

19th Avenue Landfill

Delisted EPA National Priorities List (NPL) Site

Boundaries:

The [19th Avenue Landfill Site](#) (Site) is located in an industrial area of Phoenix, Arizona at the southeast corner of 19th Avenue and Lower Buckeye Road. The Site covers 213 acres of land, of which the major part containing 200 acres is referred to as Cell A, and located on the north side of the Salt River channel. The remainder of the landfill Cell A-1 is located south of the river channel.

Site Status Update

The [City of Phoenix](#) (COP) continues to operate and maintain the treatment systems and submit quarterly groundwater monitoring reports and data in accordance with the Arizona Department of Environmental Quality (ADEQ)/COP [Consent Decree](#) (CD) CIV 91-0237 and the [Declaration of Environmental Use Restriction](#) (DEUR) number 29194. In September 2008 ADEQ approved the request to update the [volatile organic chemicals](#) (VOCs) testing requirements to use Test Method 624 as a replacement for Test Method 601/602, because this method is more appropriate when testing for VOCs.



Cell A-1 Flare

ADEQ along with technical assistance from the [U.S. Environmental Protection Agency](#) (EPA) completed the third Five-Year Review (FYR) of the groundwater remedies at the Delisted 19th Avenue Landfill Superfund Site (Site). The current FYR started January 2010 and was completed in September 2010, with the purpose of protecting human health and the environment. The FYR is required by the statute under section 121(C) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) whenever hazardous substances remain on-site as part of a remedy. The [2010 Five-Year Review Report](#) concluded that the remedy at the Site continues to be protective of human health and the environment.

Community Involvement Activities:

A [fact sheet](#) released to the community requested public comment on EPA's plan to [delist](#) the Site from the [National Priorities List](#) (NPL) in August 2006, can be viewed on ADEQ's Web site. Upon completion of the removal of the Site from the NPL in September 2006, the residences and businesses were notified by publication in several local newspapers. An updated [community involvement plan](#) (CIP) is available that addresses the delisting of the Site. This CIP also addresses how the public can get involved with future FYR activities. In January 2010 a [Fact Sheet](#) was mailed to the community and posted on ADEQ's and EPA's websites announcing

and requesting public comment for the Third FYR. Public interviews took place February 8 and 9 of 2010, at C.J. Jorgensen Elementary School in Phoenix, Arizona and again February 18 and 25 2010, at the ADEQ Office in Phoenix. The results of the community interviews are included in the Third 2010 FYR for the Site. [The Fact Sheet](#) for the completion of the Third FYR that was mailed to the community is posted on [EPA's](#) and [ADEQ's](#) Web sites. You can also go to the Site Information Repositories listed at the end of this narrative.

Site History:

1957-1972: The Site originated as a sand and gravel company in 1957. Facility operations created large pits from the mining operations which were later backfilled predominately with municipal refuse, and various solid and liquid industrial wastes from the Phoenix area. These wastes were disposed into the unlined pits at the facility which are identified as Cell A and Cell A-1. The Site was completely filled with refuse and industrial waste by late 1972.

1965-1979: Flood events caused the landfill to flood in 1965 and intermittently during the 1970s. These floods caused refuse and wastes to wash into the Salt River from Cell A and Cell A-1. The landfill was closed by a cease and desist order issued by the [Arizona Department of Health Services](#) (ADHS) in February 1979. COP and ADHS entered into a consent order in 1979 to properly close the Site.

1983-1988: The Site was placed on the EPA's NPL on [September 8, 1983](#). ADEQ was assigned oversight authority of the project in 1988. A [remedial investigation/feasibility study \(RI/FS\)](#) was voluntarily conducted by COP. The RI/FS was prepared according to the requirements of [CERCLA](#) (commonly known as [Superfund](#)), and the Superfund Amendments and Reauthorization Act of 1986 ([SARA](#)). The RI/FS report was submitted to ADEQ in June 1988.

1989: COP prepared a remedial action plan (RAP) under Arizona's [Water Quality Assurance Revolving Fund](#) (WQARF) rules. The RAP required the facility to design systems to control refuse wash-out, surface water quality, groundwater quality and landfill gas accumulation. The RAP was approved by a letter of determination (LOD) in September and a [record of decision](#) (ROD) was generated by the EPA and approved on September 29, 1989.

1992: A CD between the State of Arizona and COP was signed by the United States District Court in June requiring [capping of the landfill](#) cells, removal and treatment of methane gas, monitoring of groundwater, flood control improvements and bank stabilization, and a contingency plan to treat groundwater if groundwater standards were exceeded. The consent decree provided legal assurance to the public that the approved remedy would be implemented as described in the LOD and the ROD.

1979-1996: To comply with the 1979 consent order, COP covered the Site with fill material, engineered a cap for the cells, installed groundwater [monitor](#)



Cell A-1 Basin Outlet

[wells](#), built [berms](#) around the boundary of the landfill, installed a methane gas collection system, and provided a 24-hour security guard until November 1996.

2000-2001: The first FYR for the Site was conducted in September 2000. The FYR found that additional information needed to be obtained and identified some deficiencies. A follow-up report was completed in 2001 recommending enhancements to the methane recovery system and identified that the groundwater monitoring standards used to evaluate groundwater data had been updated by EPA. These were changed according to the updated standards. A final engineered gas collection system was approved by ADEQ in 2001 and was completed in 2002. The initial performance test was done, and [Maricopa County](#) issued the air quality permit to operate the system in fall 2002.

2002-2003: Enhancements to the methane gas collection system were completed in August 2002. Maricopa County issued COP an air quality permit to operate the system. In September 2003, EPA and ADEQ completed an [Explanation of Significant Differences](#) (ESD) to update the groundwater monitoring program requirements.

2005-2006: The second FYR was conducted in September 2005 to ensure the remedy remained protective of human health and the environment as outlined in the ROD. Minor deficiencies were noted, but COP addressed the deficiencies by May 2006. The FYR stated the remedy remained protective in the short-term, but recommended institutional controls in order for the remedy to remain protective in the long-term.

2006: The ESD to the remedy was completed by ADEQ and EPA in June identifying the appropriate institutional controls needed to ensure long-term protectiveness of the Site. To fulfill one of the requirements for an institutional control that runs with the land (requirements that transfer with changes in ownership), a Declaration of Environmental Use Restriction ([DEUR](#)) was negotiated between ADEQ and COP (landowner). The DEUR controls the use and access to the landfill property, and requires the facility to maintain the remedy. The DEUR was finalized in and attached to the property deed in July. A final Close-Out report was completed by EPA and ADEQ on August 3, 2006 signifying the completion of implementation of all necessary [remedial actions](#) and institutional controls.

ADEQ, EPA and COP worked together to achieve the goal of removing the Site from the NPL in September. As a condition of the removal from the NPL, COP was required to maintain institutional and engineering controls as stated in the DEUR and groundwater contamination was not expected to migrate off-site.

2007: COP continued to operate and maintain the remedy and submit quarterly groundwater monitoring reports and data as required in accordance with the ADEQ/COP CD CIV 91-0237 and the DEUR number 2919.

2008: COP continued to operate and maintain the treatment system and submit quarterly groundwater monitoring reports and data as required in accordance with the ADEQ/COP CD CIV 91-0237 and the DEUR number 2919. ADEQ and COP initiated discussions for the five-year review process.

2009: COP continued to operate and maintain the treatment system and submit quarterly groundwater monitoring reports. ADEQ, EPA and COP began working on the FYR update.

2010: The Third FYR report completed in September found that the remedy at the Site continues to be protective of human health and the environment. Some minor deficiencies were noted, the COP plans to address these issues in 2010-2011. COP continues to operate and maintain the treatment system and submit quarterly groundwater monitoring reports and data. Currently, the COP is evaluating possible future uses for this closed landfill.

Contaminants:

The current contaminants of concern in groundwater include very low levels of VOCs, and heavy metals including [arsenic](#), [barium](#), [mercury](#), and [nickel](#). Currently, arsenic continues to exceed the water quality standards on the Site. Contaminants of concern at the Site may change as new data become available. Sampling of soil and refuse in the landfill indicated that the contents of the landfill are similar to those expected in municipal landfills; however, industrial wastes were also disposed at the Site.

Public Health Impact:

The baseline risk/health assessment prepared by the [Agency for Toxic Substances and Disease Registry](#) indicates that the groundwater flowing underneath the landfill is not considered to be a threat to public health. Groundwater in the area is used for industrial purposes only; it is not used as drinking water. Potential and future groundwater impacts will be mitigated by the groundwater contingency plan. Therefore, there will be no exposure pathway through any drinking water supplies.

The area's primary drinking water is provided by COP water distribution system. The municipal system draws water from groundwater and surface water sources over thirty miles away. The nearest drinking water supply well is over three miles away. An industrial well and a down gradient agricultural well are located 200 feet and 800 feet, respectively, from the Site. However, there is no known contamination of these wells at this time. Ambient air quality monitoring indicates no apparent risk to human health from landfill gas emissions.

Site Hydrogeology:

The Site is situated in the southeastern portion of the west sub-basin of the Salt River Basin in central Arizona. The Site is within the basin and range physiographic province. The landfill is sited on [alluvial](#) fill material that commonly occupies the structurally depressed basins of the region. No active faults are known to be present near the Site.

A monitor well installation program was implemented to characterize the shallow subsurface geology in the area near the landfill. This was accomplished by drilling 12 [boreholes](#) during the summer of 1987, four of which were drilled to a depth of 300 feet or greater. Data collected from the boreholes indicate that at least five identifiable stratigraphic subunits exist within

approximately 400 feet of the surface. These stratigraphic subunits belong to the upper alluvial unit with designated subunits S, A, B, C and the middle alluvial unit.

The natural groundwater flow direction beneath both cells of the landfill is to the northwest. This phenomenon is controlled primarily by the pumping of large volume irrigation wells located northwest of the landfill site. Season fluctuations can occur, however, the pumping of irrigation wells along with the natural regional flow direction controls the groundwater flow beneath the landfill.

Depth to groundwater ranges between 20 to 40 feet below ground surface (bgs) near the river, and 60 to 80 feet bgs north of the Site. The current drought has resulted in lowering of the water table by 20 feet or more.

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*In Arizona, but outside the Phoenix area, call toll-free at (800) 234-5677.

**Call EPA’s toll-free message line at (800) 231-3075.

Information Repository:

Interested parties can review select Site documents at the [Burton Barr Central Library](#), Reference Section, located at 1221 N. Central Avenue in Phoenix, (602) 262-4636.

Site files are also located at the ADEQ main office located at 1110 W. Washington Street, Phoenix, AZ. Please contact (602) 771-4380 or (800) 234-5677 to schedule an appointment with 24-hour notice to review these documents. Once all documents requested have been collected, you will be contacted for a review Monday through Friday from 8:30 a.m. to 4:30 p.m. at the ADEQ Records Management Center, 1110 W. Washington Street in Phoenix, AZ.

The complete official Site file can be reviewed at the EPA Region IX, [Records Center](#), Mail Stop SFD-7C, 95 Hawthorne Street, Room 403, San Francisco, CA 94105, (415) 536-2000.