



**Water Quality Assurance  
Revolving Fund**

**Annual Report  
Fiscal Year 2006**

**September 2006**

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Remedial Projects	A.R.S. §§49-281 to 49-296
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This annual report has been prepared pursuant to HB 2863, Laws 2005, Chapter 286, Sections 13, 20, 38, 64, 71, 75, 82, and 102; making appropriations for the different departments of the state, for state institutions and for public schools; providing for certain reporting requirements. HB2863 requires that a report on the Water Quality Assurance Revolving Fund (WQARF) along with specific site budgets for FY2007 be submitted to the joint legislative budget committee (JLBC) members and to the Director of the JLBC by September 1, 2006. The FY2007 WQARF site budgets, FY2006 site expenditures, and FY2007 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 legislature supports the WQARF program with 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 in the aquifer itself.

*Community Involvement* – Enhanced community involvement is provided 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

The date that a site is added to the WQARF Registry generally does not indicate the date that cleanup is started. Under most circumstances, numerous investigative, planning, community involvement, risk assessment, and legal steps must be executed before a cleanup can begin.

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. The RI/FS requires

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. 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 (PRP) searches.

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 activities take place during investigations and prior to development of the proposed remedial action plan (PRAP), 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 signed, followed by an allocation process in which past and future 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 can be conducted to address any of the following conditions:

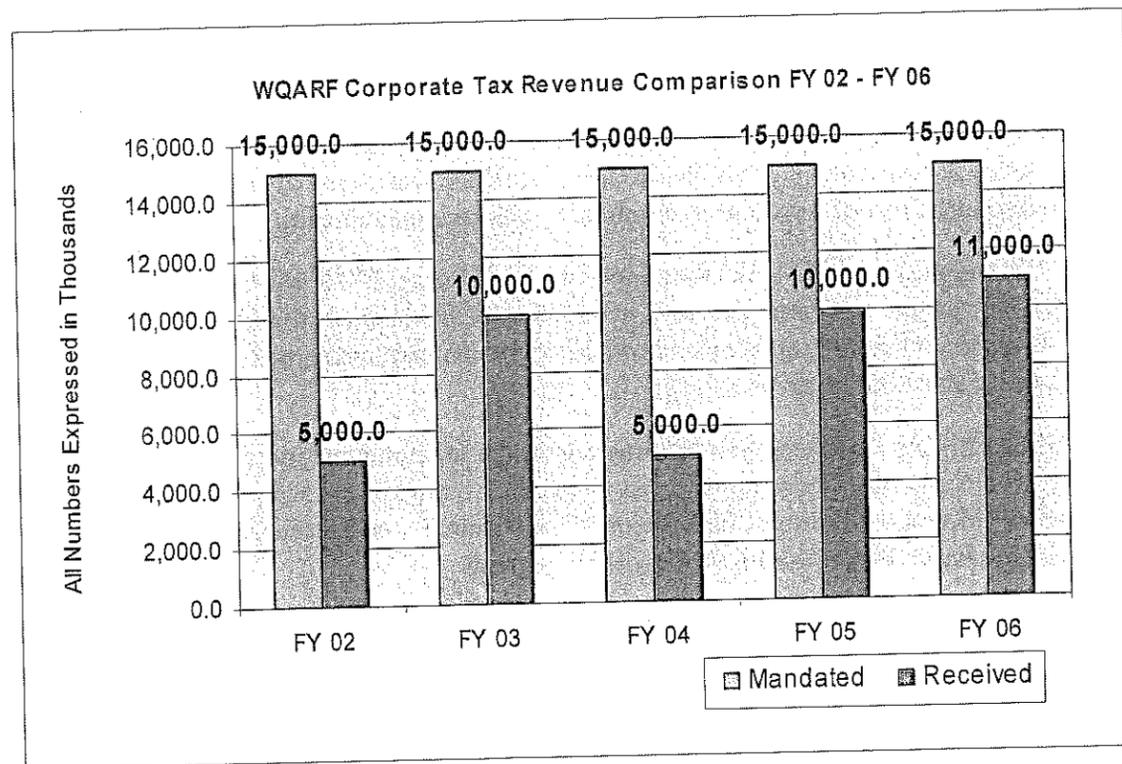
- To mitigate an immediate threat to public health or the environment;
- To clean up a source of contamination;
- To prevent migration of contamination to uncontaminated areas; or
- To provide drinking water to residents whose drinking water supply has been contaminated

## MAJOR ISSUES & ACCOMPLISHMENTS FOR FY 2006

### 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, 2003, 2004, 2005, and 2006 (Please see table below). 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 appropriations for FY2007 are at full funding and progress at the sites will continue to move at a steady state. The department continues to direct its limited resources on early response actions and other activities where human health is at risk.



#### 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. Operation and maintenance continued at eleven early response actions that were initiated in prior years. In FY 2006, the WQARF Program initiated the following ERAs:

**Cooper and Commerce** - ADEQ completed soil borings, installed three soil vapor monitor wells, two soil vapor extraction/air sparge wells and one deep monitor well/extraction well in May 2006. Based on the analytical results from the soil sampling activities, sufficient contaminant concentrations exist to warrant installation and operation of a soil vapor extraction system.

West Central Phoenix North Canal Plume - ERA evaluations of five facilities consisting of soil, soil-gas sampling and Hydropunch™ groundwater sampling were initiated in November 2005. The five facilities are: Giltspur Exhibits; Triad; Pyramid Industries-36<sup>th</sup> Avenue; Redburn Tire; and East Plume Area. Ten groundwater monitor wells were installed throughout the area in February 2006.

Klondyke - ADEQ completed ERA's that involved removal of laboratory reagents, excavation of unknown geophysical targets, and berm repair activities to stabilize edge of tailings.

East Central Phoenix (32<sup>nd</sup> Street and Indian School) - ADEQ conducted an investigation at the Maroney's facility. Activities involved installation and sampling of three groundwater monitor wells in March 2006 to delineate and evaluate groundwater contamination in the area. Results indicate that further evaluation of the soil gas and groundwater in the area need to be conducted.

East Central Phoenix (40<sup>th</sup> Street and Indian School) - In May 2006, ADEQ conducted an investigation of the Kachina Dry Cleaner's located on the northwest corner of 40<sup>th</sup> Street and Indian School Road. The investigation consisted of four soil borings (one of which was converted into a groundwater monitor well) drilled near locations of a previous investigation conducted in 1995. The intent of the investigation was to gain information not previously obtained from the 1995 investigation. Groundwater contamination was found to be elevated, additional investigation will be conducted to determine if there is a source issue at the site.

Broadway-Pantano - ADEQ began an investigation of South Landfill in 2006. The ERA Evaluation involved the installation of soil gas and soil gas/groundwater monitor wells which were completed in May 2006.

Shannon Road/El Camino del Cerro - ADEQ began construction of a SVE system at the former E.C. Winters property. ADEQ anticipates to complete construction and begin operation in the early part of fiscal year 2007.

7<sup>th</sup> Street and Arizona - ADEQ completed construction of a soil vapor extraction system (SVE) and operation of the system began on June 13, 2006. The SVE system is designed to remove tetrachloroethene (PCE) and trichloroethene (TCE) contamination from shallow soils at the former Oliver's Cleaners property.

#### 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 provide alternative water supplies, well replacement or water treatment.

Miracle Mile - ADEQ entered into a cooperative agreement with the Flowing Wells Irrigation District (FWID) for providing wellhead treatment for volatile organic compounds (VOCs) at two FWID

production wells. The treatment system will be incorporated into FWID's arsenic treatment system schedule for completion in September 2006.

Shannon Road/El Camino del Cerro - Through a cooperative agreement with Metropolitan Domestic Water Irrigation District (Metro Water) ADEQ has been funding the wellhead treatment and operation and maintenance costs associated with the system. Construction was completed for the modification to the South Shannon Well in June 2006.

#### Remedial Investigation Reports

West Central Phoenix - East Grand Avenue - ADEQ completed the Remedial Investigation (RI) report and final remedial objectives (RO) report in June 2006.

West Central Phoenix - West Grand Avenue - ADEQ completed the Remedial Investigation (RI) report and final remedial objectives (RO) report in June 2006.

#### Final Remedy Implementation

Vulture Mill - ADEQ designed and constructed the water supply system in the Fall 2005 and began operation in Spring 2006 following seeding. Additional soil was brought onto the site to repair an eroded slope and a concrete pad and outlet structure grate were installed in December 2005.

#### FY 2006 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 2. A detailed description of activities and accomplishments of the Program can be found in Appendix 3. The 2006 Annual WQARF Registry Report is included in Appendix 4, which provides the site score, location, boundaries, and a brief description of investigation status or remedial action.

#### Remediation

■	Millions of gallons of groundwater treated:
395.3	Broadway-Pantano
34.81	Central and Camelback
16.2	Los Reales Landfill
75.4	Payson PCE
2,338.88	Pinal Creek
0.61	Tyson Wash
2,861.2	FY 2006 Total

- Pounds of volatile organic compounds removed from the environment:
 

382	7 <sup>th</sup> Avenue and Bethany Home Road
9.04	Broadway Pantano
34.94	Central and Camelback
512.2	East Central Phoenix (32 <sup>nd</sup> St. & Indian School)
25.42	Los Reales Landfill
4.9	Payson PCE
20.1	Silverbell Landfill
39.32	South Mesa
0.19	Tyson Wash
60	West Central Phoenix - East Grand Avenue
<u>600</u>	West Central Phoenix - North Plume
1688.11	<b>FY 2006 Total</b>
  
- Pounds of metals removed from the environment:
 

<u>3,151,910</u>	Pinal Creek
3,151,910	<b>FY 2006 Total</b>

Groundwater Wells Installed

- Installed by ADEQ
 

1	16 <sup>th</sup> Street & Camelback Road
4	20 <sup>th</sup> Street & Factor
3	7 <sup>th</sup> Avenue & Bethany Home Road
2	Broadway Pantano
5	Central and Camelback
2	Cooper and Commerce
4	East Central Phoenix (32 <sup>nd</sup> St. & Indian School)
4	Klondyke Tailings
2	Shannon Road/El Camino del Cerro
4	Tyson Wash
11	West Central Phoenix -North Canal Plume
<u>6</u>	West Van Buren
48	<b>FY2006 Total</b>
  
- Installed by potential responsible party (PRP)
 

2	Broadway Pantano
12	Los Reales Landfill
9	Pinal Creek
8	Silverbell Landfill
<u>2</u>	West Central Phoenix-West Osborn Complex

## Soil/Soil Gas Samples Collected

- Collected by ADEQ  
2,053      FY2006 Total
- Collected by potential responsible party (PRP)  
120      FY2006 Total

## Groundwater Samples Collected

- Collected by ADEQ/EPA  
1,901      FY2006 Total
- Collected by potential responsible party (PRP)  
936      FY2006 Total

## Community Involvement Activities

- Fact Sheets:
  - 1 7<sup>th</sup> Street and Arizona Avenue
  - 1 Broadway-Pantano
  - 1 Klondyke Tailings
  - 1 Los Reales Landfill
  - 1 Miracle Mile
  - 1 Park-Euclid
  - 1 Shannon Road/El Camino del Cerro
  - 1 Silverbell Landfill
  - 1 West Van Buren
  - 9 FY 2006 Total
- Public Notices (Does Not Include Notices for CAB Meetings):
  - 3 7<sup>th</sup> Avenue & Bethany Home Road
  - 1 Broadway-Pantano
  - 1 Central & Camelback
  - 1 East Central Phoenix - 32<sup>nd</sup> St. & Indian School Rd.
  - 1 Park-Euclid
  - 4 Shannon Road/El Camino del Cerro
  - 1 Tyson Wash
  - 1 Western Avenue PCE
  - 13 FY2006 Total

- Public Meetings:
  - 1 56<sup>th</sup> Street & Earll
  - 3 Broadway - Pantano
  - 3 Central & Camelback
  - 1 Cooper & Commerce
  - 2 Klondyke Tailings
  - 2 Miracle Mile
  - 3 Park Euclid
  - 5 Payson PCE
  - 4 Shannon Road/El Camino del Cerro
  - 2 South Mesa
  - 3 Tyson Wash
  - 3 West Van Buren
  - 32 **FY 2006 Total**

Legal Activities

- Total Consent Decrees/Consent Orders completed (ARS § 49-282.G.3):
  - 0 **FY 2006 Total**
- Qualified Business or Financial Hardship Settlement applications received (ARS § 49-282.G.4(a)):
 

No applications for qualified business or financial hardship settlements were received in FY 06.
- 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 06.
- Qualified Business Settlements completed (ARS § 49-282.G.4(c)):
 

No qualified business settlements were completed in FY 06.
- Financial Hardship Settlements completed (ARS § 49-282.G.4(d)):
 

No financial hardship settlements were completed in FY 06.
- Prospective Purchaser Agreements completed:
  - 3 **FY 2006 Total**
- Access Agreements completed:
  - 23 **FY 2006 Total**

- Potentially Responsible Party (PRP) Searches started:  
0 FY 2006 Total

- FY06 Cost Recovery Activity

Description	# of Packages	Dollar Amount
At the beginning of the year	3	\$1,306,466.14
New Packages	23	\$1,016,985.35
Payments Received	23	(\$1,154,790.25)
Adjustments* Package reduction	1	(\$ 952,018.94)
Balance at end of year	4	\$ 216,642.30

\* The adjusted packages line removes NON-WQARF Packages listed as part of last year's carry forward.

#### FY 2006 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.

- Millions of gallons of groundwater treated:
  - 85.9 Apache Powder
  - 2.95 Hassayampa Landfill
  - 225.96 Motorola 52<sup>nd</sup> St. - OU1
  - 1255.7 Motorola 52<sup>nd</sup> St. - OU2
  - 8,923.98 North Indian Bend Wash
  - 205.2 Phoenix-Goodyear Airport - South Subunit A
  - 276.5 Phoenix-Goodyear Airport - South Subunit C
  - 317.7 Phoenix-Goodyear Airport - North
  - 1,398.2 TARP - Tucson Airport Remediation Project
  - 63.1 TIAA/Arizona Air National Guard Tucson

11.46	TIAA/Burr Brown
7.08	TIAA/Former West Cap
<u>654.5</u>	US Air Force Plant 44, Tucson
<b>13,428.23</b>	<b>FY 2006 Total</b>

■ Pounds of volatile organic compounds removed from the environment:

14,395.6	Hassayampa Landfill
87,645	Davis-Monthan AFB - TPH (jet fuel)
152	161 <sup>st</sup> Air National Guard
1,111.4	Motorola 52 <sup>nd</sup> Street/OU1
1,804	Motorola 52 <sup>nd</sup> Street/OU2
5,675.7	North Indian Bend Wash
124.2	Phoenix-Goodyear Airport - South Subunit A
6.79	Phoenix-Goodyear Airport - South Subunit C
894.5	Phoenix-Goodyear Airport/North
221	TARP - Tucson Airport Remediation Project
2.6	TIAA/Arizona Air National Guard Tucson
1.51	TIAA/Burr Brown
<u>223.4</u>	US Air Force Plant 44, Tucson
<b>112,257.7</b>	<b>FY 2006 Total</b>

■ Pounds of hazardous substances removed from the environment:

119,894	Apache Powder (nitrate)
120.28	Camp Navajo (munitions constituents)
<u>1,392.3</u>	Motorola 52 <sup>nd</sup> Street - Honeywell (solvent/jet fuel mixture)
<b>121,406.58</b>	<b>FY 2006 Total</b>

■ Pounds of other contaminants removed from the environment:

<u>10.5</u>	Phoenix Goodyear Airport North (perchlorate)
<b>10.5</b>	<b>FY 2006 Total</b>

■ Pounds of metals removed from the environment:

<u>206,000</u>	Camp Navajo (metals)
<b>206,000</b>	<b>FY 2006 Total</b>

■ Tons of contaminated soil removed:

145	Camp Navajo
231	Motorola 52 <sup>nd</sup> Street - Honeywell Operable Unit
318.4	Motorola 52 <sup>nd</sup> Street- OU2 (Allied Signals)
35	Motorola 52 <sup>nd</sup> Street - OU2 (Co-mingled plume)
2,059.05	Motorola 52 <sup>nd</sup> Street - OU3 (APS)

27.9 Motorola 52<sup>nd</sup> Street - OU3 (former MGP)  
2,816.35 FY 2006 Total

#### Community Involvement Activities at Federal Sites

■ Fact Sheets and Public Notices:

1 Apache Powder  
1 Camp Navajo  
1 Hassayampa Landfill  
1 Motorola 52<sup>nd</sup> Street  
4 FY 2006 Total

■ Public Meetings:

1 Hassayampa Landfill  
2 Apache Powder  
4 Camp Navajo  
3 Motorola 52<sup>nd</sup> Street  
7 Phoenix Goodyear Airport North and South  
4 UCAB - TIAA  
21 FY 2006 Total

#### Legal Activities at Federal Sites

■ Access Agreements:

0 FY 2006 Total

■ Consent Decrees/Consent Orders:

0 FY 2006 Total

■ Applicable or Relevant and Appropriate Requirements:

0 FY 2006 Total

■ Records of Decision (ROD) and ROD Amendments:

0 FY 2006 Total

#### EMERGENCY RESPONSE PROGRAM

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

## FY 2006 Activities and Accomplishments

The Emergency Response Unit (ERU) was notified of 180 incidents, 28 of which required on-scene response actions. The ERU was also involved in several 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 in support of local, state and federal agencies during homeland security events, wildfire 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 Transportation Accident:** ERU personnel received a request for assistance from the Arizona Department of Public Safety (ADPS) in regards to a propane tanker accident located on Highway 60 near the White Mt. Apache Community of Corrizo. The tanker had left the roadway and rolled off a 150 foot embankment before coming to rest in Corrizo Creek. The tanker remained intact but was losing propane via a damaged pressure relief valve. An unknown number of tribal residents were evacuated and electrical power was cut to area while the contents of the tank were offloaded. ADEQ, ADPS and ADOT personnel were on-scene to provide technical support while the offloading operations were conducted by the American Propane Company. The body of the truck driver was recovered by a team of local fire fighters. This operation took approximately 18 hours to complete.

**Response to Facility Fire and Explosion:** ERU personnel received a request for assistance from the City of Phoenix Fire Department in regards to an explosion and fire at the Universal Propulsion Company facility located in north Phoenix. This explosion had taken place inside a mixing room which contained 235 pound of ammonium perchlorate at the time of the release. This part of the facility was still burning when ERU personnel arrived at the scene.

ADEQ's Hazardous Air Response Team (HART) was requested to assist with the air monitoring portion of the incident. Upon their arrival the HART deployed to provide off-site air monitoring support.

ADEQ ERU and HART personnel remained on-site for several hours before they were released from the scene by fire command.

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 2006.

#### 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 2006 activities and accomplishments can be found in Appendix 5.

#### 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, remedial actions, and review of and approval well construction necessary to prevent vertical cross-contamination. The FY 2006 accomplishments of the Well Inspections and Approval Program can be found in Appendix 6.

#### 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 2006 accomplishments of the Risk Assessment Program can be found in Appendix 7.

APPENDIX 1

FY 2007 WQARF Site Budgets

FY 2006 Site Expenditures and FY 2007  
Projected Site Budgets

FY 2007 WQARF Program Projected  
Budget

WQARF FY2007 Projected Budget For Sites

Site Name	Remedial Investigation (RI)	Remedial Objectives (RO)	Feasibility Study (FS)	Groundwater Monitoring during RI	Proposed Remedial Action Plan (PRAP)	Record of Decision (ROD)	Remedial Design & Construct (D & C)	Remedial System Operation & Maintenance (O & M)	Groundwater Monitoring after Construction	Early Response Action (ERA) - Investigation	Groundwater Monitoring during ERA	ERA - Remedial System Design & Construct	ERA - Remedial System O&M	Groundwater Monitoring after ERA Construction	Interim Response Action (IRA) - Investigation	Groundwater Monitoring during IRA	IRA - Design & Construct	IRA - O&M	Groundwater Monitoring after IRA Construction	Community Involvement (CI)	Total
7th Avenue & Bethany Home Rd	227,000			30,000																5,000	262,000
16th St. & Camelback										45,000										2,000	47,000
20th St. & Factor	320,000	10,000		132,000								21,000								5,000	488,000
24th & Grand Canal	250,000			3,000						2,200										2,000	257,200
32nd & Indian School	145,000	3,000								15,000		50,000	108,000							2,000	321,000
38th & Indian School	50,000			5,500																2,000	57,500
40th & Indian School	225,000			20,000																2,000	247,000
40th & Osborn	150,000									3,000										2,000	155,000
48th & Indian School	50,000			5,000																2,000	57,000
Cooper and Commerce												368,000	77,000	74,000						5,000	524,000
Central & Camelback	385,000			35,000								150,000	130,000							5,000	705,000
Estes Landfill						10,000	510,000		40,000											10,000	570,000
Klondyke	200,000			50,000						1,000,000										5,000	1,255,000
Mountain View								100,000													100,000
Motorola 52nd Street			200,000										200,000								400,000
Payson						10,000		300,000												5,000	315,000
Pinal Creek	60,000		47,000					100,000													207,000
South Mesa	5,000	2,000	10,000	25,000	2,000								56,000							5,000	105,000
Tonto & Cherry			15,000								8,000									2,000	25,000
Vulture Mill								50,000													50,000
Tyson Wash			14,000											70,000						5,000	89,000
West VanBuren	525,000		25,000	172,538											250,000					10,500	983,038
WCP East Grand Avenue			15,000		10,000	10,000							20,000							1,000	56,000
WCP North Canal	437,000			150,000						624,000		150,000								5,000	1,366,000
WCP North Plume		10,000	25,000	93,500						650,000			125,000							1,000	904,500
WCP West Grand Avenue			20,000	30,000	10,000															1,000	61,000
WCP West Osborn Complex				100,000	10,000	10,000							40,000		750,000					1,000	911,000
Western Avenue				30,000																1,000	31,000
7th & Arizona Avenue										96,000			76,841	59,000							231,841
Broadway Landfill	500,000			130,000								50,000	255,000	100,000						5,000	1,040,000
Los Reales							25,000														25,000
Miracle Mile	175,000	10,000	75,000	96,000								460,000	55,000							2,000	873,000
Park-Euclid			125,000	160,000	5,000															2,000	292,000
Silverbell							35,000														35,000
Shannon Road/El Camino del Cerro Landfill	454,562			83,700						206,500		200,000	75,000					375,000		2,000	1,396,762
TIAA West Cap							36,000														36,000
																					0
<b>Total</b>	<b>\$ 4,158,562</b>	<b>\$ 35,000</b>	<b>\$ 571,000</b>	<b>\$ 1,351,238</b>	<b>\$ 37,000</b>	<b>\$ 40,000</b>	<b>\$ 606,000</b>	<b>\$ 550,000</b>	<b>\$ 40,000</b>	<b>\$ 2,576,500</b>	<b>\$ 73,200</b>	<b>\$ 1,449,000</b>	<b>\$ 1,215,841</b>	<b>\$ 303,000</b>	<b>\$ 1,000,000</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 375,000</b>	<b>\$ -</b>	<b>\$ 97,500</b>	<b>\$ 14,478,841</b>

FY 2006 SITE EXPENDITURES AND FY 2007 PROJECTED SITE BUDGETS

Site Name	Actual Expenditures FY2006	August 20, 2006 Projected Budget FY2007
7th Avenue & Bethany Home Rd	190,438	262,000
16th St. & Camelback	74,160	47,000
20th St. & Factor	255,418	488,000
24th & Grand Canal	2,036	257,200
32nd & Indian School	218,474	321,000
38th & Indian School	4,461	57,500
40th & Indian School	69,027	247,000
40th & Osborn	2,625	155,000
48th & Indian School	0	57,000
Cooper and Commerce	341,491	524,000
Central & Camelback	203,404	705,000
Estes Landfill	15,768	570,000
Klondyke	312,358	1,255,000
Mountain View	21,059	100,000
Motorola 52nd Street	572,486	400,000
Payson	224,243	315,000
Pinal Creek	3,614	207,000
South Mesa	73,699	105,000
Tonto & Cherry	14,330	25,000
Vulture Mill	241,837	50,000
Tyson Wash	171,166	89,000
West VanBuren	557,031	983,038
WCP East Grand Avenue	2,704	56,000
WCP North Canal	620,416	1,366,000
WCP North Plume	210,065	904,500
WCP West Grand Avenue	161	61,000
WCP West Osborn Complex	0	911,000
WCP Western Avenue	25,731	31,000
7th & Arizona Avenue	146,747	231,841
Broadway Landfill	931,183	1,040,000
Los Reales	5,046	25,000
Miracle Mile	336,813	873,000
Park-Euclid	128,699	292,000
Silverbell	597	35,000
Shannon Road/El Camino del Cerro Landfill	1,098,714	1,396,762
TIAA West Cap	0	36,000
East Washington Fluff	14,637	0
Miscellaneous*	10,519	
<b>Total</b>	<b>7,101,156</b>	<b>14,478,841</b>

\*In addition to the expenditures for the above sites, there were other expenditures for WQARF Preliminary Investigation sites and split sampling collected at WQARF sites. The above total includes WQARF costs for the 16th Street and Camelback site which come from a separate fund as part of a settlement.

**WQARF FY 07 PROJECTED BUDGET**

<b>SOURCE OF FUNDS</b>	<b>Projected FY 2007</b>
Balance Forward	7,663.6 <sup>1</sup>
Total Revenue Subject to 18M Cap	18,285.8 <sup>2</sup>
Revenue Not Subject to 18M Cap	595.4
<b>TOTAL PROJECTED REVENUES</b>	<b>26,544.8</b>
<b>Monetary Category</b>	
<b>Core:</b>	
WQARF Professional & Support Staff	4,741.0
Professional & Outside - Remedial Projects	34.0
Hydrologic Support & Assessment Professional & Support Staff	831.4
Professional & Outside - Hydrologic Support & Assessment	450.0
Preliminary Investigations Professional & Support Staff	186.9
Emergency Response	250.0
Attorney General's Office	936.4
PRP Identification / Liability	350.0
Litigation	0.0
Appeals	0.0
Advisory Board	1.0
Rule Development	0.0
Community Involvement / General WQARF	5.0
<b>Subtotal - Core</b>	<b>7,785.7</b>
<b>Sites</b>	
New Sites	500.0 <sup>3</sup>
RI/FS (RI, RO, FS, ERA & IRA Investigations)	13,108.3
Clean up (PRAP/ROD, all D/C, all O & M)	1,273.0
<b>Subtotal Sites</b>	<b>14,881.3</b>
Community Involvement (CAB)	97.5
Preliminary Investigation	250.0
<b>Subtotal - Sites, PI and CI</b>	<b>15,228.8</b>
<b>Subtotal WQARF Program</b>	<b>23,014.5</b>
ADHS - Risk Assessment	100.0
Appropriation Transfers Out: ADWR	600.0 <sup>4</sup>
ER - Aid to Municipalities	100.0
Voluntary Program	0.0

## APPENDIX 2

### Revenues and Expenditures

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
 WQARF REVENUES AND EXPENDITURES  
 THROUGH THE PERIOD ENDING: 13th Month FY06  
 PREPARED BY OFFICE OF FISCAL SERVICES 8/11/06

	FY 05 Actual	FY 06 Projection	FY 06 Actual
<b>Balance</b>			
Beginning Fund Balance	3,475.5	5,350.4	5,350.4
Prior Year Corporate Income Tax Reversion			
<b>Total: Balance from Prior Year</b>	<b>3,475.5</b>	<b>5,350.4</b>	<b>5,350.4</b>
<b>Revenue Subject to 18M Cap</b>			
Corporate Income Tax	10,000.0	11,000.0	11,000.0
Air Quality Fund	0.0	0.0	0.0
State Assurance Fund	500.0	0.0	0.0
Subtotal	10,500.0	11,000.0	11,000.0
Municipal Water (ARS 42-5302)	2,156.6	2,065.7	2,403.6
Fertilizer Registration (ARS 3-272)	40.9	40.9	50.7
HW Facility Registration Fee (ARS 49-929/49-930)	209.1	202.8	207.4
HW Manifest Resubmittal Fee (ARS 49-922.01)	5.1	4.9	2.6
Industrial Discharge Permit Fee (ARS 49-209)	86.4	72.7	45.1
Pesticide Registration (ARS 3-351)	911.0	911.1	906.9
Quality Assurance Fee (ARS 45-616)	356.6	338.0	351.6
Fees Subtotal	3,765.7	3,636.1	3,967.9
<b>Total: Revenue Subject to 18M Cap</b>	<b>14,265.7</b>	<b>14,636.1</b>	<b>14,967.9</b>
<b>Revenue Not Subject to 18M Cap</b>			
Responsible Parties			
Consent Decrees	735.7	0.0	390.0
Cost Recovery (ARS 49-282)	472.7	472.8	1,171.6
Responsible Parties Subtotal	1,208.4	472.8	1,561.6
Other Revenue			
Prospective Purchaser Agreement (ARS 49-285.0)	13.6	0.0	5.4
Interest (ARS 49-282)	158.1	134.6	306.5
Prior Year Reimbursement (ADHS)	7.4	0.0	0.0
Other Revenue Subtotal	179.1	134.6	311.9
<b>Total: Revenue Not Subject to 18M Cap</b>	<b>1,387.5</b>	<b>607.4</b>	<b>1,873.4</b>
<b>Total: Beginning Balance and Revenue</b>	<b>19,128.7</b>	<b>20,593.9</b>	<b>22,191.8</b>
<b>Expenditures</b>			
Non-Site Expenditures	6,947.7	7,861.9	7,718.8
Site Expenditures	6,280.6	11,132.0	7,144.0
Transfers Out	550.0	600.0	545.0
<b>Total Expenditures</b>	<b>13,778.3</b>	<b>19,593.9</b>	<b>15,407.8</b>
<b>Proposed Carry Forward</b>			
Beginning Balance and Revenue minus Expenditures	5,350.4	1,000.0	6,784.0
Committed Funds	0.0	0.0	0.0
<b>Uncommitted Balance/Carry Forward</b>	<b>5,350.4</b>	<b>1,000.0</b>	<b>6,784.0</b>

\*FY05 Revenue of \$2,478.32 was adjusted to HW Facility Registration Fee total.  
 All figures expressed in thousands.

ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY

Expenditure Statement

For Period Ending: 13th Month FY06

EXPENDITURE CATEGORIES	SPENDING PLAN	EXPENDITURES FY 2006	% Completed FY 2006
<b>Core Expenditures:</b>			
WQARF Professional & Support Staff	4,202.5	4,276.5	101.8%
Professional & Outside - Remedial Projects	34.0	131.0	385.2%
Hydrologic Support & Assessment	779.0	826.4	106.1%
Professional & Outside - Hydrologic Support & Assessment	450.0	607.6	135.0%
Preliminary Investigations	169.1	121.5	71.9%
Emergency Response	250.0	0.0	0.0%
Attorney General's Office	871.3	879.3	100.9%
PRP Identification/Liability	1,000.0	876.0	87.6%
Litigation	0.0	0.0	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	0.6	11.2%
<b>Subtotal - Core Expenditures</b>	<b>7,761.9</b>	<b>7,718.8</b>	<b>99.4%</b>
<b>Registry Sites</b>			
RI/FS	4,330.0	3,208.9	74.1%
Clean-up	6,452.0	3,777.8	58.6%
<b>Subtotal - Registry Sites</b>	<b>10,782.0</b>	<b>6,986.7</b>	<b>64.8%</b>
Community Involvement (CAB)	100.0	43.9	43.9%
Preliminary Investigation	250.0	113.3	45.3%
<b>Subtotal - Registry Sites &amp; PI</b>	<b>11,132.0</b>	<b>7,144.0</b>	<b>64.2%</b>
<b>Subtotal - WQARF Program</b>	<b>18,893.9</b>	<b>14,862.8</b>	<b>78.7%</b>
Dept of Health Services - Risk Assessment	100.0	45.0	45.0%
Dept of Water Resource - Appropriation Transfer Out	500.0	500.0	100.0%
Emergency Response - Aid to Municipalities	100.0	0.0	0.0%
Voluntary Program	0.0	0.0	0.0%
<b>Total Disbursements</b>	<b>19,593.9</b>	<b>15,407.8</b>	<b>78.6%</b>

All figures expressed in thousands.

APPENDIX 3

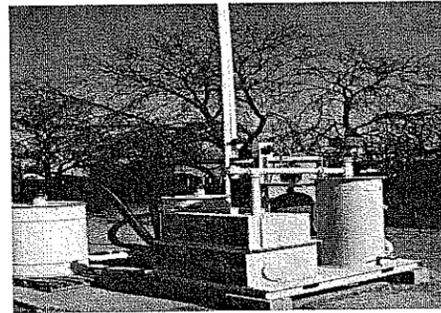
WQARF Advisory Board Year End Report



### FY06 Program Results

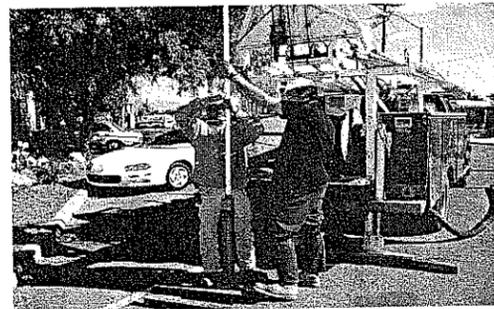
- Early Response Action Implementation
  - Soil Vapor Extraction Operation & Maintenance
    - 7th Avenue and Bethany Home Road SVE
    - Broadway/Pantano SVE (Rebound testing completed system shutdown)
    - ECP (Wiring Cleaners) SVE/AS
    - WCP North Plume SVE
    - South Mesa SVE
  - Pump and Treat Operation & Maintenance
    - Broadway Western Containment System
    - Central and Camelback
    - Tyson Wash
    - Payson
  - Remediation System Installed
    - 7th Street & Arizona (SVE Started June 13)
    - Shannon Road/El Camino del Cerro (SVE at EC Winter property started June 26)
  - Cap Maintenance
    - Vulture Mill
    - East Washington Pluff
    - Mountain View

### EC Winter SVE

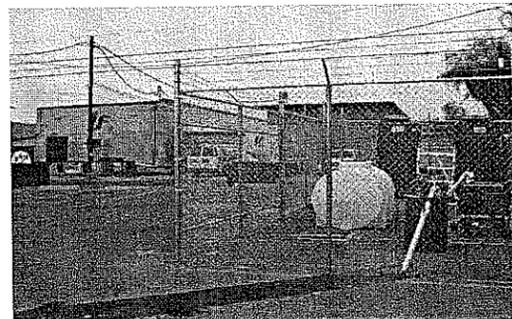


### 7th Street & Arizona

Sampling in the residential area



### 7th Street and Arizona SVE



## Vulture Mill



## FY06 Program Results

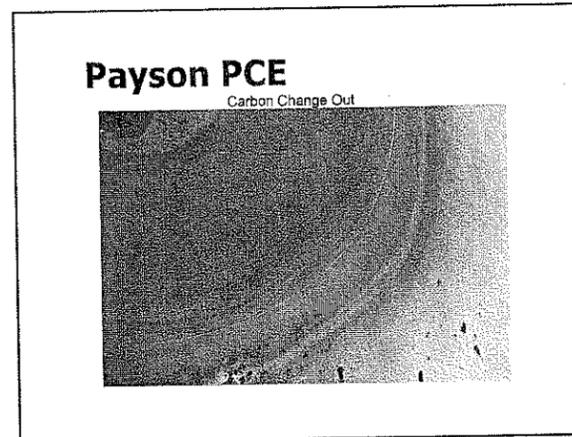
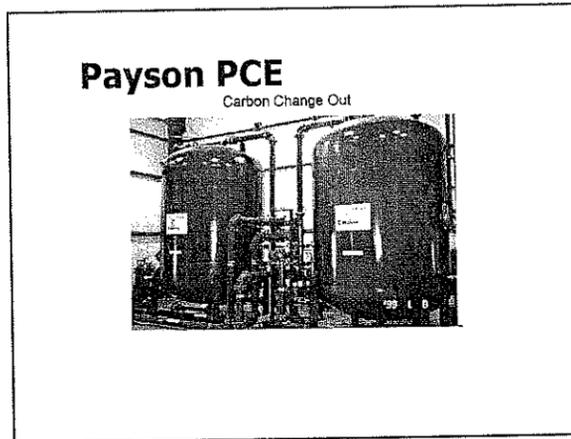
- 10 Early Response Action Evaluations
  - Cooper & Commerce (remediation well installs)
  - WCP North Canal (Redburn Tire, Giltspur Exhibits, Pyramid-36th Ave, Triad)
  - Klondyke (Lab contaminant removal, tailings repair, geophysical evaluation)
  - 32<sup>nd</sup> Street and Indian School (Maroney's Dry Cleaners)
  - 40<sup>th</sup> Street and Indian School (Kachina Dry Cleaners)
  - Broadway-Pantano (Broadway South Landfill investigation begun)
  - Shannon Road/El Camino del Cerro (Wrecksperts)

## FY 06 Program Results

- Draft RI Reports
  - WCP North Plume
  - Western Avenue
- Final RI/RO Reports
  - WCP West Osborn Complex
  - WCP East Grand Avenue
- Wells and Sampling
  - 37 remediation wells installed
  - 103 groundwater wells installed
  - 3,424 groundwater samples collected
  - 2,344 soil and soil gas samples collected

## Protecting or Providing Arizona's Water – FY06

- Plume migration control (Pump & Treat)
  - Broadway Pantano
    - Carbon change out
  - Central & Camelback
    - Carbon change out
  - Tyson Wash
    - Carbon change out
- Providing alternate water supply or treating water
  - Payson
    - Carbon change out
  - Shannon Road/El Camino del Cerro (Start up by the end of FY06)
  - Miracle Mile (Start up scheduled for September)
- Sentinel wells (Monitoring)
  - Park Euclid
  - WCP West Osborn Complex



**FY 06 Working Party Actions**

- Broadway Pantano
  - City of Tucson is operating a pump & treat system at the St. Joseph's Hospital well
- ECP 48<sup>th</sup> St. & Indian School
  - SRP started an SVE system in February 2006
- Shannon Road/El Camino del Cerro
  - Metro Water completed 2<sup>nd</sup> phase of expansion for wellhead treatment

**FY 06 Working Party Actions (con't)**

- Los Reales
  - City of Tucson operating a pump & treat system
- Miracle Mile
  - Flowing Wells Irrigation District began construction of a wellhead treatment system. (Startup expected in Sept. 2006)
- Park Euclid
  - Mission Linen
    - Operating an SVE system and is conducting monitoring
    - Continued construction and permitting of a multi-phase extraction system
- Pinal Creek
  - Numerous parties under Pinal Creek Consent Decree are conducting remedial actions

### **FY 06 Working Party Actions (con't)**

- Silverbell Landfill
  - City of Tucson operating an SVE system and 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
  - Operated SVE, conducted groundwater sampling, currently negotiating with ADEQ for the next phase
- WCP West Osborn Complex
  - Installed 7 additional wells as part of the FS under consent decree
- WCP North Plume
  - Hill Brothers installed 4 SVE wells

### **FY 06 Legal & PRP Activities**

- Completed 72 witness interviews
- Issued 20 information request letters
- Completed scanning of 23,879 images
- Renewed an ISA with the Town of Payson
- Completed IGA with ADWR
- Ongoing Litigation for Ted's Truck Center
- Prospective Purchase Agreements (PPA)
  - Completed 3
  - Currently Managing 7

### **PRP Search Status**

- FY 06
  - Continued activities for best effort PRP searches and baseline PRP searches
  - Completed 1 baseline PRP search
- FY 07 planned activities
  - Continue activities for 3 best effort PRP searches
  - Complete 2 baseline searches

### **FY 06 Community Involvement Activities**

- Administered 17 CABS (2 new ones established)
- Held 42 CAB/CAG Meetings and one Open House
- Conducted CIP Update Interviews
- Delivered door-to-door notices for WQARF fieldwork at several sites
- Made presentations to several groups including
  - Three neighborhood associations
  - Tucson Arts Center Design College - Ecology Class

### **FY 06 Community Involvement Activities**

- Participated in various additional outreach events including:
  - Scottsdale Association of Realtors EXPO
  - SE Valley Association of Realtors EXPO
  - Tucson Association of Realtors EXPO
  - Clean Air Jam in Tucson
  - Phoenix Educators' Fair
  - Tucson Elderly Resource Fair at "A Conversation with the Governor"
  - Tucson Children's Earth Day Festival
  - Verde River Days
  - Phoenix Union High School Tours with ADEQ
  - Tucson City Council Ward 6 Open House on the Environment
- Attended EPA National Community Involvement Conference

### **Department Issues for FY07**

- Delisting
- Aggressively pursuing PRP searches and associated RIs
- Staffing issues
- Working party actions
- Communication of long term funding needs

### **WQARF Preliminary Investigation (PI) Program**

### **FY06 Status & Program Results**

- As of June 2006, there are 26 sites on the WQARF PI List:
  - 17 pending PI sites
  - 9 active PI sites
- Completed PIs at four sites:
  - ECP 40<sup>th</sup> St. & Meadowbrook Ave. (Phoenix)
  - ECP 40<sup>th</sup> St. & Thomas Rd. (Phoenix)
  - Miller Valley Rd. & Hillside Ave. (Prescott)
  - Main St. & Kofa Ave. (Quartzsite)

### **FY06 Program Results**

- Completed development of new Super-screen, covering CERCLA and WQARF, for site screening
- Screens completed at 18 sites
- Completed annual status reviews for all deferred PI sites
- Worked on revising the E&E Model

APPENDIX 4

FY 2006 Annual WQARF Registry Report

**Arizona Department of Environmental Quality  
2006 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, 2005. The Registry includes those sites within the state that may pose risk to public health, welfare or the environment from the release of hazardous substances and for which there is current or planned investigation and cleanup. There are 35 sites on the WQARF Registry:

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

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

The Registry and additional information regarding these sites is available on ADEQ's Web site at <http://www.azdeq.gov/environ/waste/sps/index.html>. With 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.

**7<sup>th</sup> Avenue and Bethany Home Road** – This site was placed on the WQARF Registry on August 25, 2004, and has a score of 29. The site is located in Phoenix and is bounded to the north by 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 PCE contamination. 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.

Based on the results of the ERA evaluation, soil vapor extraction (SVE) was proposed to remediate PCE contaminated soil beneath the site. The SVE system began operations in June 2005. Remediation strategies for PCE contaminated groundwater are currently being evaluated. Quarterly groundwater monitoring of on-site monitor wells began in November 2004.

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 irrigation wells near the site have been tested, and concentrations of PCE were not detected above the drinking water 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 area 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.

A soil vapor extraction system (SVE) was designed for the former Oliver's Cleaners facility to remediate shallow soil contamination and construction of the remediation system is scheduled to begin in April 2006. The remedial investigation (RI) has not been initiated, but groundwater monitoring continues. No drinking water wells have been impacted by the contamination from the site.

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, 17<sup>th</sup> Street to the east, and 14<sup>th</sup> Place to the west.

In 2003, ADEQ conducted an early response action (ERA) evaluation to determine the feasibility of installing a soil vapor extraction/air sparge remediation system. The RI has not been initiated, but groundwater monitoring continues.

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). The remedial investigation (RI) has been initiated and groundwater monitoring continues.

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 in June 2004, and has a score of 40. The site is located in Phoenix near 56<sup>th</sup> Street and Earll Drive.

The site consists of arsenic and trichloroethene (TCE) contaminated groundwater plume. 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 there are two separate and distinct plumes. ADEQ is working cooperatively with a party potentially responsible for the contamination to further evaluate the site and develop a cleanup strategy. The potentially responsible party conducted a groundwater Early Response Action (ERA) evaluation in 2005.

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

**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 to the west.

The approximate groundwater flow direction is to the west. Known groundwater contamination has resulted in four Tucson Water production wells being removed from service. A groundwater containment system has been installed to prevent further westward migration of contaminated groundwater and impacts to additional wells. A confirmed source of the groundwater contamination is the former Broadway North Landfill. A soil vapor extraction system has been in place at the landfill since June 2000 to remove and treat contaminated landfill gases that are contributing to the groundwater contamination. ADEQ is evaluating the continued operation of the soil vapor extraction system at the landfill for potential closure. The remedial investigation (RI) is 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 early response action (ERA) evaluation of the Maroney's Drycleaner facility. Based on the ERA evaluation, a soil vapor extraction (SVE) system was designed in 2005 to remediate soil contamination underneath a former dry cleaner facility. ADEQ is negotiating an access agreement with the property owner for installation and operation of the SVE system. The remedial investigation (RI) was initiated in 2006 with the installation of five down-gradient groundwater monitor wells. A community advisory board has been established for this site.

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

**Cooper Road & Commerce Avenue** - This site was listed on the WQARF Registry in June 2004, and has a score of 33. The site is located in Gilbert near Guadalupe Road and Baseline.

Tetrachloroethene (PCE) has been detected in soil and 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. A Town of Gilbert public supply well is nearby. ADEQ began an early response action evaluation at the site in March 2006.

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

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

The remedial investigation (RI) has not been initiated, but groundwater monitoring continues. Contaminants of concern at the site include tetrachloroethene (PCE).

**ECP 32<sup>nd</sup> Street and Indian School Road** - This site was placed on the WQARF Registry in May 2000, and has a score of 29. The site is located in Phoenix, and the current site boundary is a 400 foot diameter area centered around Salt River Project well 17E-8N.

ADEQ is conducting an early response action (ERA), which consists of a soil vapor extraction and air sparging system to remediate the source of PCE in the soil and groundwater. The remedial investigation (RI) has not been initiated, but groundwater monitoring continues.

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

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

An early response action (ERA) evaluation is being conducted for this site. The remedial investigation (RI) has not been initiated, but groundwater monitoring continues.

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

**ECP 40<sup>th</sup> Street and Indian School Road** - This site was placed on the WQARF Registry in September 1998, and has a score of 25. The site is located in Phoenix, and the approximate site boundaries are Devonshire Avenue on the north, 40<sup>th</sup> Street to the east, Amelia Avenue to the south, and 38<sup>th</sup> 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 in December 2004 and extracted approximately 35 pounds of PCE from the subsurface. The system was shut down in June 2005 once contaminants had been removed.

The remedial investigation (RI) has not been initiated, but groundwater monitoring continues.

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

**ECP 40<sup>th</sup> Street and Osborn Road** - This site was placed on the WQARF Registry in May 2000, and has a score of 30. The site is located in Phoenix, and the current site boundary is an 800 foot diameter area centered around Salt River Project well 17.9E-7.5N.

An early response action (ERA) evaluation is being conducted for this site. The remedial investigation (RI) has not been initiated, but groundwater monitoring continues.

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

**ECP 48<sup>th</sup> Street and Indian School Road** - This site was placed on the WQARF Registry in March 1999, and has a score of 32. The site is located in Phoenix, and the site extends approximately 400 feet north and 160 feet south of Indian School Road in between 45<sup>th</sup> Place and 48<sup>th</sup> Street.

ADEQ and the Salt River Project have entered into an agreement to conduct a source control interim remedial action. SRP is constructing a soil vapor extraction/air sparge system to remediate the source of tetrachloroethene (PCE) in soil and groundwater at the site. The remedial investigation (RI) has not been initiated, but groundwater monitoring continues.

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 ten acre 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. A 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 a proposed remedial action plan (PRAP) has been completed. ADEQ is evaluating comments to the PRAP and is preparing a responsiveness summary. A community advisory board has been established for this site.

Contaminants of concern at the site in groundwater include vinyl chloride, cis-1,2-dichloroethene (DCE), trichloroethene (TCE), benzene, bis(2-ethylhexyl)phthalate, arsenic, barium, chromium, manganese, nitrate as N, and lead; 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 as part of an early response action (ERA) evaluation. A remedial investigation (RI) is in progress and 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.

ADEQ is constructing and will be operating a wellhead treatment system as an Early Response Action (ERA) for the regional aquifer. A remedial investigation (RI) is in progress and 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 diesel free product and volatile organic compounds, including 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 was shut down after contaminants were removed. The remedial investigation (RI)/feasibility study (FS), and proposed remedial action plan (PRAP) have been completed. 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.

Since 1998, the Pinal Creek Group, which consists of BHP, Phelps Dodge and Inspiration Copper, have been conducting remedial actions including source control 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.

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 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. In January 2005, the El Camino del Cerro WQARF Site and Shannon Road-Rillito Creek WQARF Site were administratively combined into one site called the Shannon Road/El Camino del Cerro WQARF Site, based on sampling results showing there is a single site.

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 have been removed from service. One of these wells has a wellhead treatment system which removes contaminants in the groundwater in order to meet drinking water standards. This well is currently out of service while the treatment system is being upgraded. A 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), dichloroethene (DCE), 1,1-dichloroethene (1,1-DCE), vinyl chloride and benzene.

**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 a closed landfill 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 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 area, extending approximately 1,200 feet from the intersection of Main Street and Colcord Avenue.

The remedial investigation (RI) and feasibility study (FS) are in the process of being completed. 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 has been constructed 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 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.

Remedial activities at the site were completed in 2004. Approximately 90,000 cubic yards of contaminated soil were excavated, compacted, and placed underneath two feet of clean soil. An irrigation system was installed and provides water to a grass cover, which was planted during the summer of 2005. Periodic operation and maintenance is being conducted to maintain the soil cover and site engineering features. 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 and a working party has agreed to conduct the feasibility study (FS). The working party constructed a soil vapor extraction system in 2004. 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 is conducting an early response action (ERA) evaluation. 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 system was installed at one facility as part of an early response action (ERA). 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 draft remedial investigation (RI) report was completed in February 2004. 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 the proposed remedial objective report will be available for public comment in April 2005. 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 their 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). This SVE/AS was discontinued in May 2003 because the response action objectives were attained. A 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.

A remedial investigation (RI) is in progress. 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).

Publication No. EQR 06-01

## APPENDIX 5

### 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, 2005 through June 30, 2006

**FY 2006 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 in 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: FY06 monitoring completed where efforts were focused in the Upper Gila and the Santa Cruz Watersheds. The FY07 sample plan is being finalized and will focus efforts in the Little Colorado and the Lower Gila Watersheds. The 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: FY06 monitoring was conducted on Arivica, Pena Blanca Lake, Parker Canyon, Luna Lake, Lake Havasu, Lake Pleasant, Alamo and Bartlett Lakes 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) The lakes program provided support to toxic algae investigation in the Salt River reservoir and responded to other general lake quality complaints. (§49-282) The program completed the final lakes classification system and narrative nutrient criteria, and in February '06 and was invited to present the Narrative Nutrient matrix and implementation procedures at the National Nutrient Criteria conference in Dallas. The 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 FY06, 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):

Mule Gulch Study: Rain continues to elude Bisbee. Because of the distance from Phoenix office, staff from SRO has been trained to respond to a storm event as they are 2+ hours closer to the site but sufficient rain is needed to warrant a trip. Project will rollover to FY07 workplan. The sampling is to establish site-specific objective for copper in several segments of Mule Gulch before the final report can be completed. Other pollutants of concern: cadmium, pH, zinc.

Pinto Creek Study – The winter storms of 2005 resulted in collection of sufficient data to develop site specific objective (SSO) for copper in upper Pinto Creek. The contractor has incorporated this data into the watershed model and calculated a new water quality target based on natural background concentrations. The SSO will be adopted through the ongoing triennial review of surface water quality standards process. Final report will proceed through public process immediately following adoption of SSO.

Tonto Creek Study – Nitrogen TMDL report was approved in July 2005. TMDL and AZPDES staff continue to work with AZGFD to develop monitoring requirements as part of their discharge permit renewal. The WQIP grants staff is working with Gila County Health Department on two water quality improvement grants to upgrade and/or replace failing septic systems adjacent to Tonto Creek.

Lakeside Lake Study – Final TMDL report was approved in July 2005. TMDL and AZDPES staff continue to work with the City of Tucson on discharge permit requirements.

Turkey Creek Metals Study - Draft report for (cadmium, copper, lead, zinc) is complete and currently in 45-day A.A.R. notice. The final report will be submitted to US EPA by the end of August. USFS is in the contracting phase of the remediation project and hope to begin on the ground work in the fall.

Verde River Nutrient Study – Staff shortages have delayed analyzing the USGS data. Project will roll over to FY07 workplan. If data gaps are filled the program will contract to include new data in model to finalize nutrient assimilative capacity study.

Middle Gila Pesticide study - Additional fish tissue samples were collected in FY06 to confirm the presence of pesticides in fish tissue. Results are pending and will dictate the development of the workplan.

Upper and Lower Lake Mary, Soldier Annex, Soldier Lake, Long Lake mercury studies- This study is in support of the fish consumption advisories posted at all five lakes for mercury in fish tissue. Modeling has been completed and the draft report is approximately 75% complete. A final public meeting along with public comment and notice periods will take place before submitting to EPA for approval in the fall.

West Fork Black River and Beaver Creek Turbidity Study - Final report was completed in October 2005.

Bill Williams Watershed Mercury Study- Final Alamo Lake Mercury TMDL was submitted to EPA for approval in June 2006. Results indicate that mercury loading to the lake occurs from both direct atmospheric deposition to the lake and episodic pulses from the watershed. Mercury, bound to sediments, is delivered to the lake via the three main drainages of the watershed. Continued studies will attempt to determine specific source areas within the watersheds.

Oak Creek Bacteria Study – Oak Creek continues to experience exceedances of the *E.coli* water quality standard during high visitation periods. Intensive sampling was used to determine that a leaking septic line on private property was causing consistent exceedances at a US Forest Service day use recreation area. The landowner fixed the problem and water quality improved. Staff continues to sample Oak Creek and work with stakeholders to identify problem areas and remedies.

Queen Creek Copper Study – Sampling began in summer 2005. Automated sampling equipment has been installed and sample collection continues. Resolution Copper has applied for a NDPES permit to discharge treated water to Queen Creek resulting from the dewatering of the old mine workings.

Nutriosos Creek effectiveness monitoring – TMDL staff have completed effectiveness monitoring on Nutriosos Creek and completed the data analysis. A local rancher has installed a number of best management

practices in support of the Nutrioso Creek turbidity study (1999) and has requested that ADEQ delist Nutrioso Creek. The SW section will recommend delisting the stream due to water quality improvement and the repeal of the water quality standard for turbidity, which has been replaced by the new Suspended Sediment Concentration Standard.

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 paid for preliminary engineering designs for the private and state-owned piles. Both the private party and State Land applied for 319(h) grant funding but those proposals were not funded. ADEQ continues to work with all parties to secure funding for the clean up of the three tailings piles.

Parker Canyon Lake- A mercury TMDL has been initiated for Parker Canyon Lake. In-lake sampling occurred throughout the year.

San Pedro River- TMDLs were initiated for both copper and *E. coli* in the upper San Pedro. Automated sampling equipment has been installed and sampling continues.

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. 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 TEKRAN equipment at three sites across the state. Using local deposition rates will increase the strength of mercury TMDLs.

**Groundwater Monitoring and Pesticide Program §49-225 (water quality monitoring) & §49-249 (pesticides)**

- Ambient Groundwater Monitoring - Due to low staffing levels, monitoring for FY06 is behind schedule: sampling of the Pinal AMA was completed and sampling for the Agua Fria study is 35% complete. (§49-225)
- Ongoing well matching data confirmation, comparing sample data to existing database information.
- Maintaining an information submittal and review database for the pesticide data call-in program. The Pesticide program has been moved to the Compliance Assurance Unit in the Compliance Section as part of the Division reorganization.
- Conducted extensive stakeholder process to modify Pesticide Contamination Prevention Program rules. Final rule package sent to GRRC in June, 2005. GRRC hearing held in September, 2005 and new rules and new Groundwater Protection List (GWPL) were effective in December, 2005. 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 reach and pollute groundwater. Another significant change is removing the GWPL from rule which will allow for addition and deletion of chemicals to and from the list without formal rulemaking. – this will be a resource savings and will make the GWPL more timely and effective. The new GWPL process requires annual publication of the draft List in the *Arizona Administrative Register* and on the agency's website for public review and comment prior to finalization of the yearly list on or before July 1. §49-225

#### 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).

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

- Responded to 47 internal and external requests for water quality data information.
- Entered approximately 15,698 water quality results into groundwater water quality database.
- 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).
- Achieved the ability to electronically transfer laboratory sampling results from Arizona Department of Health Services State Laboratory to ADEQ databases, which provides greater reliability of data while reducing staff time required for data entry.

APPENDIX 6

Well Inspection and Approval Program

**Arizona Department of Water Resources  
Arizona Water Quality Fund  
Year-End Review Fiscal Year 2006**

**1. Name of Program**

Arizona Department of Water Resources Hydrology Division, Technical Support Section  
Water Quality Fund

**2. ADWR WQARF Program Objectives**

- Technical Review of Well Applications (Notices of Intent to Drill or Abandon and Groundwater Withdrawal Permits)\* and coordinate with ADEQ regarding new wells near contaminant sites
- Conduct Well Inventories to Support WQARF Program<sup>+</sup>
- Coordination with ADEQ regarding Database Needs to support WQARF Program\*
- Establish mechanism to exchange verified well locations and GPS measurements within ADWR's Well Registry (WELLS55) database<sup>+</sup>
- Other WQARF and water quality activities as required

\*Required by statute or rule

+Recommended by Groundwater Cleanup Task Force

**3. ADWR WQARF Program Accomplishments: Fiscal Year 2006**

- Well Application and Withdrawal Permit Review
  - Reviewed 6686 Notices of Intent (NOI) to Drill or Abandon for proximity to a WQARF/CERCLA or other contaminated site.
  - Performed technical review of 1703 NOIs to Drill or Abandon for wells near or within a WQARF/CERCLA site for water quality concerns and well construction.
  - Reviewed 427 permit applications to withdraw groundwater, including Poor Quality Ground Water Withdraw Permits for remediation projects.
- Well Inventories
  - South Mesa - Re-submitted site well inventory ADEQ batch reports as requested by ADEQ.
  - Payson PCE - Perform quality control review on backlog well inventory. Well inventory submittal to ADEQ scheduled for early Fiscal Year 2007.
  - West Van Buren - Completed quality control review of well inventory and submitted to ADEQ for review. Comments from ADEQ received and being acted upon. Well inventory to be resubmitted to ADEQ early Fiscal Year 2007.
  - Klondyke Mine Tailings - Completed pre-fieldwork, field verification, and post-fieldwork database quality control review. Submitted data to ADEQ and

awaiting comments. Attended and presented at a Klondyke Citizens Advisory Board meeting.

- 20<sup>th</sup> and Factor, Yuma - Completed pre-fieldwork and field verification portion of well inventory. Began post-fieldwork quality control review and submittal preparation.
- Other WQARF and Water Quality Activities
  - Submitted annual report on ADWR WQARF activities to the Governor, Legislature, and WQARF Advisory Board for fiscal year 2005.
  - Met with Apache Nitrogen CERCLA site stakeholders regarding special well construction standards.
  - Revised special well construction standards for Pinal Creek WQARF site. Draft document currently being reviewed by stakeholders.
- Receipts and Expenditures – Fiscal Year 2006

**Water Quality Fund**  
**Statement of Revenues and Expenditures**  
**Fiscal Year 2006 for the period through June 2006**

Description	Amount
<b>Funds Available</b>	
Balance B/F 07/01/2005	248,324.48
Transfer from DEQ	500,000.00
Earnings on Investments	11,224.94
<b>Total Funds Available</b>	<b>759,549.42</b>
<b>Expenditure</b>	
Personal Services	232,702.94
Employee Related Expenditure	76,695.42
Professional & Outside Services	
In State Travel	16,461.61
Out of State Travel	555.60
Other Operating Expenditure	5,266.71
Capital Equipment	
Non-Capital Equipment	8,333.37
Indirect	168,008.10
<b>Total Expenditure</b>	<b>508,023.75</b>
<b>Cash Balance</b>	<b>251,525.67</b>
<b>Less Outstanding Encumbrances:</b>	<b>0.00</b>
<b>Fund Balance</b>	<b>251,525.67</b>

07/27/06

4. **ADWR WQARF Program Activities: Fiscal Year 2007**

- Continue technical review of Well Applications (Notices of Intent to Drill or Abandon and Groundwater Withdrawal Permits) to prevent vertical cross-contamination between aquifers.
- Continue technical review of Well Applications (Groundwater Withdrawal Permits) for plume migration concerns during well impact reviews.
- Complete backlog of partially completed well inventories (Payson PCE)
- Complete backlog of in process well inventories (Klondyke Mine Tailings, West Van Buren, 20<sup>th</sup> Street and Factor).
- Conduct well inventories at two WQARF site (Vulture Mill Mine Tailings and 7<sup>th</sup> Avenue/Bethany Home Road).
- Continue to coordinate with ADEQ regarding database needs to support WQARF Program.
- Finalize revised special well construction standards for the Pinal Creek WQARF site.
- Continue to prepare monthly, quarterly, and other reports as specified in the Inter-agency Service Agreement for fiscal year 2007.
- Submit annual report on ADWR WQARF activities to the Governor, Legislature, and WQARF Advisory Board for fiscal year 2006.
- ADWR Fiscal Year 2007 Budget

**Water Quality Fund**  
**Budget**  
**Fiscal Year 2007**

Fund Balance Forward	251,526
FY07 Transfer In	600,000
<b>Balance Available</b>	<b>851,526</b>
Personal Services	341,789
ERE	112,792
Travel - In State	25,000
Other Operating Expenditures	19,325
Equipment	21,348
Indirect	229,746
<b>Total Budgeted Expenditures</b>	<b>750,000</b>
<b>Estimated Fund Balance Remaining, end of year</b>	<b>101,526</b>

APPENDIX 7

Risk Assessment Program



### FY 05-06 Risk Assessment Summary

Arizona Department of Health Services  
Risk Assessment Program

Hsin-Lin  
(602)364-3378  
hlin@azdhs.gov  
120 N. 1st 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

### FY 05-06 ISA Accomplishments

- Completed 2 assigned public health risk task assignments for ADEQ programs under ISA
  - SRL Soil Vapor Intrusion Research
    - Recommendation & the rationale regarding appropriate J/E input values
  - Soil Rule
    - Review draft soil rule & preamble, and provide comments

### FY 05-06 Non ISA Projects (Free to ADEQ)

- Completed 6 health consultations under a grant from the Agency for Toxic Substances and Disease Registry (ATSDR)
  - Brush Ceramic Products, Tucson, Pima County, AZ
  - Mary McLeod Bethune School and South Phoenix Air Monitoring, Phoenix, Maricopa County, AZ
  - North Indian Bend Wash Miller Road treatment Facility, Scottsdale, Maricopa County, AZ
  - Pacific Gas & Electric Background Metal Study, Golden Shores and Topock, Mohave County, AZ
  - Prescott Valley Water Company, Prescott Valley, Yavapai County, AZ
  - Topock Groundwater Study - Evaluation of chromium in groundwater wells, Golden Shores and Topock, Mohave County, AZ

**FY 05-06 Non ISA Projects  
(Free to ADEQ)**

- Dioxins and Furans in Rillito, AZ
  - Review & provide comments
  - Assess potential health concerns based on the ambient air concentrations
- Groundwater Sampling Results, Humboldt, AZ
  - Review letters to the residents & provide comments

**FY 05-06 Budget & Expenditures**

ADHS ISA Total Budget is \$ 100,000

Category	Budget	Spent	Est. Return
Personnel	55,000	18,971	36,028
Benefits	16,445	5,124	11,320
Travel	1,000	0	1,000
Operations	6,831	2,685	4,146
Indirect	20,724	7,511	13,212
<b>Total</b>	<b>\$100,000</b>	<b>\$34,292</b>	<b>\$65,707</b>

**ADEQ/ADHS ISA Agreement**

- During early 2006, ISA was modified
  - Lots of money being refunded each year
  - Simplify accounting process
- New ISA calls for \$15,000 minimum quarterly payments, maximum 25,000
  - Extra \$10,000 is dependent on additional amount of work
- New 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 Budget**

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