April 1999

# Envision

*a cleaner environment*

**Arnold Engineering Development Center Installation Restoration Update**

**A publication for Coffee and Franklin county residents**

***Environmental Public Affairs***

***Arnold AFB, Tennessee***


***JOINT EFFORT - Working together to monitor inputs from the first methane gas probe at the Coffee County Landfill are Mike Frederick, AEDC environmental management division; Roger Donovan, Tennessee Department of Environment and Conservation; Travis McCall, AEDC contractor CH2M Hill; Tim Slagle of the EPA; Linda Blackwelder of CH2M Hill; and Maria Labrador, EPA.***

## Work continues at Coffee County Landfill

Construction of a permanent methane gas ventilation system at the Coffee County Landfill is underway. In the meantime, the flare from a temporary ventilation system installed in late January is burning off 30 standard cubic feet of methane per minute.

"We should have a permanent methane gas ventilation system installed in four to five months," said Clark Brandon, deputy chief of the environmental management division. "This system will pull methane migrating from the 97-acre landfill through a vacuum system and burn it off with an exit flare at the surface."

The ventilation system was installed after joint air quality testing conducted in January by AEDC, the U.S. Environmental Protec-

*Continued on page 2*

### CAB to meet May 18

The next Arnold AFB Community Advisory Board (CAB) meeting is set for 4:30 p.m., Tuesday, May 18, 1999 in Manchester. The meeting will take place at the Oak Restaurant, 947 Interstate Drive.

Members of the public are welcome to attend the CAB meetings and/or apply for membership on the board.

# Landfill...

*continued from page 1*

tion Agency and the Tennessee Department of Environment and Conservation confirmed that methane gas has migrated from the landfill.

A total of 23 methane gas recovery wells are in place on the north side of the landfill across from Central High School. In addition, 53 wells have been drilled on the landfill west side next to Highway 55.

"Based on data we have gathered from gas probes on the west side, the ventilation system is working well," Brandon said. "Methane levels on that side of the landfill continue to decrease."

He said that permanent gas probes would be installed on the north side within a few weeks. At that time we will be able to measure the amount of methane being pulled from the area around Central High School and burned off.

The Coffee County Joint Landfill Commission operated the Coffee County Landfill from 1971 to 1989 under a lease agreement from the Air Force. The landfill was used for the disposal of hazardous and solid waste including construction debris and household garbage.

Construction of a $2.1 million clay cap for the landfill, a major AEDC installation restoration program project, was completed in November 1998. An interim groundwater extraction system became operational at the site 1n 1995.

## Why recycle?

Recycling saves energy, natural resources, and landfill space. In this decade, it is projected that Americans will throw away over one million tons of aluminum and 11 million tons of glass bottles and jar.


***ON THE AIR - AEDC kept the public informed about the discovery of methane migrating from the Coffee County Landfill in January. Rob Manning of Nashville Channel 5 News interviews Clark Brandon, deputy chief of the environmental management division, on the steps being taken by AEDC to rectify the methane situation.***

***BURNING METHANE - A flare burns off methane captured at the Coffee County Landfill through a gas ventilation system that is installed on the north and west side of the landfill. This temporary system was installed in January and will eventually be replaced by a permanent ventilation system.***

## CAB meeting held Feb 23 in Tullahoma

The election of a new community co-chairman and briefings on the Coffee County Landfill and private water well sampling program highlighted the Community Advisory Board meeting Tuesday, Feb. 23 at the Hampton Inn in Tullahoma.

Also on the agenda was a briefing by a representative of the Agency for Toxic Substances and Disease Registry. The ATSDR team from Atlanta conducted a public health assessment of AEDC during Feb. 22-25.

CAB members elected Stephen Cope as the new community co-chairman replacing Tony Thompson who had held the post for the past several years. Thompson's term of office expired and he decided to leave the board. The board then selected Joe Addair, who represents northern Franklin County, as a new CAB member.

Clark Brandon, deputy chief of the environmental management division, conducted the briefings on AEDC's restoration program including the Coffee County Landfill. He explained to 25 visitors the steps being taken by the Air Force to solve the methane remediation at the landfill. Brandon also related to the group plans for an expanded water well sampling program in areas near the landfill.

Before adjourning, the CAB selected Tuesday, May 18 as the date for their next meeting. The meeting will be held in Manchester at the Oak Restaurant, 947 Interstate Drive from 4:30 to 6 p.m.


***RECYCLING POSTER WINNER – Fifth grader Grace Everett of East Coffee Elementary School is recognized by lst Lt. Matt Cesarz for being one of the winners in the America Recycles Day poster contest. AEDC's environmental management division sponsored poster and essay contests at East Coffee in Manchester and Bel-Air Elementary School in Tullahoma as part of the America Recyles Day celebration. Winners received prizes donated by local businesses.***

# ATSDR pleased with AEDC's environmental efforts

After completing their public health assessment visit last week, the Agency for Toxic Substances and Disease Registry representatives told Arnold AFB officials they were satisfied with environmental efforts at AEDC. The final public health assessment report will be issued by ATSDR later this summer.

Jeff Kellam, an environmental scientist and ATSDR team chief, said the environmental management division should continue with environmental programs already underway. He was particularly impressed with the actions taken by Team AEDC in responding to the methane the Coffee County Landfill.

Besides the Coffee County Landfill, ATSDR reviewed activity regarding the Camp Forrest waste treatment plant, the northwest plume originating a closed landfill near the retention pond, the former degreaser disposal area near the model shop, and the polychlorinated biphenyl problem in Woods Reservoir. ATSDR members also attended the AEDC Community Advisory Board meeting in Tullahoma on Feb. 23.

During the week, the team reviewed available information on hazardous substances being used at AEDC and any potential harmful effects from long term exposure to the AEDC workforce and the community. The agency uses

**Continued on page 5**

# 'Partners in Flight' studies songbird population

The saying "Its for the birds" has a totally different meaning at AEDC. Most likely it's in reference to Partners in Flight, a program to monitor songbirds that call Arnold AFB home.

"Partners in Flight was launched in 1990 in response to growing concerns about declines in the song bird population," said John Lamb, AEDC zoologist. "The program initiated by the National Fish and Wildlife Foundation is also known as the Neotropical Migratory Bird Conservation Program."

The program is a cooperative effort that involves partnerships among federal, state and local government agencies, philanthropic foundations, professional organizations, conservation groups, industry, the academic community, and private individuals in North and South America. The Tennessee Conservation League started the local program in 1994 and is directed by a state coordinator, Janet York, who works for the Tennessee Wildlife Resources Agency.

AEDC has been a player since 1994. "Once a year we inventory our song birds by listening to their songs at 133 selected monitoring points on base," Lamb said. "We are interested in detecting any population trends in our local bird population."

"If we can detect any declines before they go to far, we can prevent species from becoming endangered," he said. "We have already lost several species to extinction in North America just this century and we don't want this to continue."

"We have documented 81 species of song birds that nest at AEDC," he said. "The three most common birds

are the Northern cardinal, Indigo bunting, and Eastern tufted titmouse."

He said some of the rare birds or those with a declining population found on base include the Henslow's sparrow, Grasshopper sparrow, Bachman's sparrow, Prairie warbler, Blue-winged warbler and Wood thrush. The population of Henslow's sparrows at AEDC is one of only two known breeding populations in Tennessee and is listed as endangered by the Tennessee Wildlife Resources Agency.

Lamb said that May is a good time to watch for the many migratory bird species that pass through this area on their return trip from wintering grounds as far away as South America. During this migration period some species such as the Chestnut-sided warbler can be spotted stopping over before heading further north. Large blocks of undeveloped land like AEDC are important stop over points for these birds.

Because of the increased migration in May, this is when a bird count is conducted for International Migratory Bird Day to monitor the number of birds and species passing through the area. He also said that June is another peak time for bird watching as the males are in full breeding colors and can be heard singing to attract females. We take advantage of this time when even secretive birds are more obvious to conduct our Partners in Flight surveys. Each species has its own unique song and can be identified without even being seen.

Anyone can participate in bird watching by simply buying a bird guide book and a pair of binoculars. However, by joining a local club, such as the Tennessee Ornithological Society, you can learn from experienced individuals who are glad to share their knowledge.

Lamb extends an invitation to anyone interested in bird watching or helping with the bird count during International Migratory Bird Day to contact him at 454-5378 or get in touch with one of the local bird clubs.

## ***Did you know?***

- 5-7 gallons of water is used, each time your toilet is flushed.
- Glass can be recycled "infinitely many times" and it never wears our.
- The energy saved from recycling one glass bottle will light a 100 watt bulb for four hours.
- Sixty percent of the world's lead supply comes from recycled car batteries.
- Making cans from recycled aluminum cuts related air pollution by 95 percent.
- A standard shower head uses about 5-7 gallons of water per minute.
- Recycling two aluminum soda cans saves enough gas to fill one soda can.

# ATSDR pleased with environmental efforts by AEDC...

Continued from page 3

health assessments to determine whether any protective measures are needed.

Col. Michael Heil, AEDC commander, said "he appreciated the ATSDR visit and that it is good to get an evaluation from an outside agency." The colonel also said he was proud of the way AEDC responded to the methane situation. "We determined what happened and took immediate corrective action." He also cited the Environmental Protective Agency and the Tennessee Department of the Environment and Conservation for their part in helping AEDC resolve the methane issue.

Charles King, chief of the environmental management division, asked the team if AEDC's risk rating would remain the same as determined during a previous ATSDR visit in April 1995. During that scoping visit, the need for PCB risk reduction education for users of Woods Reservoir was the primary finding.

Kellam replied that "the rating AEDC received in 1995 should not change." At that time, AEDC received a Category D low risk rating, a low score of between 20-34 points. Ratings on a 140 point scale is divided into five site ranking categories with Category A, 80-140 points being the highest and Category E, 0-19 points, the lowest.

He also said the ATSDR will not return unless an environmental health situation surfaces that would require their attention. However, "we are always here if you need us."

Besides Kellam, ATSDR visitors included Robert Safay, an environmental health scientist and Rebekah Lacey, an environmental scientist. Two environmental scientists from the Institute for Environmental, Safety and Occupational Health Risk Analysis (IERA) at Brooks AFB, Tex., Cornell Long and Donald Hammer, were also members of the team.

# AEDC people key in pollution prevention

AEDC has discovered that experienced, dedicated people are the first lines of defense against environmental spills. Early identification of potential problems, use of containment and other countermeasures avoid spills and reduce the risk to employees and the environment.

"Proactive actions such as the identification of potential problems worked well at the Von Karman gas dynamics facility," said Letha McEntee, AEDC pollution prevention specialist. "VKF personnel took it upon themselves to replace fittings on all hydraulic units with Teflon seals reducing the potential for oil leaks."

By allowing maintenance craft people to install the equipment and route the tubing "smarter and neater" reduced the amount of regular tubing, piping and fitting needed.

Spill containment is another method of preventing releases of contaminants into the environment. Throughout AEDC facilities, floor drain covers, drip pans and secondary containment measures have been adopted to cut potential spills.

At the G-range, people designed and constructed emergency drain covers for high bay and tunnel service areas. The covers, strategically located near certain drains, are used during a spill to prevent oils from entering the environment.

***Mike Hollis, VKF maintenance engineer, points to one of the new fittings installed in a hydraulic system that reduces the potential for leaks and environmental spills.***

Drain covers consist of round steel plates covered on the bottom with sealant material. According to Phil Barnes from the G-range, "the covers are located near drains ready for use if needed during a spill."

Main Test and Laboratory personnel fabricated drip pans for hydraulic equipment in the tunnel areas and purchased secondary containment for the oil storage area. "Drip pans and secondary containment are also spill prevention countermeasures," said Greg Otwell, area team leader.

McEntee said that efforts by AEDC personnel go a long way in preventing spills and releases to the environment. "It's dedicated people who make environmental stewardship a part of their every day life at AEDC," she added.

# AEDC utilizes new hazardous waste, materials building

AEDC's new 18,000 square foot hazardous waste and material facility allows for the storage of both hazardous waste and material in one building instead of four separate facilities.

"Before we opened the new building last year we had hazardous waste stored in three buildings on base and hazardous material was stored in a flammable storage yard," said Mike Hunter, team leader responsible for AEDC waste disposal. "Sixty percent of the building is dedicated for hazardous waste and the remaining 40 percent for hazardous materials."

The AEDC objective, to test and evaluate missile and space systems at conditions they will experience during operation, requires the use of many hazardous materials that may turn in turn generate hazardous waste. The new environmental management division facility allows centralized storage and provides greater environmental protection from hazardous substance spills.

"The new facility has certain advantages: we are closer to base operations, and the abundance of shelving and accessibility to the drums cuts overall labor costs," Hunter said. Last year, the hazardous waste function collected 100 tons of waste from base organizations, shops, and spills, he said.

Hunter said that the facility has a permit from the State of Tennessee authorizing storage of hazardous waste for up to one year. "This gives us time to process the waste and ship it to disposal facilities in an efficient manner," Hunter said.

***CHECKING LABELS — Inspecting labels on hazardous waste containers is lst Lt. Matt Cesarz of the environmental management division. Labels have to meet Air Force and EPA requirements.***

"The DRMO (Defense Reutilization and Marketing Organization) office at Redstone Arsenal manages shipments for us and they would have difficulty meeting the regulatory 90-day limit for operating without a storage permit."

At the other end of the building, the hazardous materials section maintains 400 line items said Keith Quinn, team leader for hazardous materials. The section receives and issues hazardous materials for all organizations on base.

"When we moved into this new facility, we eliminated the potential for leakage and corrosion that we faced in our previous outdoor storage area," Quinn said. "With this heated facility and containment area, these problems no longer exist."

The $2 million dollar facility allows the hazardous materials team to separate the hazardous substances into compatible groups such as flammable liquids, combustible materials, paints, oils and jet fuel.

Other areas that make the hazardous waste and hazardous materials building a state-of-the-art facility are better lighting, an automatic fire suppression capability, heating and ventilation, a shipping dock, and management offices and work shops in the same facility.

# Status report on IRP sites

The status of all installation restoration programs as of 31 March 1999. Eighteen sites have been closed and no further action is planned.

**Site 1, Landfill 2 and leaching pit 2:** Construction of a $1.56 million modified clay cap with a geosynthetic clay liner was completed in November 1997. Groundwater treatment facility treats approximately 1,700,000 gallons of water per month. Private water wells were sampled west of airfield as a precautionary measure.

**Site 2, Retention reservoir and J-4 draining area:** No further action on the retention reservoir and recommended no further action for the J-4 drain area.

**Site 3, Landfill 4:** Construction of a $2.1 million cap started in March 1997 completed in November 1998. Groundwater treatment facility treats about 17,000 gallons of water per day. Temporary methane gas ventilation system installed in January. Permanent gas ventilation system should be in place in June 1999. Private wells in area being sampled.

**Site 4, Surface drainage, Bradley Creek:** This site is recommended for no further action having completed the RCRA facility assessment and confirmatory sampling.

**Site 5, Surface drainage, Rowland Creek:** No further action based upon the RCRA facility assessment.

**Site 6, Camp Forrest water treatment plant:** Corrective measure study underway included sampling of private water wells in Spring Creek area. Interim corrective measure in the form of a groundwater treatment facility that treats about 400,000 gallons of water per month. A waterline from Estill Springs is planned for residents in this area.

**Site 7, Main test area:** Corrective measure study underway. Interim corrective measure in the form of a groundwater treatment facility in operation.

**Site 8, Leaching pit no. 1:** Corrective measure study underway. Groundwater treatment facility and solvent/water separator brought on-line in May. Interim corrective measure in the form of a groundwater treatment facility in operation. Previous interim measures include low temperature thermal desorption soil treatments.

**Site 9, Surface drainage-Brumalow Creek:** Additional effort will include long-term monitoring. This site is recommended for no further action.

**Site 10, Fire Protection Training Area 2, Landfill 1, Burn area 2:** No further action on all three areas with long term monitoring.

**Site 11, Chemical treatment pond:** No further action. This former site is not part of the retention reservoir flow through treatment process.

. **Site 12, Retention leach/burn area:** An interim corrective measure to biologically treat soils and RCRA facility investigation is complete. The site is proposed for no further action with long-term monitoring.

**Site 13, Fire Protection Training Area:** Proposed for no further action.

**Site 14, Surface drainage-Crumpton Creek:** Proposed for additional sampling and long-term monitoring.

**Site 15, High energy fuel burn/burial area:** No further action based upon completed confirmatory sampling results.

**Site 16, Beryllium leaching area:** No further action based upon completed confirmatory sampling results.

**Site 17, Burn area no. 2:** No further action based upon completed confirmatory sampling resutls.

**Site 18, Building 1421 area:** This site is proposed for no further action based upon confirmatory sampling results.

**Site 19, Camp Forrest area:** Thirty six monitor wells installed at nine former Camp Forrest gasoline stations/motor pools. A work plan for Camp Forrest is being developed.

**Site 20, Steam plant ash pits:** No further action based upon source removal and sampling results.

**Site 21, Three hazardous waste storage buildings and one non-hazardous waste storage building:** No further action on all four buildings. These were previously permitted storage units that underwent RCRA closure.

**Site 22, Entire RCRA corrective action program:** Some areas required more study and some areas are no further action. A corrective measurement action focused on groundwater is underway

**Site 23, Salvage yard:** No further action.