

<b>Project Name:</b>	<b>GMI</b>
<b>Project Location:</b>	<b>Alexandria, Louisiana</b>
<b>Project Completion Date:</b>	<b>June 2000</b>
<b>Project Duration:</b>	<b>10 Weeks</b>
<b>Project Value:</b>	<b>\$450,000</b>
<b>Client Name:</b>	<b>Geo-Marine, Inc.</b>
<b>Client Contact:</b>	<b>Mr. Greg Dennis</b>
<b>Client Phone Number:</b>	<b>(210) 930-3007</b>
<b>Technology Utilized:</b>	<b>Biotreatment/JP5 Fuel Remediation</b>

### **Project Description**

SEMS was contracted by Geo-Marine, Inc. to excavate and treat an estimated volume of 12,500 in place cubic yards of soil contaminated by jet fuel from a leaking underground pipeline at a former Air Force base. Concentrations of contamination ranged 500 and 3,000 ppm.

The project including the demolition of and removal of the 1,500 cubic yards of generated debris and 500 cubic yards of concrete rubble from a restaurant/golf shop building located on the site over the break in the pipeline. The site was cleared and grubbed and the top four feet (approximately 4,500 cubic yards) of uncontaminated material was excavated and stockpiled onsite for future use.

A Land Treatment Area (LTA) was constructed on the property to accept the excavated, contaminated soil. This LTA measured approximately 300 feet by 300 feet, bordered by a five foot berm. The entire floor and berm surfaces were covered with 30mil PVC liner. The edges were anchored and the seams were welded. Approximately 8,000 linear feet of 4 inch perforated plastic pipe was installed on the floor of the LTA, and connected to a header system. This header pipe was connected to a 1,500 cfm blower unit.

Excavated, contaminated soils from between 4 and 12 feet below existing grade were delivered to the LTA in all terrain dump trucks and placed over the piping system. Approximately 15,000 cubic yards (pre-excavation volume) were excavated, transported, and placed in the LTA.

The blower unit was started when the majority of the soil had been placed. The blower provided positive, warmed airflow to the bottom surface of the staged soil. This airflow increased the effectiveness of the naturally occurring microbial activity within the soil. Storm water generated during the project landing in the LTA was collected in a sump for storage and was applied to the upper surface area to maintain optimal moisture content during treatment.

Soil treatment was completed within one month. Verification sampling within the LTA at all depths demonstrated that the contamination levels had been reduced to below the action level of 500 ppm maximum with the majority of the samples generating results of Non-Detect.

During the excavation, 3 pipelines were encountered: a 12 inch PVC water main, a 12 inch steel main line, and an 8" steel force main. The force main was supported with wooden cribbing, and the water lines were protected in earthen levees.

One side of the excavation was bordered within the normal water flow area of a stormwater drainage ditch. This 225 linear foot area was quickly excavated and a new swale was installed insure that offsite storm water would not enter the excavation. The new swale was protected by the installation of a 20 mil PVC liner to ensure that water flow would not present any erosion problems.

Upon completion of the project, the property was turned over to new owners and the excavation became a portion of a new golf course's lake. The treated soils staged in the LTA will be used on the new golf course in the development of contours for tee boxes, fairways, and greens.