

Project Name:	Lockheed Martin
Project Location:	New Orleans, Louisiana
Project Completion Date:	September 1999
Project Duration:	1 Month
Project Value:	\$132,000
Client Name:	GeoSyntec Consultants
Client Contact:	Mr. Neil Davies Mr. Marty Rowland
Client Phone Number:	(404) 705-9500/(504) 257-3435
Technology Utilized:	Permeable Chemical Reactive Wall

Project Description

SEMS was contracted to install a Permeable Chemical Reaction Wall (PCRW) at Lockheed Martin's Michoud Space Systems Assembly Facility in New Orleans, LA. This is a new technology introduced to this site to address a long standing groundwater contamination problem. The technology involves the use of zero valent iron and an engineered groundwater residency time to treat the groundwater through dechlorination prior to pumping to the onsite groundwater treatment system.

The installation included the following tasks:

- \$ Temporary plugging and diversion pumping of the facility's main 36 inch storm water line.
- \$ Concrete cutting and removal of the existing concrete slab.
- \$ Excavation of approximately 175 cubic yards of soil contaminated with Vinyl Chloride and Tri- cloethylene. The depth of the excavation required the installation of a shoring system and an operable dewatering sump.
- \$ Removal of existing storm line and manway to the limits of the excavation.
- \$ Plugging and capping of all encountered lines.
- \$ Installation of pre-manufactured High Density Polyethylene manhole and pipe work, after placing a stone bedding layer to bring the bottom of the excavation to the designed elevation.
- \$ Installation of a five foot vertical ring around the manhole consisting of geocomposite fabric and wire mesh.
- \$ Placement of iron filing material (2 ft. thick, extending 5.5 ft beyond the outside edges of the PCRW manhole in all directions) and introduction of 2,500 gallons of water and a potassium bromide mixture for densification of the zero valent iron layer and tracer testing.
- \$ Placement of 12 monitoring wells within the iron filing layer extending to ground surface level.

- \$ Installation of a geotextile separator over the iron filings and compacted sand/bentonite/aggregate backfill over the geotextile. This material was placed in 8 inch loose lifts and compacted.
- \$ As the backfill level rose, 2 anti-flotation concrete blocks measuring 4x8x1 ft were installed to protect the storm line.
- \$ Upon completion of the backfill operation, the restoration activities consisted of installing the manway cover and well vaults and pouring and finishing 4000 psi concrete.