

NPL Site Narrative for Cidra Ground Water Contamination

CIDRA GROUND WATER CONTAMINATION

Cidra, Puerto Rico

Conditions at Proposal (March 8, 2004): The Cidra Ground Water Contamination site consists of a ground water plume with no identified sources of contamination. The Puerto Rico Department of Health (PRDOH) ordered the following four public supply wells in Cidra to be closed because of contamination by tetrachloroethylene (PCE): Cidra Well 4 (Calle Padilla Final) in March 1996; Cidra Well 8 (Frente Cementerio) in October 1996; Cidra Well 3 (Planta Alcantarillado) in February 1999; and Cidra Well 6 (Calle Baldorioty) in August 2000. Other chlorinated volatile organic compounds (VOCs), including 1,1-dichloroethylene (1,1-DCE) and trichloroethylene (TCE), were also detected in the wells before they were closed. The Cidra Ground Water Contamination site is located in Cidra, Puerto Rico.

In June 2002, the U.S. Environmental Protection Agency (EPA) Region 2 Site Assessment Team (SAT) began an Expanded Site Inspection (ESI) of the Cidra Ground Water Contamination site. Confirmatory ground water samples were collected from the closed wells and 20 other active and inactive wells in Cidra. PCE was detected in the closed wells at concentrations ranging from 0.64 to 12 micrograms per liter ($\mu\text{g/L}$), and was also detected in two nearby industrial supply wells at the Zenith Laboratories site at concentrations as high as 4.1 $\mu\text{g/L}$. Related chlorinated solvents, including 1,1-DCE; 1,1-dichloroethane (1,1-DCA); cis-1,2-dichloroethylene (cis-1,2-DCE); carbon tetrachloride; and TCE, were also detected in ground water samples collected from the closed wells and Zenith Laboratories industrial supply wells.

The aquifer of concern in Cidra is in the Pre-Robles Volcanic Rock that underlies the area. Existing well logs and the recent EPA subsurface investigations indicate that 9 to 120 feet of clay or silty clay and 10 to 30 feet of decomposed rock overlie the bedrock throughout the municipality of Cidra. The existing well logs indicate that water-bearing zones in the bedrock range from 40 to 360 feet below ground surface in a confined aquifer. Ground-water flows toward and discharges to Cidra Lake. The closed and active wells are all finished in the bedrock aquifer at total depths ranging from 110 to 705 feet below ground surface, with surface casing lengths ranging from 8 to 224 feet.

In January and February 2003, Region 2 SAT continued the ESI by investigating 12 industrial sites in Cidra as potential sources of contamination to the ground water plume using field screening technology and confirmatory analyses through soil samples. Subsurface soil samples were completed at the 12 industrial sites plus two background sites. Soil cores were retrieved at five-foot intervals and were screened for the presence of chlorinated VOCs. The ESI, including research which shows whether a particular facility used chlorinated solvents in their processes, identified five potential sources of contamination.

Contamination is not documented from surface soils through the intervening soil layers to ground water at any of the possible sources. These results are insufficient to conclusively determine the source of contamination of the local drinking water supply wells.

Status (July 2004): 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) (<http://www.atsdr.cdc.gov/toxfaqs/index.asp>) or by telephone at 1-888-42-ATSDR or 1-888-422-8737.