Water Quality Assurance Revolving Fund Report
A.R.S. §49-282.G

Under state and federal authorities, ADEQ's Superfund Programs Section identifies, assesses and cleans up soil and groundwater contaminated with hazardous substances. The program directs remediation activities using state and federal funds and oversees privately-funded cleanup efforts. Responsible parties are identified and notified, and legal and technical evidence is gathered for recovery of ADEQ's costs and for enforcement of cleanup requirements. The Arizona Attorney General's Office, the Arizona Department of Health Services, the Arizona Department of Water Resources and political subdivisions receive funding to assist ADEQ with its remediation efforts.

The Superfund Programs Section administers the Water Quality Assurance Revolving Fund (WQARF, pronounced *wharf*) Program, which was created under the Arizona Environmental Quality Act of 1986, in support of cleanup efforts in the state. The fund is dependent upon direct transfer of funds from legislative appropriations, corporate income tax, cost recovery and special fees.

Beginning in April 1998, the WQARF Registry was created to replace the WQARF Priority List, as required by A.R.S. § 49-287.01. Sites are added to the Registry through a listing process that includes scoring, notifying owners and operators within the proposed site, and providing the public with a 30-day comment period.

At the end of FY 2002, there were 33 sites on the WQARF Registry. In addition to those sites, the program oversees nine projects governed and funded by the federal Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, commonly known as Superfund. Sites posing a significant threat to human health and the environment may be placed on the National Priorities List (NPL). Three of these sites are under Department of Defense jurisdiction. The program also manages 13 non-NPL Department of Defense sites.

The WQARF Program provides fiscal support to the Voluntary Remediation Program, which presently manages cleanup activities at more than 60 sites. This program provides an opportunity for property owners to remediate contamination and receive review and closure from ADEQ before a site is listed on the WQARF Registry.

In conjunction with the WQARF Advisory Board and other interested stakeholders, the Superfund Programs Section has devoted significant resources to the development of numerous rules, policies and guidance documents to address WQARF site investigation and cleanup processes.

Annual Program Performance Measures

§ 49-282.G.1: Accomplishments from expenditures of the fund in terms of reduction of contamination in the environment and actions taken to determine the nature and extent of contamination

Table 1: WQARF Sites Remedial Activities Completed in FY 2002	
Sites added to the WQARF Registry	0
Billions of gallons of water treated	2.6
Pounds of volatile organic compounds removed	46,753
Millions of pounds of metals removed	5.3
Tons of contaminated soil removed	8,790
Significant early response actions or final cleanup actions conducted	3

Table 2. WQARF Enforcement and Administrative Activities Completed in FY 2002	
Access agreements signed	35
Consent decrees/consent orders completed	4
Prospective purchaser agreements completed	4
Potentially responsible party searches underway	27
Applicable or relevant and appropriate requirements determinations completed	1

Table 3. WQARF Community Involvement Activities Completed in FY 2002	
Community advisory boards/groups established	1
Fact sheets prepared	28
Public meetings and open houses conducted	79

Table 4. Federal Sites Remedial Activities Completed in FY 2002	
Billions of gallons of water treated	7.76
Pounds of volatile organic compounds removed	25,197
Tons of contaminated soil removed	43.61

Table 5. Federal Community Involvement Activities Completed in FY 2002	
Factsheets prepared	2
Public meetings and open houses conducted	14

§ 49-282.G.2: The status of all sites on the Registry, including the site locations, the basis for establishing site boundaries and whether remedial actions taken to date would support a modification of the boundaries of the site

The status of all sites on the Registry begins on Page 4. The site locations are denoted on the maps included at the end of this report. Site boundaries are determined by using existing site data to determine the boundary of contamination at the limit of the appropriate aquifer water quality standard or residential soil remediation level. During FY 2002, no Registry site boundaries were modified.

§ 49-282.G.3: The number of settlements made with responsible parties and the terms of each settlement

Number settled: 1

§ 49-282.G.4: Number and types of settlements under 49-292. (general), 49-292.01 (qualified business) and 49-292.02 (financial hardship), as of the close of FY 2002

1. Number of settlements and amounts:
   Number of settlements: 1 – pursuant to A.R.S. 49-292
   Amount: $450,000
2. Number of applications submitted in each category:
   Qualified business: 1
   Financial hardship: 0
3. Number of applications denied under each section:
   Qualified business: 0
   Financial hardship: 0
4. The number of settlements pursuant to 49-292.01 and the total amount of the settlements:
   Number of settlements: 1
   Amount: $21,846
5. The number of settlements pursuant to 49-292.02 and the total amount of the settlements:
   Number of settlements: 0

6. The number of persons who met the definition of qualified business under section 49-292.01 but who settled pursuant to 49-292.02:
   Number of applicants and settlements: 0

WQARF Sites

These are the sites that ADEQ has determined will be actively addressed by the WQARF Program. The following 33 sites were on the WQARF Registry as of the end of FY 2002. Other sites will continue to be added to the Registry as the process described in § A.R.S. 49-287.01 is completed.

7th Street and Arizona Avenue

Boundaries: The site is located in downtown Tucson, approximately one-third mile north of Broadway Boulevard and approximately three-fourths mile east of Interstate 10. The site boundary is a northwest-trending oval extending approximately 1,200 feet from the former Oliver's Cleaners facility at 300 E. Seventh St. (southeast corner of Seventh Street and Fifth Avenue) to approximately 150 feet north of Sixth Street and approximately 100 feet east of Seventh Avenue. The site was placed on the Registry in 2000 with a score of 40 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE), trichloroethene (TCE) and cis-1,2-dichloroethene (cis-1,2-DCE) at concentrations exceeding the Arizona aquifer water quality standards. Contaminants of concern at the site may change as new data become available.

16th Street and Camelback

Boundaries: The 16th Street and Camelback site is bounded approximately by Medlock Drive to the north, 17th Street to the east, Highland Avenue to the south and 14th Place to the west. The site was placed on the Registry in April 1999 with a score of 23 out of a possible 120.

Contaminants: The site is divided into a northern and a southern portion. The current contaminants of concern in groundwater include tetrachloroethene (PCE) at the northern portion of the site and 1,2-dichloropropane (1,2-DCP) and 1,2-dichloroethane (1,2-DCA) at the southern portion of the site. Contaminants of concern at the site may change as new data become available.

20th Street and Factor Avenue

Boundaries: The site is located approximately one-half mile south of 16th Street (U.S. Highway 95) and approximately three-quarters of a mile east of Fourth Avenue (Interstate 8 Business Loop) in Yuma. The site boundary is a northwest-trending oval extending approximately 1,000 feet from the Houston International facility at 655 E. 20th St. on the southeast to 19th Street and Rail Avenue to the northwest. The site was placed on the Registry in 2000 with a score of 31 out of a possible 120.

Contaminants: The current contaminants of concern at the site include tetrachloroethene (PCE) and cyanide. Contaminants of concern at the site may change as new data become available.

Broadway – Pantano

Boundaries: The site is bounded approximately by Speedway Boulevard to the north, Pantano Wash to the east, Broadway Boulevard to the south, and Sahuaro Avenue (one half mile to the west of Wilmot Road) to the west. The site consists of the closed municipal Broadway North Landfill and the associated groundwater contamination extending out from underneath the landfill. The site was placed on the Registry in 1998 with a score of 48 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 57.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride, methylene chloride and cis-1,2-dichloroethene (cis-1,2-DCE) at concentrations exceeding drinking water standards. PCE and TCE are volatile solvents commonly used in dry cleaning and metal cleaning operations, and vinyl chloride is often an end product when PCE and TCE chemically decompose in the environment. Contaminants of concern at the site may change as new data become available.

Central and Camelback

Boundaries: The site is bounded approximately by Missouri Avenue to the north, a line 100 feet east of Central Avenue to the east, Pierson Street to the south and by a line 600 feet west of Central Avenue to the west. The southwest corner source area portion of the site was placed on the Registry in January 1999 with an eligibility and evaluation score of 31 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 32 and includes the entire Central and Camelback WQARF site.

Contaminants: The current contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-

DCE) and vinyl chloride. Contaminants of concern at the site may change as new data become available.

Other contaminants at the site include benzene, toluene, ethylbenzene, total xylenes, methyl tertiary butyl ether (MTBE) and 1,2-dichloroethane (1,2-DCA) due to past releases from underground storage tanks in the area.

East Central Phoenix – 24th Street and Grand Canal

Boundaries: The boundaries of the site approximate a circle about 400 feet in diameter, centered around SRP well 16E-6.8N. The actual center of the circle is approximately 30 feet to the east of 24th Street and 10 feet to the north of the Grand Canal. The site was placed on the Registry in May 2000 with a score of 29 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE). Contaminants of concern at the site may change as new data become available.

East Central Phoenix – 32nd Street and Indian School Road

Boundaries: The boundaries of the site approximate a circle about 400 feet in diameter centered around SRP well 17E-8N. The actual center of the circle is approximately 300 feet to the east of 32nd Street and 100 feet to the south of Indian School Road. The site was placed on the Registry in May 2000 with a score of 29 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE). Contaminants of concern at the site may change as new data become available.

East Central Phoenix – 38th Street and Indian School Road

Boundaries: The site is bounded approximately by Indian School Road to the north, 38th Street to the east, Picadilly Road to the south and 36th Street to the west. The site was placed on the Registry in 1998 with a score of 20 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 25.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE). Contamination is present in the groundwater at depths between approximately 25 to 75 feet below the ground. Contaminants of concern at the site may change as new data become available.

East Central Phoenix – 40th Street and Indian School Road

Boundaries: The site is bounded approximately by Devonshire Avenue to the north, 40th Street to the east, Amelia Avenue to the south and 38th Street to the west. The site was placed on the Registry in 1998 with a score of 20 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 25.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE) and trichloroethene (TCE). Contamination is present in the groundwater at depths between approximately 20 to 35 feet below the ground. Contaminants of concern at the site may change as new data become available.

East Central Phoenix – 40th Street and Osborn Road

Boundaries: The boundaries of the site approximate a circle about 800 feet in diameter centered around SRP well 17.9E-7.5N. The actual center of the circle is approximately 400 feet to the west of 40th Street and 50 feet to the south of Osborn Road. The site was placed on the Registry in May 2000 with a score of 30 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE). Contaminants of concern at the site may change as new data become available.

East Central Phoenix – 48th Street and Indian School Road

Boundaries: The site is bounded approximately by a line 450 feet north of Indian School Road to the north, a line 300 feet west of 48th Street to the east, a line 150 feet south of Indian School Road to the south and 45th Place to the west. The site was placed on the Registry in April 1999 with a score of 27 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 32.

Contaminants: The current contaminant of concern in groundwater is tetra-chloroethene (PCE). The plume is small, appears to be stable and not moving. Contaminants of concern at the site may change as new data become available.

East Washington Fluff

Boundaries: The site is bounded approximately by Buckeye Road to the north, 5th Street to the east, Pima Street to the south and a set of railroad tracks to the west. The site was placed on the Registry in June 1999 with a score of 22 out of a

possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 34.

Contaminants: The site is ten acres in size and contained significant quantities of auto shredder fluff comingled with native soils. The current contaminants of concern at the site include lead, cadmium, arsenic and polychlorinated biphenyls (PCBs), a substance historically used as a cooling oil in electric components. Contaminants of concern at the site may change as new data become available.

El Camino del Cerro

Boundaries: The site is bounded approximately by the Rillito River to the north, Shannon Road to the east, El Camino del Cerro Road to the south and the Santa Cruz River to the west. The closed El Camino del Cerro Landfill occupies approximately 20 acres of land in the southwest portion of the site area, north of El Camino del Cerro Road between the Santa Cruz River and I-10. The site was placed on the Registry in 1998 with a score of 71 out of a possible 120.

Contaminants: The current contaminants of concern at the site include tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE), vinyl chloride and benzene. Contaminants of concern at the site may change as new data become available.

Estes Landfill

Boundaries: The site is bounded approximately by the Salt River to the north, the 153 Expressway to the east, Magnolia Street to the south and 40th Street to the west. Groundwater contamination from the landfill extends in an oval shape for approximately one-half mile to the west and north of the landfill. The site was placed on the Registry in 1998 with a score of 45 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 50.

Contaminants: The current contaminants of concern in soil include arsenic, lead and thallium. The current contaminants of concern in groundwater include vinyl chloride, cis-1,2-dichloroethene (cis-1,2-DCE), trichloroethene (TCE), benzene, bis (2-ethylhexyl)phthalate, arsenic, barium, chromium, lead and manganese. Contaminants of concern at the site may change as new data become available.

Klondyke Tailings

Boundaries: The site is located on the north bank of Aravaipa Creek, approximately 4.5 miles upstream of the Aravaipa Canyon Wilderness Area. The boundaries of this site are irregular. The site is composed 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. The site was listed on the Registry in 1998 with a score of 69 out of a possible 120.

Contaminants: The current contaminants of concern at the site include lead, cadmium, antimony, beryllium, copper, manganese, arsenic and zinc. Physical evidence and testing of the groundwater and soil in the area indicate that runoff and leaching into Aravaipa Creek from the tailings piles may be occurring, and flooding of the creek could erode contaminated materials into the creek bed. Contaminants of concern may change as new data become available.

Los Reales Landfill

Boundaries: The site is bounded approximately by Valencia Road to the north, Craycroft Road to the east, approximately one-quarter mile south of Los Reales Road to the south, and Alvernon Way to the west. Within the site boundary is the Los Reales Landfill, an active municipal sanitary landfill located at 5300 East Los Reales Road consisting of approximately 376 acres in southeast Tucson. The site was placed on the Registry in 1999 with a score of 32 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include volatile organic compounds (VOCs). Several VOCs have been detected in two downgradient monitor wells, including tetrachloroethene (PCE), trichloroethene (TCE), trichlorofluoromethane, dichlorofluoromethane, chloroethane, 1,1-dichloroethene (1,1-DCE), methylene chloride and 1,1-dichloroethane (1,1-DCA). PCE and TCE concentrations have exceeded the Aquifer Water Quality Standards. Upgradient wells have not had detectable levels of VOCs. Contaminants of concern at the site may change as new data become available.

Miracle Mile

Boundaries: The site is bounded approximately by Roger Road to the north, Flowing Wells Road to the east, Prince Road to the south and Bottletree Lane to the west. The site was placed on the Registry in 1998 with a score of 62 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include at least seven different volatile organic compounds (VOCs), several of which have been detected above the EPA maximum contaminant levels. The predominant contaminants of concern are trichloroethene (TCE) and chromium. Contaminants of concern at the site may change as new data become available.

Park – Euclid

Boundaries: The site is bounded approximately by Broadway Boulevard to the north, Santa Rita Avenue to the east, 14th Street to the south and Euclid Avenue to the west. The site includes facilities located at both 299 and 301 S. Park, where several companies have conducted laundry and dry-cleaning operations since the late 1930s. The site was placed on the Registry in April 1999 with a score of 51 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include diesel product and volatile organic compounds (VOCs), including tetrachloroethene (PCE), trichloroethene (TCE) and 1,2 dichloroethene (1,2-DCE). Both PCE and TCE are present in concentrations above aquifer water quality standards. Contaminants of concern at the site may change as new data become available.

Payson PCE

Boundaries: The site is bounded approximately by Frontier Street to the north, Beeline Highway (State Route 87) to the east, Aero Drive to the south and McLane Road to the west. The site was placed on the Registry in 1998 with a score of 63 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE) and methyl tertiary butyl ether (MTBE). Contaminants of concern at the site may change as new data become available.

Pinal Creek

Boundaries: The site is located in the Globe-Miami area and has irregular boundaries. Within the southern portion of the site, the boundary follows and includes the entire mine sites of the Phelps Dodge Miami, Inc. (Phelps Dodge Miami Mine, formerly known as the Inspiration Mine) and BHP Copper, Inc. (the Miami Mine, the Copper Cities Mine, the Old Dominion Mine and related properties, and the Solitude Tailings). The southern boundary follows the southern margin of the flood plain of Bloody Tanks Wash through the town of Miami and the community of Claypool, then turns south to include the BHP Solitude Tailings. The boundary follows the eastern margin of the flood plain of Russell Gulch and Miami Wash northward to the confluence with Pinal Creek. The boundary parallels both sides of upper Pinal Creek to the city of Globe, including the Old Dominion Mine and related mine properties in the Globe Hills. North of the confluence of Miami Wash and Pinal Creek, the boundary parallels Pinal Creek on both sides including the flood plain of Pinal Creek plus a margin approximately 1,000 feet wide surrounding the flood plain as far north as Inspira-

tion Dam. North of Inspiration Dam, the boundary follows the flood plain of Pinal Creek. The northern boundary terminates at the Salt River. The site was placed on the Registry in 1998 with a score of 97 out of a possible 120.

Contaminants: The current contaminants of concern at the site include aluminum, arsenic, beryllium, cadmium, chromium, copper, cobalt, fluoride, iron, lead, manganese, mercury, nickel, radium, sulfate, uranium, zinc and sulfuric acid. Contaminants of concern at the site may change as new data become available.

Shannon Road – Rillito Creek

Boundaries: The site extends approximately one quarter mile to the north and south of Rillito Creek, and is approximately bounded by Meadowbrook Park to the east and Peglar Wash Park to the west. The site was placed on the Registry in April 1999 with a score of 53 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE) and trichloroethene (TCE). Contaminants of concern may change as new data become available. In addition to PCE and TCE, there are other substances detected in the groundwater at the site below the regulatory limit. These substances include 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,1-DCE) and dichlorodifluoromethane (Freon 12).

Silverbell Jail Annex Landfill

Boundaries: The site lies between, but is not bounded by, Silverbell Road to the west, Sweetwater Drive to the north, Interstate 10 to the east, and Grant Road/Ironwood Hill Drive to the south. The site was placed on the Registry in 1999 with a score of 51 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE) and trichloroethene (TCE). Other volatile organic compounds (VOCs) routinely detected in site monitor wells include vinyl chloride, dichlorodifluoromethane, trichlorofluoromethane, methylene chloride, and cis-1,2- dichloroethene (cis-1,2-DCE). Contaminants of concern at the site may change as new data become available.

South Mesa

Boundaries: The site is bounded approximately by 10th Drive to the north, Stapley to the east, and the railroad south of Baseline to the south and west. The site was placed on the Registry in 1998 with a score of 26 out of a possible 120.

The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 31.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE), trichloroethene (TCE), chromium and nickel. Contaminants of concern at the site may change as new data become available. Other contaminants at the site include regionally high levels of nitrates due to past agricultural land use.

Tonto Drive and Cherry Street

Boundaries: The site is located approximately 150 feet from Colcord Road just north of Frontier Street. The site boundary is a northwest-trending oval, extending approximately 850 feet from the intersection of Colcord Road and Frontier Street. The site was placed on the Registry in June 2000 with a score of 45 out of a possible 120.

Contaminants: The current contaminant of concern in groundwater is tetrachloroethene (PCE). Contaminants of concern at the site may change as new data become available.

Tyson Wash

Boundaries: The site is bounded approximately by the groundwater plume which extends 300 feet to the north of Cowell Street to the north, 250 feet east of Washington Boulevard to the east, 250 feet south of Cowell Street to the south and 100 feet west of Oregon Avenue to the west. The known groundwater contamination exists northwest of the intersection of State Hwy 95 and Business Route I-10 in the town of Quartzsite. The site was added to the Registry in 1998 with a score of 46 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE) and trichloroethene (TCE). Contaminants of concern may change as new data become available.

Vulture Mill

Boundaries: The site is located just east of North Tegner (Highways 89 and 93) about 1 mile northwest of the center of the town of Wickenburg. The eastern boundary of the site is approximately one-quarter mile west of the Hassayampa River Channel. The site is on private land owned by four separate parties and consists of a former gold-ore milling. The tailings and affected soil are found in an area approximately 35 acres on up to five separate properties. The site was placed on the Registry in 1998 with a score of 65 out of a possible 120.

Contaminants: The current contaminants of concern at the site include lead and arsenic. The average concentration of lead in the mill tailings exceeds the concentration allowed on residential property (400 parts per million (ppm)) or non-residential property (2,000 ppm). The highest concentration of lead in the tailings is reported to be approximately 14,000 ppm. Contaminants of concern at the site may change as new data become available. Other contaminants at the site include iron and manganese.

West Central Phoenix – East Grand Avenue

Boundaries: The site is bounded approximately by Whitton Avenue to the north, 29th Avenue to the east, Osborn Road to the south and 30th Avenue to the west. The site was placed on the Registry in 1998 with a score of 26 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 31.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE), trichloroethene (TCE) and 1,1-dichloroethene (1,1-DCE). Contaminants of concern at the site may change as new data become available. Other contaminants at the site include benzene, toluene and ethylbenzene from nearby underground storage tanks and nitrates.

West Central Phoenix – West Grand Avenue

Boundaries: The site is bounded approximately by Osborn Road to the north, 33rd Avenue to the east, Earll Drive to the south and 35th Avenue to the west. The site was placed on the Registry in 1998 with a score of 17 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 22.

Contaminants: The current contaminant of concern in groundwater is trichloroethene (TCE). Contaminants of concern at the site may change as new data become available. Other contaminants at the site include nitrates.

West Central Phoenix – North Plume

Boundaries: The site is bounded approximately by Turney Avenue to the north, 38th Avenue to the east, Indian School Road to the south and 43rd Avenue to the west. The site was placed on the Registry in 1998 with a score of 50 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 55.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE),

vinyl chloride and chromium. Contaminants of concern at the site may change as new data become available. Other contaminants at the site include methyl tertiary butyl ether (MTBE), benzene, toluene, ethylbenzene and xylenes from nearby underground storage tanks.

West Central Phoenix – North Canal Plume

Boundaries: The site is bounded approximately by Indian School Road to the north, 36th Avenue to the east, Clarendon Avenue to the south and 40th Avenue to the west. The site was placed on the Registry in 1998 with a score of 22 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 27.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethene (1,1-DCE) and chromium. Contaminants of concern at the site may change as new data become available. Other contaminants at the site include methyl tertiary butyl ether (MTBE) from nearby underground storage tanks.

West Central Phoenix – West Osborn Complex

Boundaries: The site is bounded approximately by the Grand Canal to the north, 34th Drive to the east, Pinchot Avenue to the south and 39th Drive to the west. The site was placed on the Registry in 1998 with a score of 47 out of a possible 120. The site was re-scored for the June 2001 Registry with an eligibility and evaluation score of 52. ADEQ provides regulatory oversight and technical review of investigations and site activities performed by United Industrial Corporation at the West Central Phoenix – West Osborn Complex site.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE) and trichloroethene (TCE). Contaminants of concern at the site may change as new data become available. Other contaminants at the site include methyl tertiary butyl ether (MTBE) from nearby underground storage tanks and nitrates.

West Van Buren

Boundaries: The site is bounded approximately by I-10 to the north, Seventh Avenue to the east, Buckeye Road to the south and 75th Avenue to the west. In addition, a finger shaped plume exists between 11th Avenue and 35th Avenue and between Buckeye and Lower Buckeye Roads. The site was placed on the Registry in 1998 with a score of 50 out of a possible 120.

Contaminants: The current contaminants of concern in groundwater include tetrachloroethene (PCE), trichloroethene (TCE), 1,1-dichloroethane (1,1-DCA), cis-1,2-dichloroethene (cis-1,2-DCE), 1,1-dichloroethene (1,1-DCE) and chromium. Current contaminants of concern at the site may change as new data become available.

Western Avenue Plume

Boundaries: The site is bounded approximately by the groundwater contamination plume which generally extends from Hill Drive (north of Western Avenue) to the north, 3rd Street to the east, approximately 1,000 feet north of State Route 85 to the south and the Phoenix-Goodyear Airport to the west. The site was placed on the Registry in 1998 with a score of 51 out of a possible 120.

Contaminants: The current contaminant of concern in groundwater is tetrachloroethene (PCE). Contaminants of concern at the site may change as new data become available.

National Priorities List Sites (Federal Superfund)

The National Priority List (NPL) is EPA's list of the most serious uncontrolled or abandoned hazardous waste sites identified for possible long-term remedial response under Superfund. Inclusion of a site on the list is based primarily on the score the site receives under the hazard ranking system. Money from Superfund can be used for cleanup only at sites that are on the NPL. EPA is required to update the NPL at least once a year.

19th Avenue Landfill

Boundaries: The 19th Avenue Landfill site covers approximately 213 acres and is located in Phoenix at the southeast corner of 19th Avenue and Lower Buckeye Road. Prior to its use as a landfill in the late-1950s, the site was mined for sand and gravel. The gravel pits were later filled with municipal waste from local industries.

Contaminants: During the remedial investigation, the groundwater was found to contain very low levels of volatile organic compounds (VOCs), heavy metals including arsenic, barium, mercury, and nickel and beta radiation. Currently, the only compound that is above maximum contaminant level for drinking water standards is 1,1-dichloroethene (1,1-DCE). Sampling of soil and refuse in the landfill indicated that the contents of the landfill are similar to those expected in municipal landfills, however, industrial wastes were also disposed of at the site. During the remedial investigation, the most frequently detected VOCs were ethyl

benzene, 1,4-dichlorobenzene, xylenes and toluene. This project is in the operations and maintenance phase, remediation activities have been completed. Quarterly groundwater monitoring, monthly methane monitoring, and inspections of the landfill cap, flood control structures and landscaping continue.

Apache Powder

Boundaries: The Apache Powder Superfund site is located in Cochise County, approximately 7 miles southeast of the incorporated town of Benson and 2.5 miles southwest of the unincorporated town of St. David. The site study area covers approximately nine square miles and includes 945 acres of land owned by Apache Nitrogen Products, Inc. (ANP), formerly known as the Apache Powder Company. The San Pedro River bounds the eastern side of the site, running from the southeast corner of the property towards the northwest.

Contaminants: Contaminants of concern found at the Apache Powder site include: arsenic, fluoride and nitrate in the perched groundwater; nitrate in the shallow groundwater aquifer; arsenic, antimony, barium, beryllium, chromium, lead, manganese and nitrate in the inactive pond soils, and sediments; as well as 2,4-DNT, 2,6-DNT and lead in Wash Area 3. Additionally, the waste materials vanadium pentoxide and TNT were found in soils on the site, and perchlorate has been found in the perched and shallow aquifer groundwater.

Hassayampa Landfill

Boundaries: The Hassayampa Landfill site is located about 10 miles west of Buckeye and is approximately six miles east of the Palo Verde Nuclear Generating Station. The site consists of about 10 acres used for hazardous waste disposal that lies within a 47 acre landfill. The industrial waste disposal operations were independent of sanitary landfill activities.

Contaminants: Contaminants of concern detected at Hassayampa that exceeded the federal maximum contamination levels for groundwater include 1,1-dichloroethene, trichlorotrifuoroethane, 1,1,1-trichloroethane, 1,1-dichloroethane, trichloroethene, tetrachloroethene, trichlorofluoromethane, 1,2-dichloroethene, 1,2-dichloropropane and toluene. Ambient air contains very low levels of volatile organic compounds (VOCs). Groundwater sampling results also have identified various VOCs. Soils beneath the waste pits contain VOCs, heavy metals, pesticides and lime wastes.

Indian Bend Wash – North

Boundaries: North Indian Bend Wash is the northern part of the area designated by EPA as the Indian Bend Wash Superfund Site. The boundaries of the site are

approximately Chaparral Road to the north, Pima Road to the east, Scottsdale Road to the west and just south of Curry Road to the south. In some locations, groundwater contamination has extended beyond these boundaries, and those locations are considered part of the Superfund site. The area is fully developed, consisting primarily of residential and commercial properties and developed open areas such as parks.

Contaminants: In 1981, volatile organic compounds were discovered in area wells in concentrations exceeding Arizona Department of Health Services action levels. Volatile organic compounds were used as degreasing agents and solvents at various industrial facilities located in the study area.

Indian Bend Wash – South

Boundaries: The South Indian Bend Wash study area encompasses approximately 4 square miles in Tempe. South Indian Bend Wash adjoins the ten square mile area of North Indian Bend Wash. South Indian Bend Wash and North Indian Bend Wash together form the Indian Bend Wash Superfund site. The site is primarily commercial and industrial north of University Avenue and residential to the south.

Contaminants: The groundwater in the South Indian Bend Wash area is mainly contaminated with volatile organic compounds. Soil is contaminated with volatile organic compounds, cyanides, acids, and heavy metals including chromium and lead.

Motorola 52nd Street

Boundaries: The Motorola 52nd Street site is located in a residential and commercial area in the eastern part of Phoenix. The site has been divided into three operable units. The boundaries for Operable Unit 1 are 52nd Street to the east, Palm Lane to the north, Roosevelt Street to the south and 46th Street to the west. The approximate boundaries for Operable Unit 2 are Roosevelt Street to the north, 46th Street to the east, Buckeye Road to the south and 14th Street to the west. The approximate study area of Operable Unit 3 is McDowell Road to the north, 14th Street to the east, Buckeye Road to the south and Seventh Avenue to the west. Responsible parties include both Motorola Inc. and Honeywell International.

Contaminants: Contaminants known to be present in the groundwater at levels above regulatory limits include the following chlorinated solvents: trichloroethene (TCE), tricholoroethane (TCA), dichloroethene (DCE), dichloroethane (DCA) and vinyl chloride.

Phoenix-Goodyear Airport North

Boundaries: The Phoenix-Goodyear Airport (PGA) Superfund Site is located approximately 17 miles due west of Phoenix, in the western part of the Salt River Valley in central Arizona. The site study area covers a total area of about 35 square miles and is divided into a southern portion (PGA–South) and a northern portion (PGA–North). Contamination from these two areas is noncontiguous. Except for the airport, which is owned by the city of Phoenix, the PGA site lies almost entirely within the city of Goodyear. The city of Avondale occupies about 2 square miles along the eastern border of the site. The physical boundaries of the PGA North site are defined by the groundwater contamination plume which is generally bounded by Thomas Road to the north, Litchfield Road to the east, the Unidynamics property on Litchfield Road to the south and Bullard Avenue to the west. The site consists of the Unidynamics property and any groundwater contamination emanating from this property.

Contaminants: The contaminants identified at the PGA North site are: chlorinated solvents, mainly trichloroethene (TCE) and perchlorates. TCE is present in the soils located within the Unidynamics property as well as in the groundwater. The perchlorates were discovered in the groundwater in August 1998.

Phoenix-Goodyear Airport South

Boundaries: The Phoenix-Goodyear Airport (PGA) Superfund site is geographically situated approximately 17 miles due west of Phoenix, in the western part of the Salt River Valley in central Arizona. The site study area covers a total area of about 35 square miles and is divided into a southern portion (PGA–South) and a northern portion (PGA–North). Contamination from these two areas is noncontiguous. Except for the airport, which is owned by the city of Phoenix, the PGA site lies almost entirely within the city of Goodyear. The city of Avondale occupies about 2 square miles along the eastern border of the site. The approximate physical boundaries of the PGA South site are Yuma Road to the north, Litchfield Road to the east, Broadway Road to the south and Reems Road to the west. The site consists of the Loral Defense Systems–Arizona (Loral) property and the Phoenix-Goodyear Airport property and any groundwater contamination emanating from these areas.

Contaminants: The contaminants identified in the groundwater at the PGA South site are: trichloroethene (TCE) and chromium. The soils containing chromium and cadmium above the health based guideline levels were stabilized, thereby eliminating the risk of exposure by ingestion and inhalation and preventing migration to groundwater.

Tucson International Airport Area

Boundaries: The Tucson International Airport Area is a 24 square mile site placed on the NPL in 1983. The Tucson International Airport Area site contains seven major project areas including Air Force Plant 44 (AFP 44), Tucson Airport Remediation Project, the airport property, the Arizona Air National Guard (AANG) 162nd facility, Texas Instruments Tucson Corporation, the former West-Cap property and West Plume B.

Contaminants: Groundwater investigations have defined a groundwater contamination plume (main plume) in the regional aquifer. The main plume, consisting mainly of trichloroethene (TCE), with smaller amounts of dichloroethene (DCE), chloroform and chromium, extends from AFP 44 north past Irvington Road.

162nd Air National Guard

Boundaries: The Arizona Air National Guard 162nd Tactical Fighter Group, occupies 84 acres of the Tucson International Airport Area site and is located at 15008 Valencia Road in Tucson. The base has been in operation since 1956 in training functions for various tactical fighter aircraft.

Contaminants: Trichloroethene (TCE) is the primary groundwater contaminant at this site. A groundwater pump, treat and reinjection system treats approximately 110 gallons per minute. A soil vapor extraction system was started on April 3, 1997 and shut down on Nov. 29, 1997, after achieving complete soil remediation.

Raytheon Air Force Plant #44

Boundaries: Raytheon Air Force Plant #44, located in the southern portion of the Tucson International Airport Area site, is a federally owned weapons manufacturing facility operated under contract by the Raytheon Corporation (formerly Hughes). The plant is bounded to the north and east by the Tucson International Airport, to the south by Hughes Access Road and to the west by the Nogales Highway (Route 89). The plant is permitted under the Resource Conservation and Recovery Act.

Contaminants: Historic waste disposal operations at the plant resulted in soil and groundwater contamination of metals and volatile organic compounds (VOCs), including trichloroethene (TCE). Remediation activities include a large-scale pump, treat and reinjection system, soil vapor extraction systems, dual-phase extraction systems, and soil excavation and removal.

Williams Air Force Base

Boundaries: The former Williams Air Force Base is located in Mesa, Arizona approximately 30 miles southeast of central Phoenix. It is approximately 4,127 acres in size and the study area includes the entire Base. Williams Air Force Base is now utilized as the Williams Gateway Airport and the Arizona State University East and Maricopa Community College campus since the removal of military personnel and transition to educational and commercial uses.

Contaminants: Contaminants from base activities included organic solvents and paint strippers, petroleum spills, metal plating wastes, hydraulic fluids, pesticides and radiological wastes. Discharges and disposal at Williams Air Force Base had resulted in soil and groundwater contamination. The remaining groundwater contaminant issue is a plume of jet fuel contamination.

Yuma Marine Corps Air Station

Boundaries: Marine Corps Air Station Yuma occupies approximately 3,000 acres within the city and county of Yuma (2nd Congressional District). The city of Yuma, the nearest municipality, is located approximately one mile northwest of the station.

Contaminants: For soil, the contaminant of concern is asbestos in the form of non-friable asbestos containing material. The asbestos containing material is scattered on top of and buried in the surface soil. For groundwater, the contaminants of concern are chlorinated solvents (trichloroethene, (TCE), 1,1-dichloroethene (1,1-DCE) and tetrachloroethene (PCE)). The main groundwater plume is approximately one mile long and 500 feet wide, and has reached the downgradient edge of the base. The maximum concentration of total solvents is currently approximately 270 parts per billion (ppb). All of the groundwater contamination has been detected downgradient of the old on-station drinking water well. However, the on-station drinking water well is no longer used and none of the groundwater is used elsewhere on the base.

Department of Defense Sites

The Department of Defense sites are those sites that are located at either active duty bases or bases being closed under the base realignment and closure regulations and formerly used defense sites that are eligible for funding under the installation restoration program that ADEQ oversees.

161st Air National Guard

Boundaries: The 161st Air National Guard is located on the southwest corner of a 50.7 acre site at Phoenix Sky Harbor International Airport between the south runway and the Salt River Channel. The Air National Guard Base has been located just south of the airport since 1957. The facility is currently used for a refueling group in support of Air Combat Command activities. Typical activities at the site have included aircraft fueling maintenance, ground equipment maintenance and other associated activities.

Contaminants: Past aircraft maintenance and fueling operations at the site have led to surface and subsurface soil and groundwater contamination with petroleum products and volatile organic compounds (VOCs).

Barry M. Goldwater Range

Boundaries: The Barry M. Goldwater Range is an almost 2.7 million acre military training area formed from Bureau of Land Management and US Fish and Wildlife Service lands in southwestern Arizona. The range is under the overall management of the United States Air Force, but is divided into two management units for the Air Force and the Marine Corps. The portion of Barry M. Goldwater Range managed by the US Fish and Wildlife Service is the Cabeza Prieta National Wildlife Refuge, and forms about 30 percent of the Barry M. Goldwater Range area.

Contaminants: Luke Air Force Base conducted an Installation Restoration Program on the Barry M. Goldwater Range in 1992. The Installation Restoration Program identified 218 possible areas of concern. Of these sites, 130 required no further action and were closed, leaving 88 areas of concern. Forty-five of the 88 areas of concern are active operations and are managed under state and federal Resource Conservation and Recovery Act regulations. The other 43 sites were declared to be Installation Restoration Program sites. As part of a site investigation, additional investigations have been made at 12 of these sites. The site investigation includes two areas at the Gila Bend Auxiliary Air Field with the remaining ten sites dispersed at the former Ajo Air Station (within the national wildlife refuge), Sentinel Navy antenna site and various locations within the range.

Camp Navajo

Boundaries: The Navajo Depot Activity, designated “Camp Navajo” as of September 1993, is located at Bellemont, in north-central Arizona. It is 12 miles west of Flagstaff and 17 miles east of Williams. The facility encompasses 28,347 acres and is situated in heavily forested to grassy, gently rolling to steep hilly

terrain approximately 7,100 feet above mean sea level. Facilities present at Camp Navajo include approximately 170 buildings of which 32 are currently used for administration, maintenance, operations and storage. There are 776 igloo structures for storage of conventional (and formerly chemical) munitions. There is a demolition area in the southern portion, and buffer zones along the eastern and western borders of the base.

Contaminants: Contaminants of concern include heavy metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides and constituents of explosives.

Davis-Monthan Air Force Base

Boundaries: Davis Monthan Air Force Base is located in eastern Tucson. The northern boundary gradually descends to the south from Golf Links Road to Irvington Road. The boundary to the east is Harrison Road with Alvernon Way as the western boundary. The southern most boundary is Valencia Road on the east side of the site area. The study area consists of the entire base.

Contaminants: Contamination at the base has been primarily surface soil contamination with petroleum wastes, waste piles of hazardous aluminum dross and a large volume underground jet fuel leak. The aluminum dross (from past melting of obsolete aircraft) on the base has been treated by solidification and stabilization and transported to an off-site landfill.

Fort Huachuca

Boundaries: Fort Huachuca is an Army post located in Sierra Vista, in southeastern Arizona. Fort Huachuca has been in continuous operation since its establishment in 1877.

Contaminants: The areas of interest, as a result of two consent decrees with ADEQ involve four hazardous waste sites (consent order D-10-91) 18 underground storage tank or leaking underground storage tank sites (consent order L-58-96). Of the 20 sites considered to be solid waste sites from the original Consent order (C-10-91), eleven sites remain. Six of these sites require no further action and are awaiting a decision document for closeout. The remaining five sites are undergoing remediation, monitoring or both.

Gila Bend Auxiliary Air Field

Boundaries: The Gila Bend Auxiliary Air Field is located approximately 2 miles south of Gila Bend off of State Highway 85.

Contaminants: In 1994, the Air Force conducted site investigations of two sites at the facility, the former fire training area FT-27 and a nearby maintenance area. Limited contamination was found at the former fire training area with a determination that it did not poise a threat to groundwater. Sampling of the maintenance area did not reveal any contamination warranting further action. The facility is managed, for environmental purposes, by Luke Air Force Base in Glendale, Ariz.

Yuma Army Proving Grounds

Boundaries: The US Army Yuma Proving Ground is located on the California-Arizona border north of Yuma, 32 miles northeast of Yuma and occupies approximately 870,000 acres in size in Yuma and La Paz counties. Its western edge is adjacent to the Colorado River.

Contaminants: Contaminants of concern include petroleum hydrocarbons, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs) and metals. Contaminated media are soil and groundwater. The US Army has identified 19 solid waste management units for investigation under the Yuma Proving Ground remedial investigation and feasibility study. The overall objective of the remedial investigation in the 19 solid waste management unit sites is to characterize the nature and extent of the risks posed by contaminants present for each site. A pilot soil vapor extraction system is under operation at the fuel bladder site for the remediation of hydrocarbon contamination.