NPL Site Narrative for Griggs & Walnut Ground Water Plume

GRIGGS & WALNUT GROUND WATER PLUME
Las Cruces, New Mexico

Conditions at Proposal (January 11, 2001): The Griggs & Walnut Ground Water Plume site consists of a plume of perchloroethylene (PCE)-contaminated ground water underlying the area near the intersection of Griggs Avenue and Walnut Street in Las Cruces, Dona Ana County, New Mexico. The site is being proposed to the NPL because of the presence of this contaminant in ground water.

Low concentrations of PCE were first detected in water samples collected from two Las Cruces municipal water supply wells, Wells 21 and 27, in August 1993. The concentrations of PCE were well below the drinking water maximum contaminant level (MCL) of 5.0 micrograms/liter (µg/L) established for PCE by EPA. In January 1995, a water sample collected from a third municipal well, Well 18, while it was off-line following repairs, contained 32 µg/L of PCE. Follow-up samples were collected and Well 18 was kept off-line until analytical results were received. The concentrations of PCE in follow-up samples were less than 2.0 µg/L. Regular follow-up sampling of Well 18 continued. In January 1996, another sample collected from Well 18 contained 6.4 µg/L of PCE, but the concentrations of PCE in confirmation samples were 1.0 µg/L or less. Although the confirmation sample results indicated that PCE concentrations in water from Well 18 were below the MCL, Well 18 was permanently removed from service in September 1996 by the City of Las Cruces as a precaution. Since April 1998, PCE has also been detected regularly in water samples collected from an additional municipal well, Well 19. The concentrations (approximately 1 µg/L) are well below the MCL. In July 1999, PCE concentrations in samples from Well 27 increased to approximately 4.0 µg/L and have remained at this level. The Las Cruces municipal water system is currently and has been in complete compliance with the Safe Drinking Water Act and the New Mexico Water Supply Regulations.

The City of Las Cruces utilizes a total of 28 municipal supply wells to provide drinking water to approximately 83,000 individuals. The City of Las Cruces municipal supply wells are completed within the Santa Fe Group aquifer. The Santa Fe Group aquifer is a sole source aquifer for the region and produces most of the water used in metropolitan and industrial centers, as well as a significant proportion of the ground water used to supplement surface irrigation supplies.

The NMED and Dona Ana County have installed ground water monitoring wells to determine the direction of ground water flow and horizontal extent of ground water contamination. The monitoring wells are 2 inches in diameter and extend only 5 to 15 feet below the water table. These wells are used only to assess ground water quality, not for water supply. Concentrations of PCE in samples from monitoring wells vary from < 0.50 to 53 µg/L. Ground water flow is currently east from the Rio Grande to the municipal wells near Interstate 25. Although it has yet to be completely characterized, the extent of the contaminated ground water plume is at least 8,000 feet long, approximately 2,500 feet wide, and 100 feet thick.

PCE is a manufactured chlorinated solvent which does not occur naturally in the environment and is classified as a dense non-aqueous phase liquid (DNAPL). DNAPLs are immiscible fluids with a density greater than water (i.e., DNAPLs sink in water). DNAPLs, such as PCE, present an extremely high

contamination potential due to their extensive production and use, relatively high mobility as a separate phase, significant solubility, and high toxicity.

Status (June 2001): 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.