

Los Reales Landfill Water Quality Assurance Revolving Fund Site Summer 2008

SITE DESCRIPTION

The Arizona Department of Environmental Quality (ADEQ) is overseeing the City of Tucson's investigation of groundwater and soil contamination at the Los Reales Landfill Water Quality Assurance Revolving Fund (WQARF) Site. The ADEQ WQARF program, which is also known as state Superfund, investigates and cleans up contaminated groundwater and soil sites throughout the state.

The Los Reales Landfill WQARF Site is located in southeast Tucson at 5300 E. Los Reales Road, south of Interstate 10 at Craycroft Road, which turns into Los Reales Road going south. The City of Tucson, owner and operator of the active municipal sanitary landfill, conducts site investigations and cleanup operations with ADEQ oversight. The landfill consists of approximately 380 acres.

Groundwater at the site is contaminated with tetrachloroethene (PCE) and trichloroethene (TCE) occurring over regulatory limits. Depth to groundwater is about 181 feet below ground surface.

SITE HISTORY

The Los Reales Landfill has been in operation since 1967. Groundwater samples taken in the late 1980's indicated the presence of volatile organic compounds (VOCs) in two groundwater monitor wells near Los Reales Road.

The City of Tucson performed a Remedial Investigation, which characterized and defined the extent of groundwater contamination around the



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landfill. Several monitor wells exceeded regulatory standards for both PCE and TCE. A VOC plume was identified, extending approximately one-half mile northwest from the northwest corner of the landfill. The City of Tucson later submitted a Feasibility Study to ADEQ, which focused on a detailed evaluation of the VOC contamination and the assessment of remedial objectives for the site.

Shallow soil gas surveys found the highest VOC concentrations in the soil at the Southwest Disposal Area (SWDA), where hazardous materials were disposed of from 1977 to 1980. No specific source of groundwater contamination at the WQARF site was identified, but it appears that the main unlined landfill cell was likely the primary source of groundwater contamination.

The Los Reales Landfill site was placed on the WQARF Registry in April 1999.

SITE INVESTIGATION/CLEANUP ACTION

The City of Tucson began operation of a groundwater pump and treat reinjection system in March 1999, as part of a Remedial Action Plan for the site. Groundwater is pumped from 10 extraction wells, treated by air stripping, and contaminants are captured by a carbon filter. A portion of the treated water is reinjected into the aquifer by two injection wells and the rest is used for dust control at the landfill. The system is designed to treat up to 90 gallons of water per minute.



The pump-and-treat system operated by the City of Tucson at the Los Reales Landfill removes contaminants from the groundwater.

In Spring 2007 the City of Tucson upgraded the groundwater treatment system to include seven additional extraction wells, and to add a sequestering agent to the extracted groundwater to prevent calcium carbonate buildup in the pumps and piping.

In May 2003 the City installed a soil vapor extraction (SVE) system at the SWDA to address high soil gas concentrations at the site. Since installation, the system has removed a total of 436 pounds of total VOCs.

Landfill gas (methane) is being piped to Tucson Electric Power as an alternative fuel source. The landfill contains enough methane to power 4,000 homes. The landfill gas-to-energy project acts as a means of source control, since VOCs are removed along with the methane.

HEALTH/WATER QUALITY

The Arizona Department of Health Services completed a Baseline Human Health Risk Assessment in March 1994 of the Los Reales site. No significant health risks associated with this site were identified at that time.

There are potential risks associated with exposure to VOCs, principally through drinking contaminated groundwater. No one is known to be drinking contaminated water from this site; however, if you are drinking water from a private well within the boundaries of the site, please contact the ADEQ Project Manager. Cleanup activities are important to ensure the quality of future drinking water supplies.



The soil vapor extraction system at the Southwest Disposal Area removes volatile organic compounds from the soil.

FOR MORE INFORMATION:

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Complete public files regarding the site are located at ADEQ's Phoenix offices. Call 1(800) 234-5677 for information. Hearing impaired persons may call ADEQ's TDD line at (602) 771-4829.

For more information on this WQARF site or other WQARF sites in the State of Arizona, please visit the ADEQ Web site at: www.azdeq.gov. In the left-hand column, click on Waste Programs, then on Superfund/WQARF. Look for the Site Information and Maps Link.

Para información en español sobre este sitio, se puede contactar a Melissa Hayes al (520) 770-3309.