

Tribal Air Monitoring Outlook

US EPA/R&IE/CIE



TAMS CENTER

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Editor: Polly Hennessey

The Quapaw Tribe of Oklahoma and The Tar Creek Project



The Quapaw Indian Tribe of Oklahoma was originally located near the mouth of the Ohio River where they were part of a larger group known as the Dhegiha Sioux. As a member of this group, they belonged to the same Siouan linguistic family as the Ponca, Osage, Omaha and Kansas tribes. In the early 1600s, the Quapaw began to move downstream to the Mississippi River and settle in what is now known as Arkansas. This move earned them the tribal name of Ugakhpa, which means “downstream people.” During the mid-1600s, the French explorers Robert De La Salle and Henri De Tonti encountered the Quapaw and began referring to them as Akanseas or “Bow people of the south wind.” The area in which the Akanseas were located eventually became the State of Arkansas. Beginning in 1818, the United States government began obtaining land from the Quapaws until 1833 when, “the tribe was removed from Arkansas for the last time.” The 1833 move put them into Indian Territory in what is now known as Oklahoma. In 1867, they were yet again forced to sign over a large portion of their lands. “Today, the Quapaw retain only a small parcel of historic trust lands of less than 13,000 acres.”

In 1919, lead and zinc deposits were found on tribal lands. This discovery brought a fifty year period of intense mining activity, which included the Tar Creek area, with the last mines closing in the 1970s. The mining activity took place in what has been designated as the Tri-State Mining area, which encompasses portions of Oklahoma, Kansas and Missouri. Some of the mining operations were conducted at depths of 90 to 320 feet below ground surface in the Boone Aquifer. It should be emphasized that the Tar Creek site has become not only a state and federal issue, but also tribal. “The Quapaw Nation and a group of seven other small tribes in Ottawa County own 80 percent of the land that makes up the Tar Creek Superfund site.” Environmental problems began showing up in 1979 with the advent of acid mine drainage from the underground mines flowing into Tar Creek through abandoned mine shafts and bore-holes. Along with the acid drainage from the mines, lead-contaminated soil had become a major source of surface contamination. This contaminated soil was then deposited into “chat” piles, which constituted approximately 165 million tons of



*Chat Pile—Ottawa County
Note the proximity to the residential property.*

Photo courtesy of EPA



*Acid Mine Drainage into Lytle Creek
Note the reddish iron oxide staining on the
vegetation and banks of the creek.*

Photo courtesy of EPA

tailings, over 1,320 mine shafts and thousands of drill holes. With these considerations in mind, the Quapaw Nation has been in the forefront of a cooperative effort to resolve these problems.

In 1980, the Governor of Oklahoma established the Tar Creek Task Force to investigate acid mine drainage into Tar Creek. In 1983, the Tar Creek Site was listed on the National Priorities List (NPL). This list is used to guide the Environmental Protection Agency (EPA) “in determining which sites warrant further investigation” as to releases of hazardous substances, pollutants or contaminants. Remediation efforts by the EPA had begun addressing the acid mine drainage problem and the lead-contaminated residential yards; however, the Quapaw Tribe felt that one other area needed to be addressed, that of air quality. Leon Crow, Air Quality Manager, Quapaw Tribal Air Program, emphasized in a Tribal Case Study, that “Air quality is of primary concern to a majority of Tar Creek residents and tribal members.” The tribe requested air monitoring equipment be placed within designated areas. After discussions with EPA’s Office of Air and Radiation (OAR), it was determined that monitoring for fine particulate matter $PM_{2.5}$ and PM_{10} and lead was warranted. The tribe also

requested that silica monitoring be included (this last was deemed necessary due to complaints from local residents).

Four air monitoring sites were selected: The Thomas Buffalo Allotment; the Whitebird Allotment; the Hum-bah-wat-tah Allotment and the Anna Beaver Allotment (which was also the quality assurance and quality control site). The tribal staff received training in several TAMS Center-sponsored courses, which included: Quality Assurance; PM monitoring; TEOM Ambient Particulate Continuous Monitoring and Air Quality Systems (EPA database). The tribe also participated in EPA’s National Performance Audit Program (one site every quarter); an Independent Audit Program (one site every quarter) and a Self Audit Program, conducted on every sampler on a bi-weekly basis. In addition to the formal course training at the TAMS Learning Center, located in Las Vegas, Nevada, at EPA’s Radiation and Indoor Environments National Laboratory (R&IE), two on-site training sessions were conducted in

March 2003 and January 2004 by Joe Hameed, Technical Specialist II, with the TAMS Center. The training concentrated on the operation, maintenance and calibration of the equipment; auditing procedures; Quality Assurance/Quality Control checks; Data Management and Verification and Troubleshooting Processes.

With the expertise and training provided by the TAMS Center, the Quapaw Tribe of Oklahoma, has formed the groundwork for reaching its ultimate goal of finding a comprehensive solution to the Tar Creek dilemma.

If you have any questions concerning the training and on-site visits conducted by the TAMS staff, please call Joe Hameed at (702) 784-8269 or email to Joe.Hameed@nau.edu. For questions involving the Tar Creek Project and the Quapaw Tribe, please call Leon Crow at (918) 542-1853 or email to LCrow@QuapawTribe.com.



Joe Hameed, Technical Specialist II, TAMS Center, and Leon Crow, Air Program Manager, Environmental Office for the Quapaw Tribe, check the apparatus inside an Ozone Calibrator.

TAMS Center On Site Training



Joe Hameed, Technical Specialist, TAMS, conducts Gaseous Monitoring Instrument training; Nathaniel Herbst, Air Quality Specialist, Southern Ute Tribe, Colorado; Frank Geasland, Air Quality Specialist, Quapaw Tribe, Oklahoma.



Tom Stelle, Air Quality Specialist, Quapaw Tribe, Oklahoma, and Joe Hameed, Technical Specialist II, TAMS, make adjustments to a meteorological sensor.



Frank Geasland, Air Quality Specialist, Quapaw Tribe, Oklahoma, erecting a Meteorological Tower.

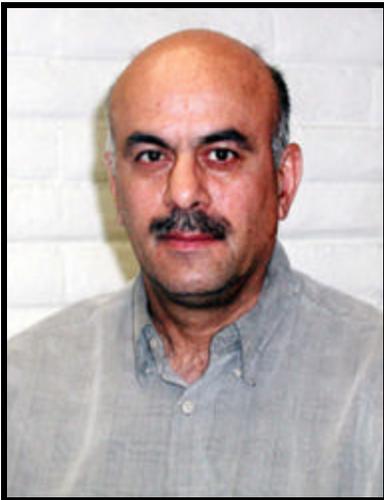


Leon Crow, Air Program Manager, Quapaw Tribe, Oklahoma, and Joe Hameed, Technical Specialist II, TAMS, inspecting exhaust lines from monitoring equipment.



The TAMS Team

TAMS would like to welcome two new members to its team: Farshid Farsi and George Dilbeck and to say goodbye to Annabelle Allison.



Farshid Farsi joined the Institute for Tribal Environmental Professionals (ITEP) task force in October 2003. For nearly twelve years, Farshid worked as the Air Quality Program Manager for the Shoshone-Bannock Tribes in Fort Hall, ID. Farshid was instrumental in bringing federal focus to the pollution history of the FMC Corporation, whose Idaho facility was “the world’s largest producer of elemental phosphorous, which is used in detergents, beverages, foods, synthetic lubricants and pesticides”. The FMC facility was located on privately owned land within the Shoshone-Bannock Tribe’s Fort Hall Indian Reservation. The plant, “which was built in 1949, processed 1.4 million tons of shale ore annually, producing about 250 million pounds of elemental phosphorous per year.” Farshid worked closely with the Environmental Protection Agency’s Region 10, which wrote an Implementation Plan for the polluting source. Farshid made numerous inspections of the FMC plant and gave the inspection reports to EPA’s Region 10. Region 10 used the reports to set emission limits on the various polluting sources. “Under the terms of a settlement agreement, FMC will pay a fine of \$11.9 million, spend \$93 million for ‘injunctive relief’ improvements at the facility and pay \$65 million for supplemental environmental projects (SEPs) to improve air quality and provide public health assessments.

Farshid was assigned to the TAMS Co-Directorship on an interim basis after the resignation of Annabelle Allison. His new role became effective, March 1, 2004, and will continue until a permanent Co-Director is named. Farshid has stated that, “...all at the TAMS Center are committed to provide the best technical services to the Tribes” and plans to continue the short term goals that were set at the TAMS Center, including projects such as, the National Information Exchange Network (NIEN); the Passive Ozone Study; professional assistance to the Navajo Nations, e.g., the Church Rock Radiation Study; conducting the first Air Toxics and Indoor Air training courses, etc.

Farshid has also been involved in numerous air quality organizations, which include the Western Regional Air Partnership and the National Tribal Air Association’s Executive Committee. Farshid, a native of Iran, is married and has two sons.





The TAMS Team



George Dilbeck, a native of Arkansas and newly assigned as R&IE's Co-Director of the Tribal Air Monitoring Support (TAMS) Center, succeeding Greg Budd in that position, has been with EPA since 1991. Before joining the TAMS Center, George administered the R&IE's Radiation Quality Assurance Program (RADQA), which meant visiting low-level radiation laboratory facilities throughout the country, providing technical expertise and peer reviews. He most recently held the position of Center Director for Radioanalysis and Quality Assurance (CRQA) and also assisted in maintaining EPA's Emergency Response assets for quick response to potential nuclear threats or similar incidents. Prior to joining EPA, he was Laboratory Supervisor for the State of Arkansas' low-level radiation

laboratory at the Arkansas State Department of Health in Little Rock, AK. In that capacity, he was responsible for three major areas that could have potentially impacted the health of the citizens of Arkansas. The first was the administration of the radiochemistry laboratory's effort to test all of the drinking water systems in Arkansas for the required radiological parameters as outlined in the Safe Drinking Water Act (SDWA) statutes. The second major requirement was to analytically measure all of the environmental samples that were collected around the two nuclear power plants in the Russellville, AK, area. These environmental samples were submitted weekly, monthly, quarterly or biannually. His third area of concern was to assure that all of the users of nuclear materials in Arkansas were following proper procedures as outlined by the Arkansas State Department of Health as Arkansas is an Agreement State with the Nuclear Regulatory Commission (NRC).

In his new role as Co-Director of TAMS, George will be heavily involved in increasing the number of courses that are offered to the various Tribes. He will also be working closely with Bob Mosley, Gravimetric Laboratory Manager, and Carl Palumbo, Particulate Laboratory Specialist, to increase the air monitoring capabilities offered by the Center for Indoor Environments (CIE) Gravimetric Laboratory. Future projects include the integration of multimedia efforts which would be made available to the various tribal entities. This effort will involve both CIE and the Center for Environmental Restoration, Monitoring and Emergency Response (CERMER) and is in the early developmental stage.

In his role as Co-Director for TAMS, George states that he "...was very pleased to work with Annabelle Allison [the most recent ITEP TAMS Co-Director] and is equally excited about working with Farshid Farsi, the new TAMS Co-Director, in carrying on what has been started at TAMS and expanding the roles and responsibilities of TAMS."



Whispering Smoke
by Kathy Cooney

Annabelle Allison, who has been the TAMS Co-Director since 2000, will be stepping down from that position effective March 1, 2004. Annabelle will remain with ITEP in her new role as Technical Manager. In this capacity, Annabelle will continue to serve as facilitator for two TAMS courses: Air Toxics and Indoor Air Quality (IAQ) for Residential Homes in Oneida, WI. She will provide technical support and outreach activities to the Passive Ozone Study with Southern California tribes; the pilot study with five tribes to demonstrate data acquisition software; the Church Rock Uranium Mining Project; and the Western Regional Air Partnership (WRAP). Annabelle will continue to work closely with the TAMS and ITEP staffs to collaborate on technical requests and special projects with tribes across the country.

As she embarks on her new and challenging responsibilities with ITEP, Annabelle has stated that “I have enjoyed the opportunity to voice a perspective that is supportive of the issues tribes face and to work towards building collaborations with EPA and other external entities. I have been honored to meet and work with many of you who are dedicated and committed to giving tribes voice, visibility and recognition. Tribes are unique because they are active in preserving traditions, language and heritage. This is a good thing. After all, that is what environmental protection is in its truest sense: respect for everything around us and balancing the present so we can have a future.”

Annabelle was instrumental in bringing many changes to TAMS and ensuring that its outreach program became an integral part of the dynamics in its efforts to communicate and awaken interest in those issues faced by today’s tribes; according to Annabelle, “It is about education and creating understanding; it’s the only way we are going to create change in our lifetimes.”



TAMS TRAINING SCHEDULE

March—June 2004



March 23-25—Meteorological Stations—Las Vegas, NV

April 27-30—Indoor Air Quality—Green Bay, WI

May 5-6—TEOM—Las Vegas, NV

June 8-10—Air Toxics—Las Vegas, NV

Sources:

AAG-Association of American Geographers

National Energy-Environment Law and Policy, Tulsa University

Trail of Soft Tears, Tribal Information

American Indians, Quapaw

Leon Crow, Quapaw Tribe, Oklahoma

Oklahoma City Convention and Visitors Bureau

Quapaw Tribal Air Program Presentation

EPA Region 6 Congressional District 02, Ottawa County, January 8, 2004

National Priorities List, U.S. Environmental Protection Agency

Governor Keating's Tar Creek Superfund Task Force, October 2000

Chemical Market Reporter, October 1998, Glenn Hess

Rupprecht & Patashnick Co., Inc., TEOM Series 1400a Ambient Particulate Monitor

