

EnviroNews

Updating environmental issues and activities at Hill Air Force Base, Utah

Winter 1999

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Training a hit with RAB members

Surfactants, ancient Lake Bonneville, vadose zones and core samples were mystery terms to most Restoration Advisory Board members—until the recent RAB training sessions, that is.

RAB members now have a much better idea of what's involved in cleaning up a site, thanks to training sessions sponsored by Hill's Environmental Restoration staff.

In September, RAB members received the first in a series of training sessions, which give the attendees an insight as to what happens during an environmental investigation and cleanup.

Since much of what the board deals with includes issues related to groundwater, Hill environmental officials and the RAB members agreed a basic geology lesson would be a great place to start.

The first session included a tour of sites on the northeast side of the base—Operable Units 1 and 2, located on the hillside overlooking South Weber.

Mark Loucks, an Air Force hydrogeologist, reviewed how the area's geologic history formed today's groundwater systems and demonstrated how soil and groundwater sampling is done. Using an aquarium, Loucks showed RAB members how groundwater moves beneath the ground.

He was followed by Hans Meinardus of Duke Engineering, who showed how groundwater can become contaminated. He also showed how surfactants are being used to remove contamination from the ground.

RAB members were also given a demonstration of how a drill rig works and how wells are installed.



Duke Engineering's Hans Meinardus (left) presents information to RAB members. Mark Loucks (below) displays various equipment used for taking groundwater samples from monitoring wells.



Curt Himle, who operates the Source Recovery System at Operable Unit 2 for Radian Corporation, showed RAB members how the system removes solvent and treats the contaminated water.

In all, the session lasted about 2½ hours.

Anne Connelly, Hill's RAB coordinator, said the training went very well. "I think the RAB members learned a lot," she said. "We're hopeful this will make them more comfortable with the technical information they hear at the RAB meetings."

She said the training gave RAB members an opportunity to associate with each other in a more informal setting.

A tour of the sites on the north and west sides of the base (OUs 5 and 6) was given prior to the October 15 RAB meeting.

The next training is scheduled for February 18, with another session scheduled to follow in the spring. 🌍

Restoration Advisory Board

Hill's RAB held its first meeting in January 1995. Since then the RAB has met 18 times.

RAB Membership

The RAB is comprised of 23 members representing all of the communities surrounding the base as well as other interested parties. In addition to local communities, county, state and federal regulatory agencies are also represented on the board.

Community Link

The RAB serves as a link between the Air Force and the community on environmental cleanup issues. RAB members are encouraged to bring community concerns to the attention of the Air Force and take what they learn from the Air Force back to the community.

RAB Meetings

The RAB meets quarterly. Meetings are held in the evenings at the base Officers' Club. The meetings are open to the public.

Farewell to George Schrader

Hill AFB's Environmental Management Directorate wishes to pass on its sincere condolences to the family and friends of George Schrader, who passed away December 4, 1998.

Mr. Schrader served as the Community Co-chair

for Hill's Restoration Advisory Board and was one of the RAB's original members.

Mr. Schrader's life was dedicated to serving his community through numerous organizations, including the Sierra Club. We will remember the energy, integrity and dedication he brought to the RAB.

More success stories from 1998

Here are some other notable accomplishments this year at Hill AFB.

Hill gets big contract

The Ogden Air Logistics Center, teaming with Boeing, won a major repair contract with the Air Force. This will mean an increase of more than 2,000 jobs for the base and greater long-term security.

ROD signed at OU-1

A Record of Decision was signed at OU-1 in September. The ROD outlines the remedial actions that will be done at the site. According to law, construction of the final remedies must begin within 15 months.

Financial assistance made available to RAB

A new program, called the Technical Assistance for Public Participation, or TAPP, was instituted last year. It provides money to RABs looking for help analyzing and interpreting technical documents. The RAB may apply for up to \$25,000 per year to hire a technical expert to assist them.

1998 Year in Review

1998 will definitely be a year people will never forget—for many reasons.

Historical events on all fronts, be it politics, economics or sports, have kept the news media on its toes and Americans on the edges of their proverbial seats.

While the news at Hill AFB has not been quite as dramatic as other national stories, it has been good news. Significant progress has been made at several of the Restoration Program's sites, with continued progress expected in 1999.

Excellence continues to be the standard for Hill's environmental programs. In fact, a number of Hill organizations and individuals have been recognized for their excellence this past year.

Here are a few of Hill's 1998 environmental success stories.

Surfactants successful at OU-2

An innovative treatment technique tested this year at Operable Unit 2, may allow complete cleanup of a site previously thought to be untreatable.

Using a technique called surfactant-enhanced solvent extraction, Air Force engineers believe they can do what they previously thought impossible—remove nearly all the solvent from the ground.

The difficulty with completely removing the contamination from the ground is due to the tendency of the solvents to stick to soil particles. Surfactants help separate solvents from soil particles. When flushed through a contaminated area, surfactants can help separate solvent from soil particles, much like laundry detergent separates dirt from clothing.

Once free, the solvent molecules dissolve in the water and are captured by the extraction system.

Using surfactants, the Air Force was able to remove 98 percent of the solvent from the test cells—rates unheard of in the environmental industry.

This technological breakthrough is expected to save the Air Force \$10 million in long-term cleanup costs.

Hill wins AF awards

1998 saw three of the Air Force's top environmental awards come to the base.

The Gen. Thomas D. White Awards are given each year to the Air Force's most outstanding indi-

viduals or organizations in a number of environmental categories.

The winners are as follows:

- Hill's Restoration Division was recognized for its outstanding Environmental Restoration Program.
- Hill's Pollution Prevention Division earned the Industrial Recycling Award.
- Dave Friese, of the Pollution Prevention Division won the individual award for his outstanding work with the base's recycling program.

Sunset treatment system doing the job

A groundwater treatment system installed in Sunset three years ago is proving its worth.

A series of underground aeration curtains were installed in Sunset back in 1995 and 1996. These treatment systems are designed to fill a small section of the underground water with bubbles of air. Contaminants in the groundwater would be captured in the air and brought to the surface.

As a result, concentrations of trichloroethene (TCE), a degreasing solvent, have been reduced from as much as 1,000 parts per billion to five parts per billion in parts of the aquifer. Concentrations across the entire 120-acre area of contamination are also showing significant reductions.

Technology tracks cleanups

Hill environmental managers are turning to computers to help them track inspections and the operation and maintenance performance of four caps being used in various cleanup systems around the base.

Caps are used to prevent contaminants from moving by preventing surface water from entering the contaminated area.

The data is stored in a Geographic Information System (GIS), which incorporates the information into an easily accessible database.

A GIS is a data management system that links information to a specific physical location.

The information includes regulatory schedules, operation and maintenance activities, regular inspections, sampling and analysis data, costs, reporting data and photographs. It can also generate standardized forms, logs and report data. 

CleanUpdate

Cleanup news from the communities surrounding Hill AFB.

East Area South Weber

OU-1
OU-2
OU-4

At OU-1, the design of the cleanup system is underway. Design has begun for the four dewatering trenches, which will be installed in the source areas. Additionally, the design for re-

pairing the cap at Landfill 4 is underway. A cap is also under construction at the site of a former holding pond near the chemical disposal pits.

Performance plans for the natural attenuation monitoring and the on-base dewatering system have been started. These plans set measureable performance standards for the cleanup systems. Future evaluations of the system's performance will be based on the performance plans. The draft plan will be complete in March.

A groundwater sampling round of monitoring wells on and off base was completed in November 1998.

At OU-4, the remedial action components are being implemented in phases. Phases 1 and 2 are complete, and Phase 3 will be implemented in 2000.

Phase 1 consisted of construction of the cap and soil vapor extraction piping (SVE) system at Landfill 1, near the North Gate. Phase 2 consisted of construction of an upgraded collection and treatment facility for the nine horizontal drains installed in the area of contaminated groundwater. Phase 3 will consist of construction of an additional groundwater extraction and treatment system downgradient of Landfill 1 and an additional potential source down-slope from Landfill 2. This second potential source area was identified in May 1996, during a pre-design site investigation.

To date, nearly 15 million gallons of contaminated groundwater have been treated at OU-4 (1993-1998). It is estimated that 80 pounds of contaminants have been removed.

North Area Riverdale

OU-6

Construction of the on-base treatment system began in October and is scheduled to be completed in late January. The system consists of six extraction wells designed to capture con-

taminated groundwater and prevent the contamination from spreading further off base.

Meanwhile, the off-base treatment system in Craigdale is continuing to work well. In November, contaminant levels were measured at their lowest levels ever.

The draft Performance Monitoring and Verification Plan was submitted for regulatory review in December.

South Area Layton

OU-8

The Cone Penetrometer Testing (CPT) and hydropunch sampling data collected this summer were used to determine the location of 38 monitoring wells in the Layton City area.

The monitoring wells are currently being installed and installation should be completed by the end of January. Also, additional CPT and hydropunch sampling were conducted to help refine the zones of shallow groundwater contamination in the Layton area.

Excavation work and repairs to the east side of the Hydraulic Containment System (HCS) began December 1998. The five extraction wells on the west side of the HCS continue to contain the majority of the contaminated groundwater on base. The system was installed in 1998 along the base's southern boundary near the South Gate. The system is designed to capture contaminated groundwater before it can leave the base.

On-base Area Hill AFB

OU-3
OU-7
OU-9

The draft work plan for the Remedial Investigation at OU-9 has been presented to the Environmental Protection Agency and Utah Department of Environmental Quality for their review.

The work plan to remove PCBs from the soil at three sites on the base's north side has been finalized and approved. The removal is scheduled to be completed by the end of January. According to the plan, the contaminated soil will be removed to meet industrial cleanup standards. A one-foot-deep layer of clean soil will be placed in the excavated areas. Following the removal, the Air Force will continue to track the sites, as PCB levels will still be above the levels allowed for residential areas.

If you have any questions, or would like more information regarding the cleanup work at Hill AFB, please contact one of the people listed here.

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West Desert archeological finds vandalized

Looters beware: We're on to you

The 1.1 million-acre Utah Test and Training Range (UTTR), located in Utah's West Desert, is a busy place. Nearly every day, the desert erupts with the thundering sounds of bombs, rockets, missiles and machine cannon as jet fighters and bombers unleash their weapon loads onto their targets and scream away for another pass.

Two thousand years ago it was much quieter.

In fact, what is now the range was home to Native Americans, who hunted and lived on the land. The evidence of their lives is abundant in the form of arrowheads, stone tools and rock rings, which have been discovered in the sands throughout the Great Basin.

The abundance of artifacts has attracted archeologists to the range to learn about the lives and habits of these ancient peoples. The Air Force has welcomed these experts to the area.

Sadly, the lure of ancient artifacts has drawn an unwelcome element to the range—looters.

Since trespassing on Air Force property is not only dangerous, but illegal, the Air Force has sought a way to keep unauthorized people off the range. The primary reason is to protect them from being injured by unexploded ordnance or other hazards associated with a working range. Another reason is to protect and preserve the important cultural sites located on Air Force property.

This effort received renewed emphasis in 1996 when a stunning archeological discovery was made on Air Force property. A team of archeological experts discovered a group of 12 rock rings on a hillside inside the Utah Test and Training Range. The rings ranged in size from seven to 12 feet in diameter.

According to Debbie Hall, Hill AFB's cultural resources preservation officer, the find represents a very significant archeological discovery.

"We have found lots of evidence of human activity on the range," she said, "but this was the first place we have found where people had actually modified their environment," Hall said.

Furthermore, an archeological investigation of the site indicated that these rock rings were the remnants of a village, with the rings being homes.

Hall said that since the people who lived here were mostly hunters and gatherers, they moved around a



The rock ring pictured above is one of 12 rings found in 1996 on the Utah Test and Training Range. The rings are most likely the remains of a village that existed approximately 2,500 years ago. Shown below is what happens to these sites when vandals and looters get to them. The site is completely destroyed and useless for further study.



lot and did not build many permanent structures. Therefore, finding an entire village of permanent structures represented a major find.

Still elated over the discovery, Hall and her associates returned to the site two months later to continue their work. What they found was appalling. Some of the rings had been looted. What was once an undisturbed site was now a large hole surrounded by piles of sifted dirt.

"Looters don't care about the sites they find," Hall said. "Their goal is to dig up as much as possible as quickly as possible. After they're done with it, it's useless as an archeological site."

Hall said the discovery of the looting disgusted her. It was at that moment, she said, she resolved to find a way to stop it.

She decided to see what was being done at other ranges. What she discovered was that trespassing and looting are common at military ranges, like UTTR. She also found that many techniques had been tried to stop trespassers, but with little success.

The breakthrough came following a conference. Hall said she was there to appeal to her colleagues

Desert? What desert?

2,500 years ago, Lake Bonneville covered much of the Great Basin. The deserts we now know were either underwater or a forest of juniper and pinon trees. At that time, the land and climate were far more hospitable to plant and animal life.

Beach front property

Archeologists determined the village they discovered was located less than 100 yards from the Lake Bonneville shoreline.

Native American involvement

The Air Force is working closely with Native American tribes to preserve the integrity of the site. As with many finds in this area, this one has great significance to the Native American people.

DESA doings

The Defense Evaluation Support Agency helps DOD installations by searching the civilian market for technology-based solutions to government problems. Ironically, much of what they find was originally developed by the military during the cold war. Once it was declassified, the civilian market took it, tweaked it, and developed new uses for it.

See "Rock Rings," continued on page 6 >

New approach improves compliance at recent audit

ECAMP

The Environmental Compliance and Assessment Management Program was instituted by the Air Force in 1978.

ECAMP includes 13 protocols, which cover all mission activities with potential environmental implications.

Internal and External

ECAMP has two types of inspections: External and internal. External inspections are conducted every three years by environmental experts from throughout DOD. On years without external inspections, the base conducts annual internal inspections. These inspections are performed by base personnel only.

ECAMP.com?

Hill's ECAMP has its own website. It includes fact sheets, issues of ECAMP News and all the latest ECAMP information. You can find it at <http://137.241.179.15/ecamp/>.

Accountability

Contrary to popular belief, the Air Force can be cited and even fined for violations of environmental law or for not complying with permits. The Air Force is not only accountable to federal agencies, such as the EPA, but also to state and local agencies, including local sewer districts.

Doctors say to exercise and eat a healthy diet. Mechanics say to change your car's oil every 3,000 miles. Why do they say this? Because they know that prevention is the key to avoiding future problems.

Ditto the environmental compliance program at Hill AFB. Instead of merely attempting to identify and correct the problems with compliance to environmental laws and regulations, the Environmental Management directorate has initiated an aggressive program of outreach and education to help workers make compliance part of their daily routine. According to the results of the most recent environmental compliance self-inspection, this "ounce of prevention" approach is working.

The latest inspection, which occurred from July 27 to August 7, revealed 109 "findings." (A finding is anything found out of compliance with either Air Force Regulations or state or federal law.) This figure represents a 52.8-percent reduction in findings from 1995's inspection, and the lowest total in more than five years.

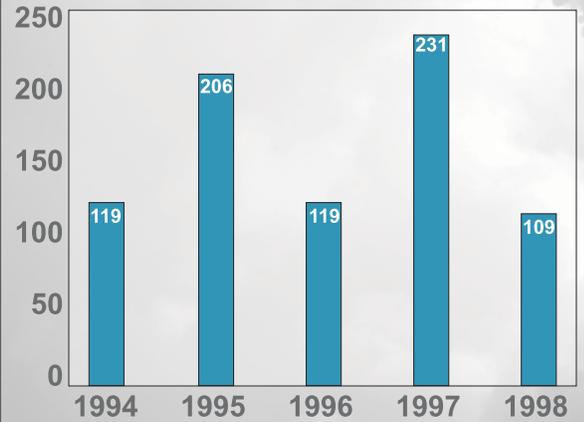
Bonnie Hobster, manager of the base's Environmental Compliance and Assessment Management Program, or ECAMP, believes the key to improving is treating the problem, not the symptom.

"We look for the root causes of the findings," she said. "Once we discover what the problem is, then we work with the organizations to find a way to solve the problem. That usually means we have to change their attitudes about environmental compliance."

Hobster said the key to changing people's attitude is education. "Most people aren't as aware of the laws and regulations as they should be," she said. "Our goal is to change that." Hobster said she believes once workers understand what the regulations are and what they need to do to be in compliance, most will respond positively.

Hobster, along with ECAMP assistant, Kim Willis, have been out in the shops teaching workers the basics of environmental regulations since 1995. Workers are shown what regulations apply to them and what they should be doing to stay in compliance with the laws. If problems are found, Hobster

ECAMP Findings 1994-1998



and EM's compliance team are there to help provide solutions.

"People are really glad we're there to help them," Hobster said. "Before, ECAMP was seen as another chore. But now we're starting to see a fundamental change in attitude toward environmental compliance. People now see the importance of compliance and want us to help them do a better job at it."

Management has also been an important player in the outreach program. In addition to shop-level courses, managers and directors have also been taught their role in environmental compliance, including the base's top manager, Maj. Gen. Richard H. Roellig, Ogden Air Logistics Center commander.

"The commander chairs the quarterly Environmental Protection Committee meeting and is keenly interested in ensuring all base organizations, including tenant units (units based at Hill, but not part of the Ogden Air Logistics Center), are in compliance with the laws and regulations," Hobster said. "His support and involvement ensures that the ECAMP program is identified as a very important environmental program to Hill AFB," she added.

Hobster said that emphasis is passed to directors and unit commanders on base, who, in turn, pass it to supervisors and workers at the shop level.

Hobster said she is convinced that this top-down

Official Business

ECAMP—Continued from page 5

focus on environmental compliance directly influences performance on inspections.

Hobster said that while performing well on inspections is important, the purpose of ECAMP is to be in compliance every day. “We don’t know when State inspectors could show up,” she said. “That’s why we always need to be ready, because their inspections are the ones that matter.”

But complying with rules and regulations is more than just meeting a standard or properly following a

procedure, it’s about people, Hobster said. “The intent of environmental regulations is to protect the people and the environment of Utah,” she said. “We are committed to doing that as best as we can.”

Now that the ECAMP inspection is over for this year, Hobster and Willis are busy correcting the findings. They hope to have 85 percent of the findings corrected and closed by the end of January and all of them closed by August 2000. The next internal inspection is scheduled for May 1999. 🌐

Rock Rings—Continued from page 4

for help in solving the problem of range trespassing and vandalism.

“I thought with all the technology DOD has, surely there must be something we can use to protect these ranges,” she said. “What I found, instead, was a general lack of awareness of the problem.”

Help came, but from an unlikely source. “A representative from the Defense Evaluation Support Agency approached me after the conference and said he might be able to help,” Hall said. DESA helps military installations find and apply technology from the civilian market to help them meet their needs.

After lengthy consultation with base and range officials, DESA offered to install different types of surveillance equipment designed to track incoming and outgoing vehicles. The equipment was similar to a system being used by the Border Patrol.

“We now know when vehicles enter the range, where they are and where they’re going,” Hall said. “In some

areas we have video surveillance equipment that sends a live feed to local law enforcement officials.”

In addition to the electronic tracking, more fencing and signs have been installed near roads to warn people they are about to trespass on Air Force property. “We don’t want to hear anyone say they didn’t know they were trespassing. We want to make it clear that this is Air Force property,” Hall said.

Once the system is completely operational, Hall said she envisions a scenario where a trespasser would cross a boundary or pass a sign and enter Air Force property. The tracking system would alert law enforcement to the location and direction of the vehicle. When they return, law enforcement officers will be waiting for them with a citation.

The key, Hall said, is issuing citations. “Once someone gets a citation and has to pay a fine, he or she will know we’re serious. We hope that will act as a deterrent to keep people off the land.” 🌐

EnviroNews is a quarterly publication of the Environmental Management Directorate, Hill AFB, UT, designed to inform the public of hazardous waste cleanup and other environmental activities at Hill AFB.

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