CASE STUDY
#0099
IN-SITU OXIDATION OF A PHENOL PLUME

SITE OVERVIEW
Train Derailment, Louisiana

CONTAMINATION
Phenol and 1,2 Dichloropropane

BACKGROUND INFORMATION:

- Residual concentrations of recalcitrant semi-volatile compounds, (SVOC's) were identified in soils directly adjacent to a train derailment site.
- Contaminants were present due to a bulk transportation accident.
- Groundwater was present at approximately 18 to 20 feet below the ground surface.
- Contaminated soils were estimated to contain 21,000 mg/kg Phenol, the primary constituent of concern ~ COC.
- The estimated hydraulic conductivity in the treatment zone is estimated in the range of 2.0 X 10-5 cm/sec.
- Treatment zone covered an approximate area of 10,000 ft2.

REMEDIATION ACTIVITIES:

- Application trenches were installed on 20 ft centers to be used as an infiltration gallery.
- EN Rx reagents were applied to the infiltration gallery at 300 to 500 gpm.
- Total injectate applied was 100,000 gallons.
- The table below shows sampling pre and post oxidation with EN Rx Reagent.
- Proprietary oxidant reagents were applied in three (3) infiltration trenches over a two day period.
- Soil screening standard based on the protection of groundwater meeting the definition of groundwater classification for Phenol is 11 mg/kg.
- Soil screening standard based on the protection of human health for non-industrial land use for Phenol is 1,300 mg/kg.

SAMPLING DATA:

- The following tables illustrate concentration reductions within the area by the application of EN Rx Reagent.

Constituent	Pre-Treatment	30 Day Post Treatment	60 Day Post Treatment
	(mg/Kg)	(mg/Kg)	(mg/Kg)
Phenol	21,000	26.5	16
1,2 Dichloropropane	133	72	38