

# Project Description



**Description:** RCRA TSD Closure

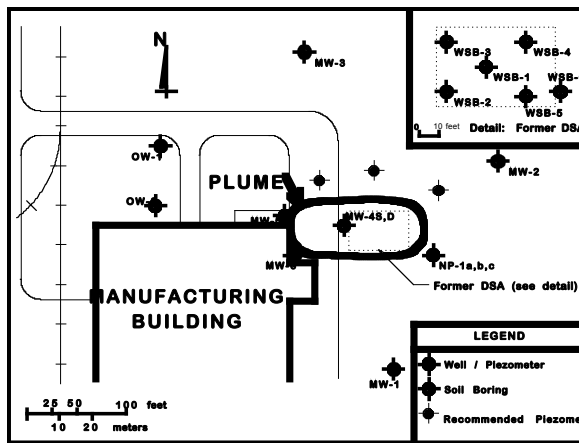
**Site:** Manufacturer

**Location:** Indiana

IES was retained to provide technical assistance, operations and maintenance, as well as soil, and groundwater sampling in furtherance of closure of a Resource Conservation and Recovery Act (RCRA) hazardous waste storage unit. The closure plan specified in-situ air sparging and bioventing as the method of choice to remove volatile and semi-volatile organic compounds from the soil and groundwater directly beneath the unit.

Selection of these methodologies was based in part upon the compact nature of the plume and granular soils at the site. Site investigations revealed the lateral extent of contamination as shown below in Figure 1.

Figure 1 - Extent of Organic Chemical Impacts



Remedial operations were begun, following approval of the closure plan by the Indiana Department of Environmental Management (IDEM). The remediation system employed two technologies, air sparging and soil vapor collection.

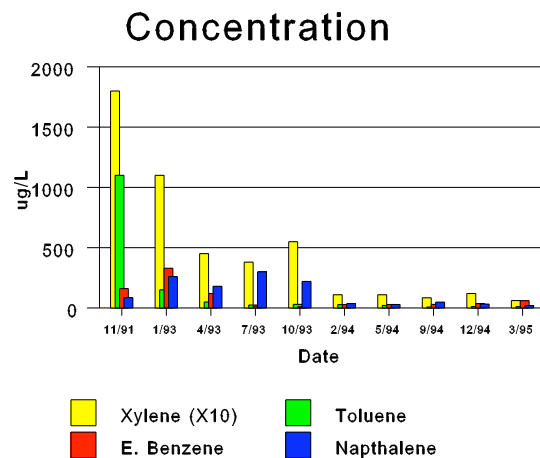
Air sparging included the installation of 10 sparging wells and a 20 hp two-stage reciprocating air compressor. The bioventing system included

the use of a 15 hp regenerative blower attached to a system of horizontal collection runners arranged to encompass each air injection well.

Over the three-year period of operation, approximately 500 pounds of organic chemicals were removed from the subsurface and collected in two 1,200-pound granular activated carbon adsorbers. An additional much larger mass of contaminants was biodegraded in-situ due to the introduction of oxygen by the sparging process. Groundwater monitoring results, illustrating the effectiveness of the system, are presented below.

Figure 2 - Groundwater Organic Concentrations

Due to the success of the process, the remediation



system was shut down and the facility is currently in its post-remediation monitoring period.

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