NPL Site Narrative for Railroad Avenue Groundwater Contamination

RAILROAD AVENUE GROUNDWATER CONTAMINATION
Des Moines, Iowa

Conditions at Proposal (September 13, 2001): The Railroad Avenue Groundwater Contamination site is located in Des Moines, Polk County, Iowa. The site comprises a chlorinated solvent ground water plume with no identified source. The plume area is about 123 acres in size and is approximately bounded on the south by the lakes at the south edge of the Raccoon River Park, on the west by 19th Street, on the north by Holiday Park, and on the east by 5th Street and the Raccoon River. The ground water plume has impacted wells within the West Des Moines Water Works municipal system, which supplies drinking water to the residents of West Des Moines. The site is being placed on the NPL because the volatile organic compounds (VOCs) trichloroethylene (TCE), tetrachloroethylene (PCE), and cis-1,2-dichloroethylene (cis-1,2-DCE) have been detected in several of the West Des Moines Water Works municipal wells, and have resulted in five of the contaminated wells being converted from regular use to standby status.

The West Des Moines Water Works system supplies a population of 46,980 persons. This population is served by 19 shallow municipal wells drilled approximately 30 to 50 feet deep in the alluvial aquifer, and 3 deep wells drilled approximately 2,500 feet deep in the Jordan aquifer. Three additional wells were nonproducing wells, and thus were abandoned. Water also is purchased from the Des Moines Water Works, which is supplied by surface water intakes on the Raccoon and Des Moines Rivers. The amount of water purchased depends on the time of year, with more being purchased during the summer months. In 2000, the percentage of Des Moines water that was blended with the West Des Moines groundwater was 9 percent.

In 1991, West Des Moines wells (WDMWs) number 12 and number 13 were put on line for the West Des Moines Water Works system. The wells were sampled in 1991 and indicated no VOC contamination. In 1993, a routine water distribution sample collected by the city was found to contain cis-1,2-DCE.

In 1999, EPA completed a preliminary assessment/site investigation (PA/SI) of the Railroad Avenue Groundwater site. An expanded site investigation (ESI) was completed in August 2000. PCE and its degradation products, TCE and cis-1,2-DCE, were detected in nine of the shallow municipal wells during the PA/SI and/or the ESI. TCE was detected in WDMW number 21 at concentrations above health-based benchmarks. While both the PA/SI and the ESI verified the presence of VOCs in groundwater, no source of the contamination could be conclusively identified.

Although five of the municipal wells currently do not contribute to the drinking water supply, four additional wells also have shown contamination. The groundwater plume also poses a threat to ten additional West Des Moines Water Works municipal wells that draw water from the contaminated shallow aquifer, as well as an undetermined number of private drinking water wells within four miles of the site.

Status (September 2002): EPA is considering various alternatives for this site.

For more information about the hazardous substances identified in this narrative summary, including general information regarding the effects of exposure to these substances on human health, please see the Agency for Toxic Substances and Disease Registry (ATSDR) ToxFAQs. ATSDR ToxFAQs can be found on the Internet at ATSDR - ToxFAQs (http://www.atsdr.cdc.gov/toxfaqs/index.asp) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.