



**Water Quality Assurance
Revolving Fund**

**Annual Report
Fiscal Year 2007**

September 2007

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This annual report has been prepared pursuant to HB 2781, Laws 2007, Chapter 255 making appropriations for the different departments of the state, for state institutions and for public schools; providing for certain reporting requirements. HB2781 requires that a report on the Water Quality Assurance Revolving Fund (WQARF) along with specific site budgets for FY2008 be submitted to the joint legislative budget committee (JLBC) members and to the Director of the JLBC by September 1, 2007. The FY2008 WQARF site budgets and FY2008 WQARF program projected budget can be found in Appendix 1.

WQARF PROGRAM OVERVIEW

Program Description

Through the WQARF Program, the Arizona Department of Environmental Quality (ADEQ) identifies, assesses, and cleans up soil and groundwater that is contaminated with hazardous substances. The program conducts these efforts state-wide using state funds and also oversees privately-funded cleanup efforts. Responsible parties are identified and notified, and then legal and technical evidence is gathered for recovery of ADEQ's costs and enforcement of cleanup requirements.

WQARF was created under the Environmental Quality Act of 1986 to support clean up efforts in the state. The program underwent significant revisions as a result of what is known as the WQARF Reform Legislation of 1997 (Laws 1997, Chapter 287). The major provisions of the WQARF Reform Legislation are as follows:

Proportionate Liability - Liability for the costs of the cleanup of contaminated sites is proportionate, rather than joint. Cleanup costs are proportionately allocated among responsible parties using a process defined in statute. Identification of responsible parties and the allocation of cleanup costs are the responsibilities of ADEQ. A non-judicial allocation hearing process is available for the resolution of disputes regarding ADEQ's allocations.

Program Funding - The adoption of a proportionate liability system increased the need for adequate and dedicated program funding. To ensure that WQARF program funding is sufficient to administer the program and to pay allocated, uncollectible orphan shares, the WQARF reform legislation provided for an annual \$18 million expenditure. The fund is dependent upon the direct transfer of funds from legislative appropriations, corporate income tax, cost recovery, and special fees.

Site Prioritization - Sites are to be prioritized with a greater emphasis on risk to human health. The statute provides a process to score sites according to actual and potential exposure to hazardous substances. This score and other factors are considered when prioritizing the expenditure of WQARF funds.

Cleanup Methods and Goals - WQARF Reform provided for increased flexibility in the selection of groundwater cleanup methods and levels. ADEQ has adopted remedy selection rules that incorporate analysis of a range of cleanup options, from remediation of the contamination to no action. Significantly, the statute clarifies that the cleanup need not always result in the achievement of drinking water standards within the aquifer.

Community Involvement - Enhanced community involvement is required for at all stages of the cleanup process. The statute establishes a process to encourage active community involvement, including provisions for notices, community involvement plans, and the formation of a community advisory board for each site.

Settlements - Prompt settlements as an alternative to litigation are encouraged. ADEQ is authorized to offer a 25 percent discount to responsible parties who settle after the Department provides notice to them of their proportionate share of liability.

In addition to the costs of administering the program and conducting remedial actions, A.R.S. § 49-282(E) authorizes WQARF funding for other uses. Descriptions of the following uses/programs and their accomplishments are discussed later in the report:

- Emergency Response Program
- Water Quality Monitoring Program
- State matching monies or to meet other obligations prescribed by § 104 of CERCLA
- Well Inspections and Approval Program at the Arizona Department of Water Resources
- Risk Assessment Program at the Arizona Department of Health Services

Program Process Overview

Typically, upon addition of a site to the WQARF Registry, numerous investigative, planning, community involvement, risk assessment, and legal steps must be executed before a cleanup can begin. Exceptions to this sequence of steps are made when early response actions are taken to protect human health or the environment. The WQARF Remedy Selection Process is outlined in Appendix 2.

Once in the WQARF program, sites undergo a remedial investigation/feasibility study (RI/FS). An RI/FS is a two-phase investigation conducted by ADEQ or interested parties to investigate the

scope of contamination and determine the alternatives for remediation. During the RI/FS, extensive technical information, that may include soil and groundwater sampling and analysis of both the site property and adjoining areas that may also be contaminated, is collected. The objective of the RI/FS is to gather sufficient data to evaluate and select the most appropriate cleanup alternative for the site. Concurrently, ADEQ is required at most sites to conduct an extensive search to identify potentially responsible parties (PRPs).

During and following the RI/FS, legal negotiations may be undertaken in response to a party's request to settle liability early and to gain access to private properties for investigation or cleanup implementation. Community involvement is emphasized during investigations, prior to development of the proposed remedial action plan (PRAP), and at other times as appropriate depending on site specific issues. These community involvement efforts may include the formation of community advisory boards (CABs) to assist in relaying information and concerns between the public, ADEQ, and interested parties. The Arizona Department of Health Services (ADHS) may also provide input to the remedial investigation through evaluation of potential risks to human health.

Once the FS is completed and cleanup alternatives are identified, a PRAP is developed and is made available for public comment. A record of decision (ROD) documenting the selected cleanup alternative is finalized, followed by a liability allocation process in which past and future remediation costs are distributed among responsible parties.

After the ROD is finalized, extensive remedial system design development and review must be undertaken. Several months to several years may be needed to finalize a design, construct the remedy, and start the actual cleanup. After the remedial system is constructed, operation and maintenance may be conducted as appropriate to the remedy.

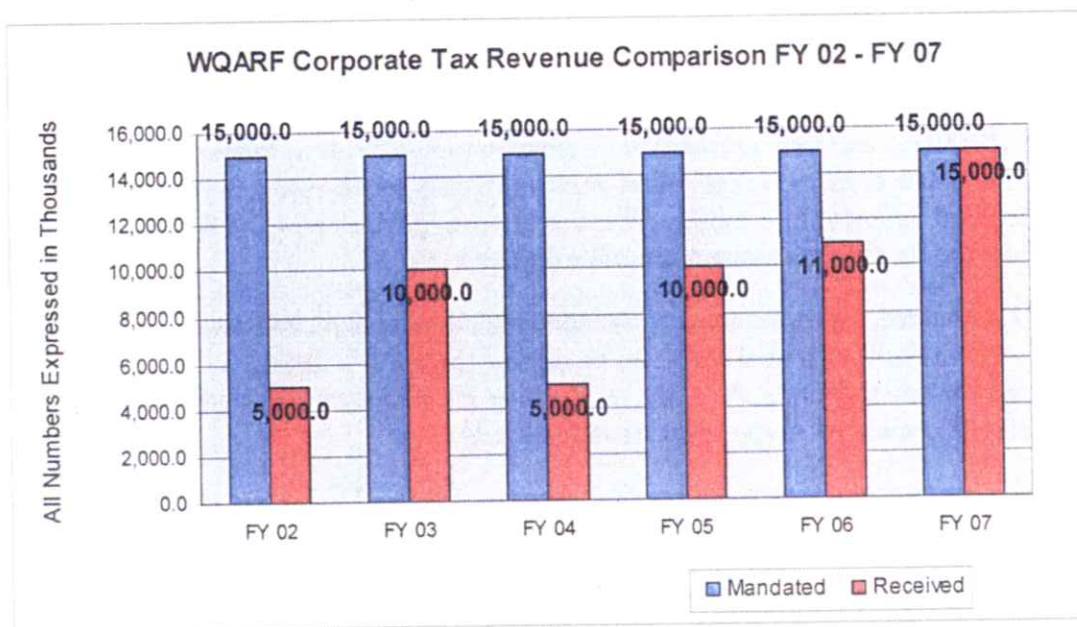
Because formal investigation and remediation can take many years, ADEQ developed a process to address contamination that requires immediate action. The early response action process can be used at any time prior to the implementation of a final remedy. Early response actions may be taken to address any of the following conditions:

- To mitigate an immediate threat to public health or the environment;
- To clean up a source of contamination;
- To prevent migration of contamination to uncontaminated areas; or
- To provide drinking water to residents whose drinking water supply has been contaminated.

MAJOR ISSUES & ACCOMPLISHMENTS FOR FY 2007

WQARF Funding

As described earlier in the report, ADEQ's ability to administer and implement the WQARF Program depends on \$18 million per year in dedicated funding. A.R.S. § 49-282(B) specifies that \$15 million of that \$18 million is transferred from the Corporate Income Tax. However, due to budget shortfalls, the WQARF Program received a combined total of \$41 million from the Corporate Income Tax for Fiscal Years 2002 through 2006. Without budget shortfalls, ADEQ would have received a total of \$75 million from the Corporate Income Tax for fiscal years 2002 through 2006. Underfunding of the program in past years has delayed progress on the registry sites. However, the full funding amount was appropriated for FY2007 (see table below) and registry sites are now advancing through the WQARF remedy selection process at a quicker pace.



Early Response Actions

ADEQ's WQARF Program continues to place a high priority on early response actions (ERAs) where human health is potentially impacted, where sources of contamination can cause significant environmental impact, or where early actions can save significant WQARF funds by limiting the spread of contamination. In FY2007, the WQARF Program continued operation and maintenance (O&M) on numerous ERAs that were initiated in prior years and remediated a source area at one site (7th Avenue and Bethany Home Rd). In FY2007, the WQARF Program initiated the following ERAs:

Central & Camelback: ADEQ installed a soil vapor extraction (SVE) system at the former Maroney's Dry Cleaning facility in June 2007 to remediate tetrachloroethene (PCE) contamination present in the subsurface soils at this site. ADEQ continues to operate the groundwater pump and treat system ERA at this site. The system treats approximately 130,000 gallons of groundwater per day.

Shannon Road/El Camino del Cerro: Soil removal activities were completed at the former Wrecksperts and the former Western trailer Park property. A total of 1,600 tons of lead contaminated soil were removed as part of this ERA. ADEQ is also working with Metropolitan Domestic Water Improvement District to treat VOC contaminated groundwater at this site (see Interim Remedial Actions below).

West Central Phoenix North Canal Plume: An ERA evaluation was initiated to remediate contaminated soils at the former Osborn Products facility. Based on the results of the evaluation, an ERA was determined to not be warranted at the facility. ERA evaluations were also completed Redburn Tire and Giltspur Exhibits, Pyramid Industries-36th Avenue, Triad, East Plume Area and Southwest Metals. Based on the results of these evaluations it was determined that ERAs were not warranted at this time for Redburn Tire, Giltspur Exhibits, Triad, and Pyramid Industries-36th Avenue. Additional evaluations are planned for East Plume Area and Southwest Metals to determine if ERAs are warranted.

West Central Phoenix North Plume: A SVE pilot test was completed at the Rinchem facility in November 2006 and ADEQ is currently evaluating the results of the pilot test to determine if design and construction of a SVE system is warranted.

Klondyke: In response to significant flooding in July 2006, ADEQ conducted a floodplain analysis which revealed that the "upstream" tailings pile is within, and subject to erosion from, the 25, 50 and 100 year flood events on Arivaipa Creek. The "downstream" tailings pile is within, and subject to erosion from, the 10, 25, 50 and 100 year flood events on Laurel Creek. ADEQ is currently evaluating ERAs to protect the tailing piles from flooding and resulting deposition of tailings downstream. The tailing piles are located at the confluence of both Laurel Creek and Arivaipa Creek and both tailing piles could be eroded by another flood event. Several homes are located around the tailing piles and soil sampling of those areas indicates that the soil is contaminated above residential Soil Remediation Levels (SRLs).

Protection of Arivaipa Creek is important as there are seven native species present in The Nature Conservancy Arivaipa Canyon Preserve, including the loach minnow, spikedace, sonoran sucker, desert sucker, speckled dace, longfin dace and roundtail chub. The loach minnow and spikedace are federally-listed Threatened Species and the remainder are Species of Concern. The preserve is located only two miles downstream of the tailing piles. ADEQ is considering an ERA at the site which will prevent erosion and transport of the tailings to homes and sensitive environments.

Interim Remedial Actions

ADEQ has been working with both the Flowing Wells Irrigation District and the Metropolitan Domestic Water Improvement District to implement interim remedial actions (IRAs) at the Miracle Mile and Shannon Road/El Camino del Cerro WQARF sites. IRAs are taken at a registry site to protect water supply wells, provide alternative water supplies, replace wells or for water treatment.

East Central Phoenix - 48th Street and Indian School Road: As part of an agreement and funding from ADEQ, SRP is managing clean-up at the site in order to protect a downgradient SRP production well. A SVE system is in place and, approximately 275 pounds of PCE have been removed since system start-up in February 2006.

Miracle Mile: ADEQ entered into a cooperative agreement with the Flowing Wells Irrigation District (FWID) provide wellhead treatment for the removal of volatile organic compounds (VOCs) at two FWID production wells. The treatment system was jointly designed and constructed by ADEQ and FWID and incorporated into FWID's arsenic treatment system. The 900 gallon per minute (gpm) system was put into operation in January 2007.

Shannon Road/El Camino del Cerro: Through a cooperative agreement with Metropolitan Domestic Water Irrigation District, ADEQ has been funding the wellhead treatment and operation and maintenance costs associated with a system designed to treat VOC contaminated groundwater.

Operation & Maintenance

ADEQ continues to conduct or fund operation and maintenance (O&M) activities of the following groundwater pump and treat, soil cap maintenance, and soil vapor extraction systems (SVE):

- 7th Street and Arizona Avenue (SVE)
- Broadway and Pantano (groundwater pump and treat)
- Central Avenue and Camelback Road (groundwater pump and treat)
- East Central Phoenix - 32nd Street and Indian School Road (SVE)
- Payson PCE (groundwater pump and treat)
- South Mesa (SVE)
- Tyson Wash (groundwater pump and treat)
- Vulture Mill (soil cap maintenance)

Remedial Investigations

ADEQ initiated remedial investigations at the following sites in FY07:

- Central and Camelback
- East Central Phoenix
 - 24th Street and Grand Canal
 - 32nd Street and Indian School Road
 - 38th Street and Indian School Road
 - 40th Street and Indian School Road
 - 40th Street and Osborn Road

Remedial Investigation Reports

- **Tonto & Cherry**: ADEQ completed the Remedial Investigation (RI) report and final remedial objectives (RO) report in June 2007.

Feasibility Study

- **Tonto & Cherry**: ADEQ completed the feasibility study in June 2007.
- **Tyson Wash**: ADEQ completed the feasibility study in June 2007.

Record of Decision

- **Payson PCE**: A notice of the Record of Decision (ROD) was published in the Payson Roundup on June 28, 2007 finalizing the remedy for the site.

FY 2007 ACTIVITIES AND ACCOMPLISHMENTS AT WQARF SITES

Summaries are provided below of activities and accomplishments for sites on the WQARF Registry. The revenues and expenditures for the WQARF Program can be found in Appendix 3. A detailed description of activities and accomplishments of the Program can be found in Appendix 4. The 2007 Annual WQARF Registry Report is included in Appendix 5, which provides the site score, location, boundaries, and a brief description of investigation status or remedial action.

Remediation

- Millions of gallons of groundwater treated:

162	Broadway-Pantano
42	Central and Camelback
9	Los Reales Landfill
157	Miracle Mile
56	Payson PCE
1,581	Pinal Creek
40	Shannon Rd/El Camino del Cerro
<u>1.5</u>	Tyson Wash
2,048	FY 2007 Total

- Pounds of volatile organic compounds removed from the environment:

1,257	7 th Street and Arizona Avenue
3	Broadway Pantano
37	Central and Camelback
100	East Central Phoenix (32 nd St. & Indian School)
1	Los Reales Landfill
5	Miracle Mile
3	Payson PCE
20	Shannon Road/El Camino del Cerro
13	Silverbell Landfill
12	South Mesa
.4	Tyson Wash
82	West Central Phoenix - East Grand Avenue
<u>497</u>	West Central Phoenix - North Plume
2,030	FY 2007 Total

- Pounds of metals removed from the environment:

<u>1,530,000</u>	Pinal Creek
1,530,000	FY 2007 Total

- Tons of lead contaminated soil removed

<u>1,600</u>	Shannon Road/El Camino del Cerro
1,600	FY 2007 Total

Groundwater Wells Installed

- Installed by ADEQ
 - 7 20th Street & Factor
 - 2 7th Avenue & Bethany Home Road
 - 4 7th Street and Arizona Avenue
 - 3 Central and Camelback
 - 4 Cooper and Commerce
 - 4 Shannon Road/El Camino del Cerro
 - 1 West Central Phoenix North Canal Plume
 - 4 West Central Phoenix North Plume
 - 6 West Van Buren
 - 35 **FY2007 Total**
- Installed by potential responsible party (PRP)
 - 10 Pinal Creek
 - 3 Silverbell Landfill
 - 13 **FY2007 Total**

Soil Vapor Wells Installed

- Installed by ADEQ
 - 1 7th Street and Arizona Avenue
 - 3 Shannon Road/El Camino del Cerro
 - 1 West Central Phoenix
 - 5 **FY2007 Total**

Soil/Soil Gas Samples Collected

- Collected by ADEQ
 - 1,626 **FY2007 Total**
- Collected by potential responsible party (PRP)
 - 36 **FY2007 Total**

Groundwater Samples Collected

- Collected by ADEQ/EPA
 - 1581 **FY2007 Total**
- Collected by potential responsible party (PRP)
 - 780 **FY2007 Total**

Community Involvement Activities

- Fact Sheets:
 - 1 Central Avenue & Camelback Road
 - 1 East Central Phoenix (5 sites)
 - 1 West Central Phoenix (6 sites)
 - 1 Payson PCE
 - 1 Tonto & Cherry
 - 5 FY 2007 Total

- Public Notices (Does Not Include Notices for CAB Meetings):
 - 1 7th Avenue and Bethany Home Road
 - 2 7th Street and Arizona Avenue
 - 2 20th Street and Factor Avenue
 - 1 Cooper Road and Commerce Avenue
 - 2 Shannon Road/El Camino del Cerro
 - 2 West Central Phoenix - East Grand Avenue
 - 2 West Central Phoenix - North Plume
 - 1 West Central Phoenix - West Osborn Complex
 - 13 FY2007 Total

- Public Meetings:
 - 3 56th Street & Earll
 - 4 Broadway - Pantano
 - 4 Central & Camelback
 - 5 Cooper & Commerce
 - 2 Klondyke Tailings
 - 5 Miracle Mile
 - 3 Park Euclid
 - 2 Payson PCE
 - 4 Shannon Road/El Camino del Cerro
 - 2 Tonto Street and Cherry Avenue
 - 2 Tyson Wash
 - 1 West Central Phoenix (6 sites)
 - 2 West Van Buren
 - 4 Western Avenue
 - 43 FY 2007 Total

Legal Activities

Central & Camelback: ADEQ worked cooperatively with the new property owners of southwest corner of Central and Camelback to sign a soil remediation environmental access easement, groundwater remediation environmental access easement and a remedial activities environmental cooperative agreement. These agreements will ensure that ADEQ has access to the property for the soil and groundwater cleanup that will continue into the future and the property owner is able to develop the property with a minimum of impact to ADEQ remedial actions. ADEQ is currently working with the new owners to enter a Prospective Purchaser Agreement.

East Washington Fluff: Signing and recording of the first Declaration of Environmental Use Restriction (DEUR) on a WQARF program site occurred on May 21, 2007.

Miracle Mile: The first lien under new WQARF was executed on March 31, 2007 for the Spring Joint facility. The WQARF program recovered \$116,234 through this lien

West Van Buren: The first consent order under new WQARF was issued on May 17, 2007 for the Air Liquide facility.

The following summarizes legal activities for FY2007:

- Total Consent Decrees/Consent Orders completed (ARS § 49-282.G.3):
1 **FY 2007 Total**
- WQARF Environmental Liens Issued (ARS § 49-295)
1 **FY 2007 Total**
- Qualified Business or Financial Hardship Settlement applications received [ARS § 49-282(G)(4)(a)]:
1 **FY 2007 Total**
- Qualified Business or Financial Hardship Settlements denied [ARS § 49-282(G)(4)(b)]:
No applications for qualified business or financial hardship settlements were denied in FY 07.
- Qualified Business Settlements completed [ARS § 49-282(G)(4)(c)]:
No qualified business settlements were completed in FY 2007.
- Financial Hardship Settlements completed [ARS § 49-282(G)(4)(d)]:
No financial hardship settlements were completed in FY 2007.

- Prospective Purchaser Agreements Applications Received:
16 FY 2007 Total
- Prospective Purchaser Agreements completed:
2 FY 2007 Total
- FY07 Cost Recovery Activity

Description	# of Packages	Dollar Amount	Total Dollar Amount
Packages at the beginning of the year:	4		\$ 216,419.36
19 th Avenue Landfill	1	\$ 35,588.61	
Honeywell	1	\$ 62,423.48	
North Indian Bend Wash	1	\$ 29,807.50*	
Topock	1	\$ 88,599.77	
New Packages:	20		\$1,237,980.54*
19 th Avenue Landfill	1	\$ 36,764.32	
Honeywell	4	\$ 236,722.65	
Motorola 52 nd Street	3	\$ 292,337.92	
North Indian Bend Wash	1	\$ 47,320.35	
Pinal Creek	5	\$ 581,586.68	
Topock	5	\$ 42,196.90	
United Industrial	1	\$ 1,051.72	
Payments Received	24		(\$1,454,399.90)
Balance at end of year	0		\$ 0

*- \$ 222.94 of the \$ 30,030.44 NIBW package was interest and was deposited in the State General Fund.

FY 2007 ACTIVITIES AND ACCOMPLISHMENTS AT FEDERAL SITES

Pursuant to A.R.S. § 49-282(E)(1), WQARF can be used to provide state matching monies or to meet other obligations as prescribed by § 104 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). WQARF monies are also used for remedial actions

at state-lead CERCLA sites which are reimbursed by the responsible parties. Summaries are provided below of activities and accomplishments at federal sites supported by ADEQ.

- NPL Sites Delisted
 - 19th Avenue Landfill: ADEQ, EPA and the City of Phoenix (COP) worked together to achieve the goal of removing the site from the National Priority List (NPL) as an active "Superfund Site" in September 2006.

Remediation

- Millions of gallons of groundwater treated:

55	Apache Powder
1.5	Hassayampa Landfill
491	Motorola 52 nd St. - OU1
350	Motorola 52 nd St. - OU2
1,380	North Indian Bend Wash
244	Phoenix-Goodyear Airport - North
203	Phoenix-Goodyear Airport - South Subunit A
302	Phoenix-Goodyear Airport - South Subunit C
244	Phoenix-Goodyear Airport - North
2,100	TARP - Tucson Airport Remediation Project
65	TIAA/Arizona Air National Guard Tucson
9.5	TIAA/Burr Brown
2	TIAA/Former West Cap
<u>469</u>	US Air Force Plant 44, Tucson
5,916	FY 2007 Total

- Gallons of product removed

134	USAF Williams AFB
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- Pounds of volatile organic compounds removed from the environment:

13,128	Hassayampa Landfill
51,853	Davis-Monthan AFB - TPH (jet fuel)
118	161 st Air National Guard
813	Motorola 52 nd Street/OU1
295	Motorola 52 nd Street/OU2
1,000	North Indian Bend Wash
420	Phoenix-Goodyear Airport/North
113	Phoenix-Goodyear Airport - South Subunit A
10	Phoenix-Goodyear Airport - South Subunit C
269	TARP - Tucson Airport Remediation Project

2.5	TIAA/Arizona Air National Guard Tucson
1	TIAA/Burr Brown
95	US Air Force Plant 44, Tucson
<u>240,000</u>	USAF Williams AFB
308,118	FY 2007 Total

- Pounds of hazardous substances removed from the environment:

70,804	Apache Powder (nitrate)
<u>384</u>	Motorola 52 nd Street - Honeywell (solvent/jet fuel mixture)
71,188	FY 2007 Total
- Pounds of other contaminants removed from the environment:

<u>13</u>	Phoenix Goodyear Airport North (perchlorate)
13	FY 2007 Total
- Tons of contaminated soil removed:

51	Motorola 52 nd Street - Honeywell Operable Unit
<u>104</u>	Motorola 52 nd Street - OU3 (16 th Street)
155	FY 2007 Total

Community Involvement Activities at Federal Sites

- Fact Sheets and Public Notices:

3	Apache Powder
<u>4</u>	Motorola 52 nd Street
7	FY 2007 Total
- Public Meetings:

4	Camp Navajo
2	Davis-Monthan AFB
7	Motorola 52 nd Street
1	North Indian Bend Wash
4	Phoenix Goodyear Airport North and South
3	TIAA
<u>1</u>	Williams AFB
22	FY 2007 Total

EMERGENCY RESPONSE PROGRAM

Pursuant to A.R.S. §49-282(E)(8), WQARF monies may be used for all reasonable costs incurred for remedial actions taken in response to a release or threat of a release of a hazardous substance or pollutant that presents a threat to public health or the environment.

FY 2007 Activities and Accomplishments

The Emergency Response Unit (ERU) was notified of 196 incidents, 35 of which required on-scene response actions. The ERU was also involved in several practice drills and exercises including the Arizona Statewide Homeland Security Terrorism Response Exercise and the annual Palo Verde Nuclear Generating Station Drill. In addition, the ERU dedicates significant staff resources to support local, state and federal agencies during homeland security events, wildfire response operations, as members of the Regional Response Team for the lower Colorado River, and to binational (Arizona/Sonora) hazardous waste response planning and coordination. Because of ERU's involvement, ADEQ has continued to receive thousands of dollars in grant monies from the U.S. Office of Domestic Preparedness (ODP). These grant monies have allowed the ERU to upgrade its ability to respond to threats to public health and safety. Significant emergency response actions include:

Response to Illegal Dumping: ERU assistance was requested by the Oro Valley Police Department after approximately 200 bags of asbestos containing waste were found illegally dumped in a remote area of Oro Valley. Since the area was frequented by hikers and children, the dump site was deemed to be an imminent threat to area residents. At the request of local public safety officials, the ERU installed a temporary fence around the site until clean-up and removal actions could be undertaken by the property owners.

Response to Transportation Accident: At the request of the Department of Public Safety, ERU personnel responded to a fuel tanker rollover/fire on the Bill Williams Bridge located on Highway 95 north of Parker. During this incident a fuel tanker loaded with approximately 9000 gallons of diesel rolled over into the bridge deck and released burning fuel onto the Bill Williams National Wildlife Refuge. This resulted in a large wildfire which destroyed wildlife habitat located along the north and south banks of the Bill Williams River.

A.R.S. § 49-282(E)(11) also provides for reimbursement to political subdivisions for costs incurred in response to a release or a threat of a release of a hazardous substance or pollutant that presents an immediate and substantial endangerment to the public health or environment. There were no new applications received in FY 2007.

WATER QUALITY ASSESSMENT AND MANAGEMENT PROGRAM

Pursuant to A.R.S. § 49-282(E)(3), WQARF monies are used for the costs of monitoring, assessing, identifying, locating, and evaluating the degradation, destruction, loss of or threat to the waters of the state resulting from a release of a hazardous substance to the environment. Pursuant to A.R.S. § 49-282(E)(6), WQARF monies are also used for the costs of the water quality monitoring program described in A.R.S. § 49-225. A description of Water Quality Assessment and Management Program FY 2007 activities and accomplishments can be found in Appendix 6.

WELL INSPECTIONS AND APPROVAL PROGRAM

Pursuant to A.R.S. 282(E)(12) WQARF monies are used to fund the Arizona Department of Water Resources to conduct well inspections and remedial actions, and for the review and approval of well construction design necessary to prevent vertical cross-contamination. The FY 2007 accomplishments of the Well Inspections and Approval Program can be found in Appendix 7.

RISK ASSESSMENT PROGRAM

Pursuant to A.R.S. 282(E)(15) WQARF monies are used to fund the Arizona Department of Health Services to assess and evaluate the effect of a release or a threatened release of hazardous substances to the public health, welfare, or the environment. The FY 2007 accomplishments of the Risk Assessment Program can be found in Appendix 8.

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	Total	
70	225,000	10,000	46,000	62,000	50,000	1,000,000	345,000	195,000	1,810,000	46,000	797,000	1,279,000	246,000	-	-	-	315,000	-	-	5,000	296,000				
71	565,000	3,000	3,000	2,000																					
72	163,000	3,000	3,000	8,000																					
73	70,000	3,000	5,500	25,000																					
74	110,000	3,000	3,000	5,500																					
75	115,000	3,000	84,000	30,000																					
76	160,000		25,000	2,000																					
77	200,000		25,000	10,000																					
78	50,000		25,000	2,000																					
79	20,000		8,000	10,000																					
80	172,000		10,000	10,000																					
81	15,000		10,000	10,000																					
82	175,000		83,500	10,000																					
83	25,000		10,000	10,000																					
84	200,000		200,000	200,000																					
85	1,000,000		100,000	100,000																					
86	300,000	10,000	100,000	10,000																					
87	150,000		10,000	10,000																					
88	192,000		150,000	10,000																					
89	25,000		25,000	25,000																					
90	70,000		30,000	30,000																					
91	470,000	10,000	1,20,000	38,000																					
92	2,533,000	75,000	3,207,000	1,601,000	62,000	50,000	1,000,000	345,000	1,810,000	46,000	797,000	1,279,000	246,000	-	-	-	315,000	-	-	5,000	296,000				

APPENDIX 1

FY 2008 WQARF Site Budgets

FY 2008 WQARF Program Projected
Budget

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
 FY 08 Projected Spending Plan
 June 19, 2007

EXPENDITURE CATEGORIES	FY 07 SPENDING PLAN	FY 08 SPENDING PLAN
Core Expenditures:		
WQARF Professional & Support Staff	4,741.0	5,380.5
Professional & Outside - Remedial Projects	34.0	34.0
Hydrologic Support & Assessment	831.4	847.0
Professional & Outside - Hydrologic Support & Assessment	450.0	450.0
Preliminary Investigations	186.9	291.9
Emergency Response	250.0	250.0
Attorney General's Office	936.4	936.4
PRP Identification/Liability	350.0	700.0
Litigation	0.0	0.0
Appeals	0.0	0.0
Advisory Board	1.0	1.0
Rule Development	0.0	0.0
Community Involvement/General WQARF	5.0	5.0
Subtotal - Core Expenditures	7,785.7	8,895.8
Registry Sites		
New Sites	500.0	500.0
RI/FS (RI, RO, FS, ERA & IRA Investigations)	13,108.3	10,462.1
Clean-up (PRAP/ROD, all D/C, all O&M)	1,273.0	2,018.0
Subtotal - Registry Sites	14,881.3	12,980.1
Community Involvement (CAB)	97.5	97.0
Preliminary Investigation	250.0	250.0
Subtotal - Registry Sites & PI	15,228.8	13,327.1
Subtotal - WQARF Program	23,014.5	22,222.9
Dept of Health Services - Risk Assessment	100.0	100.0
Dept of Water Resource - Appropriation Transfer Out	600.0	600.0
Emergency Response - Aid to Municipalities	100.0	100.0
Voluntary Program	0.0	0.0
Total Disbursements	23,814.5	23,022.9

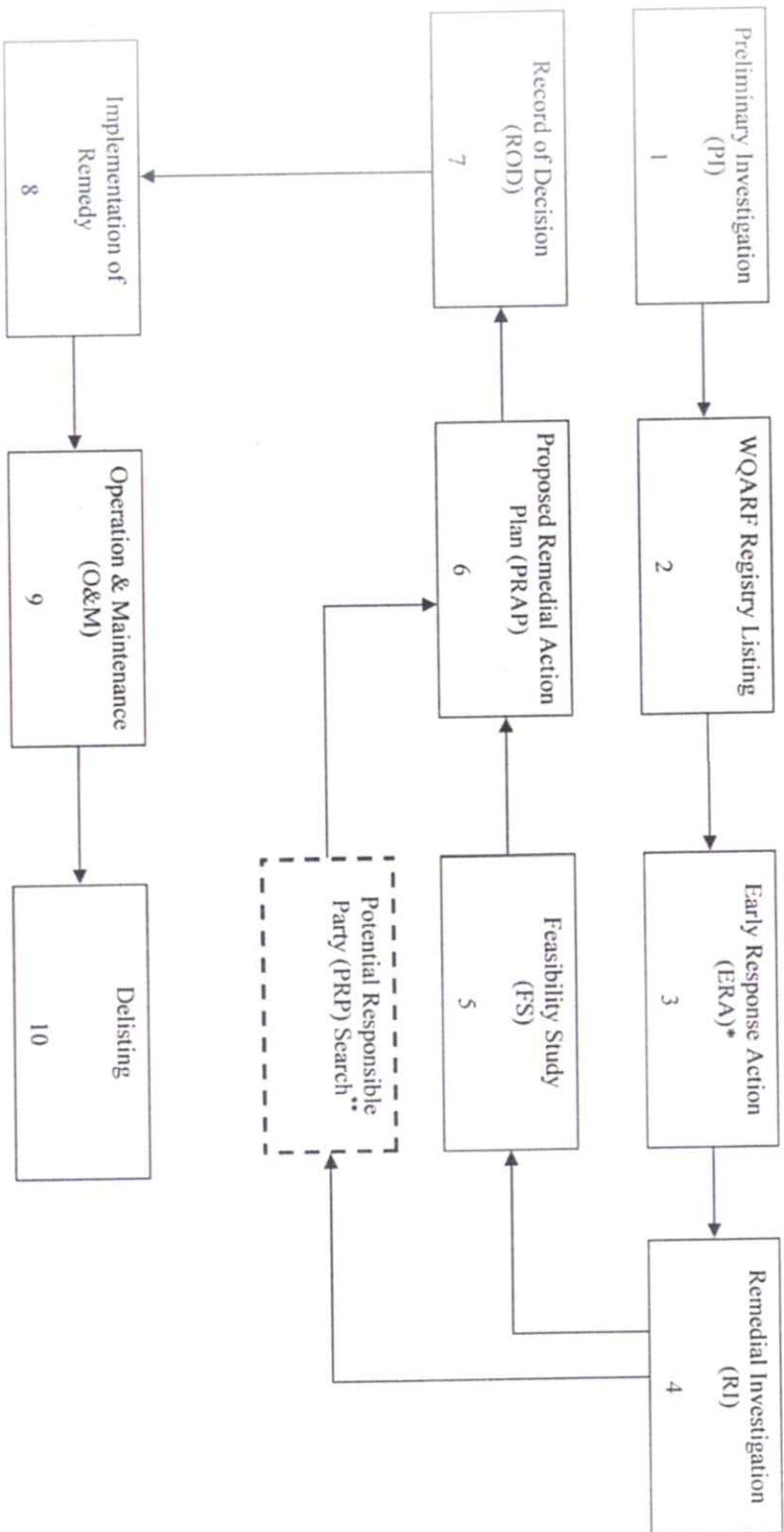
All figures expressed in thousands.
 FY 08 Spending Plan includes full funding less an applied 20% vacancy savings.

APPENDIX 2

WQARF Remedy Selection Phase Chart

WQARF Phases

September 15, 2006



* - ERAs can occur anytime before a PRAP and can occur concurrently with the rest of phases

** - PRP search proceeds concurrently with RI/FS

APPENDIX 3

Revenues and Expenditures

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
 WQARF REVENUES AND EXPENDITURES
 THROUGH THE PERIOD ENDING: 13th Month FY07
 PREPARED BY OFFICE OF FISCAL SERVICES August 7, 2007

	FY 06 Actual	FY 07 Projection	FY 07 Actual
Balance			
Beginning Fund Balance	5,350.4	7,663.6	6,784.3
Prior Year Corporate Income Tax Reversion			
Total: Balance from Prior Year	5,350.4	7,663.6	6,784.3
Revenue Subject to 18M Cap			
Corporate Income Tax	11,000.0	15,000.0	15,000.0
Air Quality Fund	0.0	0.0	0.0
State Assurance Fund	0.0	0.0	0.0
Subtotal	11,000.0	15,000.0	15,000.0
Municipal Water (ARS 42-5302)	2,403.6	1,867.3	2,449.3
Fertilizer Registration (ARS 3-272)	50.7	40.9	30.7
HW Facility Registration Fee (ARS 49-929/49-930)	207.6	207.4	198.3
HW Manifest Resubmittal Fee (ARS 49-922.01)	2.6	2.6	2.7
Industrial Discharge Permit Fee (ARS 49-209)	45.1	45.1	38.3
Pesticide Registration (ARS 3-351)	906.9	770.9	942.4
Quality Assurance Fee (ARS 45-616)	351.6	351.6	368.0
Fees Subtotal	3,968.1	3,285.8	4,029.6
Total: Revenue Subject to 18M Cap	14,968.1	18,285.8	19,029.6
Revenue Not Subject to 18M Cap			
Responsible Parties			
Consent Decrees	390.0	0.0	490.0
Cost Recovery (ARS 49-282)	1,171.7	464.4	1,570.6
Responsible Parties Subtotal	1,561.7	464.4	2,060.6
Other Revenue			
Prospective Purchaser Agreement (ARS 49-285.01)	5.4	0.0	28.0
Interest (ARS 49-282)	306.5	131.0	478.3
Prior Year Reimbursement (ADHS)			
Other Revenue Subtotal	311.9	131.0	506.3
Total: Revenue Not Subject to 18M Cap	1,873.6	595.4	2,567.0
Total: Beginning Balance and Revenue	22,192.0	26,544.8	28,380.9
Expenditures			
Non-Site Expenditures	7,718.8	7,785.7	7,568.4
Site Expenditures	7,144.0	15,228.8	8,347.8
Transfers Out	545.0	800.0	600.0
Total Expenditures	15,407.7	23,814.5	16,516.2
Proposed Carry Forward			
Beginning Balance and Revenue minus Expenditures	6,784.3	2,730.3	11,864.7
Revenue in Excess of 18M Cap to be Reverted	0.0	(285.8)	(1,029.6)
Uncommitted Balance/Carry Forward	6,784.3	2,444.5	10,835.1

All figures expressed in thousands.

Note: FY07 Actual are slightly off due to rounding figures.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY
 Expenditure Statement
 For Period Ending: 13th Month FY07

EXPENDITURE CATEGORIES	SPENDING PLAN	EXPENDITURES FY 2007	%Completed FY 2007
Core Expenditures:			
WQARF Professional & Support Staff	4,741.0	4,559.9	96.2%
Professional & Outside - Remedial Projects	34.0	134.5	395.5%
Hydrologic Support & Assessment	831.4	704.7	84.8%
Professional & Outside - Hydrologic Support & Assessment	450.0	349.1	77.6%
Preliminary Investigations	186.9	201.1	107.6%
Emergency Response	250.0	0.0	0.0%
Attorney General's Office	936.4	673.9	72.0%
PRP Identification/Liability	350.0	920.1	262.9%
Litigation	0.0	23.4	0.0%
Appeals	0.0	0.0	0.0%
Advisory Board	1.0	0.0	0.0%
Rule Development	0.0	0.0	0.0%
Community Involvement/General WQARF	5.0	1.9	38.2%
Subtotal - Core Expenditures	7,785.7	7,568.4	97.2%
Registry Sites			
New Sites	500.0		
RI/FS (RI, RO, FS, ERA & IRA Investigations)	13,108.3	4,828.3	36.8%
Clean-up (PRAP/ROD, all D/C, all O&M)	1,273.0	2,782.5	218.6%
Subtotal - Registry Sites	14,881.3	7,610.8	51.1%
Community Involvement (CAB)	97.5	43.4	44.5%
Preliminary Investigation	250.0	693.5	277.4%
Subtotal - Registry Sites & PI	15,228.8	8,347.8	54.8%
Subtotal - WQARF Program	23,014.5	15,916.2	69.2%
Dept of Health Services - Risk Assessment	100.0	0.0	0.0%
Dept of Water Resource - Appropriation Transfer Out	600.0	600.0	100.0%
Emergency Response - Aid to Municipalities	100.0	0.0	0.0%
Voluntary Program	0.0	0.0	0
Total Disbursements	23,814.5	16,516.2	69.4%

All figures expressed in thousands.

APPENDIX 4

WQARF Advisory Board Year End Report



WQARF Advisory Board FY07 Year End Report

Samantha Roberts, Manager
Remedial Projects Section

June 29, 2007

WQARF Program Objectives

- Emergency Response Actions
- Operation and Maintenance (O & M) of Existing Systems
- Early Response Actions (ERAs) Already in Progress
- ERA Evaluations
- Remedial Investigations (RIs) That Are Nearing Completion
- Work Towards Final Remedies
- PRP Searches

2007 Major Accomplishments Under New WQARF

- East Washington Fluff
 - Signed and recorded first DEUR on May 21, 2007
- Miracle Mile (Springjoint facility)
 - Executed first lien on March 31, 2007 using A.R.S. § 49-295
- West Van Buren (Air Liquide facility)
 - Executed first WQARF Consent Order finalized on May 17, 2007
- Payson PCE
 - Finalized first ROD in June 2007 completed using the WQARF Remedy Selection Process

FY 07 Program Results

- Draft RI Reports
 - WCP North Plume
 - Currently establishing RODs
 - Miracle Mile
 - Currently establishing RODs
 - Broadway-Pantano: Groundwater Operable Unit
 - Currently establishing RODs
 - South Mesa
 - Issued for public comment in July 2007
 - Western Avenue
- Final RI/RO Reports
 - Tonto & Cherry, June 2007

FY07 Program Results

- + ■ Remediated over 2.6 billion gallons of water
- Removed the following contaminants from the environment
 - 1,800 pounds of volatile organic compounds
 - 2.2 million pounds of metals
- Wells and Sampling
 - 49 remediation wells installed
 - 40 groundwater wells installed
 - 1,850 groundwater samples collected
 - 1,626 soil and soil gas samples collected
- Interim Remedial Actions
 - Shannon Road/El Camino del Cerro - Wellhead Treatment Upgrade (Metropolitan Domestic Water Improvement District)
 - Miracle Mile WQARF Site: Arsenic and VOC wellhead treatment system put into operation in October 2006 (Flowing Wells Irrigation District)

FY07 Program Results

- + ■ Initiated Remedial Investigations
 - Central & Camelback
 - 24th St and Grand Canal
 - 32nd St and Indian School Rd
 - 38th St and Indian School Rd
 - 40th St and Indian School Rd
 - 40th St and Osborn Rd
- Initiated Feasibility Study
 - Broadway Pantano

FY07 Program Results

- Early Response Action Implementation
 - + - Soil Vapor Extraction Operation & Maintenance
 - ECP (Viking Cleaners) SVE/AS
 - South Mesa SVE
 - WCP North Plume SVE
 - 7th Street & Arizona
 - Shannon Road/El Camino del Cerro (SVE at EC Winter property)
 - Pump and Treat Operation & Maintenance
 - Broadway Western Containment System
 - Central and Camelback
 - Tyson Wash
 - Payson

FY07 Program Results

- + - Remediation System Installed
 - Central & Camelback (former Maroney's; SVE system installation by end of June 2007)
- Cap Maintenance
 - Vulture Mill
 - East Washington Fluff
 - Mountain View
- Soil Removal
 - Shannon Road/El Camino del Cerro (former Wrecksperts property)
- ERA's Completed
 - 7th Avenue and Bethany Home Road (SVE system decommissioned in April 2007)

FY07 Program Results

■ Early Response Action Evaluations

- WCP North Canal former Osborn Products facility:
 - SVE Pilot Test (February 2007) indicated installation of a remediation system was not warranted
- Klondyke Tailings
 - Floodplain analysis
 - Currently developing an ERA to address the tailings
- WCP North Canal (Redburn Tire, Giltspur Exhibits, Pyramid-36th Ave, Triad sites)
 - ERA Evaluation reports completed in October 2006

Tyson Wash – PCE GW Concentrations (March 2006)

(green: pce > 100 µg/L; blue: pce > 50 µg/L)



Tyson Wash – PCE GW Concentrations (February 2007)

(green: pce > 100 µg/L; blue: pce > 50 µg/L)



7th Ave and Bethany Home Rd SVE System Decommission



**7th Ave and Bethany Home Rd
Off-Site Well Installation**



**7th Ave and Bethany Home Rd
On-Site Well Installation**

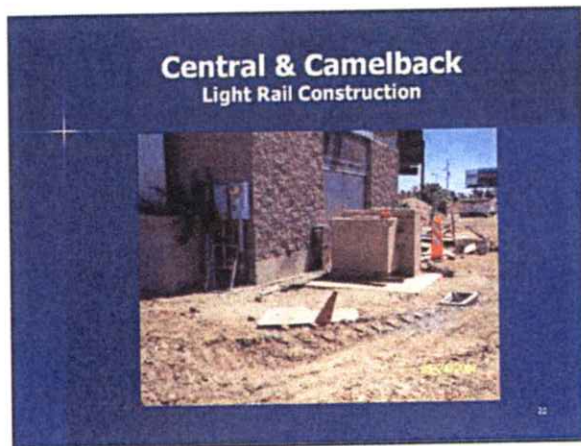
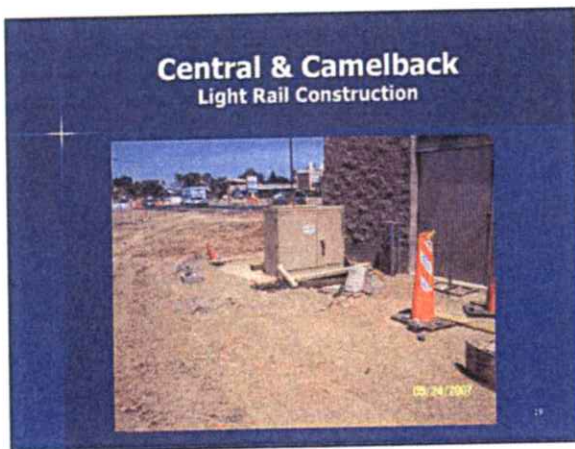
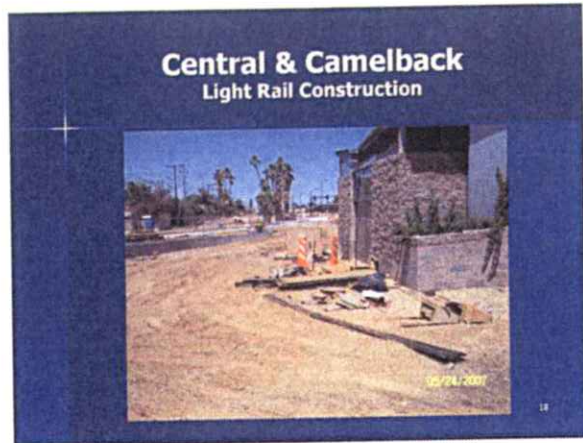


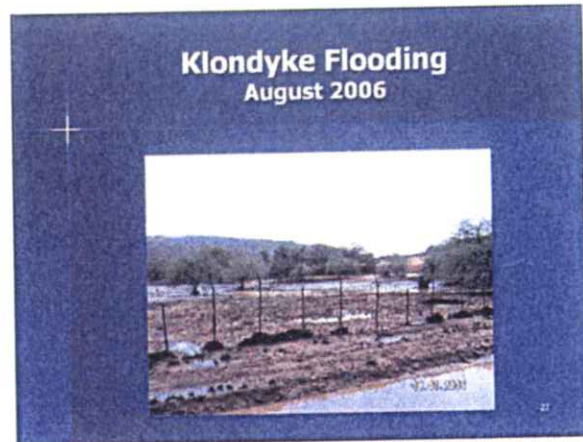
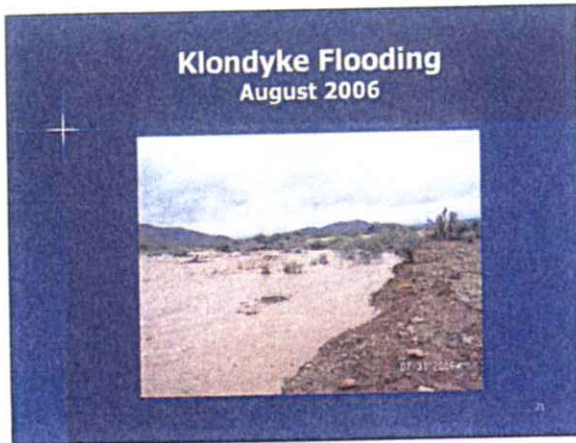
**Cooper and Commerce
Off-Site Well Installation**



**Cooper and Commerce
Off-Site Well Installation**







- ### Protecting or Providing Arizona's Water – FY07
- Plume migration control (Pump & Treat)
 - Broadway Pantano
 - Carbon changeout
 - Central & Camelback
 - Carbon changeout
 - Tyson Wash
 - Carbon changeout
 - Providing alternate water supply or treating water
 - Payson
 - Shannon Road/El Camino del Cerro
 - Miracle Mile
 - Sentinel wells (Monitoring)
 - Park Euclid
 - WCP West Osborn Complex
- 23

- ### FY 07 Working Party Actions
- Broadway Pantano
 - City of Tucson is operating a pump & treat system at the St. Joseph's Hospital well
 - ECP 48th St. & Indian School
 - SRP operates SVE system
 - Shannon Road/El Camino del Cerro
 - Metropolitan Domestic Water Improvement District operates wellhead treatment system that serves about 50,000 customers
- 24

FY 07 Working Party Actions

- Los Reales
 - City of Tucson operating a groundwater pump & treat system
- Miracle Mile
 - Flowing Wells Irrigation District completed construction and began operation of joint arsenic and VOC wellhead treatment system in December 2006
- Park Euclid
 - Mission Linen
 - SVE and multi-phase extraction system in-place but not operating due to funding issues with insurance carriers
- Pinal Creek
 - Numerous parties under Pinal Creek Consent Decree are conducting remedial actions

25

FY 07 Working Party Actions

- Silverbell Landfill
 - City of Tucson operating a SVE system and groundwater pump and treat system. Currently evaluating examining enhanced bioremediation as a remedial action
 - Consultant for City of Tucson is developing a groundwater flow and contaminant transport model to assess possible impacts of expansion of Sweetwater Recharge Facility.
- WCP East Grand Avenue
 - Univar continues to operate a SVE system and conducts groundwater sampling activities
- WCP West Osborn Complex
 - United Industrial Corporation installed 2 additional wells to continue definition of shallow extent of groundwater contamination. UIC will evaluate data to determine next phase of the investigation
- WCP North Plume
 - Hill Brothers

26

Shannon Road/El Camino del Cerro South Shannon Road Wellhead Treatment Dedication

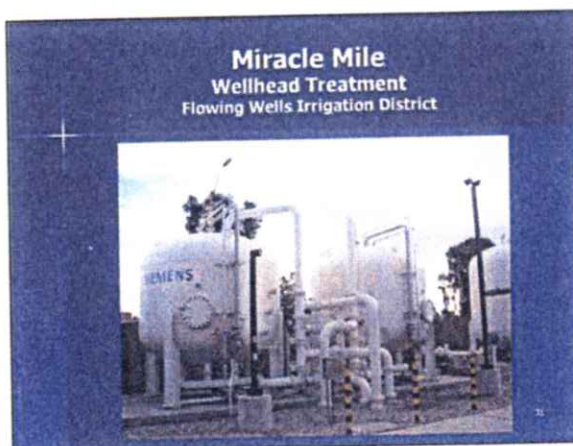
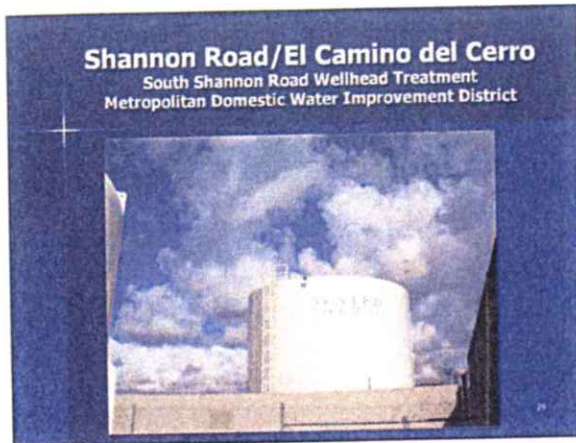


27

Shannon Road/El Camino del Cerro South Shannon Road Wellhead Treatment Metropolitan Domestic Water Improvement District



28



- FY 07 Legal & PRP Activities**
- Completed 35 witness interviews
 - Completed 16 title reports by parcel
 - Issued 20 §288 information request letters
 - Issued 169 §287.03 notices
 - Conducted 4 Industrial Surveys
- 32

FY 07 Legal & PRP Activities

- Completed scanning of 21,617 images
- Issued first New WQARF Consent Order and currently negotiating another one
- Issued first New WQARF lien and recovered \$116,233.81
- Currently processing one QBS application
- Prospective Purchase Agreements (PPA)
 - Completed 1
 - Currently Managing 15

33

FY 07 Community Involvement Activities

- Administered 15 CABs
- Held 43 CAB/CAG Meetings and two open houses/public meetings
- Developed and disseminated WQARF fact sheets for six sites and 12 public notices for sites
- Conducted CIP Update Interviews and finalized 2 CIPs
- Delivered door-to-door notices for WQARF fieldwork at five sites
- Made presentations to several groups including:
 - Two dedication ceremonies in Tucson
 - West USA Realty Management Training Meeting in Phoenix
 - State of AZ Department of Real Estate Statewide Outreach Day in Prescott and Tucson

34

FY 07 Community Involvement Activities continued

- Participated in various additional outreach events including:
 - Scottsdale Association of Realtors EXPO
 - SE Valley Association of Realtors EXPO
 - Tucson Association of Realtors EXPO
 - Pima Community College NW Campus Earth Science Days
 - Pima Community College NW Campus Earth Day Celebration
 - Tucson Children's Earth Day Festival
 - Verde River Days
 - Earth Day at the Phoenix Zoo
- Attended EPA National Community Involvement Conference
- Conducted First All CAB/CAG Co-chair Workshop

35

CAB Co-Chair Workshop



36

CAB Co-Chair Workshop



WQARF Preliminary Investigation (PI) Program

FY07 PI Status & Program Results

- As of June 2007, there are 20 sites on the WQARF PI List:
 - 15 pending PI sites
 - 5 active PI sites
- Sites removed from the PI List:
 - Alameda & Priest Plume #2 (Tempe)
 - Raymond Street (Phoenix)
 - Broadway South Landfill (Tucson)
 - Faith Cooperage/Buckeye (Buckeye)

Highway 260 & Main Street Cottonwood

- PCE found in drinking water wells located at the Turquoise Triangle Trailer Park (TTTP) and the Swanson RV Park:
 - The highest concentration detected was 8.5 ppb at the Swanson RV Park and 8.4 ppb at the TTTP (August 2005)
- PI Field activities conducted to identify potential sources of the PCE contamination:
 - Passive and active soil gas surveys were conducted in August and October 2006
 - TTTP, Swanson RV and Reese & Sons Tire wells sampled in August 2006

Highway 260 & Main Street Cottonwood

- 31 drinking water wells located within 1/2 mile of one of the source areas were sampled in June 2007
- Three possible source areas of PCE have been identified
- Highest PCE groundwater contamination detected in these source areas was 370 ppb

43

Highway 69 & Kachina Place Prescott Valley

- 12 drinking water wells located within 1/2 mile of the site were sampled in May 2007.
- Preliminary analytical results indicate that off-site drinking water wells show no PCE contamination.
- PCE was found in the Blue Hills Market well at a concentration of 3.4 ppb.
- PCE was found in the Wilhoit Water Company wells at a concentration of 2.0 and 1.6 ppb.
- No identified source of the PCE contamination has been found based on records search and a Hazardous Waste Inspection conducted in the area of Blue Hills Market.

44

Greenfield & Virginia TCE Mesa

- TCE is present in irrigation and monitoring wells located within the former Northeast Mesa Priority List site boundaries.
- The highest concentration of TCE was 90 ppb found in MW-4 in 1992.
- PI Field activities conducted to determine the current water quality conditions:
 - 7 ADEQ monitoring wells were sampled in June 2007.
 - Groundwater samples were analyzed for VOCs, priority pollutant metals, and perchlorates.

45

Main Street and Kofa Ted's Truck Stop Quartzsite

- Conducted SVE and dual phase extraction pilot tests in March 2007
- Installed remediation wells in May 2007:
 - 3 SVE wells
 - 18 ozone sparge wells
 - 19 dual phase extraction wells
- June 2007 procurement of remediation equipment

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Budget

■ FY07	Budget	Expenditures
Sites:	\$250,000	\$217,839 ¹
■ FY08	Budget	
Sites:	\$250,000	

1- Projected thru June 30, 2007

FY08 Program Objectives and Issues

- Complete PI in Cottonwood
- Complete PI in Dewey
- Complete PI in Mesa

FY08 Program Objectives and Issues

- Continue to use the Super Screen (covers WQARF and CERCLA) for site screening
- Maintain WQARF PI List
- Complete annual status reviews for all deferred PI sites

FY07 PI Program Results

- Screens completed for 22 sites
- Completed annual status reviews for all deferred PI sites
- Revision of E&E Model

**Ted's Truckstop
Pilot Test**



**Ted's Truckstop
Pilot Test**



Department Issues for FY08

- Delisting
- PRP searches and associated RIs
- Pursuing working party actions
- Long term stewardship on sites
 - DEUR
 - Operation and Maintenance

APPENDIX 5

FY 2007 Annual WQARF Registry Report

**Arizona Department of Environmental Quality
2007 Water Quality Assurance Revolving Fund Registry**

Pursuant to 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 December 31, 2006. 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. 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 a 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, Phoenix, Arizona. Please contact (602) 771-4380 or 1(800) 234-5677, toll free in Arizona to schedule an appointment.

7th 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 Berridge Lane, to the south by Bethany Home Road, to the east by Sixth Avenue and to the west by 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. The ERA Evaluation consisted of drilling ten soil borings and installation of five soil vapor extraction wells and two groundwater monitor wells at the site. Additional off-site groundwater monitor wells were installed in 2005.

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. Confirmation soil samples confirmed that the source area soils had been successfully remediated to levels that are below ADEQ Soil Remediation Levels and Groundwater Protection Levels. Remediation strategies for PCE contaminated groundwater are currently being evaluated and quarterly groundwater monitoring is on-going. There are no drinking water production wells within the confines of the site, but ADEQ is closely monitoring the movement of the groundwater plume. Two Salt River Project (SRP) irrigation wells near the site have been tested, and concentrations of PCE were not detected above the regulatory standard.

Contaminants of concern at the site include PCE and trichloroethene (TCE).

7th 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 is currently operating a soil vapor extraction (SVE) system an Early Response Action (ERA) for the site. To date, over 1,400 pounds of VOCs have been recovered by the SVE system.

Additional monitoring wells are scheduled to be installed and groundwater monitoring activities are on-going. No drinking water wells have been impacted by the contamination from the site. The remedial investigation (RI) has not been initiated.

Contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (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, 17th Street to the east, and 14th Place to the west.

Based on the results of an early response action (ERA) evaluation conducted in 2003, ADEQ determined that soil vapor extraction (SVE) was not a feasible remedy for the site. The ADEQ is currently evaluating other potential remedies for the site and groundwater monitoring activities are on-going. The remedial investigation (RI) has not been initiated.

Contaminants of concern at the site include tetrachloroethene (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 ½ mile south of 16th Street and approximately ¾ 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 Early Response Action (ERA). Groundwater monitoring activities are on-going and no drinking water wells have been impacted by the contamination from the site. The remedial investigation (RI) has been initiated.

Contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (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 56th Street and Earll Drive.

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 trichloroethene (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 early response action (ERA) evaluation has been completed and the working party is currently designing an ERA groundwater pump and treat system.

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 Sahuara Avenue (one half mile to the west of Wilmot Road) to the west.

The general groundwater flow direction is to the west. Four Tucson Water production wells have been removed from service as a result of groundwater contaminated with volatile organic compounds (VOC). A groundwater containment system has been installed to prevent further westward migration of contaminated groundwater and impacts to additional wells. Confirmed sources of the groundwater contamination are the former Broadway North and South Landfills. A soil vapor extraction (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 remedial investigation (RI) report is nearing completion. 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 tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), methylene chloride and vinyl chloride.

Central and Camelback - This site was placed on the WQARF Registry in June 2000, and has a score of 32. The site is located in Phoenix at the southwest corner of Central Avenue and Camelback Road. The boundaries of the site are approximately Missouri Avenue to the north, a line 100 feet east of Central Avenue to the east, Pierson Street to the south and a line 600 feet west of Camelback road to the west.

In January 2003, ADEQ constructed a groundwater treatment system to remediate and control the migration of contaminated groundwater at the site as an early response action (ERA). In June 2004, ADEQ initiated an ERA evaluation of the Maroney's Drycleaner facility. Based on the results of the ERA evaluation, soil vapor extraction (SVE) was proposed for remediation of tetrachloroethene (PCE) contaminated soil beneath the site. The SVE system has been designed and access has been acquired from the current property owner to construct and operate the system. The remedial investigation (RI) was initiated in 2006 and a community advisory board has been established for this site.

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

Tetrachloroethene (PCE) and trichloroethene (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 aquifer water quality standard (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 early response action (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 wells and three soil vapor monitor wells. A community advisory board 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.

East Central Phoenix (ECP) 24th 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 around the Salt River Project well 16E-6.8N.

ADEQ has written a fact sheet that will go out as part of the A.R.S. §49-287.03 notification to begin the remedial investigation (RI) for the site. Groundwater monitoring activities are currently being conducted at the site.

Contaminants of concern at the site include tetrachloroethene (PCE).

ECP 32nd Street and Indian School Road - 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 around the Salt River Project well 17E-8N.

ADEQ initiated a soil vapor extraction (SVE) early response action (ERA) in December 2004 and approximately 3,100 pounds of PCE have been removed through December 2006. Groundwater

monitoring continues at the site. ADEQ has written a fact sheet that will go out as part of the A.R.S. §49-287.03 notification to begin the remedial investigation (RI) for the site.

Contaminants of concern at the site include tetrachloroethene (PCE).

ECP 38th 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 approximate site boundaries are Indian School Road on the north, 38th Street to the east, Amelia Avenue to the south, and 36th Street to the west.

ADEQ has written a fact sheet that will go out as part of the A.R.S. §49-287.03 notification to begin the remedial investigation (RI) for the site. Groundwater monitoring activities are currently being conducted at the site.

Contaminants of concern at the site include tetrachloroethene (PCE).

ECP 40th 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 approximate site boundaries are Devonshire Avenue on the north, 40th Street to the east, Amelia Avenue to the south, and 38th Street to the west.

ADEQ conducted an early response action (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 has written a fact sheet that will go out as part of the A.R.S. §49-287.03 notification to begin the remedial investigation (RI) for the site. Groundwater monitoring activities are currently being conducted at the site.

Contaminants of concern at the site include tetrachloroethene (PCE) and trichloroethene (TCE).

ECP 40th 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 an 800 foot diameter circle centered around the Salt River Project well 17.9E-7.5N.

ADEQ has written a fact sheet that will go out as part of the A.R.S. §49-287.03 notification to begin the remedial investigation (RI) for the site. Groundwater monitoring activities are currently being conducted at the site.

Contaminants of concern at the site include tetrachloroethene (PCE).

ECP 48th 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 site extends approximately 400 feet north and 160 feet south of Indian School Road in between 45th Place and 48th Street.

ADEQ and the Salt River Project have entered into an agreement to conduct a source control interim remedial action (IRA). As part of the IRA, SRP constructed a soil vapor extraction system to remediate the source of tetrachloroethene (PCE) in soil at the site. Approximately 250 pounds of PCE have been removed since start-up in February 2006. Groundwater monitoring activities are currently being conducted at the 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 ten acres in size. The site has been abandoned for approximately 15 years, and contains significant quantities of auto shredder fluff.

An early response action (ERA) was conducted to remove fluff piles and install a protective cap to prevent exposure to contaminants. The ERA was completed in September 2001. The remedial investigation (RI), feasibility study (FS), and proposed remedial action plan (PRAP) have been completed. A community advisory board has been established for this site.

Contaminants of concern in soil at the site include arsenic, lead, cadmium and polychlorinated biphenyls (PCBs). The contaminants of concern have not been detected above aquifer water quality standards in groundwater beneath the site.

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 remedial investigation (RI), feasibility study (FS) and proposed remedial action plan (PRAP) have been completed. ADEQ is evaluating comments on the PRAP and preparing a responsiveness summary. A community advisory board has been established for this site.

Contaminants of concern at the site include vinyl chloride, cis-1,2-dichloroethene (DCE), trichloroethene (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 town of Klondyke, on the north bank of the Aravaipa Creek, approximately 4.5 miles upstream of the 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 remedial investigation (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 contamination began in 2006.

Early response action (ERA) activities continue at the site. These activities 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. A community advisory board has been established for the site.

Contaminants of concern at the site include lead, cadmium, antimony, beryllium, copper, manganese, arsenic, 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. The City has identified additional groundwater contamination at the landfill, and has completed additional site characterization. After the full extent of contamination is determined, the groundwater treatment system will be expanded to treat additional contaminated water.

Contaminants of concern at the site include tetrachloroethene (PCE) and trichloroethene (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, Flowing Wells 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 Early Response Action (ERA) for the regional aquifer. The remedial investigation (RI) is nearing completion and groundwater monitoring activities are on-going. A community advisory board has been established for this site.

Contaminants of concern at the site include trichloroethene (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, 14th Street to the south, Santa Rita Avenue to the east, and Park Avenue to the west.

ADEQ is continuing to monitor groundwater conditions upgradient from the University of Arizona water supply wells. A feasibility study (FS) has been initiated and a community advisory board has been established for this site.

Contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (TCE), and cis-1,2-dichloroethene (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 is bounded approximately by Frontier Street to the north, Aero Drive to the south, Beeline Highway 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 lowered levels of contamination. 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. A soil vapor extraction system was installed in August 2001, and has been shut down after contaminants were removed. The remedial investigation (RI), feasibility study (FS), and proposed remedial action plan (PRAP) have been completed. ADEQ is currently in

the process of writing the record of decision (ROD) for the site. A community advisory board, which also incorporates the Tonto and Cherry site, has been established for this site.

The contaminant of concern in the groundwater at the site is tetrachloroethene (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 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 consists of BHP, Phelps Dodge and Inspiration Copper, have been conducting remedial actions including source control since 1988 and have completed remedial investigations (RIs), risk assessments, a feasibility study (FS) and a recommended remedial action plan. They have also conducted a well replacement program for contaminated private and public supply wells. The Pinal Creek Group has been conducting groundwater extraction and treatment from the alluvial and the regional aquifers since 1988.

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 volatile organic compounds (VOCs) and arsenic in the groundwater in order to meet drinking water standards. The remedial

investigation (RI) is in progress, and a joint community advisory board has been established for the site.

Contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (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.

The City of Tucson has installed a pump and treat system to extract and clean up groundwater and a soil vapor extraction (SVE) system to treat soils beneath the landfill as required by an existing remedial action plan. The City is currently evaluating alternative methods for groundwater remediation at the landfill.

Contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (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 early response action (ERA) in June 2004, to address the remaining subsurface contamination. A soil vapor extraction (SVE) well was installed and connected to the existing SVE system and the system began operations in September 2004. The remedial investigation (RI) has been completed and draft RI report is being prepared. A community advisory board has been established for this site.

Contaminants of concern at the site include tetrachloroethene (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 site boundary is a northwest-trending oval, extending approximately 1,200 feet from the intersection of Main Street and Colcord Avenue.

The remedial investigation (RI) has been completed and the draft RI is being drafted and will go out for public notice in early 2007. A community advisory board has been established for this site in conjunction with the Payson PCE site.

Contaminants of concern at the site include tetrachloroethene (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 has boundaries approximately 300 feet to the north of Cowell Lane to the north, 400 feet east of Washington Boulevard to the east, 300 feet south of Cowell Lane to the south, and 200 feet west of Oregon Avenue to the west.

The remedial investigation (RI) has been completed. As part of an early response action (ERA) a groundwater treatment system was been constructed and is currently being operated to prevent migration of the plume to private drinking water wells. A community advisory board has been established for this site.

Contaminants of concern at the site include tetrachloroethene (PCE) and trichloroethene (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 one mile northwest of the center of the Town of Wickenburg. The eastern boundary of the site is approximately 1/4 mile west of the Hassayampa River Channel.

ADEQ is currently implementing the remedy, which consists of excavation of contaminated soil, placement in a consolidation pile, installation of a clean soil cover, backfilling with clean soil, and groundwater monitoring and institutional controls for installation of new wells. A community advisory board has been established for this site.

Contaminants of concern at the site include lead, arsenic and mercury.

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, 29th Avenue to the east, and 30th Avenue to the west.

The field investigative activities were completed in December 2001. The draft remedial investigation (RI) report has been completed. In 2004, a working party constructed and still operates a soil vapor

extraction system at the Van Waters & Rogers facility. To date, over 300 pounds of VOCs have been removed. A community advisory board has been established for this site.

Contaminants of concern at the site include tetrachloroethene (PCE) and trichloroethene (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, 36th Avenue on the east, Clarendon Avenue on the south, and 40th Avenue on the west.

The remedial investigation (RI) was initiated in February 2001 and ADEQ conducted early response action (ERA) evaluations in 2005. SVE is being evaluated as an ERA at the former Osborn products facility. A community advisory board has been established for this site.

Contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (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, 38th Avenue to the east, and 43rd Avenue to the west.

The remedial investigation (RI) is underway and a soil vapor extraction (SVE) system was installed at the F&B facility as part of an early response action (ERA). To date, the SVE system has removed close to 100 pounds of VOCs. A community advisory board has been established for this site.

Contaminants of concern at the site include tetrachloroethene (PCE) and trichloroethene (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 remedial investigation (RI) has been completed and a draft RI report was completed in February 2004 and ADEQ is currently working on finalizing the remedial objectives (ROs) for the site. A community advisory board has been established for this site.

The contaminant of concern at the site is trichloroethene (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 draft remedial investigation (RI) report has been completed and ADEQ is currently working on finalizing the remedial objectives (ROs) for the site. A community advisory board has been established for this site.

Contaminants of concern at the site include trichloroethene (TCE) and tetrachloroethene (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.

Dolphin Incorporated began operation of a soil vapor extract (SVE)/air sparge (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/AS and groundwater pump and treat remediation system 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. In August 2002, ADEQ issued a no further action determination for the former Van Waters and Rogers facility.

The remedial investigation (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 community advisory board has been established for this site.

Contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (DCE), 1,1-dichloroethane (DCA), cis-1,2-dichloroethene (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.

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Water Quality Assurance Revolving Fund
2007 Annual Registry Report*

The draft remedial investigation (RI) report has been completed ADEQ is currently working on finalizing the remedial objectives (ROs) for the site. A community advisory group has been established for this site in conjunction with the Phoenix-Goodyear Airport Superfund site.

The contaminant of concern at the site is tetrachloroethene (PCE).

RI = remedial investigation

FS = feasibility study

ERA = early response action

PRAP = preliminary remedial action plan

ROD = Record of Decision

APPENDIX 6

Water Quality Assessment and Management Program

WATER QUALITY ASSURANCE REVOLVING FUND
ANNUAL REPORT TO THE JOINT LEGISLATIVE BUDGET COMMITTEE
WATER QUALITY ASSESSMENT AND MANAGEMENT
A.R.S. §§ 49-202 to 49-205; § 49-208; §§ 49-221 to 49-225; § 49-249; § 49-282

Chris Varga, Manager 771-4665
ADEQ/Water Quality Division/Surface Water Section

July 1, 2006 through June 30, 2007

FY 2007 ACCOMPLISHMENTS

Water Quality Monitoring and Assessment

Surface Water Monitoring § 49-225 (Water quality monitoring) & § 49-282 (Remedial investigations)

- Integrated Report of the Status of Arizona's Water Quality is in the final stages of drafting. This comprehensive report assesses water quality in streams, lakes and groundwater in Arizona's ten watersheds based on data collected since January 1, 2000. From this assessment, those waters not attaining surface water quality standards and/or designated uses are placed on the CWA 303(d) List of "impaired waters" for further investigation and remediation. (§49-225 & §49-282)
- Ambient Surface Water Program: FY07 monitoring completed where efforts were focused in the Lower Colorado and the Little Colorado Watersheds. The FY08 sample plan has been finalized and focuses efforts in the Salt and the Verde Watersheds. The Surface Water Section (SWS) continues to fund a Joint Cooperative Agreement with the USGS to sample the large rivers in the state from its gauging stations. Most of the analytical work for this program is performed by the ADHS State Laboratory. Drought continues to severely impact all surface water monitoring programs. (§49-225)
- Lakes Program: FY07 monitoring was conducted on Saguaro Lake, River Reservoir, Becker Lake, Show Low Lake, Soldier's Annex Lake, Roosevelt Lake, Canyon Lake, Lake Havasu, and Bartlett Lake in support of ongoing studies. The Lakes Program continues to collaborate with the University of Arizona Water Resources Center to provide field support in monitoring the Valley drinking water reservoirs (Roosevelt, Apache, Canyon, and Saguaro) and in conducting effectiveness monitoring on several southern lakes. (§49-225). A lakes classification system, matrix and implementation procedures will be included as rulemaking in the upcoming triennial review of surface water quality standards. These narrative standards, once adopted, will be used in future water quality assessments. (§49-221 & §49-222)
- Priority Pollutant sampling program: No new fish consumption advisories were issued in FY07 however, fish were collected from several lakes and sampled for mercury in on-going investigations which may lead to future advisories.
- Status of ongoing water quality studies (§49-225 & §49-282):

Pinto Creek- The site specific standard (SSS) modeling has been completed. A public meeting was held on June 12th to inform stakeholders of the SSS process and the proposed dissolved copper standard of 42 ug/L. The standard is not hardness dependent. The TMDL will be submitted for approval upon completion of the Triennial Review process. Remediation work has been completed for the Pinto Creek portion of the Gibson mine. Effectiveness monitoring should show a dramatic improvement of water quality as the Gibson mine was a major source of copper to Pinto Creek.

Mule Gulch- The lack of precipitation has hindered data collection to determine a site specific standard. Five automatic samplers have been installed along unaltered tributaries to aid in data collection during the 2007 monsoon season. If sufficient data can be collected the TMDL and site specific standard should be completed by the end of calendar year 2008.

Turkey Creek- The TMDL report was submitted and approved by USEPA in October 2006. USFS has completed remediation actions (remove material from flood plain and cap) at Golden Belt and Golden Turkey mines. Effectiveness monitoring SAP has been developed.

Queen Creek- The lack of precipitation has slowed data collection. The hydrologic modeling process has begun internally. Six automated samplers have been installed in the watershed to aid in data collection. Completion of the project is anticipated by the end of FY08.

Lake Mary Regional Mercury TMDLs- Upper and Lower Lake Mary, Soldier's, Soldier's Annex, and Long Lake (Hg in fish tissue) - Modeling efforts and the draft TMDL have been completed on the five lakes. We continue to struggle with determining natural background soil mercury concentrations. Initial modeling efforts used 120 ppb followed by 30 ppb (using Upper Lake Mary core data). Both of these values would lead to exceedances of the fish tissue criteria without any atmospheric contribution. Sampling efforts are planned to determine current soil concentrations using low level analytical methods.

Alamo Lake- The final TMDL was submitted to USEPA in June 2006, however, ADEQ was required to include WLA's for permitted dischargers in the watershed. The revised TMDL was released to interested stakeholders in January 2007 and received significant comments. Natural background concentrations are also an issue on this project with additional low level sampling planned.

Submittal of both the Lake Mary Regional and Alamo Lake mercury TMDLs will be delayed until the adoption of the 0.3 mg/kg fish tissue standard and Fish Tissue Consumption Advisory implementation guidance. Both are included the Triennial Review of Water Quality Standards.

Nutriosio Creek effectiveness monitoring – TMDL staff have recommended that Nutriosio Creek be delisted. This recommendation is included in the 2006 Assessment.

Boulder Creek Cleanup Project – Staff continues work with the Bureau of Land Management (BLM), a private citizen and State Land Department on cleaning up three tailings piles and an adit which discharge arsenic, copper, zinc and mercury into Boulder Creek. BLM has lost its funding for cleanup of the mine. Further engineering studies will be needed for BLM to secure funding. Alternatives to on site remediation continue to be explored as well as establishing access to the lower of the three piles.

Slide Rock State Park pathogen TMDL phase II - Significant forest fire in the Summer of 2006 has delayed further data collection along with staff shortages. The 2006 Assessment extends the impaired reach from the headwaters to Spring Creek and includes Spring Creek. Additional data is planned.

San Pedro- This segment (border to Charleston) of the San Pedro is being delisted in the 2006 Assessment based on data collected during the TMDL process.

San Pedro- Data collection indicates that storm-induced runoff is the cause for exceedances with only a single exceedance seen during baseflow conditions. Additional data collection is planned under baseflow conditions which may lead to delisting based on revisions proposed in the Impaired Waters Identification Rule. The revisions propose using the binomial to assess *E. coli* exceedances as it is used for other human health concerns.

Parker Canyon Lake- Additional fish tissue is scheduled to be collected along with plankton and macroinvertebrates to determine site specific bioaccumulation factors. Lake and watershed sampling continue and are scheduled to be completed in the summer of 2007. Automated samplers have been placed on major tributaries to add in data collection. A Northern Arizona University graduate student has completed a modeling project for the lake and watershed. Upon completion of data collection ADEQ anticipates updating the model to calculate the TMDL.

San Pedro- The sample and analyses (SAP) has been completed and sampling has begun under baseflow conditions.

Santa Cruz River- Draft SAP has been started but staff left before completion. New staff will be assigned project. Coordination continues with the Friends of the Santa Cruz to collect *E. coli* data

Gila River- SAP has been completed sampling has begun. Baseflow and storm runoff sampling has been conducted. Additional sampling is needed

Gila River- This segment of the Gila River is included with the SAP and field activities for the Bonita Creek to Yuma Wash reach.

Lyman Lake- The draft SAP has been completed and is under revision. Lake sampling has occurred and tributary sampling is planned. Additional fish have been collected and we are awaiting results. Atmospheric mercury concentrations were measured using the USEPA's Tekran equipment in early 2007.

Little Colorado River- SAP has been completed and initial sampling has occurred. Project manager has left ADEQ and project will be assigned to new staff.

Tonto Creek- The draft Tonto Creek TMDL Implementation Plan (TIP) was finalized and released for public comment in January 2007. Comments received have resulted in revising the TMDL to assign loads per segment instead of calculating loads cumulatively. Revised TMDL and TIP reports will be put out for public comment by September 2007. The revised TMDL will need to be approved by USEPA.

Alum Gulch- The final draft TIP was released for public comment in March 2007. Extensive comments were received from the US Forest Service. The revised TIP is being finalized and should be completed in August 2008. The US Forest Service has completed remediation activities at the World's Fair and Humbolt mines located within the watershed but still need to address discharges at the World's Fair mine.

Other studies-

Atmospheric Deposition of Mercury- An important component of mercury contamination is atmospheric deposition. Prior studies have relied upon national or regional model data extrapolated to Arizona. The SWS established the first Arizona Mercury Deposition Network (MDN) site in April 2006 and continues to operate the site. The MDN collects weekly precipitation composite samples to determine the wet deposition concentration of mercury. Additionally, to help determine the dry deposition rate of mercury, SWS has worked with US EPA Region IX to deploy their mobile TEKTRAN equipment at three sites across the state. Using local deposition rates will increase the strength of mercury TMDLs.

In August TMDL staff led the surface water sampling investigation of *Vibrio cholerae* (*V. cholerae*) along the upper Gila River, near Bylas. Sampling efforts were coordinated with the Arizona Department of Health, San Carlos Apache Tribe, Graham, along with Greenlee and Gila Counties. Concerns arose after two individuals in the local community became infected with non-01 *V. cholerae*. Three separate sampling trips

were conducted with *V. cholera* and *Escherichia coli* (*E. coli*) being the target parameters. Swimming advisories were issued for segments of the Gila River that exceeded the *E. coli* standard. Levels of both *V. cholerae* and *E. coli* fell as the summer monsoon season came to an end in October. No source of *V. cholerae* was identified.

Groundwater Monitoring § 49-225 (Water Quality Monitoring)

Ambient Groundwater Monitoring – The SWS ambient groundwater program achieved the following in FY07:

- Over 70 wells/springs in Arizona were sampled with results provided to well owners
- Sampling for the Agua Fria Basin characterization was initiated and completed
- Sampling for the Hassayampa Basin characterization was initiated
- Final groundwater reports were published for the Hualapai Valley Basin and the Big Sandy Basin.
- Entered approximately 8,622 water quality results into groundwater water quality database.

Pesticide Program § 49-249 (Pesticides)

- The pesticide groundwater monitoring improved in both frequency and scope in '07 to acquire new baseline data for newly-emerging pesticides using the ASDH Laboratory's modern analytical technology with low detection limits. Well matching data confirmation has been completed, and new results of sampling are being compared to existing database information to establish trends in pesticide concentrations.
- The Pesticide Program continues to maintain an information submittal and review database for the pesticide data call-in program. Several new pesticide active ingredients were added to the database.
- Implementation of the new rules regarding pesticide registration has been completed. The new rules provide for the use of expanded information and newer EPA protocols, modeling, and new science in determining whether a pesticide being registered in Arizona has the potential to leach and pollute groundwater. Under the new rules, the pesticide registration process has been streamlined, and all responses to applications were completed within the approved time frames. Another significant change was removal of the GWPL ("List") from the rules which allow for timely addition and deletion of chemicals to and from the list as needed. The draft 2007 GWPL was published in the *Arizona Administrative Register* for public review and comment prior to finalization of the annual list on July 1. The final 2007 List contains 69 active ingredients (3 additions and 12 deletions) compared to 78 active ingredients on the 2006 List. The new List takes effect on December 1, 2007.

Quality Assurance/Quality Control (QA/QC) Activities

- Served as WQD representative on QA/QC Advisory Committee for the redrafting of the agency's Quality Management Plan (QMP).
- The Surface Water Section (SWS) redrafted an integrated and comprehensive Quality Assurance Program Plan (QAPP) that covers SWS monitoring programs. This document was submitted to EPA for approval in June 07.

Other Technical Activities: § 49-202 through § 49-205

- Continuing coordination with the remedial programs in Waste Programs Division to capture WQARF, CERCLA and UST groundwater quality data.
- Continue to develop performance measurement tools to determine effectiveness of several water quality programs including nonpoint source pollution control, best management practices and WQIP grants program (§49-225).

APPENDIX 7

Well Inspection and Approval Program

**Arizona Department of Water Resources
Arizona Water Quality Fund
Year-End Review Outline
Fiscal Year 2007**

1. Name of Program

Arizona Water Quality Fund, Water Quality Assurance Revolving Fund Support Program, Arizona Department of Water Resources (ADWR), Hydrology Division, Water Quality Unit

2. ADWR WQARF Support Program Objectives

- Provide technical review of well applications (Notices of Intent to Drill or Abandon and Groundwater Withdrawal Permits)* and consult with Arizona Department of Environmental Quality (ADEQ) regarding new wells near contaminant sites.
- Conduct well inventories to support ADEQ's WQARF Program.†
- Coordinate with ADEQ regarding database needs in support of ADEQ's WQARF Program.*
- Establish mechanism to exchange verified well locations and GPS measurements within ADWR's Well Registry (WELLS55) database.†
- Perform other WQARF and water quality activities as required by statute, rule, or Interagency Service Agreement (ISA).

*Required by statute or rule

†Recommended by Groundwater Cleanup Task Force

3. ADWR WQARF Support Program Accomplishments: Fiscal Year 2007

- Well application and withdrawal permit review:
 - Reviewed 5,250 Notices of Intent (NOI) to Drill, Modify, or Abandon a Well for proximity to a WQARF/CERCLA or other contaminated sites (estimate for FY as of June 19, 2007).
 - Performed technical review of 1,081 NOIs to Drill or Abandon wells near or within WQARF/CERCLA sites for water quality concerns and well construction (estimate for FY as of June 19, 2007).
 - Reviewed 101 permit applications to withdraw groundwater, including Poor Quality Ground Water Withdraw Permits for remediation projects (estimate for FY as of June 19, 2007).
- Well inventories:
 - Payson PCE – Completed quality control review. Submitted well inventory to ADEQ. Currently reconciling database conflicts; awaiting further comments from ADEQ. 90% complete

- West Van Buren – Final well inventory resubmitted to ADEQ. 100% complete.
 - 20th and Factor, Yuma - Performed post-fieldwork quality control review and began preparation of database submittal. 75% complete
 - Vulture Mill, Wickenburg – Performed well inventory for Vulture Mill WQARF site. Constructed initial well databases, performed file reviews, and conducted well verification. Returned to site to acquire survey-grade location coordinate measurements at 121 wells. Post-fieldwork quality control review in process. 65% complete
- Other WQARF and Water Quality Activities
 - Submitted monthly and quarterly reports to ADEQ and the WQARF Advisory Board as required by the ADEQ-ADWR ISA.
 - Submitted annual report on ADWR WQARF activities to the Governor, Legislature, and WQARF Advisory Board for fiscal year 2006.
 - Finalized special well construction requirements for Pinal Creek WQARF site upon receiving comments from stakeholder group. Published standards on the ADWR website.

4. Statement of Revenues and Expenditures – Fiscal Year 2007

Arizona Water Quality Fund
Statement of Revenues and Expenditures
Fiscal Year 2007 for the period through June 2007
 (Estimate based on actual expenditures through
 May 2007 and projected expenditures in June 2007)

Description	Amount
Funds Available	
Balance Forward 07/01/2006	\$251,526
Transfer from DEQ	600,000
Earnings on Investments (estimate)	13,321
Total Funds Available	\$864,847
Expenditures	
Personal Services	\$216,000
Employee Related Expenditure	63,500
Professional & Outside Services	
In State Travel	20,000
Out of State Travel	
Other Operating Expenditure	7,000
Capital Equipment	
Non-Capital Equipment	21,000
Indirect	140,631
Total Expenditures	\$468,131
Fund Balance (06/30/2007 estimate)	\$396,716

5. **ADWR WQARF Support Program Activities: Fiscal Year 2008**

- Continue technical review of Notices of Intent to Drill, Abandon, or Modify a Well for water quality concerns and for compliance with applicable well construction requirements to prevent vertical cross-contamination between aquifers.
- Continue technical review of Groundwater Withdrawal Permit Applications for potential impacts to other wells of record from plume migration, and for compliance with applicable well construction requirements to prevent vertical cross-contamination between aquifers.
- Complete backlog of well inventories (Payson PCE, 20th/Factor)
- Complete backlog of in process well inventories (Vulture Mill).
- Conduct well inventories at two WQARF sites (7th Avenue and Bethany Home Road and Central and Camelback Road).
- Continue to coordinate with ADEQ regarding database needs in support of the WQARF Program.
- Continue to prepare monthly, quarterly, annual and other reports as specified in the Inter-agency Service Agreement for fiscal year 2008.
- Submit annual report on ADWR WQARF activities to the Governor, Legislature, and WQARF Advisory Board for fiscal year 2007.

6. **ADWR Budget - Fiscal Year 2008**

**Arizona Water Quality Fund
Budget – Fiscal Year 2008**

Description	Amount
Funds Available	
Balance Forward 07/01/2007 (estimate)	\$396,716
Transfer from DEQ	600,000
Total Funds Available	\$996,716
Expenditures	
Personal Services	\$292,571
Employee Related Expenditure	98,306
In State Travel	20,000
Other Operating Expenditure	11,324
Non-Capital Equipment	5,250
Indirect	\$197,549
Total Expenditures	\$625,000
Estimated Fund Balance, end of fiscal year	\$371,716

APPENDIX 8

Risk Assessment Program



FY 06-07 Risk Assessment Summary

Arizona Department of Health Services
Risk Assessment & Health Consultation Program

Office of Environmental Health
16021364-3118
150 N. 18th Avenue, Phoenix, AZ

Program Objectives

- Program Created by A.R.S. §36-(1691-1694)
 - Analyze health risks from environmental exposure
 - Provide independent evaluation of strategies to prevent health risks from environmental exposures
 - Provide the ADEQ and others with information to address potential public health risks from environmental exposures

ADEQ/ADHS ISA Agreement

- ISA calls for \$15,000 minimum quarterly payments, maximum \$25,000
 - Extra \$10,000 is dependent on additional amount of work
- ISA is used to provide availability of ADHS staff on demand
 - 4 staff funded = - 0.6 FTE (\$60,000 annually will provide this base availability)

FY 06-07 ISA Accomplishments

- No specific assignments received from ADEQ programs under ISA.

FY 06-07 Non ISA Projects

- Completed 8 health consultations under a grant from the Agency for Toxic Substances and Disease Registry (ATSDR)
 - Arsenic Exposure from Private Drinking Water Wells, New River, Maricopa County
 - An-zonolite (aka Boster's School of Street Rods Facility), Glendale, Maricopa County
 - Evaluation of Primary Metals in Private Drinking Water Wells in the Walker Area, Prescott, Yavapai County
 - Evaluation of Heavy Metals in Private Drinking Water Wells, Paulden, Yavapai County
 - Evaluation of Water Flows in the Nogales Wash, Nogales, Santa Cruz County
 - North Indian Bend Wash, Central Ground Treatment Facility, Scottsdale, Maricopa County
 - North Indian Bend Wash, Area 7 Groundwater Extraction and Treatment System, Scottsdale, Maricopa County
 - WR Grace Exfoliation Facility, Phoenix, Maricopa County

FY 06-07 Non ISA Projects Cont.

- Technical Assist
 - NIBW Human Health Risk Assessment
 - Review & provide comments
 - Phelps Dodge Sierrita Mine
 - Attended a public meeting to discuss the health risks associated with dust storms
 - Created a fact sheet "Dust Storms & Human Health in Arizona" and a brochure "Dust Storms and Your Health"

FY 06-07 Budget & Expenditures

ADHS ISA Total Budget is \$ 100,000

Category	Budget	Spent	Est. Return
Personnel	55,000	28,563	26,436
Benefits	16,445	7,315	9,129
Travel	1,000	0	1,000
Operations	6,831	153	6,677
Indirect	20,724	10,716	10,007
Total	\$100,000	\$46,749	\$53,646

FY 07-08 Budget

Category	Budget
Personnel	55,000
Benefits	17,600
Travel	1,000
Operations	3,706
Indirect	22,694
Total	\$100,000