EDC Groundwater Study**
Project Location:	**Baton Rouge, Louisiana**
Project Completion Date:	**May 1997**
Project Duration:	**4 Months**
Project Value:	**$ 200,000**
Client Name:	**Ethyl Corporation**
Client Contact:	**Mr. Gene Ponti**
Client Phone Number:	**225-359-2856**
Technology Utilized:	**Bioreactor**

Project Description:

A 450 gallon with 50% bed material, continuous flow, immobilized bed bioreactor system was installed at the Ethyl facility (Baton Rouge) specifically for the degradation of volatile organic compounds (VOCs) located in the underlying groundwater aquifers. The main component of the system was a packed bed biological reactor containing approximately 1,300 pounds of porous silica bead support. A specifically adapted microbial strain was immobilized onto the support material prior to system startup.

The process was designed and implemented such that oxygen transfer was maximized and volatile stripping was minimized. Data was presented on removal rates and degradation efficiencies during treatment of groundwater contaminated with volatile chlorinated hydrocarbons. The groundwater at the Ethyl site contained a variety of one and two- carbon chlorinated hydrocarbon compounds. A single chlorinated compound, 1,2-dichloroethane (EDC), was targeted as the primary carbon source for bacterial mineralization during this study. EDC was present in far greater concentrations than any of the other chlorinated compounds, and was routinely detected at concentrations in the 1,000 to 1,500 mg/L range. Two additional chlorinated compounds, trichloroethylene (TCE) and tetrachloroethylene (PCE), were monitored during the study.