

US EPA ARCHIVE DOCUMENT

**STATEMENT OF BASIS/FINAL DECISION AND
RESPONSE TO COMMENTS SUMMARY**

**REGION VII
ID #**

**U.S. DEPARTMENT OF ENERGY
KANSAS CITY PLANT
MISCELLANEOUS CONTAMINATED SOILS AREA (MSC)
KANSAS CITY, MISSOURI**

Facility Unit/Type: Contaminant storage area
Contaminants: VOCs, chloroethene, cis-1,2-dichloroethene, 1,1,2,2,-tetrachloroethane, and total petroleum hydrocarbons (TPH)
Media: Soil
Remedy: Institutional controls to limit access to contaminated subsoils

FACILITY DESCRIPTION

DOE and EPA entered into an Administrative Consent Order on June 23, 1989. Pursuant to this order, area characterization activities involving drilling and sampling began at the Kansas City Plant's Miscellaneous contaminated soil (MCS) area in 1990 and continued through 1992. The plant conducted a RCRA facility investigation (RFI) in 1993 and a corrective measures study (CMS) in 1994. Remedial actions completed prior to 1988 at the MCS area included the removal of underground pipes containing fuels, oils, kerosene, solvents, and other compounds. Visibly stained soils were also excavated. After 1990, the tanks at the Fuel Oil Tank Unloading area were emptied and cleaned.

The Kansas City Plant is part of the Bannister Federal Complex. The plant, which is operated by Allied Signal, Inc. occupies nearly 130 of the 300 acres at the federal complex and is bordered to the south and east by two streams. The complex is zoned for heavy industry, while the adjoining properties are zoned for residential use with isolated commercial tracts along the west and south sides. The properties adjacent to the north and east sides of the plant are designated for public recreational use. A former municipal landfill is located northeast of the plant.

The MCS area consists of four solid waste management units which are located north and east of the main manufacturing building at the plant. The four units include the North Lot, Building 16, the Abandoned Fuel Lines Unit, and the Fuel Oil Tank Unloading Area. No soil or groundwater contamination was documented at the North Lot or Building 16 during the RFI. Chemicals of concern found in the soil at the Abandoned Fuel Lines Unit and Fuel Oil Tank Unloading Area consist of volatile organic compounds (VOCs) and total petroleum hydrocarbons (TPH). With the exception of chloroethene

and cis-1,2-dichloroethene (DCE) the concentrations of VOCs found in the soil are below action levels.

EXPOSURE PATHWAYS

The potential for a TPH contaminant to migrate from the soil is considered low because TPH contaminants are resistant to leaching and adsorb to the clay-silt soil found in the area. Therefore, it is anticipated that the contaminants will remain confined to the industrial complex. The potential exposure pathways for contaminants include: ingestion, dermal contact, and inhalation of dust and VOCs. The potential ecological receptors are terrestrial species on-site during construction activities requiring excavation of contaminated soil.

SELECTED REMEDY

The proposed remedy, use of institutional controls, was developed to address soil contamination above the water table at the MCS area. A CMS is currently underway to address soil contamination below the water table as well as groundwater contamination at the MCS area. This corrective measure entails leaving the soil in place and establishing controls that would require any future construction or maintenance activities involving excavation of contaminated soil to include treatment or disposal of the soil in accordance with federal, state, and local regulations. Access to the contaminated soil by the general public is prohibited by stringent security measures. In the event that the United States sells the Kansas City Plant, the deed entered into for the transfer of the property shall contain a covenant warranting that all remedial activities necessary to protect human health and the environment with respect to the contaminated

soil in the MCS area have been taken pursuant to Section 120(h) of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) 41 U.S.C. §9621(h).

The net cost of the selected remedy is considered to be negligible.

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration (/)	Action Level	Cleanup Goal	Point of Compliance
Soil	Not given	Chloroethene	.038	.010	Not given	Not given
		1,3-dichloroethene	.013	N/A		
		Cis-1,2-dichloroethene	.610	.200		
		ethylbenzene	.022	5		
		1,1,2,2-tetrachloroethane	.015	.100		
		Toluene	.010	5		
		TPH	1,300	100		
		Trichloroethene	.020	60		
Xylenes	.087	74				

PUBLIC PARTICIPATION

A 45-day public comment period began on June 12, 1995 and ended on July 26, 1995.

INNOVATIVE TECHNOLOGIES

Innovative technologies considered but not selected include in-situ and ex-situ bioremediation and thermal desorption. In-situ bioremediation treatment would involve the use of bioventing wells to maximize oxygen delivery to TPH-contaminated soils and to promote biological degradation of contamination in the soils above the water table. Ex-situ bioremediation treatment would involve the excavation of contaminated soils,

followed by land treatment using indigenous or applied microorganisms to degrade organic contaminants. Thermal desorption would involve excavating the contaminated soil followed by on-site treatment using heat to remove organic compounds. These alternatives were not chosen as the proposed remedy because treatment methods may not reduce the TPH soil concentrations to below action levels. A treatability study would have to be performed for each of these remedial alternatives to determine the effectiveness of the technologies.

NEXT STEPS

Review and respond to public comments and prepare, submit, and approve of CMI workplan.

KEYWORDS:

soil; dermal contact, ingestion, inhalation; VOCs, chloroethene, cis-1,2-dichloroethene, 1,1,2,2-tetrachloroethane, total petroleum hydrocarbons (TPH); institutional controls, innovative technology considered: bioremediation, thermal desorption

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