

## **Arvin secures funding to monitor own air**

By Kellie Schmitt, staff writer

Bakersfield Californian, Friday, Sept. 16, 2011

Arvin residents concerned about air quality will be monitoring pollutants themselves, thanks to \$130,000 in funding they will receive over two years.

The money, which comes from The California Endowment, will be used to purchase air monitoring devices and train residents on how to use them. The goal of the self-collected data is to shed light on the region's pollutants, the locations most affected and their overall prevalence. Historically, Arvin air has been among the worst in the nation.

"When you have the community involved, then you really get a good system, one in which all the stakeholders are participating," said Denny Larson of Global Community Monitor, a Bay Area group that trains and supports these so-called bucket brigades.

As part of the funding, Larson will be training the Arvin group, and helping it select the right mix of buckets and monitors. They'll start next month with community meetings, and a "toxic tour" that highlights areas where residents are most concerned.

The funding will likely pay for bucket sampling devices, which catch gasses that are in the air. A portable particulate sampler and ozone monitors may also be added to the mix. A small stipend may be given to residents who collect the data and accumulate readings to cover their driving distances and time.

The Arvin effort to monitor their own air gained steam earlier this year after residents learned that the California Air Resources Board had moved its official Arvin ozone monitor to a new site. When the board lost the lease on the land where it had kept its monitor for about 20 years, it moved its station to Di Giorgio Elementary School. Since the two-mile move, the readings have come in about 11 percent cleaner, air officials have said.

While the air board can't use the residents' data as an official source -- it won't meet the strict protocol and calibration standards -- that information can be useful in overall education efforts, said Dimitri Stanich, the board's public information officer.

"Getting the public involved in these kinds of things is always helpful," he said. "The more they understand the scientific process, the more they'll understand the challenge ahead of us."

Residents also could come to the air board with their own data to challenge readings or offer a different perspective on what's happening in their community, he added.

Once Arvin residents gather the data, the next step will depend on what they find, said Caroline Farrell, acting executive director of the Center on Race, Poverty and the Environment, a group that is working with Arvin residents on the project.

"The ultimate goal," she said, "is to have some good community-driven data about air quality in Arvin."

## **Valley Air District's former chief counsel joins local law firm**

By Sentinel Staff

Hanford Sentinel, Friday, Sept. 16, 2011

HANFORD — Kahn, Soares & Conway, LLP announced this week the addition of Phil Jay as counsel to the local law firm. Jay served as chief counsel for the eight-county San Joaquin Valley Air Pollution Control District from 1993 to this year.

"We are very pleased that Phil has become part of our team," said managing partner George Soares. "Phil brings an outstanding reputation and first rate expertise that will greatly enhance our service to clients located in California and nationally."

In his new role, Jay will assist clients in navigating the legal and governmental complexities associated with air quality, land use, the California Environmental Quality Act (CEQA) and much more, according to Soares.

“We also expect Phil to benefit clients in government related litigation, labor law, civil rights violations and civil litigation, using experience he gained as legal counsel for Fresno and Madera counties before joining the Valley Air District,” he said.

In 2003, KSC, in partnership with Jim Wells, former director for the California Department of Pesticide Regulation, formed Environmental Solutions Group, LLC to assist clients in addressing pesticide, and air and water quality issues.

## **Toxic metals mix it up in California air**

Futurity, Thursday, Sept. 15, 2011

UC DAVIS (US) — Very fine and ultrafine metal particles in the air are able to penetrate deep into the lungs and cardiovascular system, damaging arteries and the heart itself.

Published in the journal *Aerosol Science and Technology*, three studies focusing on aerosols and health note that risk-assessment of these particles is difficult because standard air samples don't separate out the dangerous particles. Furthermore, there are few statistics available on the composition of the particles in the surrounding atmosphere.

“These studies yielded unique epidemiological data supporting a growing body of evidence from laboratory and medical studies, which strongly suggests that very fine and ultra-fine metal particles are damaging to human health,” says Thomas Cahill, professor emeritus of physics and atmospheric sciences at [University of California, Davis](#).

In the three papers, Cahill and colleagues investigate the role that very fine and ultra-fine metal particles play in contributing to heart attacks, the reduction in heart attacks when ultra-fine particles were removed from the air in California's San Joaquin Valley, and the increase in estimated cancer rates downwind of a rail yard in the northern California town of Roseville.

### **Metallic particles in the Central Valley**

For the first [study](#), researchers took air samples at five sites in California's Central Valley, from Redding south to Bakersfield, and analyzed 42 elements, including very fine metals in eight size ranges, as well as integrated organic species. The samples were taken every three hours during a 17-day period in January 2009, when weather conditions caused valley air to stagnate.

The Central Valley runs the length of inland California from the Sacramento Valley in the north to the San Joaquin Valley in the south.

Researchers found a correlation between the levels of the particles in the air and the death rates due to ischemic heart disease, with the highest rates for both occurring in the southern San Joaquin Valley near Bakersfield. Ischemic heart disease is characterized by a reduction in blood supply, often due to the clogging of the arteries.

An analysis of local meteorology in that area revealed a nighttime flow of air off of nearby Interstate 5 and Highway 58, both steep stretches of road that require heavy braking by large trucks traveling down into the valley, suggesting that fine and ultra-fine particles likely come from brake pads, brake drums, and metal additives in lubricating oils of trucks and cars passing through the valley.

The findings may also offer clues as to why children who grow up near freeways are more likely to suffer loss of lung function.

### **Heart attack decline**

In the second [study](#), researchers examined patterns in the atmospheric levels of very fine and ultra-fine aerosol particles of vanadium and nickel in the southern San Joaquin Valley.

Levels of these metal aerosols, as well as ammonium nitrate and sulfate, have historically been much higher in the southern end of the San Joaquin Valley than in the northern end, due to the burning of crude oil to generate steam used to recover heavy petroleum from oil wells in the area.

Furthermore, the southern San Joaquin Valley also historically has death rates due to strokes and ischemic heart disease that were roughly 60 percent greater than the rest of the Central Valley.

In 1990, new technologies were developed that made it possible to use natural gas, rather than crude oil, to fuel the petroleum extraction efforts.

Cahill and colleagues measured the ultra-fine vanadium and nickel aerosol particles in 2009 and compared those levels to pre-1990 levels, when crude oil was still being used for petroleum recovery. A sharp decrease in ischemic heart disease was seen in 2007 in the southern San Joaquin Valley that was mirrored by a dramatic decline in the levels of vanadium and nickel aerosols.

Those data support a growing body of evidence from laboratory and epidemiological studies, which suggest that the vanadium and nickel aerosols may play a role in causing ischemic heart disease.

The findings suggest that the rate of ischemic heart disease observed in communities downwind from the Port of Los Angeles in 2008 may be related to effluent from ocean-going ships that burn crude or residual oil.

### **Downwind from rail yard**

In the third study, Cahill and colleagues monitored inorganic and organic aerosols downwind from the Roseville Rail Yard, northeast of Sacramento, in order to develop a profile of emissions from rail yard activities.

The rail yard is one of the largest such maintenance and service sites in the western United States, with more than 31,000 locomotives visiting annually.

Most of the aerosols monitored at the site are associated with exhaust from trains' diesel-fueled engines. Most of the particles, especially the known carcinogen benzol[a]pyrene, are in the very fine and ultra-fine size-range, increasing the chances that they would be caught up in people's lungs. Coarse-soil aerosols contaminated with metals and petroleum-derived particles were also present.

Findings identified very fine transition metals and contaminated soils that are potentially important to human health, and confirmed estimates of the health impacts of diesel exhaust downwind of the rail yard that were made earlier by the California Air Resources Board.

Funding was provided by the Sacramento Resources Legacy Fund, the Sacramento Metropolitan Air Quality Management District, the Yolo-Solano Air Quality Management District, and Breathe California of Sacramento-Emigrant Trails.