#### **Notices of Public Information**

# NOTICES OF PUBLIC INFORMATION

Notices of Public Information contain corrections that agencies wish to make to their notices of rulemaking; miscellaneous rulemaking information that does not fit into any other category of notice; and other types of information required by statute to be published in the *Register*. Because of the variety of material that is contained in a Notice of Public Information, the Office of the Secretary of State has not established a specific format for these notices.

## NOTICE OF PUBLIC INFORMATION

#### DEPARTMENT OF ENVIRONMENTAL QUALITY

# 2013 WATER QUALITY ASSURANCE REVOLVING FUND REGISTRY (LIST OF ACRONYMS AT END OF THIS DOCUMENT)

[M13-349]

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, 2013. 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 34 sites on the WQARF Registry:

21 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 <a href="http://www.azdeq.gov/environ/waste/sps/index.html">http://www.azdeq.gov/environ/waste/sps/index.html</a>. 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: <a href="http://www.azdeq.gov/environ/waste/sps/siteinfo.html">http://www.azdeq.gov/environ/waste/sps/siteinfo.html</a>.

**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. 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, between 8.0 and 24 part per billion (ppb), at the property did not warrant further remediation. Trichloroethene (TCE) and vinyl chloride are also present above their respective Aquifer Water Quality Standard (AWQS).

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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 (FS) work plan was completed in May 2011 and the FS was completed in November 2012. Due to increasing concentrations of PCE at the source area as well as a SRP irrigation well located approximately one-half mile north of the site, the FS recommended enhanced reductive de-chlorination at the site. An additional ERA was initiated and a pilot test for enhanced reductive de-chlorination began in March 2013 and is still underway. A CAB has been established for the site.

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

A map of the site can be viewed at the link below: http://www.azdeg.gov/environ/waste/sps/download/phoenix/7thayemap.pdf

**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.

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 were installed in September 2012. These wells are used to define the northern edge of the plume and to verify that the regional aquifer has not been impacted. New regional well 7AZP-3 had no VOCs and verified that the regional aquifer has not been impacted, ADEQ will move ahead with an accelerated soil RI/FS/Proposed Remedial Action Plan/Record of Decision (ROD) during fiscal year (FY) 2014.

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

A map of the site can be viewed at the link below: http://www.azdeq.gov/environ/waste/sps/download/tucson/7stmap.pdf

**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, site activities were suspended from 2008-2012. In the spring of 2013, groundwater monitoring activities were resumed. The RI is currently underway.

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

A map of the site can be viewed at the link below: http://www.azdeq.gov/environ/waste/sps/download/phoenix/16stmap.pdf

**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. During February 2103, three additional monitor wells were installed to complete the lateral and vertical definition of the groundwater plume down gradient of the site. These wells are located approximately 3,800 feet down gradient of the source area property and were drilled to a depth of 160 feet. Groundwater monitoring activities are on-going and no drinking water wells have been impacted by the contamination from the site. In May 2013, ADEQ began the installation of a permanent asphalt based engineered cap for the Houston facility. The

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cap is being placed over the cyanide impacted soils still remaining at the site. A CAB was formed for this site in May 2013

Contaminants of concern at the site include PCE, TCE, cyanide and Di (2-ethylhexyl) phthalate.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/state/20st map.pdf

**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, Roosevelt Street to the south, 56th Street to the east and 28th Street to the west.

The site was originally investigated as part of the Motorola 52nd Street 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 construction of the system is nearing completion. A CAB has been established for this site.

The contaminant of concern at the site is TCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/56earllmap.pdf

**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 contamination. A groundwater containment system was installed in 2003 to prevent further westward migration of contaminated groundwater. This system was shut down in October 2012 because incoming ground-water contaminant concentrations do not warrant continued operation; however the system is being maintained in a state of readiness in case site conditions change.

The 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 and the landfill RI will be finalized in FY 2014. A CAB has been established for this site

Contaminants of concern at the site include PCE, TCE, and vinyl chloride. Cis-1,2-dichloroethene (cis-1,2-DCE) and methylene chloride. These have historically been considered groundwater contaminants of concern but have not been detected in site groundwater at a level exceeding the AWQS since 2005.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/tucson/broadwaymap.pdf

**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. In June 2004, ADEQ initiated an ERA evaluation of the 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. The RI was initiated in 2007 and a CAB has been established for this site. Passive and active soil gas surveys were conducted in the vicinity of the former dry cleaner's building. A nested SVE 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 system.

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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.

A map of the site can be viewed at the link below:

http://www.azdeg.gov/environ/waste/sps/download/phoenix/centralmap.pdf

**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 VOCs and metals contamination at the site. The ERA evaluation consisted of drilling and sampling twenty soil borings and installation of two SVE/air sparge (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 AS component of the system occurred in May 2009. Additional SVE wells were added in 2011 and 2012. 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. During August 2013, five additional monitor wells were installed in the shallow aquifer to the north and southwest of the source area. An additional monitor well to the deep aquifer will also be installed. Installation of these wells will complete the lateral and vertical definition of the groundwater contamination plume. A CAB has been established for the site.

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.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/coopermap.pdf

**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 SRP well 16E-6.8N.

The RI began in 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 CAB has been established for this site.

The contaminant of concern at the site is PCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/ecp24map.pdf

ECP  $32^{nd}$  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,  $30^{th}$  Street to the west, E. Clarendon Avenue to the south, and  $32^{nd}$  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 parts per billion (ppb).

ADEQ continues to conduct a soil vapor investigation along 31st 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

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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.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/ecp32map.pdf

**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 conducted an ERA, which consisted of a SVE system to remediate the source of PCE in the soil and groundwater. The system was started in 1994 and extracted approximately 7.67 pounds of PCE from the subsurface. The system operated intermittently and was shut down in March 2003.

The RI began in 2007. A CAB has been established for this site.

The contaminant of concern at the site is PCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/ecp38map.pdf

**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, 40th Street to the east, Amelia Avenue to the south, and 38th Street to the west.

ADEQ conducted an ERA, which consisted of a SVE 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.

The RI began in 2007. A CAB has been established for this site.

Contaminants of concern at the site include PCE and TCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/ecp40ismap.pdf

**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 SRP well 17.9E-7.5N.

The RI began in 2007. A CAB has been established for this site.

The contaminant of concern at the site is PCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/ecp40omap.pdf

**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 27. The site is located in Phoenix, and the plume is bounded by Devonshire Avenue to the north, 48th Street to the east, E. Fairmont Ave. to the south and 45th Place to the west.

ADEQ and SRP entered into an agreement to conduct a source control interim remedial action (IRA) in 2004. As part of the IRA, SRP constructed a SVE system to remediate the source of PCE in soil at the site. SRP relinquished control of the SVE system to ADEQ in April 2012 due to the Governmental Service Contract between ADEQ and SRP for the operation of the

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treatment system had ended and ADEQ wanted to make modification to the system. The system was dismantled by SRP. 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 CAB has been established for this site.

The contaminant of concern at the site is PCE.

A map of the site can be viewed at the link below: http://www.azdeq.gov/environ/waste/sps/download/phoenix/ecp48map.pdf

**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 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) worked with ADEQ and now spreads crushed concrete on the cap. ADEQ completed the PRAP and ROD in 2012. The site was removed from the WQARF registry in March 2013.

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

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/ewashmap.pdf

**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.

In January 2008, methane and VOC vapor samples were collected from the landfill. Groundwater is sampled twice a year. Two contaminants of concern have not been detected above AQWS in groundwater beneath the site. The RI/FS has been completed. ADEQ is evaluating comments on the 2002 PRAP and will be updating the plan.

After finalizing the responsive summary, ADEQ will prepare a ROD for the site.

Contaminants of concern at the site include vinyl chloride, DCE, TCE, in groundwater; lead, arsenic and thallium in soil.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/estesmap.pdf

**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, archaeological & 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. Annual groundwater monitoring continues at the site.

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.

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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 FY 2012, EPA initiated the planned removal of contaminated soils from four properties near the site. During FY 2012, approximately 2,000 cubic yards of contaminated soil were removed from two of the four properties. Additional soil removal is scheduled to begin again in September 2013 on two or more properties. A CAB has been established for the site.

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

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/state/klondyke map.pdf

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 283 acre waste footprint) 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 a 1995 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 FY 2013, the City submitted to ADEQ a proposed remedial action plan modification of transitioning to "groundwater sampling only" based on continued plume stability (apparent natural attenuation).

ADEQ provided the City with comments and, in FY2014, the City plans to install additional groundwater monitor wells to confirm natural attenuation of the groundwater plume and to submit a revised remediation action plan that responds to ADEQ's comments.

Contaminants of concern at the site include PCE and TCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/tucson/realesmap.pdf

**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 Road 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 to remove TCE. In FY2013 the final RI report was issued and the FS was started. A CAB has been established for this site.

Contaminants of concern at the site include TCE and chromium.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/tucson/miraclemilemap.pdf

**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.

ADEQ successfully negotiated an Agreement to Conduct Work with Potentially Responsible Parties, 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 submitted an FS work plan which was approved in June 2013. A CAB has been established for this site.

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

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/tucson/parkeuclidmap.pdf

**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.

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. Treated water from the EGTS is delivered to the Town of Payson drinking water system.

ADEQ completed the ROD for the site in June 2007. ADEQ conducts groundwater monitoring at the site twice per fiscal year. The IGTS was decommissioned in July 2013.

The Periodic Site Review is currently scheduled to be completed in FY 2014.

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

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/state/payson\_map.pdf

**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 cities of Globe, Town of Miami, and the communities of 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 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. Source control, groundwater remediation and groundwater monitoring continue. To speed up aquifer restoration, groundwater remedy optimization pilot tests have been conducted near the source area in Bloody Tanks Wash.

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.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/state/pinalcreek map.pdf

**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.

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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 will be completed by December 2013. A joint CAB 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.

A map of the site can be viewed at the link below:

 $\underline{http://www.azdeq.gov/environ/waste/sps/download/tucson/shannonmap.pdf}$ 

**Silverbell Landfill** - This site was placed on the WQARF Registry in April 1999 and has a score of 51. The site is located 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 SVE system to remove and treat contaminated VOC landfill gases contributing to the groundwater contamination. 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 (RFP) 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. Throughout 2012 and 2013, City of Tucson began finalizing a conceptual design for the proposed groundwater pump and treat system. As part of this, additional groundwater modeling was performed to estimate when the contamination would reach the proposed groundwater treatment system. [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.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/tucson/silverbellmap.pdf

**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 RI report has been completed as well as the RO report. A CAB has been established for this site.

The contaminant of concern at the site is PCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/smesamap.pdf

**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 Beeline Highway and immediately north of Main Street. The plume is a northwest-

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trending area, bounded by W. Cherry Street to the north, S. Colcord Road to the east, S. Tonto Street to the west and W. Frontier Street to the south.

The ROD has been completed. The site is at the operation and maintenance (O&M) phase and recent sampling results were below respective AWQS indicating that monitored natural attenuation is working. The monitoring wells will be abandoned in fall of 2013.

The contaminant of concern at the site is PCE.

A map of the site can be viewed at the link below: http://www.azdeq.gov/environ/waste/sps/download/state/tonto\_map.pdf

**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 Highway 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. The ROD was completed in June 2009. The site is in the O&M phase. Additional wells installed increased effectiveness between 2010 and 2012. An ISCO pilot test was conducted in May 2013 and showed promising results. During FY 2013, the system pumped and treated approximately 1.3 million gallons of water.

Contaminants of concern at the site include PCE and TCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/state/tysonwash\_map.pdf

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.

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, and planting of vegetation to control erosion. Presently, the site is used as pasture and inspected on an annual basis. The last inspection occurred in January 2013.

Contaminants of concern at the site include lead and arsenic.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/state/vulture\_map.pdf

**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 SVE 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 CAB has been established for this site.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/wcpega/wcpegamap.pdf

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, 36th Avenue on the east,

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Clarendon Avenue on the south, and 40th Avenue on the west.

The RI was initiated in February 2001 and ADEQ conducted ERA evaluations in 2005. Due to lack of funding, site activities were suspended from 2008-2012. In the summer of 2013, funding was restored for monitoring and investigation activities.

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

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/wcpega/wcpncmap.pdf

**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, 38th Avenue to the east, and 43rd Avenue to the west.

The FS 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 43,791 pounds of VOCs. Further evaluations are being conducted to address groundwater contamination.

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 CAB has been established.

Contaminants of concern at the site include PCE and TCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/wcpega/wcpnpmap.pdf

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, FS and RO reports have been completed. A CAB has been established for this site

The contaminant of concern at the site is TCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/wcpega/wcpwgamap.pdf

**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. FS reports for the deep and shallow plumes for the project site have been finalized and approved by ADEQ. Preliminary Remedial Action Plans were completed for the deep and shallow plumes and made available for public review.

A CAB has been established for this site.

Contaminants of concern at the site include TCE and PCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/wcpega/wcpwocmap.pdf

**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.

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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. An NFA for soil 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.

Dolphin Incorporated began operation of a SVE/AS system at the Dolphin facility in October 1998. In December 2002, Dolphin received authorization from ADEQ to shutdown 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 an NFA determination for soil for the former Van Waters and Rogers facility.

ChemResearch Company Inc. excavated and disposed of contaminated soil from beneath the eastern portion of their facility. ChemResearch Company is currently under a consent order with ADEQ RCRA program to perform groundwater monitoring and remediate soil beneath the western portion of 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.

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 Wellhead Pilot Treatment System (Pilot System) investigation.

The RI and RO reports were finalized in August 2012. In July and August 2013, ADEQ approved two FS work plans submitted by both RID and the West Van Buren Working Group. Additional monitoring wells have been installed by ADEQ to delineate the extent of the contamination and further investigate potential source areas. A CAB has been established for this site.

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

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/wvbmap.pdf

**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 San Xavier Boulevard to the north, Third Street to the east, Phoenix Goodyear Airport to the west, State Route 85 to the south.

The RI and ROs reports have been completed. ADEQ is currently preparing the FS and should be completed in FY 14. The City of Goodyear Municipal Well No. 1 (COG-1) is located in the Western Avenue site. Historically, PCE has been detected at this well under the AWQS of 5  $\mu$ g/L. ADEQ conducted a Time-Series Groundwater Sampling Test of COG-1 from March 25, 2013 through April 10, 2013 in order to further develop the conceptual understanding of PCE at COG-1. A draft summary report was completed May 15, 2013. Groundwater monitoring wells at the site are currently being sampled quarterly, along with COG-01. A community advisory group has been established for this site in conjunction with the PGA Superfund site. The contaminant of concern at the site is PCE.

A map of the site can be viewed at the link below:

http://www.azdeq.gov/environ/waste/sps/download/phoenix/wapcemap.pdf

#### **List of Acronyms:**

1, 2-DCA 1, 2-dichloroethan 1, 1-DCE 1, 1-dichloroethene

ADEQ Arizona Department of Environmental Quality

A.R.S. Arizona Revised Statutes

AS Air Sparge

AWQS Aquifer Water Quality Standards

CAB Community Advisory Board

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CAG Community Advisory Group

cis-1,2, DCE cis-1,2-dichloroethene

DEUR Declaration of Environmental Use Restriction EGTS Expanded Groundwater Treatment System

**EPA** Environmental Protection Agency

**ERA** Early Response Action

FS Feasibility Study
FY Fiscal Year

GAC Granular Activated Carbon

**GPM** gallons per minute

IGTS Interim Groundwater Treatment System

ICs Institutional Controls

IGA Intergovernmental Agreement

MCL Maximum Contaminant Level mg/kg Milligrams per Kilogram mg/L Milligram per Liter

MNA Monitored Natural Attenuation MTBE Methyl Tertiary Butyl Ether

MW Monitor Well

PCE Tetrachloroethylene, Tetrachloroethene, Perchloroethene

ppb Parts per Billion ppm Parts per Million

PRAP Proposed Remedial Action Plan

RI Remedial Investigation

RIHU Remedial Investigations Hydrology Unit

RO Remedial Objective ROD Record of Decision

SRLs Soil Remediation Levels
SRP Salt River Project
SVE Soil Vapor Extraction

TCE Trichloroethylene, Trichloroethene

μg/L Micrograms per liter

**VOCs** Volatile Organic Compounds

WQARF Water Quality Assurance Revolving Fund