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Envision

a cleaner environment

Arnold Engineering Development Center Installation Restoration Update

A publication for
Coffee and Franklin
county residents

*Environmental
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*Arnold AFB,
Tennessee*



***EARTH DAY VISITORS** - Brett Weaver, base environmental engineer, shows students from West Middle School the worm-composting facility at AEDC's recycling operations center during their visit to Arnold AFB to help AEDC celebrate Earth Day 2000. (See story on page 6)*

Water line in Spring Creek area completed

Nineteen residences in the Spring Creek Road area are connected to the Estill Springs public water supply after AEDC funded and completed a five-mile water-line extension. Final cost of the waterline project finished in April was \$250,000.

"We completed water line hookups to 13 homes on Spring Creek Road, four homes on Buckeye Lane and two homes on Reservoir Road," said Matt Cesarz, water line project manager.

He said the water line was necessary because contamination was discovered in late 1998 in several drinking wells in the Spring

Creek Road area just south of Arnold AFB.

The water line includes 8,300 linear feet of eight-inch pipe on the north end of Spring Creek Road with the remainder of the pipe, about 17,000 linear feet, being six-inch pipe. "The eight-inch pipe was required as more homes were connected in that area," Cesarz said.

"With the cooperation from both the Environmental Protection Agency and the Tennessee Department of Environment and Conservation, AEDC sampled private water wells in the Spring Creek area in late

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CAB to meet May 16

The next Arnold AFB Community Advisory Board meeting is set for 4:30 p.m., Tuesday, May 16 at the City Hall Council Chambers, 123 North Jackson Street in Tullahoma.

Members of the public are welcome to attend.

Water line...

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1998,” said Clark Brandon, deputy chief of the environmental management division. “At that time, several wells were found to have traces of contaminants that could have come from an old industrial waste disposal area located in the Camp Forrest area.”

After local citizens voiced their concern at the Feb. 15 Community Advisory Board meeting held in Manchester on the sampling perimeters, AEDC announced plans to sample an additional 30 drinking wells in the UT Farm Road and Forest Lake Road area.

“We appreciate the fact that these residents took the time to attend the CAB meeting and express their concerns,” Brandon said. “We are going to appropriate \$50,000 to complete this additional sampling.”

The site that is causing the contamination problem is an old water treatment plant that served Camp Forrest activities during World War II and then was used as a major disposal site for AEDC wastes from 1953 until 1980. The five-acre site has been filled and graded over.

In October 1996, groundwater extraction wells were installed to control contaminant movement from the site to surrounding areas. The groundwater is treated by air stripping and liquid phase carbon desorption.

Where to get more information

Published data and documents relating to the AEDC restoration program are available for public review at the information repository at the Coffee County Lannom Memorial Library, 312 North Collins Street in Tullahoma.



AEDC used for illegal dumping

DUMP SITE - Several cases of illegal dumping of trash and oil have taken place on AEDC property in recent months. In April, 10 gallons of used lubrication oil was disposed of on Shipley Road (above) and household garbage (below) was also dumped at the same location. AEDC spends \$50,000 a year on litter control but budget shortfalls hinder the time, energy and money required to control the litter problem. Col. Michael Heil, base commander, has stated, "It is a serious issue at AEDC in required time we spend and resources we use to pick up rubbish. It's money we could use elsewhere in support of our test mission."



Ultraviolet system eliminates chlorine usage at plant

AEDC's wastewater treatment plant now saves money and is safer to operate thanks to a recently installed effluent ultraviolet disinfection system. Chlorine, a hazardous chemical that was previously used to treat wastewater, is no longer being used at the plant.

"The elimination of chlorine usage at the wastewater treatment plant is a benefit of this new system since the handling and storage of chlorine presents various health and safety issues that ultraviolet avoids," said Jimmy Prince, lead utility plant operator. "It also saves AEDC money as we no longer need to purchase Chlorine."

The \$150,000 ultraviolet system was one of five water treatment systems installed at AEDC under a fiscal year 1998 military construction program. The cost of the entire package was \$1.1 million.

According to 2d Lt. William Waldron, environmental engineer, the other four projects in the program were relining the wastewater treatment pond at the J-4 Rocket



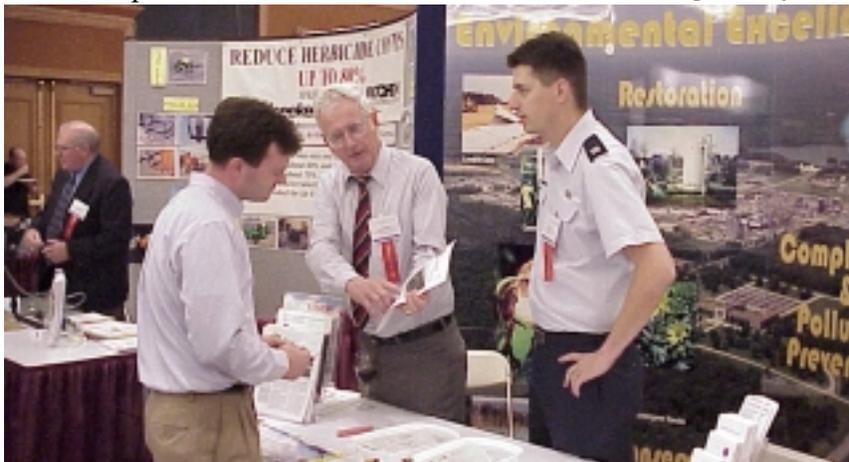
ULTRAVIOLET SYSTEM — Jimmy Prince, lead utility plant operator, shows 2nd Lt. William Waldron, an environmental engineer, the workings of the ultraviolet disinfection system at AEDC's waster water treatment plant.

Development Test Cell, constructing a lime slurry system to adjust the pH of wastewater from testing at the J-6 Rocket Development Test Cell, redirecting effluent from acid vats at the chemical cleaning facility to the

retention pond, and installing an air stripper at the Air compression and Testing Facility.

The ultraviolet facility was constructed under a design and build contract through the U.S. Army Corps of Engineers and efficiently disinfects up to a million gallons of wastewater daily. The wastewater flow through a slot where six 48-inch Ultraviolet bulbs disinfects the water before it drains into the retention pond. A 10.5 kilowatt generator provides emergency backup power for the ultraviolet system.

"The reduction of chlorine usage helps to meet AEDC's and the Air Force's long-term goals of reducing dependence on chemicals," said Clark Brandon, deputy chief of the environmental management division.



Environmental exhibit on display in Dallas

Marty Martin, environmental public affairs officer and Capt. Tim White, AEDC public affairs officer, give information on AEDC's environmental program to a visitor at the March 2000 Environmental Training Symposium and Exhibition in Dallas.

Environmental topics discussed at CAB meeting

AEDC's involvement with the Spring Creek water line and an update on the Coffee County Landfill were the main topics discussed at the Arnold AFB Community Advisory Board (CAB) meeting held at the Oak Restaurant in Manchester on February 15.

Attending the meeting were five members of the CAB and 25 visitors including residents who live across from the Coffee County Landfill on or near Old Tullahoma Highway in Manchester and from the Spring Creek area.

CAB members present were Stephen Cope, Community Co-chair; Charles King, AEDC Co-chair; Anna Johnson of Tullahoma; William Prince of Winchester; and Ted Hackney, representing Manchester.

Some of the Spring Creek area visitors wanted to know when their residences would be hooked up to the Estill Springs water line while others who live just outside the water line construction area were concerned about testing of their water wells. Their questions were answered by AEDC environmental representatives along with Doyle Brittain, the Environmental Protection Agency remedial project manager for Arnold AFB, and Roger Donovan, from the Tennessee Department of Environment and Conservation.

Clark Brandon, deputy chief of the environmental management division at AEDC, told the residents that "water taps should be hooked up to individual homes in the Spring Creek area by the end of March." He also stated that "AEDC with the coop-



CAB MEETING -- Clark Brandon, chief of the environmental management division, answers questions on the Spring Creek water line at the CAB meeting Feb. 15 in Manchester.

eration of the EPA and State of Tennessee are expanding the investigation in that area and more wells will be sampled."

Residents near the Coffee County Landfill were told that 16 new monitoring wells will be installed and that additional groundwater, surface, soil and air samples will be taken in coming months. Pam King, AEDC installation restoration program manager, told CAB visitors from Harper Lane that their homes will be connected to the City of Manchester water line in the near future.

Charles King told of plans to expand the CAB membership from eight to 10 members to better represent the area surrounding Arnold AFB. He along with other members of the CAB were glad to see the large turnout for the meeting and reminded everyone that CAB quarterly meetings are open to the public.

The Community Advisory Board concept was developed in 1992 as a Restoration Advisory Board (RAB) with a charter to review and

comment on technical documents and plans pertaining to ongoing hazardous site cleanup at AEDC. The RAB became a CAB on Oct. 13, 1998.

"As a CAB, members can not only look at the restoration program but all areas of the environmental program such as compliance, pollution prevention, recycling and conservation," Brandon said. "These are areas that board members had expressed an interest in."

All CAB meetings are open to the public and copies of the meeting minutes are available for public review in the Information Repository located at the Coffee County Lannom Memorial Library, 312 North Collins Street in Tullahoma.

Membership applications can be obtained by calling the AEDC Environmental Public Affairs office at 454-4353 or writing to AEDC/PAV, 1100 Kindel Drive, Arnold AFB, TN 37389.

The next CAB meeting is scheduled for May 16 at the City Hall in Tullahoma.



TEAMWORK - Working together to check methane levels at gas probes at the Coffee County Landfill are Linda Blackwelder and Mike Singer of CH2M Hill; Doyle Brittain, EPA remedial project manager for AEDC; Roger Donovan, Tennessee Department of Environment and Conservation; EPA technician; Clark Brandon, deputy chief of the AEDC environmental management division; and Tim Slagle of the EPA.



PUBLIC MEETING - During a public meeting held April 11 in Tullahoma, Clark Brandon, deputy chief of AEDC's environmental management division, shows Ron Culberson and Manir Ahmed of the Tennessee Department of Environment and Conservation, the location of the large SL2 and SL3 jet engine test cells at AEDC. The public meeting was held to allow the public to voice their concerns and comments on the air permit modification.

Be careful of unexploded ordinance found on base

In April, a potential hazard to base personnel and visitors was uncovered when an unexploded training mine was found on base.

Finding unexploded ordinances on AEDC property is not unusual as Arnold AFB property was part of an Army training base during World War II. Known as Camp Forrest, the base was predominantly used for training infantry, artillery, engineer and signal corps units.

AEDC personnel and base visitors such as hunters should know what to do when they discover unexploded ordinance, which could include small arms ammunition, anti-personnel mines, mortars and artillery rounds. Unexploded ordinance is a serious hazard.

In all cases, the discovery of unexploded ordinance or any suspicious looking devices should be reported immediately to the base operations center or AEDC security or safety officials. Telephone numbers for the agencies are: Security, 454-5662; Operations Center, 454-7752; or Safety, 454-6529.

Did you know?

- 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.
- It takes plastic bags 10-20 years to decompose.
- Plastic bottles and styrofoam will never decompose.
- Tin cans will decompose in 50 years.
- Each of us generates on average 4.4 pounds of waste per day per person.
- Recycling one ton of cardboard saves over 9 cubic yards of landfill space.
- 40 percent of our municipal garbage is made up of kitchen and garden waste.

AEDC celebrates Earth Day 2000

AEDC employees and 140 sixth-grade students from West Middle School in Tullahoma helped the base celebrate Earth Day 2000 April 1-6.

Activities included tours, environmental presentation, a mobile recycling exhibit and a five-kilometer run and two-mile walk. Speakers from Lowes Home Center and the University of Tennessee Agricultural Extension Office gave presentations on outdoor landscaping, lawn maintenance, urban forestry, care and maintenance of fruit trees, and indoor plant care.

According to Jennifer Dougherty, Earth Day coordinator, the purpose of the celebration is to increase employees and students awareness and interest in environmental issues.

She reported that Joe Babilon won the men's five-kilometer run and Melissa Miller won the women's event. Sarah Potuck was

the sole entry in the two-mile walk. The winner of the Earth Day Challenge trivia quiz that took place in the main cafeteria lobby April 3-6 was Hazel Brown.

"Many AEDC employees helped with the Earth Day 2000 program," said Dougherty. "But special thanks goes to Hunter Beavers, Gene Bair,

Letha McEntee, Christina Norman, Dylana Seay, Kristy Sells, and Brett Weaver for helping with the West Middle School students and to Kelly Melcher for assisting with the Earth Day Run."

According to Dougherty, Earth Day was celebrated worldwide on April 22.



TRASH COLLECTION -- A group of the 171 volunteers who helped pick up five tons of trash during the spring cleanup at Woods Reservoir on March 25. Organizations helping with the cleanup included the Mach Tenn triathlon group, Saddle Club, Boys Scouts, Sverdrup, ACS, Coffee County Airfoilers, Highland Rim Shooters Club, Yacht Club, Girl Scouts, Ski Club, UTSI, Tennessee Wildlife Resources Agency and Air Force personnel.

AEDC passes air quality inspection March 28

AEDC is compiling with all aspects of the Clean Air Act after passing a March 28 inspection by the Tennessee Department of Environment and Conservation. During the inspection all of AEDC's 34 air quality permits were reviewed.

The inspection team consisted of Alan Payne of the Tennessee Department of Environment and Conservation and three environmental assistants from the Columbia Environmental Assistance Center. During the visit, the team coordinated the inspection with AEDC environmental engineers, 2nd Lt. William Waldron, Bill McEntee, Jeff Holt and Ben Partin.

"This annual inspection is a proactive approach by the State of Tennessee to understand our operations and permitting requirements," said Clark Brandon, deputy chief of the environmental management division.

According to the Tennessee Department of Environment and Conservation, AEDC is a major source of hazardous air pollutants and one of the first state facilities to volunteer for permitting under the Clean Air Act Title V permitting program. A Title V permit application was submitted to the state in November 1996.

The Title V permit allows AEDC to define operating procedures and

limitations. "We are hoping to receive permission to operate under the Title V criteria sometime this year," Waldron said.

"The team reviewed air quality permits at base test facilities and mission support facilities," said Lt. Waldron. "They visited an engine test facility, propulsion wind tunnel, the Von Karmen Gas Dynamics facility, and an aerodynamic and propulsion test unit."

Environmental news on web site

The AEDC external home page can be reached at: www.arnold.af.mil. The latest environmental news in recycling, compliance, conservation and the IRP program is available including copies of the ENVISION newsletter.

Status report on IRP sites

The status of all installation restoration programs as of April 30, 2000. 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. Permanent gas ventilation system installed in January 2000. 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 was completed in April 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: Ad-

ditional 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 results.

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.