



Janice K. Brewer, Governor
Benjamin H. Grumbles, Director

2009 Director's Report



A Message from the Director...

Fiscal year 2009 was another year of progress at the Arizona Department of Environmental Quality.

The department reached multimillion dollar settlements with the copper mining company ASARCO and military manufacturer Honeywell International to resolve historic contamination cases.

ADEQ kept its attention focused on resolving other problems from the past by issuing an aquifer protection permit (APP) after \$66 million in upgrades at the Nogales International Wastewater Treatment. The agency also had its eye on the future with the approval of an APP for the first of its kind in Arizona carbon dioxide sequestration project at the Arizona Public Service -- Cholla Power Plant near Joseph City.

The department also implemented several successful initiatives and continued to improve delivery of services and increase focus on the central functions of its mission: to protect and enhance Arizona's environment and the health and safety of the state's citizens.

It also was a year of transition. Stephen A. Owens, who was the longest-serving ADEQ director, resigned in January 2009. Long-time Deputy Director Patrick J. Cunningham was then selected acting director of the agency. Benjamin H. Grumbles, former assistant administrator for water at the U.S. Environmental Protection Agency, was selected ADEQ director and began his new job on June 22, 2009.

More detailed information about our department's programs may be found on the agency's Web site at: www.azdeq.gov.

Benjamin H. Grumbles
Director

ADEQ at a Glance...

The Arizona Legislature established ADEQ as the state's environmental regulatory agency under the Environmental Quality Act of 1986. Its mission is to protect and enhance public health and the environment in Arizona. The department achieves this mission by administering our state's environmental laws and delegated federal programs to prevent pollution of our air, water and land, and to clean up such pollution when it occurs.

During FY 2009 ADEQ had an average of 660 employees. The department's organizational structure is composed of four programmatic divisions that fulfill our environmental protection mission in the areas of air quality, water quality, waste programs and tank programs. Those divisions are supported by the director's office and an administrative services division.

Our agency's core functions are vital to public health and safety. The core functions align with the agency mission, strategic plan and performance objectives, which are summarized below.

Pollution Control

Permitting – ADEQ issues permits, approvals and certifications to ensure that facilities are constructed and operated in accordance with the law and that any discharges to the air, water and soil are within healthful standards established by law.

Planning – ADEQ's planning specialists develop management practices and increasingly stringent control strategies in areas where health-based environmental standards are threatened or violated. Arizona's air quality management areas and watershed planning efforts are examples of this activity.

Pollution Prevention – As an alternative to regulatory enforcement, ADEQ offers guidance, assistance and financial incentives to encourage businesses to minimize waste and resulting pollution.

Environmental Clean Up

Remediation – ADEQ investigates and oversees the removal and cleanup of contaminated soil and groundwater to protect public health and the environment.

Emergency Response – ADEQ provides technical support and assistance to emergency response agencies to help them minimize the impacts to public health and the environment in the areas of air quality, water quality and hazardous waste.

Voluntary Remediation Program - Through ADEQ's Voluntary Remediation Program (VRP), property owners, prospective purchasers and other interested parties investigate or clean up contaminated sites in cooperation with ADEQ. VRP results in a streamlined process for program participants who work with a single point of contact at ADEQ to address applicable cross-program remediation efforts. ADEQ reviews these voluntary remedial actions and provides a closure document for successful site remediation that is accepted by all relevant ADEQ programs.

Compliance Management

Compliance Assistance – ADEQ offers a variety of informational resources to help businesses understand and comply with environmental regulatory requirements and promote positive environmental practices.

Inspections – ADEQ inspects facilities on a regular basis and in response to citizen complaints to ensure compliance with environmental laws.

Enforcement – ADEQ ensures compliance with environmental laws by pursuing informal enforcement through notices of opportunity to correct or notices of violation and formal enforcement through administrative orders and judicial enforcement actions in conjunction with the Arizona Attorney General's Office.

Monitoring and Assessment

Monitoring – ADEQ's monitoring personnel collect air, water and soil samples for laboratory analyses to determine the presence or absence of contaminants.

Assessment – ADEQ's assessment staff interpret the data that result from field research to draw conclusions about environmental indicators and trends and form the basis for future planning and policy decisions.

Public Outreach

Education and Outreach – ADEQ offers a variety of seminars, workshops, presentations and publishes information via newsletter and the Internet to inform the public about department programs and activities. ADEQ also supports numerous advisory and stakeholder groups and conducts public hearings and meetings in support of our regulatory and public policy functions.

Financial Assistance – ADEQ offers financial assistance for leaking underground storage tank cleanup costs and provides grants to local governments for air quality and

water quality programs. Other ADEQ programs also make funding available to eligible applicants for recycling, water quality and pollution prevention projects and activities.

Public Policy

Policy Development – ADEQ works with state and national organizations and stakeholders to shape and influence environmental policy at the state and federal levels. Policies are developed to explain how we interpret statutes and rules to ensure consistent, equitable decisions and to inform the public about how we do business.

Rule Development – ADEQ writes rules, based on science and public policy, to implement the broad statutory language contained in legislation.

FY 2009 Accomplishments...

Pollution Control – Pollution Prevention

APP Issued for New International Wastewater Treatment Plant in Nogales, Ariz

In June 2009, an Aquifer Protection Permit was issued for the newly upgraded Nogales International Wastewater Treatment Plant, located in Rio Rico, Arizona, near the border with Mexico. The treatment plant had \$66 million in upgrades and is now capable of meeting required permit limits for the 15 million gallons per day of wastewater it discharges to the Santa Cruz River.

The facility, which is co-owned by the City of Nogales, Ariz., and the International Boundary and Water Commission, has been using an aerated lagoon system since 1991 to treat the sewage from the more than 200,000 residents of Nogales, Ariz., and Nogales Sonora. The lagoon technology was not capable of eliminating toxic ammonia compounds or meeting state surface water discharge permit limits for suspended solids. The facility's discharge was affecting the Santa Cruz River, home to the endangered Gila topminnow. The AZPDES permit for the facility was issued in 2007 with a compliance schedule to implement the plant upgrade in order to meet surface water quality standards in the river.

In 2000, a federal consent decree required the City of Nogales, Ariz., and the International Boundary and Water Commission to improve effluent quality and meet surface water discharge permit limits. A team of state, federal and university engineers helped the plant's co-owners develop and implement a technically feasible, cost-effective solution. The newly upgraded facility, uses a conventional activated sludge process with nitrogen treatment and discharges treated wastewater to the Santa Cruz River with lower concentrations of organic and ammonia compounds and significantly improved clarity. The river has been listed as "impaired" since the early 1990s due to ammonia and chlorine toxicity. ADEQ will conduct monitoring downstream of the discharge to determine whether the river can be removed from the impaired waters list and shown to finally meet surface water quality standards.

New Emissions Inspection Stations

On Jan. 2, 2009, three new three-lane vehicle emissions inspection stations were opened as required in the newly awarded vehicle emissions inspection contract with Gordon-Darby Arizona Testing, Inc. These stations are located on the fringe of the Phoenix metropolitan area to reduce travel time for those customers living in these rapidly growing areas. The stations are located at 501 W. Deer Valley Road in Phoenix, 16140 W. Eddie Albert Way in Goodyear, and 565 E. 38th Ave. in Apache Junction. Each of the new stations has express testing of on-board diagnostic-equipped vehicles that result in shorter wait times.

Environmental Clean Up – Remediation

State Approves \$30 Million in ASARCO Settlements

In May 2009, ADEQ, the Arizona State Land Department and Arizona Game and Fish Commission participated in two settlements with the copper mining company ASARCO valued at about \$30 million in cash and land transfers to the State. The settlements, known as the Remediation Trust Settlement and Natural Resource Damage Settlement, compensate Arizona for damages to its natural resources and provide funds to Arizona to ensure cleaning up three historical mine sites -- Sacaton, northwest of the city of Casa Grande; Salero, northwest of the Town of Patagonia; and Trench, south of Patagonia.

Of the nearly \$23 million in the remedial trust, \$20 million will be used to clean up the Sacaton site and \$2.85 million combined will be used to clean up the Trench and Salero sites. The funds will be used to reclaim, revegetate, or cap acid-generating tailings and waste-rock piles located at these sites.

The Natural Resource Damage Settlement provides nearly \$4 million in unsecured claims for restoration, perpetual operation and maintenance and a transfer of three parcels of land, totaling about 1,000 acres, to the Trustees to be owned by the Arizona Game and Fish Commission and managed for wildlife. The parcels, located along about 4 miles of the Lower San Pedro River south of the towns of Winkelman and Hayden near the confluence with Aravaipa Creek, are home to many diverse species, including neotropical migratory birds, nesting raptors, the endangered southwestern willow flycatcher, and waterfowl species.

ASARCO and the State of Arizona have estimated the total cash value of the properties to be between \$3 million and \$4 million, and it compensates the State for damage done to Arizona's natural resources. The settlements act to safeguard State Trust Land that abuts the three ASARCO parcels transferred to Game and Fish for preservation. The State Trust lands make up part of the riparian area along the San Pedro and are of great value to the state and the Permanent School Trust.

ADEQ, Attorney General's Office Reach Settlement with Honeywell International

ADEQ and the Attorney General's Office reached a settlement with Honeywell International requiring Honeywell to pay a \$5 million penalty and a \$1 million Supplemental Environmental Project. The penalty settled a lawsuit filed by ADEQ and the Attorney General's Office against Honeywell in July 2004 for a number of environmental violations spanning more than 30 years at its Phoenix airport facility, located at 111 S. 34th St.

The lawsuit alleged that between 1974 and 2004 Honeywell violated numerous environmental laws, including the Arizona Water Quality Control Act, Arizona Hazardous Waste Disposal Act and Arizona Underground Storage Tank Act. Among the alleged violations were discharging chlorinated solvents such as vinyl chloride,

dichloroethane, trichloroethane and trichloroethylene into the Phoenix sewer system without a permit; failing to clean up historic releases of fuel from underground storage tanks; and failing to fully disclose information regarding contamination over a period of several years at the facility.

State Assurance Fund Reimbursements

The State Assurance Fund (SAF) was established by the Arizona Legislature in 1990 to assist eligible Underground Storage Tank (UST) owners, operators and volunteers in meeting the potentially high costs of investigating and cleaning up UST releases. It is funded by a one cent per gallon fee on petroleum. In 2004, the legislature eliminated SAF eligibility for new UST releases reported after June 30, 2006, and ends the program on June 30, 2010. In FY09, ADEQ processed 684 applications and reimbursed \$17,780,286 to UST owners, operators and volunteers for investigating and cleaning up their contaminated sites.

Leaking UST (LUST) case closures

The ADEQ Underground Storage Tank Program is responsible for ensuring that UST owners and operators perform the necessary corrective actions like investigation and cleanup for releases that have occurred from their USTs. This is accomplished by: providing a point of contact for each leaking UST (LUST) case, reviewing technical reports required by UST regulations, providing corrective action guidance, conducting site visits, offering facility meetings, and by issuing enforcement actions, when appropriate. When the UST owner or operator is unknown, incapable of performing the work, or unwilling to perform the work, the UST Program has the ability to perform the necessary corrective actions through the State Lead Program.

As of April 1, 2009, the UST Program has closed 87 percent of the 8,508 LUST cases that have been opened since the beginning of the UST Program, which was created on April 29, 1986. This percentage is above the national average of 79 percent and above the U.S. EPA Region 9 average of 76 percent.

Groundwater Cleanup Efforts Continue

Through the Remedial Projects Section, the Waste Program Division identifies, assesses and cleans up soil, groundwater and surface water contaminated with hazardous substances. The program conducts these efforts throughout Arizona with support from state and federal funds. The program also oversees privately funded cleanup efforts.

In FY2009, at state sites, 4,459 million gallons of groundwater were treated, which resulted in the removal of 3,085,034 pounds of metals, 83,793 pounds of volatile organic compounds, and 233 gallons of free petroleum product from the environment. At federal sites, 30,346 million gallons of groundwater were treated, which resulted in the removal of 618,720 pounds of volatile organic compounds, 28,000 gallons of free petroleum product and 34,934 pounds of nitrate from the environment.

Federal Stimulus Grant Funding for the LUST Program

President Obama signed the American Recovery and Reinvestment Act of 2009 (ARRA) into law on Feb. 17, 2009. A portion of the ARRA funding was directed to the U.S. Environmental Protection Agency to assist regions and states with assessments and cleanups of soil and groundwater contamination at leaking underground storage tank (LUST) sites.

On Feb. 4, 2009, ADEQ's Tank Programs Division applied to Region 9 of EPA for LUST funding to address assessments and cleanups at up to 66 LUST sites throughout Arizona. Subsequently, EPA informed ADEQ that \$3,219,000 will be awarded for the cleanup activities at about 23 of the proposed LUST sites. ADEQ proposes to use its existing tanks contract with environmental contractors on projects which are "shovel ready" and will begin the projects once the money is awarded.

Green Auto Shops Program Expands During 2009

During FY 2009, in the largest expansion in the four-year history of the program, 19 more auto shops joined ADEQ's Green Automotive Shops program, which recognizes and encourages environmentally friendly practices at automotive repair facilities throughout the state. With the new additions, there are now 54 facilities participating in the ADEQ Green Automotive Shops program.

The innovative Green Auto Shops program is a public-private partnership that began in 2005 when ADEQ partnered with the Automobile Association of America-Arizona. The program now includes the Automotive Service Association of Arizona and City of Mesa.

In addition to complying with environmental laws and regulations, "Green Shops" set high standards for pollution prevention and resource conservation and follow procedures designed to minimize waste generation. The participating green auto shops have found ways to protect the environment and conserve resources through better front-office waste disposal practices, parts management programs, housekeeping, parts cleaning and degreasing, fluid recycling and energy conservation policies.

Compliance Management – Compliance Assistance

Metal Coating Industry Hazardous Waste Inspection Initiative

Settlements were reached with Automation Plating, Papago Plating, and Industrial Coating & Plating for numerous hazardous waste violations as part of ADEQ's "Plating Initiative." Automation Plating was required to pay a \$100,000 penalty; Papago Plating was required to implement an environmental management system, conduct four environmental audits over a period of two years, and install a groundwater monitoring well; Industrial Coating & Plating was required to pay a \$20,000 penalty.

ADEQ's Certified Operator Program Partners with ABC and Community Colleges

In November 2008, ADEQ made two significant improvements to the operator certification program. The Water Quality Division (WQD) began using operator certification exams provided by the Association of Board Certification (ABC), a nationally recognized association for operator technical training and testing that includes nearly 100 certifying authorities including states, Canadian provinces and several international programs. ABC has a variety of testing programs including water and wastewater treatment operators, laboratory analysts, and plant maintenance personnel. In addition to the use of ABC exams, the WQD established contracts that allow local community colleges to proctor and grade the operator certification exams electronically at the testing centers. These program enhancements will reduce travel for operators having to take the exams, allow numerous exam sessions to be scheduled at multiple locations across the state, and provide instant grading feedback to allow the person taking the test to know if he or she passed or failed.

Compliance Management – Inspections and Enforcement

Nogales Grand Avenue Remediation Site Treats more than 39 million gallons

In FY2009, the wellhead treatment system on a Valle Verde Water Company well treated more than 39 million gallons of groundwater contaminated with tetrachloroethylene (PCE). In April 2008, ADEQ provided \$800,000 in funding for the construction of the groundwater treatment system.

Before construction of the treatment system, the City of Nogales had been providing drinking water to Valle Verde customers through a temporary connection since early 2007 when elevated levels of PCE were found in several Valle Verde wells. PCE is an industrial solvent commonly used in the dry cleaning industry. Contaminated Valle Verde wells were shut down due to the contamination and the remaining wells in the Valle Verde system were not able to provide sufficient supplies of water to the system's customers. In July 2008, ADEQ provided \$200,000 to fund a new emergency water interconnection pipeline between the City of Nogales water system and Valle Verde Water Company.

First Biohazardous Medical Waste Civil Penalty in State History

ADEQ settled Arizona's first civil penalty for biohazardous medical waste violations. IDEXX Reference Laboratory, Inc. paid \$80,000 in civil penalties for routinely disposing of improperly treated biohazardous medical waste into a solid waste dumpster.

Asarco Agrees to Clean Up Contamination in Hayden and Winkelman

In December 2008 through October 2009, ASARCO conducted sampling and removal activities at about 200 parcels, mostly residential, within the towns of Hayden and

Winkelman in response to elevated levels of arsenic, lead and copper in area soils. Soil sampling in Hayden and Winkelman suggested these metals were present as the result of ASARCO mining and processing operations. Though concentrations were not high enough to pose an immediate health concern, long-term exposure was a concern.

On May 27, 2008, ASARCO LLC entered into an Administrative Settlement Agreement On Consent (AOC) with the U.S. Environmental Protection Agency (EPA) and ADEQ to conduct removal actions at residential and common areas in Hayden and portions of Winkelman and to conduct a Remedial Investigation/Feasibility Study (RI/FS) at the ASARCO Hayden plant site. The purpose of the RI/FS is to delineate the extent and source of contamination.

The site was not listed on EPA's National Priorities List (NPL), but 9 this site instead became the first Superfund Alternative (SA) site for Region 9. The SA approach is an alternative to listing a site on the NPL, but is not an alternative to the Superfund process.

EPA and ADEQ provided regulatory oversight for the investigation and removal action at this SA site. ASARCO has set aside \$15 million in a trust fund to ensure final completion of the work per the AOC and to fully reimburse EPA and ADEQ for expenses to oversee ASARCO's activities.

To date, \$6 million has been spent on the project and 649 of the 658 total parcels have been sampled. A total of 260 parcels were contaminated and the total number of parcels remediated to date is 220.

Monitoring and Assessment

Nutriosio Creek Removed from Impaired Waters List

Nutriosio Creek, upstream of Nelson Reservoir in the White Mountains, became the first surface water in Arizona to be removed from the state's list of "impaired waters" due to voluntary restoration actions by a private landowner. The EPA has accepted ADEQ's recommendation that Nutriosio Creek is no longer impaired due to turbidity. The creek was listed in 1998 due to high turbidity. As required by both state and federal law, ADEQ completed a Total Maximum Daily Load study in 2000 which determined that for Nutriosio Creek to meet surface water quality standards, the sediment load would need to be reduced by 837 pounds a day or a total of about 50 tons, during the four months that spring runoff occurs. The TMDL implementation section listed a number of Best Management Practices that could be used to potentially reduce the sediment loading to Nutriosio Creek. In late 2000, a private landowner began restoration efforts along three miles of the creek through ADEQ's Water Quality Improvement Grant Program. Improvements included fencing cattle away from the stream, establishing off-channel water sources for cattle, and numerous erosion control efforts. Recent water quality monitoring shows the creek is meeting the applicable standard for suspended sediment.

Public Outreach – Education and Outreach

ADEQ Awards \$1.5 Million in Water Quality Improvement Grants

In 2009, ADEQ awarded \$1.5 million in federal grants to reduce nonpoint source water pollution throughout the state of Arizona. Ten grants were awarded as part of ADEQ's Water Quality Improvement Grant Program.

Seven grants were awarded for improvement projects to address issues such as erosion and sediment control, stormwater runoff, recreational impacts, grazing and alternative water systems, decommissioning of old septic tanks, and stream course restoration. Three targeted watershed planning grants were awarded as well. These grants were awarded to watersheds which were chosen by ADEQ based upon the existence of a nonpoint source pollution-related water quality impairment and a high level of community interest in working to address the impairment. These grants will be executed in two phases. In the first phase, the watershed will be surveyed to determine critical sources of pollution and a Watershed Improvement Plan (WIP) will be developed. The second phase will solicit grantees to begin implementing the management practices identified in the WIP.

Nonpoint source pollution is caused by pollutants that are carried into lakes, streams and groundwater resources through overland runoff and is considered one of the most significant threats to water quality nationwide. The funded projects are described below:

- The Oak Creek Canyon Task Force received \$311,603 to reduce the level of *E. coli* bacteria in the Oak Creek Watershed. The Targeted Watershed Improvement Grant is intended to develop a watershed improvement plan to help clean up Oak Creek, which is listed as "impaired," or seriously polluted, under the federal Clean Water Act.
- Lake Havasu City received \$300,000 to offset the cost of closing 1,194 residential septic tanks in the Palm Tree and Cisco neighborhoods in the northeast part of the city, in Mohave County, so the residents could connect to the city's wastewater treatment system.
- The Prescott Creeks Preservation Association of Yavapai County was awarded \$299,961 to reduce runoff of the pollutants nitrogen, phosphorus and *E. coli* bacteria in Granite Creek and Watson Lake. The Targeted Watershed Improvement Grant is intended to restore the two waters of the Granite Creek Watershed, which are listed as "impaired," or seriously polluted, under the federal Clean Water Act.
- Coconino National Forest received \$211,825 to set up 10 portable toilets along a 4.6-mile stretch of Fossil Creek, east of Camp Verde in Gila and Yavapai counties. Fossil Creek was listed on the federal roster of Wild and Scenic Rivers after a dam was decommissioned and natural flows restored in 2005 but the popular tourist area has been marred human waste and trash problems.

- The Upper Gila Watershed Partnership of Arizona in Greenlee County received \$188,436 to plan and complete projects to reduce levels of E. coli bacteria in the San Francisco River and Blue River. The Targeted Watershed Improvement Grant is intended to restore the two rivers, which are listed as “impaired,” or seriously polluted, under the federal Clean Water Act.
- The Arizona Game and Fish Department received \$74,145 to repair more than 1,000 feet of eroding stream banks to protect two threatened fish species, the Little Colorado spinedace and Little Colorado sucker, along the Little Colorado River, 3 miles northwest of Springerville in the Wenima Wildlife Area in Apache County.
- The Gila Watershed Partnership in Graham County received \$43,000 for the construction of a new water well on the Kaler Ranch near Clifton, which will serve as a drinking source for cattle away from the San Francisco River. The river has been contaminated with E. coli bacteria from animal waste because the cattle have had no other source for drinking water.
- The Cosanti Foundation in Yavapai County received \$37,453 to draw up a plan to control bank erosion and sediment runoff along 2.5 miles of the Agua Fria River. The foundation owns and operates the experimental town centered around sustainable living Arcosanti near Cordes Junction and owns 860 acres of land it wants to restore and preserve.
- The City of Flagstaff in Coconino County received \$25,000 to protect Francis Short Pond, the only permanent body of water in the city, from contamination by storm water runoff. In recent years, the pond has shown elevated levels of fecal coliform bacteria and other contaminants because of runoff from an adjoining dog park, resulting in fish deaths.
- The Town of Gila Bend in Maricopa County received \$12,850 to protect Gatlin Site, a thousand-year-old Hohokam village designated a National Historic Landmark by the State Historic Preservation Office, from erosion and runoff from storm water from the nearby Gila River.

ADEQ Stadium and Arena Recycling Programs

During the 2008-09 university sports seasons, ADEQ paired with the University of Arizona, Arizona State University and Northern Arizona University in a \$210,000 educational effort to encourage recycling at games.

Recycling containers were stationed at University of Arizona Stadium, McKale Center and the baseball stadium on the UofA campus; at Sun Devil Stadium and Wells Fargo Arena on the ASU campus in Tempe and at Walkup Skydome on the NAU campus in Flagstaff.

ADEQ messages to encourage recycling were broadcast on radio broadcasts of the games and on scoreboards during the games along with signs placed throughout the athletic venues. In addition to the educational benefits of the programs, an estimated 25 tons of recyclable materials were collected at the venues.

ADEQ Awards More Than \$1.1 Million in Recycling Grants

ADEQ funds recycling efforts within communities throughout Arizona. These grants support the development of community programs to divert recyclable waste from landfills. Benefits include longer lasting landfills and reduced need for energy and materials that would otherwise be used to manufacture new materials.

During FY 2009, ADEQ awarded just more than \$1.1 million to communities and organizations throughout the state.

The following is a list of recycling grants:

- The City of Sierra Vista received \$330,000 in three grants supporting recycling. The majority of the new funding, \$200,000 was used to bring about curbside recycling to serve about 10,000 Sierra Vista single-family homes. The city also received an additional \$100,000 to expand the capacity of its material recovery facility and purchase a new recyclable baler to handle the anticipated increase of tonnage of recyclable material collected from the new curbside program. In addition, the city received \$30,000 to publicize the curbside recycling program and encourage participation.
- Verde Earthworks LLC of Sedona received \$319,112 to establish a new materials recovery facility near Interstate 17 in the community of Rimrock. The facility, located on eight acres, will process residential and commercial recyclable materials for the rural area of Verde Valley. The funds will pay for a 4,000-square-foot steel building, a baler and a conveyor for sorting.
- Maricopa County received \$188,736 to provide recycling to rural and unincorporated areas through supervised residential drop-off of household hazardous waste and 11 other recyclable materials.
- The City of Mesa received \$60,999 to offer comprehensive recycling within Mesa's public schools. The grant also will provide recycling at Hohokam Stadium, and improve the signage at multifamily and drop-off locations.
- Apache County received \$60,000 for a study to identify the recycling needs of Apache County citizens and the viability of establishing a materials recovery facility in the county.
- The City of Tempe received \$59,800 to create a 24-foot recycling exhibition trailer with interactive videos, displays and educational materials to promote recycling.

- The City of Kingman received \$33,500 to provide residents in the Mohave County city with dropoff recycling at collection trailers in three locations.
- The City of Prescott received \$30,000 for a one-day event to collect household hazardous waste.
- Northern Arizona University received \$27,238 to fund a community education campaign to increase participation in recycling and reduce contamination of recyclables in Flagstaff and Coconino County, as well as Northern Arizona University and public schools in Flagstaff.
- The Town of Fountain Hills received \$19,000 for its first household hazardous waste collection event for the town and its nearby communities.
- The Town of Pinetop Lakeside received \$18,000 to purchase four recycling collection trailers and increase the number of recycling dropoff locations available to residents.
- The City of Sedona received \$15,000 for a household hazardous waste (HHW) collection event at city hall, the first collection event in the Verde Valley in more than five years.
- The Hualapai Tribe in northwestern Arizona received \$10,000 to fund recycling education and buy recycling bins for office workspaces, homes and central dropoff locations.
- The To'Nanees'Dizi Chapter on the Navajo Nation received \$7,397 to begin an educational campaign to encourage recycling in Tuba City and surrounding areas through community-wide distribution of flyers, banners and household recycling bins.
- Norton Environmental Waste Services LLC in Flagstaff received \$3,736 to increase recycling by visitors, residents and employees at Grand Canyon National Park.
- The Town of Sahuarita received \$2,430 to buy recycling bins for town employee workspaces for employee and public use outside the administration building as part of the town's expanded recycling program.

ADEQ awarded 29 grants totaling \$12,000 to Little League baseball programs in nine Arizona counties as part of the agency's Little League Recycling and Litter Control Project. The grants provide money for banners promoting recycling displayed at baseball fields and for recycling containers to be placed at the fields. ADEQ's Little League Recycling and Litter Control Project is now in its sixth year, with grants awarded to Little League programs throughout the state for recycling and litter clean up.

ADEQ also awarded scholarships of \$1,000 each under the department's Recycling Scholarship Program to eight Arizona high school seniors to be used for expenses at a college or university in Arizona. The scholarship recipients were selected by ADEQ based on proposals they submitted outlining a waste reduction or recycling project in their school or community. The total amount awarded was \$8,000.

Public Policy - Rule Development

Alternative Mercury Controls for Electric Utilities

On Jan. 29, 2007, ADEQ adopted rules to regulate mercury emissions from electric utility steam generating units (EUSGUs,) incorporating the March 2005 federal Clean Air Mercury Rule (CAMR) by reference and establishing a separate state mercury standard that requires either a 90 percent reduction in mercury emissions (based on inlet mercury in the coal) or an outlet mercury emission rate of 0.0087 lb/GW-hr by Dec. 31, 2013. On Feb. 8, 2008, the U.S. Court of Appeals for the District of Columbia vacated CAMR, and EPA ceased work methods for monitoring emissions of mercury. In addition, the court directed EPA to adopt new emission standards. In 2008, the Arizona Utilities Group (AUG) expressed concerns that the standard EPA ultimately adopts may be incompatible with the controls that are necessary to achieve compliance with ADEQ's mercury rule.

On Oct. 22, 2008, the AUG submitted to ADEQ an alternative plan for achieving compliance with the state mercury standard by delaying the date of compliance with the rule from Dec. 31, 2013, to Dec. 31, 2016. The plan called for implementation of one of two options: a mercury control strategy designed to achieve a 50 percent reduction of mercury emissions on or before Jan. 1, 2011; or a mercury control strategy designed to achieve a 70 percent reduction of mercury emissions on or before Jan. 1, 2012. Each proposed option would end on Dec. 31, 2015, after which compliance with the state mercury control standard would be required.

The state mercury control standard would have resulted in an annual average reduction in mercury emissions of about 54 percent from Jan. 1, 2011, through Dec. 31, 2015. Implementation of the alternative options would result in an annual average reduction in mercury emissions of 50 percent or 56 percent during that same time period. Because the proposed plans were designed to result in substantially similar mercury reductions, ADEQ issued mercury emission consent orders on Feb. 18, 2009, for Arizona Electric Power Cooperative's Apache Generating Station, Arizona Public Service's Cholla Power Plant, Salt River Project's Coronado Generating Station, and Tucson Electric Power's Irvington and Springerville Generating Stations.

ADEQ Issues First CO2 Storage Aquifer Protection Permit

The WQD issued an Aquifer Protection Permit (APP) for a carbon dioxide sequestration project, a first of its kind in Arizona, at the Arizona Public Service - Cholula Power Plant located outside Joseph City in northern Arizona. The temporary permit was issued to

APS, partnering with the Department of Energy and Westar. During the permitting process, ADEQ coordinated closely with EPA Region 9 which issued a companion Underground Injection Control (UIC) Permit. These permits authorized the first ever carbon dioxide injection test in the State of Arizona. The results of the test will be used on a national level to evaluate the possibility of capturing carbon dioxide from the generation of energy at power plants and injecting it deep into the subsurface and under a confining layer of cap rock.

The permit conditions were based on theoretical calculations and actual boring data obtained from the general area. The requirements of the permit allowed for testing, but were stringent enough to protect the subsurface from fracturing. The permit also contained provisions for the sampling of groundwater from the local drinking water aquifer in order to monitor and protect drinking water supplies.

South Phoenix Health and Particulate Matter Study

ADEQ's Air Quality Division, with Arizona State University (ASU), Maricopa County Health Department (MCHD), and the City of Phoenix's lead abatement group, collaborated in conducting a study of air quality and health impacts in South Phoenix. The study area was about two square miles, with a population of about 9,000 persons and bounded by Roeser Road on the south, 32nd Street and I-10 on the east, the Salt River on the north, and 16th Street on the west. The area is adjacent to freeways, major arterials, the airport, and numerous industrial operations which produce particulate emissions, including a high density of diesel exhaust. The area was subject to two major industrial fires, the Quality Printed Circuits and Central Garden and Supply Fires (1992 and 2000, respectively); residual particulates from these fires may remain in the topmost layer of the soil. These particulates may be associated with childhood respiratory ailments and an increase in frequency and severity of skin rashes, headaches, and blurred vision reported throughout this population. Asthma rates in children within the study area are among the highest in metropolitan Phoenix.

ADEQ collected air quality samples from December 2008 through February 2009 at two locations in the study area. A third sampling site outside the study area served as the control site for the study. Twenty-one air quality monitors and meteorological instruments were operated during the study, resulting in about 33,000 data points.

ASU is completing the study report, which will be distributed to elected officials, community leaders and the general public.

Conclusion...

Despite challenges presented by budget limitations and reduced staffing levels, ADEQ continued to make progress in FY09 in protecting Arizona's environment and the health and safety of the people of this state. Through innovative efforts like the emissions-control initiative in south Phoenix, the UST cleanup program, innovative permitting and cleanup efforts, and strict enforcement, ADEQ is committed to ensuring clean air, clean water and a healthy environment for all Arizonans.

