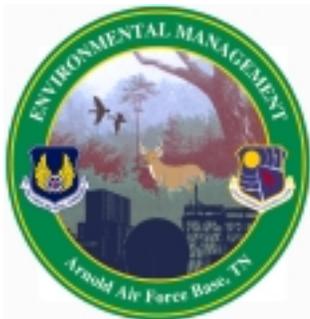


July 1998



# 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*



**ONE STAR VISITOR** – Clark Brandon, AEDC Environmental Management Division deputy chief, explains the Bradley Creek pump back environmental compliance project to Brig. Gen. Todd Stewart, command installations and support chief, during his visit to AEDC. With the general are AEDC's Charles King, Environmental Management Division chief and Col. Robert Brown, support director.

### **RAB to meet July 21**

The Arnold AFB Restoration Advisory Board (RAB) will meet Tuesday, July 21 at the Oak Restaurant, 947 Interstate Drive in Manchester.

The public is invited to attend this meeting that starts at 4:30 p.m.

For more information concerning the RAB and public participation opportunities, contact the AEDC environmental public affairs office at 454-4353.

## **Coffee County landfill nears completion**

Construction of the 97-acre Coffee County landfill cap, a major AEDC installation restoration project, is set for completion in early August.

“The contractor should be finished with installation of the cap and have the area seeded with grasses,” said Trung Le, restoration program manager. “The cap is graded to prevent erosion and allow water runoff.”

Construction started on the engineered clay cap immediately after a ground

breaking ceremony Feb. 28, 1997. The contract for \$2.1 million, awarded to ENSR Corporation of Piscataway, N.J., called for the moving of approximately one million cubic yards of soil from a borrow area on base and placed on the cap.

AEDC owns the landfill property but shared its use with Coffee County and the communities of Manchester and Tullahoma throughout its period of operation from January 1972 to February 1989. Groundwater

*Continued on page 2*

# landfill...

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contamination exists from household refuse, garbage, construction debris, metal salts, acids, solvents, resins, plant sludge, hospital waste and animal carcass disposal.

An interim groundwater extraction system became operational at the site in the spring of 1995 and treats approximately 17,000 gallons of water a day. Efforts concerning future system expansion are currently under study.

According to Clark Brandon, deputy chief of the environmental management division, the Air Force, along with the City of Manchester and Coffee County, extended the public water system in 1992 and established services to residents near the landfill.

"This action was initiated as a good neighbor policy to eliminate any possible future exposure to the public from groundwater contamination," he said.

When completed, the landfill will reduce leaching of contaminants into underground aquifers by promoting surface water drainage. The cap will prevent exposure to contaminated surface soils.

## Environmental news on web

Using your home computer and the world wide web, the AEDC external home page can be reached at: [www.arnold.af.mil](http://www.arnold.af.mil). The latest environmental news in recycling, compliance, conservation and the installation restoration program in available including copies of the ENVISION newsletter.



**RAB BRIEFING** – Mike Singer, CH2M Hill engineer, uses a cross-section diagram of the Coffee County landfill to point out ground layers and aquifers of the landfill cap to members of the Restoration Advisory Board (RAB) during the April 21 meeting in Tullahoma. The public is invited to the next RAB meeting set for 4:30 p.m., July 21 at the Oak Restaurant, Manchester.

## AEDC officer supports Southern Watch

When AEDC environmental engineer, 1st Lt. Matt Cesarz, received word that he was going to Saudi Arabia for 120 days, he had some second thoughts. After all, he was managing AEDC's environmental compliance and pollution prevention programs and a \$8 million construction project. On top of that, he was planning to get married in June.

Accepting the challenge, Lt. Cesarz left Tennessee in March and arrived at Eskan Village, Riyadh, Saudi Arabia and duties with the 4409<sup>th</sup> Civil Engineer Squadron. Originally slated to fill the environmental officer position, but with relatively few environmental regulations in Saudi Arabia, his abilities were better utilized as the deputy chief of civil engineer operations.

In addition to that position, he is also assigned as the civil engineer liaison officer to the Joint Task

Force-Southwest Asia, the organization responsible for monitoring the Iraq no-fly zone and all air traffic over the Middle East.

"We work 12 hours a day, six days a week, mostly in the sun and heat," said Lt. Cesarz. "The organization is great; we have a lot of talent here, and I don't think there is a problem we cannot solve."

"We have many of the stateside amenities including a Burger King, Baskin Robbins, Pizza Hut and other fast food chains," he said. "It almost has the comforts of home."

"My stay here is definitely a learning experience," he said. "We are in a desert, but there is more palm trees and highways that I would have thought. I'm glad I went, but I can't wait to get back to the environmental management division at AEDC."

The marriage is now scheduled for early August.

# Cleanup effort nets six tons of trash

Volunteers from AEDC and the local community teamed together to pick up six tons of trash in and near the shoreline of Woods Reservoir. The Saturday, May 2, event was the second cleanup day held in the past six months. Over five tons of trash was collected during the first event last Nov. 8.

“The 110 volunteers worked hard and we are pleased with the results,” said Col. Robert C. Brown, Jr., director of support. He said that the cleanup has become a tri-annual event to be held every spring, summer and fall.

Woods Reservoir is part of Arnold AFB and supplies cooling water for AEDC test facilities. It is critical to the test operation that the lake water be kept clean and pollutant free. AEDC also allows the lake to be used for boating, swimming, fishing and recreation.

Among the volunteers were members of the AEDC Saddle Club, Mach 10 Running Club, Highland Yacht Club, Woods Ski Club, Worth Copperheads, girl scouts, and area hunters. Civilian Employees Association, Enlisted Association, Tennessee Wildlife Resource Agency, and the Company Grade Officers Association.

AEDC volunteers came from the operations and support directorate, command section, medical aid station, staff judge advocate and public affairs. Support also came from ACS, USAI and Sverdrup members.

According to 1st Lt. Doug Pinkerton, cleanup project officer, plastic bags and gloves were provided to each volunteer along with ample supplies of food and refreshments. The Civilian Employees Association and the Company Grade Officers Association provided the food and refreshments.

“We must continue to support this cleanup event and eliminate the litter problem,” said Col. Robert W. Chedister, AEDC commander. “As users of Wood Reservoir for fun and recreation, we all have an obligation

to pitch in and keep it clean.”

According to Pinkerton, the next cleanup will take place in late July or August.



**KEEPING AEDC CLEAN** – CMSgt. David Bridges, Center Superintendent, was one of the 110 volunteers that collected six tons of trash during the May 2 cleanup day.

## ECAMP evaluation set for July 13-17

Air Force Materiel Command will conduct an environmental compliance assessment and management program (ECAMP) at AEDC July 13-17.

An overall ECAMP evaluation considers major environmental

categories including air emissions, hazardous materials and wastes, solid wastes, storage tanks, pollution prevention, toxic substances, waste water and water quality, pesticides, noise management, petroleum and conservation.

Special programs such as asbestos, polychlorinated biphenyls, lead, radon and the Installation Restoration Program, are also examined.

Because of the large number of protocols, 24 assessors will assist in the evaluation process.



**POSTER WINNERS** – Angie Schmidt and Michelle Westergard, students from Westwood Elementary, receive T-shirts from Clark Brandon, deputy chief of the environmental management division, for winning one of the poster contests during Earth Day celebrations in April at AEDC.



**EARTH DAY CEREMONY** – Col. Robert W. Chedister, AEDC commander, is joined by Col. Robert Brown, support director, and Charles King, chief of the environmental management division, in planting a tree on base, the traditional way to celebrate Earth Day.

## AEDC celebrates Earth Day 1998

AEDC employees and 136 students from the North Lake Elementary School in Tullahoma and the Westwood Elementary School in Manchester participated in the Earth Day 1998 celebration on base April 21-22.

Activities includes tours, environmental presentations, poster contests, mobile exhibits, an electric car demonstration, a tree-planting ceremony, recycling demonstrations, and a five kilometer run.

Over 150 people viewed a special “Partners for Recycling” exhibit and 12 AEDC employees were selected and commended for their recycling efforts by the “Earth Day” patrol.

Another highlight of the Earth Day celebration was the dedication of the Recycling Operations Center on April 22 by Col. Robert W. Chedister, AEDC commander.

Numerous AEDC employees tested their environmental awareness by taking the Earth Day Challenge, an environmental trivia quiz.

Many base employees helped with the Earth Day program especially Jennifer Dougherty, Kathy Maurer, Randy Jones, Clark Meyer, Clark Brandon, Capt. Paul Sand, David Hitchcock, Brett Weaver, Mark Moran, 2nd Lt. C.K. Keegan, Kristy Sells, Letha McEntee, Ronald Stephenson and Christina Cooley and her children.

# AEDC opens recycling operations center

America may be known as the “throw away society,” but that is certainly not true at AEDC. The base’s recycling program took another step forward with the opening of the Recycling Operations Center (ROC).

Opened in early April, the ROC consists of a baler, a worm composting facility, and an used oil space heater. Housed in a new building, the ROC is designed to reduce AEDC’s landfill disposal and make money recycling.

A ribbon-cutting ceremony opening the new facility took place during Earth Day 1998 celebrated April 22. Doing the honors were Col. Robert W. Chedister, AEDC commander; Charles King, chief of the environmental management division; and Wayne Clapp, chief, business operations flight.

“Instead of paying about \$32,000 a year to a contractor to have our cardboard and paper products recycled, we can now recycle them ourselves and realize dividends of up to \$27,000 a year,” said Randy Jones, AEDC environmental engineer.

Jones said that the initial cost of the baler, worm composting facility and used oil space heater was around \$60,000, or \$90,000 if you add in the purchase of a truck to collect the recyclables. A forklift used in the baling operation was obtained from the disposal yard at no cost.

“We expect to recycle and sell about \$15,000 worth of paper and paper towels, \$9,000 in cardboard products and \$2500 in plastic sheeting every year, Jones said. At this rate, we could pay for the initial equipment cost in just over three years.”

The ROC has been converted to



**WORM FARM** – Harold Stillings, ROC employee, shows Capt. Paul Sand, environmental project manager, the worm composting facility. The 300,000 worms can recycle 250 pounds of food scraps and paper daily.

a nonappropriated fund (NAF) operation with proceeds going to the Services Division.

The 40 x 60-foot building constructed in less than three months is heated during winter months by the used oil space heater. The heating system burns used oil processed through the waste oil minimization facility at a rate of 2.3 gallons per hour. Rated at 340,000 BTU per hour, the furnace can easily heat the ROC.

At the heart of ROC operations is the horizontal baler capable of producing 60 x 48-inch bales weighing up to 1600 pounds. A 25-foot horizontal conveyor feeds the paper, cardboard or other recyclables into the baler. A hydraulic ram compresses the product into bales.

Two employees, Matt Spencer and Harold Stillings, work in the ROC and operate the baler. “Currently, we are baling mixed paper and cardboard but we hope to begin recycling plastic sheeting,” Jones said. “We can get up to \$120 per

ton for recycled plastic sheeting.”

The most interesting section in the ROC is the worm composting facility. With a capacity for 300,000 worms, the facility can recycle 250 pounds of food scraps and paper each day.

Jones said that the use of worms to digest and reduce organic wastes creating natural fertilizer is not new; these creatures have served nature and man in this capacity for quite some time. What is new is using the worms as the heart of a system for management of selected organic waste streams. “Using worms for the consumption of organic waste is simply using these creatures to accomplish the job that nature intended them to do,” related Jones.

After observing the recycling center in operation, Clark Brandon, deputy chief of the environmental management division, was pleased. He said, “we have to do everything possible to recycle, especially when landfill costs have risen to over \$35 per ton.”

# Study underway to repair sewer system

AEDC environmental engineers are studying ways to reduce groundwater and rainwater from entering the sanitary sewer system on base and in Arnold Village. The 40-year-old sewer system is showing areas of inflow and infiltration.

“Reducing infiltration into the sewer system means AEDC will not have to pay to treat groundwater and rainwater at the waste water treatment facility,” said Lisa Drinkwater, project manager for the contractor, CH2M Hill. “We would only pay for treatment of waste water.”

Last fall, the base filmed the inside of 36,000 feet of sewer lines under the base and Arnold Village. The photo mapping of the sewers became necessary after the Tennessee Department of Environment and Conservation became concerned with the increased flow through the sewer system. “We have accomplished an inspection of all 160 manholes looking for cracks and leaks,” said Gene Bair, AEDC environmental official. “We are now measuring each manhole cover for possible replacement. We will probably replace them with a self-sealing cover that will provide a tighter seal,” he said.

Also part of the study, seven solar-powered sewer monitors on base measure the flow in the sewer system compared to rainfall totals. These monitors log the flow rate, temperature, rainfall and groundwater level measurements in the sewer system. Powered by a solar panel, the data transmitter sends



**MANHOLE COVER MEASUREMENT** – Gene Bair, AEDC environmental official, observes the measurement of one of the 160 sanitary sewer manhole covers by Scott Porter (left) of CH2M Hill and George Glover, AEDC employee. AEDC is looking at the possibility of replacing the covers with more efficient self-sealing lids to prevent groundwater leaking into the manholes.

the information to the environmental management division.

Clark Brandon, deputy chief of the environmental management division, said, “We will determine what cost effective corrective action to take to remedy the sewer line system. We expected to make repairs as these sewer lines are more than 40 years old dating back to the construction of AEDC. Since that time, there has been many changes and additions to the original system.”

Brandon said, “we have already started to look at the storm water drainage system on base. Efficient storm and sewer systems are important environmental considerations in today’s environmental management program.”

## Environmental Trivia

1. What U.S. city has the worst air pollution?
2. According to the aluminum industry, the percentage of all aluminum cans now being recycled is: a) 25 percent, b) 50 percent, or c) 95 percent.
3. True or False: You are better off drinking bottled water than drinking your city’s tap water.

### Answers

1. Los Angeles, California
2. B) 25 percent
3. False. There is no indication that all bottled water is good for you or that all tap water is bad.