STATEMENT OF BASIS/FINAL DECISION AND RESPONSE TO COMMENTS SUMMARY

REGION III
ID# 5209

General Motors Corporation
Service Parts Operations Facility
Martinsburg, WV
(Signed August 3, 1992)

Facility/Unit Type:	**Automotive parts storage and packaging**
Contaminants:	**Naphthalene, Ethylbenzene, mixed xylenes, Tetrachloroethene (PCE)**
Media:	**Soil, ground water**
Remedy:	**Pumping and treatment of shallow ground water combined with vapor extraction of soil; replacement and verification monitoring of contaminated deep aquifer wells**

FACILITY DESCRIPTION

In April 1990, EPA issued a Unilateral Initial Administrative Order pursuant to Section 3008(h) of RCRA to General Motors Corporation (GMC) which required GMC to conduct an RFI and CMS to determine the nature and extent of contamination at its facility in Martinsburg, WV.

In 1968, (GMC) began general warehousing and packaging of automative parts at its Martinsburg, WV plant. In 1984, to fulfill ground-water monitoring requirements under RCRA, GMC installed a series of monitoring wells within the bedrock aquifer surrounding a surface impoundment containing zinc phosphate sludge from GMC's wastewater treatment system. Upon drilling the wells, GMC discovered volatile aromatic hydrocarbons within the soils and shallow bedrock formations. Further investigation revealed the source of the release to be a leak in an underground pipe connected to a paint thinner product tank.

Between 1987 and 1991, GMC conducted an RFI and a CMS pursuant to enforcement orders with EPA. These investigations were conducted to identify the types, quantities, and locations of contaminants and to develop ways of addressing the contamination.

The facility is underlain by three hydraulic zones; a clay soil zone which exists as pockets extending as deep as 40 ft below the surface into depressions in shallow bedrock; a poorly-fractured shallow bedrock system extending to a depth of 100 ft; and a deep bedrock aquifer below a depth of 100 ft. The deep aquifer yields substantial amounts of drinking water and is used as a supply source in the area. The clay soil and shallow bedrock are not capable of sustaining production wells. Most of the paint thinner at the site is found in the clay pocket closest to the source of the leak. The contaminated soil and shallow bedrock are not hydraulically connected to the deep bedrock aquifer. However, dissolved paint thinner constituents have been detected in the deep aquifer. GMC believes that contamination occurred during drilling for deep bedrock aquifer wells. The boreholes created a migration pathway from the contaminated shallow bedrock to the deep bedrock aquifer.

As part of the investigation, GMC also conducted two pilot studies: a ground-water pumping study for the shallow bedrock and a one-year vapor extraction study to determine if paint thinner could be removed from contaminated soil through the use of this technology.

CONTAMINATION DETECTED AND CLEANUP GOALS

Media	Estimated Volume	Contaminant	Maximum Concentration	Action Level	Cleanup Goal	Point of Compliance
ground water (deep bedrock)	unknown	Naphthalene Ethylbenzene Total xylenes PCE	.740 ppm .700 ppm 10.0 ppm .005 ppm	not given not given not given 5 ppm	.400 ppm** removal (absence of free product)	Throughout the plume
ground water (shallow)	unknown	Total Xylenes Ethylbenzene	10.0 ppm .700 ppm	not given not given	removal (absence of free product)	
soil	unknown	PCE Total Xylenes Ethylbeneze	.005 ppm 10.0 ppm .700 ppm	5 ppm	removal (absence of free product)	

** Cleanup goal is a Maximum Contaminant Level that is EPA's drinking water standard for naphthalene.

EXPOSURE PATHWAYS

In their baseline risk assessment, GMC used a hypothetical exposure scenario based on a worker's ingestion at the facility of contaminated ground water from the deep bedrock aquifer. Although the contamination is on site and the site is likely to remain industrial, naphthalene in soils and ground water at the facility, if not addressed, may present a potential threat to human health and the environment.

PUBLIC PARTICIPATION

The 30-day public comment period on EPA's proposed remedy extended from June 19, 1992 to July 20, 1992. No comments or requests for a public meeting were received during the thirty-day public comment period.

SELECTED REMEDY

The selected remedy includes pumping of contaminated shallow groundwater and treatment with airstripping; vapor extraction of paint thinner constituents from contaminated soil; decommissioning of contaminated deep bedrock aquifer monitoring wells and the installation of new wells; and vertification monitoring of the shallow and deep groundwater.

The combined contaminant vapor from the air stripping and the vapor extraction will be treated in a thermal destruction unit. The combustion products of the paint thinner (carbon dioxide and water) will be vented through a stack. Remediation of the contaminated soil and shallow bedrock will continue until the paint thinner which exists as free product has been removed. If naphthalene levels above .400 ppm are detected in the new monitoring wells, GMC will be required to remediate the deep aquifer to the required media cleanup standard.

The selected remedy will address all three areas of contamination at the facility: the clay soil, the shallow bedrock and the deep aquifer. It will control the source of contamination so as to reduce or eliminate further releases, and comply with applicable standards for the management of waste.

The total estimated capital and annual O&M costs associated with the selected remedy will be $255,000 and $300,000 respectively. The selected technologies have already proved to be implementable at the facility through pilot

studies. There are no anticipated administrative difficulties for any of the alternatives that could delay implementation.

INNOVATIVE TECHNOLOGIES CONSIDERED

Vapor extraction.

NEXT STEPS

EPA will issue an Administrative Order that will require GMC to implement the selected remedy. During the remedy implementation period, EPA will provide further information to the public as it deems necessary or upon request.

KEY WORDS
ground water, soil; ingestion; total volatile aromatic hydrocarbons, naphthalene; in-situ treatment, vapor extraction

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