

**Department of Environmental Quality  
2012 Water Quality Assurance Revolving Fund Registry**

Pursuant to Arizona Revised Statute A.R.S. §49-287.01 (E), the Arizona Department of Environmental Quality (ADEQ) is providing this annual report of the location, remedial status, and score of the sites on the Water Quality Assurance Revolving Fund (WQARF) Registry as of September 1, 2012. The Registry includes those sites within the state that may pose risk to public health, welfare or the environment from the release of hazardous substances and for which there is current or planned investigation and cleanup. There are 35 sites on the WQARF Registry:

**22 in Maricopa County,  
7 in Pima County,  
3 in Gila County,  
1 in Graham County,  
1 in La Paz County, and  
1 in Yuma County**

Sites on the Registry are scored based in part upon the type of contamination present, the location of the contamination, and the number of people that may be affected. The maximum score a site may receive is 120. Scores are used to help determine relative risk from the site and do not necessarily mean that there is direct exposure of contaminants to humans or the environment. Whether the site is currently being remediated or is being investigated, ADEQ takes steps to identify the contamination and to prevent exposure.

The Registry and additional information regarding these sites is available on ADEQ's Web site at <http://www.azdeq.gov/environ/waste/sps/index.html>. With 24-hour notice, an appointment to review the Registry and additional information is available Monday through Friday from 8:30 a.m. to 4:30 p.m., at ADEQ, Records Management Center, 1110 W. Washington Street, Phoenix, AZ. Please call (602) 771-4380 or (toll-free in Arizona) 800-234-5677 to schedule an appointment.

**Note:** As an aside, there are 17 active National Priority List (NPL) sites, three delisted NPL sites, and one Superfund alternative site in Arizona, which are all federal Superfund cleanup sites. There are also 10 Department of Defense (DoD) cleanup sites in Arizona with an additional 206 formerly used defense sites that have been or will be investigated. Information on these sites is available at the following ADEQ Web site link: <http://www.azdeq.gov/environ/waste/sps/siteinfo.html>.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

**7<sup>th</sup> Avenue and Bethany Home Road** – This site was placed on the WQARF Registry on August 25, 2004 and has a score of 29. The site is located in Phoenix and is bounded to the north by W. Rose Lane, to the south by W. Bethany Home Road, to the east by N. Fifth Avenue and to the west by N. Eighth Avenue, and includes the 2.6-acre former shopping center that housed a dry cleaning facility.

ADEQ initiated an early response action (ERA) evaluation on the site in October 2004 to collect data necessary to characterize the source area of tetrachloroethene (PCE) contamination below the site. Based on the results of the ERA evaluation, soil vapor extraction (SVE) was chosen for remediation of PCE contaminated soil beneath the site. The SVE system began operations in June 2005 and the SVE system was shut down in January 2006 after recovering approximately 380 pounds of volatile organic compounds (VOCs). Confirmation soil samples indicated that the source area soils had been successfully remediated to levels that are below ADEQ Soil Remediation Levels and Groundwater Protection Levels.

ADEQ initiated an investigation of an additional dry cleaner in the area of the Site. A dry cleaner operated at 6022 N. 7th Avenue from the 1960s to approximately 1990. Field investigations in the early 1990s indicated a release of PCE but the impact to the groundwater was not evaluated at that time. During March 2008, a site investigation was conducted which indicated that PCE had been released to the soil and groundwater beneath the site but concentrations remaining in the soil at the property did not warrant further remediation. Concentrations of PCE in the groundwater range from 8.0 to 24 parts per billion (ppb). Trichloroethene (TCE) and vinyl chloride are also present above their respective Aquifer Water Quality Standard (AWQS).

A groundwater sample collected from a Salt River Project (SRP) irrigation well located approximately one-half mile north of the site detected PCE at the AWQS of 5 ppb for the first time in January 2012. ADEQ completed the final Remedial Investigation (RI) report in April 2011. The feasibility study work plan was completed in May 2011 and the Feasibility Study (FS) was initiated in fiscal year 2012. A community advisory board has been established for the site.

Contaminants of concern at the site include PCE, TCE and vinyl chloride.

**7<sup>th</sup> Street and Arizona Avenue** - This site was placed on the WQARF Registry in April 2000 and has a score of 40. The site is located in downtown Tucson, approximately 1/3 mile north of Broadway Boulevard and approximately 3/4 mile east of Interstate 10. The site boundary is a northwest-trending oval extending approximately 1,200 feet from the former Oliver's Cleaners facility at 300 E. Seventh Street to approximately 150 feet north of Sixth Street and approximately 100 feet east of Seventh Avenue.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

ADEQ operated a SVE system from June 2006 to July 2009 as an ERA for the site. Over 700 pounds of VOCs were removed by the SVE system prior to the system being decommissioned in July 2009. Groundwater and soil vapor samples were collected in October and November 2011 and May 2012. Three additional groundwater monitor wells are planned for installation and sampling in September 2012. These wells will be used to define the northern edge of the plume and verify that the regional aquifer has not been impacted. If the regional aquifer has not been impacted, ADEQ will move ahead with an accelerated soil RI/FS during fiscal year 2013.

Contaminants of concern at the site include PCE, TCE, and cis-1, 2-dichloroethene (cis-1, 2-DCE).

**16th Street and Camelback Road** - This site was placed on the WQARF Registry in April 1999 and has a score of 23. The site is located in Phoenix and is bounded approximately by Medlock Drive to the north, Highland Avenue to the south, 17<sup>th</sup> Street to the east, and 15<sup>th</sup> Street to the west.

Based on the results of an ERA evaluation conducted in 2003, ADEQ determined that SVE was not a feasible remedy for the site. Due to a lack of funding, no activities are being conducted at this site. The RI has not been initiated.

Contaminants of concern at the site include PCE, 1, 2-dichloropropane and 1, 2-dichloroethane (1, 2-DCA).

**20th Street and Factor Avenue** - This site was placed on the WQARF Registry in March 2000 and has a score of 31. The site is located in Yuma, approximately one-half mile south of 16th Street and approximately three quarters of a mile east of Fourth Avenue.

In 2002, ADEQ conducted a soil removal action and cleaned out sumps and septic tanks at an active facility as part of an ERA. ADEQ continues to investigate the Site to identify the extent of the groundwater contamination. A shallow soil vapor investigation was performed to help identify potential source areas. The soil vapor investigation included the installation of several permanent soil vapor monitor probes and performing a soil vapor survey. Design and construction of an engineered cap for the Houston facility is currently ongoing. Groundwater monitoring activities are on-going and no drinking water wells have been impacted by the contamination from the site.

Contaminants of concern at the site include PCE, TCE and cyanide.

**56th Street & Earll Drive** – This site was placed on the WQARF Registry on June 2, 2004 and has a score of 40. The site is located in Phoenix near 56<sup>th</sup> Street and Earll Drive. The plume is bounded by Earll Drive to the north, Loop 202 – Red Mountain Freeway to the south, 56th Street to the east and 32nd Street to the west.

The site was originally investigated as part of the Motorola 52nd Street National Priorities List (NPL) site. However, groundwater data from both sites indicate that the two TCE groundwater contaminant plumes are separate and distinct plumes. Therefore, the site was disassociated from the larger Motorola 52nd Street NPL site. ADEQ is working cooperatively with a party potentially responsible for the contamination to further evaluate the site and develop a cleanup strategy. An ERA evaluation has been completed and the working party negotiated a Consent Order with ADEQ. The working party submitted a work plan for a pump and treat groundwater system ERA and is working on required permits for the construction of the system. A community advisory board has been established for this site.

Contaminants of concern at the site include TCE.

**Broadway Pantano** - This site was placed on the WQARF Registry in December 1998 and has a score of 57. The site is located in the east-central part of Tucson and is bounded approximately by Speedway Boulevard to the north, Pantano Wash to the east, Broadway Boulevard to the south, and Craycroft Road to the west.

Four Tucson Water production wells have been removed from service as a result of groundwater contaminated with VOC. A groundwater containment system has been installed to prevent further westward migration of contaminated groundwater. Confirmed sources of the groundwater contamination are the former Broadway North and South Landfills. A SVE system was installed at the Broadway North Landfill in 2000 to remove and treat contaminated VOC landfill gases contributing to the groundwater contamination. This system was operated until 2002 and removed over 5,000 pounds of VOCs. The groundwater RI report was finalized in June 2012. The landfill RI is still in progress and a community advisory board has been established for this site.

Contaminants of concern at the site include PCE, TCE, cis-1, 2-DCE, methylene chloride and vinyl chloride.

**Central Avenue and Camelback Road** - This site was placed on the WQARF Registry in June 2000 and has a score of 32. The boundaries of the site are approximately Missouri Avenue to the north, First Street to the east, Pierson Street to the south and Third Avenue to the west.

In January 2003, ADEQ completed construction of a groundwater treatment system to remediate and control the migration of contaminated groundwater at the site as an ERA. The groundwater pump and treat system has been in operation since January 2003 and treats approximately 30 gallons per minute (gpm) of groundwater. Cumulative PCE recovery is approximately 283 pounds since start-up of this system in January 2003. In June 2004, ADEQ initiated an ERA evaluation of the

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

Maroney's Drycleaner facility. Based on the results of the ERA evaluation, SVE was proposed for remediation of PCE contaminated soil beneath the site. The SVE system was installed in November 2007 and is currently in operation. Cumulative PCE/TCE recoveries as of June 2012 are 3,855 pounds. The remedial investigation was initiated in 2007 and a community advisory board has been established for this site. Passive and active soil gas surveys were conducted in the vicinity of the former drycleaner's building. A nested soil vapor extraction well was installed at the site and a pilot test was conducted. A modification to the air permit is being prepared to add the new SVE well to the SVE system.

Contaminants of concern at the site include PCE, TCE, and cis 1, 2-DCE. Other contaminants present due to past releases from gasoline underground storage tanks in the area include benzene, toluene, ethylbenzene, total xylenes, methyl tertiary butyl ether (MTBE), and DCA.

**Cooper Road & Commerce Avenue** - The site was listed on the WQARF Registry on June 14, 2004 and has a score of 33. The site is located in Gilbert near Guadalupe Road and Cooper Road and the plume is bounded to the north by West Encinas Street, to the south by the Neely Ranch Preserve, to the east by the North Neely Street and to the west by North Ocotillo Drive.

PCE and TCE have been detected in the groundwater at the site. In 2001, groundwater samples collected from a Town of Gilbert monitoring well detected PCE concentrations above the AWQS. A Town of Gilbert public supply well is located nearby. Installation of off-site monitor wells began in 2003 and quarterly groundwater monitoring has been conducted at the site since March 2005. ADEQ initiated an ERA evaluation of the site in March 2006 to collect data necessary to characterize the source areas of volatile organic compounds and metals contamination at the site. The ERA Evaluation consisted of drilling and sampling twenty soil borings and installation of two soil vapor extraction/air sparge (SVE/AS) wells, a groundwater extraction well and three soil vapor monitor wells. Construction of the SVE/AS, groundwater pump and treat remediation system was completed in July 2008. Initial startup of the SVE system occurred on December 22, 2008. Start-up of the air sparge component of the system occurred in May 2009. One additional SVE well was installed in fiscal year 2011 and two additional SVE wells were installed in fiscal year 2012. Through fiscal year 2012, approximately 4,470 pounds of PCE were recovered by the SVE/AS system.

SRP and ADEQ finalized the agreement to discharge treated groundwater to the lateral south of the site in June 2010 and the construction of the conveyances of treated groundwater to the SRP lateral and Town of Gilbert sanitary sewer were also completed in June 2010. The groundwater pump and treat system began continuous operations on August 25, 2010. Through fiscal year 2012, the groundwater pump and treat system has treated over 77 million gallons of water and recovered approximately 36 pounds of PCE. A community advisory board has been established for the site.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

Contaminants of concern at the site in groundwater include PCE and TCE. Contaminants of concern in the soils at the site include PCE, arsenic, chromium, copper, total petroleum hydrocarbons, mercury and lead.

**East Central Phoenix (ECP) 24<sup>th</sup> Street and Grand Canal** - This site was placed on the WQARF Registry in May 2000 and has a score of 29. The site is located in Phoenix, and the current site boundary is a 400-foot diameter circle centered on the Salt River Project well 16E-6.8N.

ADEQ prepared a fact sheet as part of the §49-287.03 notification to begin the RI for the site. ADEQ sent all §49-287.03 notices and fact sheets out on June 22, 2007. In July 2008, CVS drilled a groundwater monitor well as part of their Prospective Purchaser Agreement. The well, approximately 800 feet north of the WQARF site, had a depth to water measurement of 86 feet and a PCE concentration of 300 micrograms per liter (µg/L). A community advisory board has been established for this site.

The contaminant of concern at the site is PCE.

**ECP 32<sup>nd</sup> Street and Indian School Road** - This site was placed on the WQARF Registry in May 2000 and has a score of 29. The site has two separate areas of groundwater contamination. The plumes are bounded by E. Monterosa Street to the north, 30<sup>th</sup> Street to the west, E. Clarendon Avenue to the south, and 32<sup>nd</sup> Place to the east.

ADEQ initiated a SVE and an ERA in December 2004 and approximately 3,100 pounds of PCE had been removed through December 2006. The SVE equipment was dismantled at this site for use at another WQARF site. One groundwater monitor well was installed for further plume definition. Recent groundwater data indicated PCE levels in the groundwater at 1,400 ppb.

ADEQ received access to the retail center on the southwest corner of 32nd Street and Indian School Road. ADEQ continues to conduct a soil vapor investigation along 31<sup>st</sup> Street and Fairmont Avenue which will be used to help characterize contaminants in the shallow subsurface soil. Short-term SVE pilot tests were conducted at Maroney's Cleaners, the former Viking Cleaners facility and near the corner of 31<sup>st</sup> Street and Fairmont Avenue. Based upon the analysis of soil vapor data, ADEQ constructed a SVE remediation system near the Maroney's Cleaners site. Construction of the SVE systems located near the former Viking's Cleaners facility and near the corner of 31<sup>st</sup> Street and Fairmont Avenue will be completed during 2013.

The contaminant of concern at the site is PCE.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

**ECP 38<sup>th</sup> Street and Indian School Road** - This site was placed on the WQARF Registry in September 1998 and has a score of 25. The site is located in Phoenix, and the plume is bounded by Indian School Road to the north, 38th Street to the east, Piccadilly Road to the south and 36th Street to the west.

ADEQ prepared a fact sheet as part of the §49-287.03 notification to begin the RI for the site. ADEQ sent all §49-287.03 notices and fact sheets out on June 22, 2007. A community advisory board has been established for this site.

The contaminant of concern at the site is PCE.

**ECP 40<sup>th</sup> Street and Indian School Road** - This site was placed on the WQARF Registry in September 1998 and has a score of 25. The site is located in Phoenix, and the plume is bounded by Devonshire Avenue to the north, 41st Street to the east, Amelia Avenue to the south, and 38th Street to the west.

ADEQ conducted an ERA, which consisted of a soil vapor extraction and air sparging system to remediate the source of PCE in the soil and groundwater. The system was started on December 20, 2004 and extracted approximately 35 pounds of PCE from the subsurface. The system was shut down in June 2005.

ADEQ prepared a fact sheet as part of the §49-287.03 notification to begin the RI for the site. ADEQ sent all §49-287.03 notices and fact sheets out on June 22, 2007. A community advisory board has been established for this site.

Contaminants of concern at the site include PCE and TCE.

**ECP 40<sup>th</sup> Street and Osborn Road** - This site was placed on the WQARF Registry in May 2000 and has a score of 30. The site is located in Phoenix, and the current site boundary is a 400-foot diameter circle centered on the Salt River Project well 17.9E-7.5N.

ADEQ prepared a fact sheet as part of the §49-287.03 notification to begin the RI for the site. ADEQ sent all §49-287.03 notices and fact sheets out on June 22, 2007. A community advisory board has been established for this site.

The contaminant of concern at the site is PCE.

**ECP 48<sup>th</sup> Street and Indian School Road** - This site was placed on the WQARF Registry in March 1999 and has a score of 32. The site is located in Phoenix, and the plume is bounded by Devonshire

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

Avenue to the north, 48th Street to the east, E. Fairmont Ave. to the south and 45th Place to the west.

ADEQ and the Salt River Project (SRP) entered into an agreement to conduct a source control interim remedial action (IRA) in 2004. As part of the IRA, SRP constructed a soil vapor extraction system to remediate the source of PCE in soil at the site. Approximately 305 pounds of PCE have been removed since start-up in February 2006. SRP relinquished control of the SVE system to ADEQ in April 2012. In January 2012, a short-term SVE test was conducted at the site and SVE was determined to still be a viable remediation option. ADEQ plans to initiate a SVE ERA at the site. ADEQ continues to conduct a soil vapor investigation along 45<sup>th</sup> Place and Indian School Road to help characterize contaminants in the shallow subsurface soil. Three groundwater monitor wells were installed for further plume definition. Groundwater monitoring activities are currently being conducted throughout the site. A community advisory board has been established for this site.

The contaminant of concern at the site is PCE.

**East Washington Fluff** - This site was placed on the WQARF Registry in June 1999 and has a score of 34. The site is located in Phoenix at 433 E. Buckeye Road and is 10 acres in size.

An ERA was conducted to remove auto shredder fluff piles and install a protective cap to prevent exposure to contaminants. The ERA was completed in September 2001. The RI/FS, and proposed remedial action plan (PRAP) have been completed. On May 18, 2007, a Declaration of Environmental Use Restriction (DEUR) was placed on the site that provides for a non-residential use restriction and acknowledges that there is an engineering control on the site. A modified DEUR was recorded in June 2009. The property owner (Harrison Properties) placed chunks of concrete on top of the cap. They worked with ADEQ to prepare an engineering evaluation of the activity. The concrete will be crushed and then spread on the cap. ADEQ is currently finalizing the PRAP and Record of Decision (ROD) for the site. The contaminants of concern have not been detected above AWQS in groundwater beneath the site.

Contaminants of concern in soil at the site include arsenic, lead, cadmium and polychlorinated biphenyls (PCBs).

**Estes Landfill** - This site was placed on the WQARF Registry in April 1998 and has a score of 50. The site is located in Phoenix, south of Sky Harbor Airport and is bounded approximately by the Salt River to the north, Magnolia Street to the south, State Route 153 to the east and 40th Street to the west.

The RI/FS and PRAP have been completed. ADEQ is evaluating comments on the PRAP and preparing a responsiveness summary. After finalizing the responsive summary, ADEQ will prepare

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

a ROD for the site. In January 2008, methane and VOC vapor samples were collected from the landfill. In March 2012, groundwater samples were collected from monitor wells located at the site. The contaminants of concern have not been detected above AQWS in groundwater beneath the site.

Contaminants of concern at the site include vinyl chloride, cis-1, 2-dichloroethene (DCE), TCE, benzene, bis (2-ethylhexyl) phthalate, arsenic, barium, chromium, manganese, and lead in groundwater; in soil include lead, arsenic and thallium.

**Klondyke Tailings** - This site was placed on the WQARF Registry in September 1998 and has a score of 69. The site is located in the unincorporated community of Klondyke, on the north bank of Aravaipa Creek, approximately 4.5 miles upstream of Aravaipa Canyon Wilderness Area. The site is comprised of two piles of mine tailings, the soil between and adjacent to these piles, and the area approximately 50 feet into the stream bed of Aravaipa Creek, directly adjacent to the tailings piles. The site is bounded to the east by Klondyke Road.

ADEQ has completed several studies during the RI phase of the site investigation including a bioavailability study, biological, archeological & cultural resources surveys and an acid-base accounting study. Private wells in the area were sampled to help determine the impacts of the tailings on the groundwater. No contaminants were found in the groundwater above regulatory levels. Sampling to determine the extent of off-site soil contamination began in 2006. To date, approximately 2,500 soil samples have been collected from the site and adjacent properties and analyzed by x-ray fluorescence. The limits of the 400 milligrams per kilogram (mg/kg) residential Soil Remediation Level for lead have been defined to extend approximately one-half mile from the site and impact nine properties adjacent to the site.

ERA activities continue at the site. These activities have included geophysical surveys to identify the presence of buried tanks or drums and minor repairs to the berms on the tailings piles to prevent erosion by rainfall. Aerial photography, topographic mapping, historic aerial photography analysis, floodplain delineation & analysis of the 10-, 25-, 50- and 100-year floodplains and a geomorphology study of Aravaipa and Laurel Creeks were done to evaluate possible remedies due to the site's location near these creeks. ADEQ selected gabion mattresses for erosion protection in October 2007. Erosion protection installation began in March 2008. In June 2008, erosion protection installation was completed on the upper tailings pile and the clean soil cap was seeded.

ADEQ, with the assistance of the EPA, evaluated soil removal options on the residential properties located in the vicinity of the site. EPA collected additional samples in the immediate area surrounding five residences near the site in March 2010. In fiscal year 2012, EPA initiated the planned removal of contaminated soils from four properties near the site. During fiscal year 2012, approximately 2,000 cubic yards of contaminated soil were removed from two of the four properties.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

ADEQ and their contractor are currently preparing the draft RI report. A community advisory board has been established for the site.

Contaminants of concern at the site include antimony, arsenic, cadmium, copper, lead, manganese, mercury, and zinc.

**Los Reales Landfill** - This site was placed on the WQARF Registry in April 1999 and has a score of 32. The site is an active municipal sanitary landfill approximately 380 acres in size located in southeast Tucson and has been in operation since 1967.

The City of Tucson has implemented a groundwater pump and treat system as required by an existing remedial action plan. A portion of the treated water is re-injected into the aquifer and a portion is used for dust control at the landfill. In fiscal year 2012, the City performed an evaluation of remedial strategies with the intent of either increasing the effectiveness and efficiency of the existing groundwater pump and treat system or modifying the 1994 ADEQ-approved remedial action plan to allow for use of an alternative remedial strategy. ADEQ is to receive this evaluation report in early fiscal year 2013.

Contaminants of concern at the site include PCE and TCE.

**Miracle Mile** - This site was placed on the WQARF Registry in September 1998 and has a score of 62. The site is located in Tucson and is bounded approximately by Wetmore Road to the north, Prince Road to the south, Pomona to the east, and La Cholla Boulevard to the west.

The local water provider is operating an ADEQ funded wellhead treatment system as an ERA for the regional aquifer. In fiscal year 2011, the extent of contamination was delineated with the data provided by three new shallow-deep well pairs. The RI report is nearing completion and will be sent out for public comment in fiscal year 2013. A community advisory board has been established for this site.

Contaminants of concern at the site include TCE and chromium.

**Park-Euclid** - This site was placed on the WQARF Registry in April 1999 and has a score of 51. The site is in Tucson and is approximately bounded by Ninth Street to the north, 14<sup>th</sup> Street to the south, Santa Rita Avenue to the east, and Park Avenue to the west.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

ADEQ successfully negotiated an Agreement to Conduct Work with PRP's, Mission Linen and Haskell Linen (Park-Euclid Working Group) in 2010. In November 2011, ADEQ completed the Final RI and Remedial Objectives reports. The Park-Euclid Working Group will be preparing the FS. An FS work plan was submitted to ADEQ for review in May 2012 and ADEQ submitted comments in June 2012. A community advisory board has been established for this site.

Contaminants of concern at the site include PCE, TCE and cis-1, 2-DCE.

**Payson PCE** - This site was placed on the WQARF Registry in April 1998 and has a score of 63. The site is located in Payson and the plume is bounded approximately by Main Street to the north, Cedar Lane to the south, Beeline Highway (State Route 87) to the east and McLane Road to the west.

Two groundwater treatment systems have been constructed. The Interim Groundwater Treatment System (IGTS) was constructed to remediate the contamination in the source area. The IGTS was operated from October 1998 to January 2003 and was shut down due to low levels of contamination in the source area. During operation of the IGTS, 59.5 million gallons of water were treated and 218 pounds of VOCs were removed.

The Expanded Groundwater Treatment System (EGTS) began operation in October 1998 and continues to operate at the site treating contaminated water and preventing the contamination plume from migrating further. Through fiscal year 2012, the EGTS has treated more than 885 million gallons of water and removed approximately 498 pounds of VOCs. Treated water from the EGTS is delivered to the Town of Payson drinking water system.

The RI/FS and PRAP have been completed. ADEQ completed the ROD for the site in June 2007. ADEQ and the Town of Payson are re-negotiating the Intergovernmental Agreement (IGA) for Payson to continue to operate the EGTS. ADEQ conducts groundwater monitoring at the site at least once per fiscal year. The five-year review is currently scheduled to be completed in fiscal year 2013.

The contaminant of concern in the groundwater at the site is PCE.

**Pinal Creek** - This site was placed on the WQARF Registry in October 1998 and has a score of 97. The site is located in Gila County in and around the communities of Globe and Miami, Claypool and Wheatfields. The site includes the BHP Copper and Freeport McMoRan (formerly Phelps Dodge) Miami mining properties, and the drainages and underlying aquifers of Miami Wash, Bloody Tanks Wash, Russell Gulch, and Pinal Creek. The site also includes the entire floodplain of Pinal Creek

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

---

from the Old Dominion Mine to the Salt River, plus those portions of the communities underlain by contaminated groundwater.

The Pinal Creek Group (PCG), which previously consisted of BHP, Freeport McMoRan and Inspiration Copper, have been conducting remedial actions including source control since 1988 and have completed RI, risk assessments, a FS and a recommended remedial action plan. They have also conducted a well replacement program for contaminated private and public supply wells. The PCG has been conducting groundwater extraction and treatment from the alluvial and the regional aquifers since 1988. In 2010, the Pinal Creek Group petitioned the U.S. District Court to modify the membership of the PCG to Freeport McMoRan and Inspiration Copper. BHP Copper is no longer a part of the group. BHP still is responsible for management of their properties in accordance with the governing consent decree. Freeport McMoRan now solely manages the PCG, as well as remedial actions at their properties. The PCG is still responsible for the site wide remedial actions.

Contaminants of concern in groundwater at the site include heavy metals such as aluminum, iron, manganese, copper, cobalt, nickel, zinc, cadmium, and other contaminants such as sulfate, acidity and dissolved solids. Localized soil and stream sediment contamination are being investigated; contaminants of concern include arsenic, lead, copper, cadmium, manganese, nickel and zinc.

**Shannon Road/El Camino del Cerro** – The El Camino del Cerro WQARF Site and Shannon Road-Rillito Creek WQARF Site were administratively combined into one site, the Shannon Road/El Camino del Cerro WQARF Site, in January 2005 based on sampling results showing there is a single plume. The El Camino del Cerro site was placed on the WQARF Registry in August 1998 and has a score of 71. The Shannon Road-Rillito Creek site was placed on the WQARF Registry in April 1999, and has a score of 53.

This site is located in northwest Tucson and is bounded approximately by Meadowbrook Park on the east, the Santa Cruz River on the west, El Camino del Cerro Road on the south, and on the north, a quarter mile north of Rillito Creek. The site consists of industrial and residential properties, and a former landfill which occupies approximately 20 acres in the southwest portion of the site.

The contaminant plume has impacted three community wells which were removed from service. One of these wells now has a wellhead treatment system which removes VOCs and arsenic in the groundwater in order to meet drinking water standards. The RI is in progress and a joint community advisory board has been established for the site.

Contaminants of concern at the site include PCE, TCE, 1, 1-dichloroethene (1,1-DCE), vinyl chloride, benzene and lead.

**Silverbell Landfill** - This site was placed on the WQARF Registry in April 1999 and has a score of 51. The site is located in Tucson at 3200 North Silverbell Road in northwest Tucson. The site is bounded approximately by Sweetwater Drive on the north, Grant Road/Ironwood Hills Drive on the south, Interstate 10 on the east, and Silverbell Road on the west, and is comprised of approximately 40 acres.

In 2001, the City of Tucson began operation of a full-scale soil vapor extraction system to remove and treat contaminated VOC landfill gases contributing to the groundwater contamination. By December 2006, the system had removed over 2,000 pounds of VOCs, including almost 750 pounds of PCE. From December 2006 until 2008, the system was operated intermittently to control methane migration. In April 2008, the system was shut down and the equipment was removed. The City of Tucson continues to conduct soil gas rebound testing periodically.

In 2010, the City of Tucson proposed to install a pump-treat-inject system to address the central part of the site plume with the highest VOC concentrations. A concern at this site is the overlapping of the northern part of the Kinder Morgan Silvercroft Wash Release (SWR) Site MTBE groundwater plume with the southern part of the Silverbell Landfill PCE groundwater plume. The City of Tucson has been preparing the Request for Proposal for the proposed groundwater cleanup system, but this RFP will not address the MTBE from the SWR site. ADEQ, the City of Tucson and Kinder Morgan have been meeting periodically to improve coordination regarding sampling and cleanup of the two sites. In 2011 and 2012, the City of Tucson installed additional groundwater monitor wells to help delineate the northwestern, northern and northeastern boundaries of the plume. [Note -ADEQ is addressing the SWR site through its Voluntary Remediation Program.]

Contaminants of concern at the site include PCE, TCE, cis-1, 2-DCE and vinyl chloride.

**South Mesa** - This site was placed on the WQARF Registry in August 1998 and has a score of 31. The site is located in Mesa and Gilbert and is bounded approximately by Tenth Avenue to the north, the railroad south of Baseline Road to the south, Stapley Road to the east, and the railroad west of Center Street to the west.

Two remedial action projects at the site have significantly reduced the contamination by treating pumped groundwater and extracting vapors from the soil. ADEQ began an ERA in June 2004, to address the remaining subsurface contamination. A SVE well was installed and connected to the existing SVE system and the system began operations in September 2004. ADEQ shutdown the SVE system in November 2007 and removed it from the site in June 2008. A draft RI report has been completed and the draft remedial objectives (RO) report is being prepared. A community advisory board has been established for this site.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

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Contaminants of concern at the site include PCE, chromium, nickel, and manganese.

**Tonto and Cherry** - This site was placed on the WQARF Registry in June 2000 and has a score of 45. The site is located in Payson, approximately 400 feet west of the Beeline Highway and immediately north of Main Street. The plume is a northwest-trending area, bounded by W. Cherry St. to the north, S. Colcord Rd. to the east, S. Tonto St. to the west and W. Frontier St. to the south.

The RI, FS, PRAP, and ROD reports have been completed. The site is at the operation and maintenance (O&M) phase. Groundwater samples were collected and analyzed in 2011. Detected groundwater contaminants were below the respective AWQS indicating that monitored natural attenuation is working.

The contaminant of concern at the site is PCE.

**Tyson Wash** - This site was placed on the WQARF Registry in December 1998 and has a score of 46. The site is located in the Town of Quartzsite and the contaminated groundwater plume is bounded by W. Sunset Street to the north, Oregon Avenue to the west, Main Street (Business I-10) to the south, and N. Central Boulevard (SR-95) to the east. The known groundwater contamination exists northwest of the intersection of State Hwy 95 and Business Route I-10 in Quartzsite.

As part of an ERA, a groundwater treatment system was constructed in 2003 and is currently being operated to reduce concentrations in the aquifer and prevent migration of the plume to private drinking water wells. The RI has been completed for the site and the PRAP was completed in June 2008, with no comments received from the public. The ROD was completed and approved in June 2009. The site is in the O&M phase. In October 2010, injection well #2 was modified to increase its effectiveness. In June 2011, an additional monitor well was added 100 feet north of the most northerly extraction well. During fiscal year 2012, the system pumped and treated approximately 1.2 million gallons of water.

Contaminants of concern at the site include PCE and TCE.

**Vulture Mill** – This site was placed on the WQARF Registry in April 1998, and has a score of 65. The site is located just east of U.S. Route 89/93 about 1 mile northwest of the center of the Town of Wickenburg. The eastern boundary of the site is approximately one-fourth mile west of the Hassayampa River channel.

The ROD was signed in September 1999. ADEQ has implemented the remedy, which consists of excavation of contaminated soil, placement in a consolidation pile, installation of a clean soil cover,

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

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and planting of vegetation to control erosion. Presently, the site is used as pasture and inspected on a semi-annual basis.

Contaminants of concern at the site include lead and arsenic.

**West Central Phoenix (WCP) East Grand Avenue** - This site was placed on the WQARF Registry in April 1998 and has a score of 31. The site is located in Phoenix and is bounded approximately by Whitton Avenue to the north, Osborn Road to the south, 29<sup>th</sup> Avenue to the east, and 30<sup>th</sup> Avenue to the west.

The field investigative activities were completed in December 2001. The RI report has been completed. In 2004, a working party constructed and still operates a soil vapor extraction system at the former Van Waters & Rogers facility. To date, over 1,175 pounds of VOCs have been removed. The working party is in the process of completing the FS. A community advisory board has been established for this site.

Contaminants of concern at the site include PCE and TCE.

**WCP North Canal Plume** - This site was placed on the WQARF Registry in June 1998 and has a score of 27. The site is located in Phoenix and the approximate boundaries of this site are Indian School Road on the north, 36<sup>th</sup> Avenue on the east, Clarendon Avenue on the south, and 40<sup>th</sup> Avenue on the west.

The RI was initiated in February 2001 and ADEQ conducted ERA evaluations in 2005. A draft RI report was completed for the project area. A community advisory board has been established for this site.

Contaminants of concern at the site include PCE, TCE and chromium.

**WCP North Plume** - This site was placed on the WQARF Registry in April 1998 and has a score of 55. The site is located in Phoenix and is bounded approximately by Turney Avenue to the north, Indian School Road to the south, 38<sup>th</sup> Avenue to the east, and 43<sup>rd</sup> Avenue to the west.

The RI is underway and a SVE system was installed at the F&B facility as part of an ERA. To date, the SVE system has removed over 43,492 pounds of VOCs. Further ERA evaluations are being conducted to address groundwater contamination.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

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Through a working party agreement, an SVE system was operated at the Hill Brothers Chemical Company. The system removed over 277 pounds of VOCs from the soils below the surface. A No Further Action (NFA) determination was issued for this facility following confirmation sampling and a public notice for review. The RI report along with the RO report has been completed for this site. A community advisory board has been established for this site.

Contaminants of concern at the site include PCE and TCE.

**WCP West Grand Avenue** - This site was placed on the WQARF Registry in April 1998 and has a score of 22. The site is located in Phoenix and is bounded approximately by Osborn Road to the north, Earll Drive to the south, 33rd Avenue to the east, and 35th Avenue to the west.

The RI report was completed along with the ROs for the site. A community advisory board has been established for this site

The contaminant of concern at the site is TCE.

**WCP West Osborn Complex** - This site was placed on the WQARF Registry in August 1998 and has a score of 52. The site is located in Phoenix and is bounded approximately by the Grand Canal to the north, Pinchot Avenue to the south, 34th Drive to the east, and 39th Drive to the west.

A RI report has been completed as well as the ROs for the site. Feasibility Study reports for the deep and shallow plumes for the project site have been finalized and approved by ADEQ. A community advisory board has been established for this site.

Contaminants of concern at the site include TCE and PCE.

**West Van Buren** - This site was placed on the WQARF Registry in April 1998 and has a score of 50. The site is located in Phoenix and is bounded approximately by Van Buren Street to the north, Buckeye Road to the south, Seventh Avenue to the east, and 83rd Avenue to the west. Between Seventh Avenue and 27th Avenue, there is an extension of the plume south to Lower Buckeye Road.

Reynolds Metals Co. operated an SVE system periodically from 1989 to 1991. Approximately 3,100 tons of contaminated soil was excavated and hauled from the facility. A NFA for 14 release areas was issued to Reynolds Metals Co. in 2000.

Maricopa County Materials Management operated a SVE system at their facility during 1997. In 2001, Maricopa County settled with ADEQ.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
EQR 12-07*

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Dolphin Incorporated began operation of a SVE/AS system at the Dolphin facility in October 1998. In December 2002, Dolphin received authorization from ADEQ for shut-down of the SVE/AS system. A SVE system was installed and operated periodically at the Van Waters and Rogers Inc. (VW&R) facility from 1992 to 1998. In August 2002, ADEQ issued a NFA determination for the former Van Waters and Rogers facility.

ChemResearch Company Inc. excavated and disposed of contaminated soil from beneath their facility.

SVE/AS and groundwater pump and treat remediation systems began operation in March 2001 at the former American Linen Supply Company (ALSCo). The SVE/AS was discontinued in May 2003 because the response action objectives were attained. The groundwater pump and treat system continued operations until September 12, 2003, at which time ADEQ determined the system had reached its limit of effectiveness. ADEQ granted ALSCo an NFA determination for soil on March 24, 2008.

The RI is in progress and additional monitoring wells have been installed by ADEQ to delineate the extent of the contamination and further investigate potential source areas. A draft RI report was completed in October 2008 and submitted for public comment. ADEQ is currently finalizing the RI and RO reports.

ADEQ conditionally approved an ERA on June 24, 2010, submitted by the Roosevelt Irrigation District (RID). The approved ERA consists of integrated pumping and treatment of the 10 most highly contaminated RID wells in the West Van Buren Area Site. RID is currently conducting the RID-95 Wellhead Pilot Treatment System (Pilot System) investigation, outside of the existing funding agreement. A community advisory board has been established for this site.

Contaminants of concern at the site include PCE, TCE, DCE, DCA, cis-1, 2-DCE and chromium.

**Western Avenue Plume** - This site was placed on the WQARF Registry in December 1998 and has a score of 51. The site is located in Avondale and Goodyear and is bounded approximately by Hill Drive to the north, Third Street to the east, and Litchfield Road to the west; the southern boundary proceeds on a southwesterly angle approximately 1000 feet north of State Route 85 until it reaches the western boundary just north of the entrance to the Phoenix-Goodyear Airport.

The RI and ROs reports have been completed. ADEQ is currently preparing the FS to address groundwater contamination at the site. A community advisory group has been established for this site in conjunction with the Phoenix-Goodyear Airport Superfund site. Groundwater monitoring wells at the site are currently being sampled quarterly, along with the City of Goodyear water supply well COG-01, which is in the project area. Groundwater levels are measured on a monthly basis for all monitor wells.

*Arizona Department of Environmental Quality  
Water Quality Assurance Revolving Fund  
2012 Annual Registry Report  
[EQR 12-07](#)*

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The contaminant of concern at the site is PCE.