

## Treatment system to capture Craigdale contamination

In the second phase of its plan to clean up contamination in Riverdale's Craigdale subdivision, the Air Force has installed a treatment system that will soon begin removing contaminated groundwater from the base's far north side.

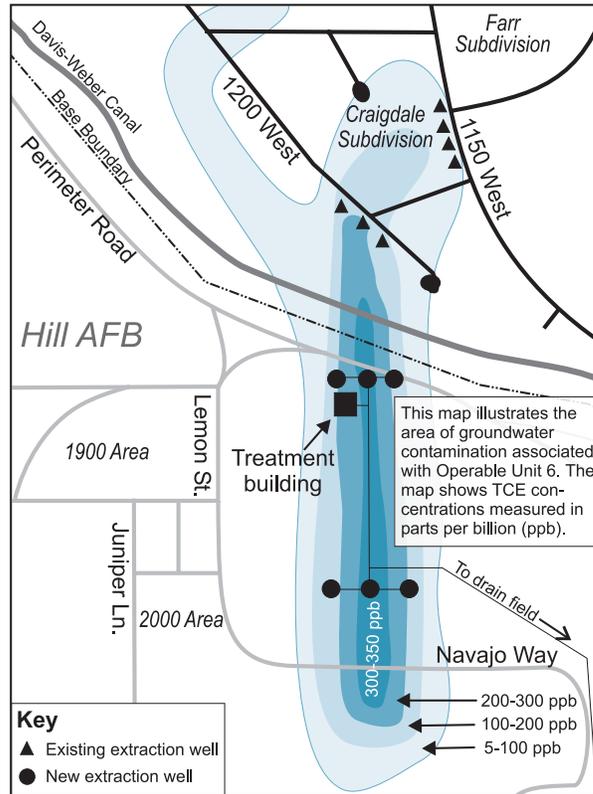
Hill AFB environmental engineers believe this action will prevent contaminated water from leaving the base, effectively cutting off the source feeding the off-base contamination.

"This treatment system will prevent any more contaminated water from leaving the base," said 1st. Lt. Tim Nelson, the engineer in charge of the project. "If the system works as designed, the only off-base contamination that will remain for us to clean up is what's already there," he said. "And we have every reason to believe it will work."

The treatment system consists of six extraction wells strategically placed in the area of contamination. Three will be placed near the area of highest contamination, with another trio placed near the base boundary. The wells are designed to extract the contaminated water and pipe it to a treatment building located on site.

The water will be treated using an air stripper. Air strippers are a proven technology used to remove the types of contaminants found in the water at the site. The primary contaminant of concern at the site is trichloroethene (TCE), a degreasing solvent used by the Air Force to clean aircraft parts. The air stripper will reduce the levels of TCE in the treated water to 1.25 parts per billion or less. The treated water will be primarily discharged to a drainfield, located on base about 1,000 yards south of the site. If there is a problem with the drainfield, the treated water will be discharged to the North Davis sewer system.

Air Force environmental officials anticipate this cleanup action will eventually eliminate the need for



The newly installed treatment system at Operable Unit 6 will use extraction wells to capture contaminated groundwater (shown above) before it can leave the base.

the existing cleanup system in the Craigdale subdivision. This system, installed in 1996, has been removing contaminated groundwater at the edge of the plume, and has been doing so quite effectively.

"Since the Craigdale treatment system has been in operation, we have seen a noticeable reduction in contaminant concentrations in the groundwater," Lt. Nelson said. "As this system continues to work, we expect more reductions. Eventually, we hope to clean up enough of the contamination in the area to turn the system off." Lt. Nelson said he believes that should happen by 2007.

How clean is clean? Lt. Nelson said that decision will rest with the Environmental Protection Agency and Utah Department of Environmental Quality, but as it currently stands, the Air Force is required to clean up the groundwater to the drinking water standard—that means less than 5 parts per billion for TCE, or 0.000005 percent.

### Operable Unit 6

OU-6 is located on the base's north side, adjacent to the community of Riverdale. Contamination was discovered at the site in the late 1980s.

### East and West

The East Plume, the subject of this article, is the main portion of OU-6. A much smaller plume is located about 2000 feet to the west and is located entirely on base, with no indication that it will move off base. Because of the low concentrations of contamination, the plume will be allowed to attenuate naturally.

### VIP Tour

Regulators and RAB members toured the treatment facility and extraction wells on April 29.

### TCE Info

Trichloroethene, or TCE, is the most common contaminant found in the groundwater at Hill, and is the primary contaminant at OU-6.

TCE, a degreasing solvent, was used by both the Air Force and industry. The Air Force quit using TCE at Hill in the 1970s.

EPA has not completed its review of toxicological information and not yet determined whether TCE is a carcinogen.

**Hill's Restoration Advisory Board**

Hill's RAB, created in 1995, is made up of representatives from the communities surrounding the base involved in the cleanup: Layton, Clearfield, Sunset, Clinton, Riverdale and South Weber. Other RAB members include representatives from local health departments, sewer districts, water purveyors and environmental groups. (For more about the RAB, see page 4.)

**Public Comment periods**

Before any cleanup plan can be finalized, it must go through a period of public review and comment, during which citizens may express their concerns to the Air Force. These periods are advertised in the newspaper. They usually last 30 days (sometimes longer) and can be extended upon written request.

**Public Meetings**

Environmental laws and regulations require public meetings during most public comment periods. At these meetings, people have the opportunity to learn about the proposals, ask questions and make official comments for the record. Meetings are advertised in newspapers.

# Citizens play vital role in cleanup effort

When the Comprehensive Environmental Response, Compensation and Liability Act (the law that created Superfund) was passed in 1980, Congress ensured that the public would not be left out of the decision-making process for environmental cleanups. When the Air Force instituted its Installation Restoration Program, it adopted similar guidelines for public involvement.

These guidelines require an installation to keep the public informed of the progress of environmental investigations and cleanup. In addition, people must have ample opportunity to comment on cleanup proposals before they are finalized.

Over the years, the Air Force has expanded these guidelines to include forming Restoration Advisory Boards at bases with active cleanup programs. The purpose of these boards, called RABs, is to provide citizens a more direct way to become involved in the cleanup process. By directly interacting with the Air Force cleanup experts, RAB members can have a tremendous influence on cleanup decisions.

According to Bob Elliott, Hill's Restoration Division chief, the Air Force welcomes citizen input. In fact, he said the Air Force prefers to hear from the public early in the process—the earlier, the better.

"It's much more efficient for us to make adjustments early in the process, rather than have to overhaul the entire approach due to comments received toward the end," Elliott said.

Getting involved in the cleanup process is not as difficult as you might think. All it takes is a little time, some initiative and a desire to learn.

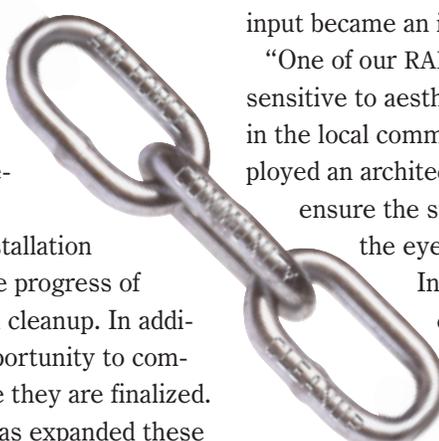
Perhaps the best way to get started is to contact the base's Environmental Public Affairs Coordinator, Charles Freeman (775-6951). He can put you on the base's mailing list and send you information on the cleanup. Once on the mailing list, you will receive notices about upcoming public meetings, fact sheets, and notifications about upcoming RAB meetings.

Freeman said attending public meetings and RAB meetings is an excellent way to get involved. "Meetings not only serve as a platform where people can become informed about various issues, but also give

the Air Force a chance to hear their recommendations and concerns, which can be incorporated into the projects we're working on," he said.

Elliott cited a recent example where RAB member input became an important part of a cleanup plan.

"One of our RAB members requested that we be sensitive to aesthetics when we construct buildings in the local community. Since then, we have employed an architect on all of our off-base projects to ensure the structures are not only pleasing to the eye, but match the local surroundings."



In addition to attending meetings, you can have direct input to the process by participating in public comment periods.

Before any cleanup remedy is finalized, the public must have an opportunity to review and comment on the proposal. Proposed cleanup plans are made available to the public for review. During a 30-day public comment period, the Air Force will host a public meeting, where the proposal will be explained in detail to attendees. At the meeting, people have the opportunity to speak directly with the Air Force's experts. During the meeting, people may also choose to submit a comment for the record.

All comments submitted during the comment period, both written and oral, at the public meeting or not, become part of the official record. As such, the Air Force must formally respond to the comment, which it does through a document called a Responsiveness Summary.

While it's possible your comment may not change the final decision, you can be assured that all comments are read and considered. Regulatory agencies—the Environmental Protection Agency and Utah Department of Environmental Quality—also review the comments to be sure an important community concern is not overlooked or ignored by the Air Force.

"We recognize our neighbors in the community are important partners in the cleanup process," Freeman said. "They have a right and a responsibility to participate in the decisions that affect their lives, their property and the things they value." 

# CleanUpdate

Cleanup news from the communities surrounding Hill AFB.

## East Area South Weber

OU-1  
OU-2  
OU-4

At OU-1, work continues on the performance plans for the natural attenuation monitoring and the on-base dewatering system. The design of the dewatering trench continues and should

be completed by the end of this summer.

At OU-2, the north interceptor trench extension has been completed. Several treatability studies are scheduled for the next few months. Another partitioning tracer test will be done, which will be followed by a full-scale surfactant flush study. These tests are important to the cleanup effort at OU-2, and will help scientists and engineers improve cleanup efforts at the site. Armstrong Laboratories will be at OU-2 this summer to research how TCE moves underground. Finally, the EPA's Office of Research and Development will test if the addition of propane enhances the natural breakdown of TCE.

At OU-4, the horizontal drain groundwater collection and air stripper treatment systems continue to operate successfully. During the first quarter of 1999 the system collected and treated 769,218 gallons of groundwater (8,550 gal/day). The air stripper removed 3.65 pounds of TCE—a 99.7 percent removal efficiency.

## North Area Riverdale

OU-6

Startup and optimization of the on-base groundwater collection and treatment system will begin in early June. Representatives of EPA and UDEQ and RAB members toured the facility April 29.

The off-base groundwater collection and treatment system in the Craigdale subdivision of Riverdale continues to operate as designed. The air stripper treatment system has been 100 percent operational, except for a brief shutdown in December for the scheduled annual maintenance. To date, more than eight pounds of TCE contamination have been removed from the groundwater.

Work continues on the innovative OU-6 Performance Standard Verification Plan (PSVP), a document designed to guide OU-6 activities toward site closure as efficiently as possible.

## South Area

OU-8

Layton, Clearfield

At OU-8, 38 new monitoring wells were installed in the Layton area. These wells are currently being sampled and the results should be available for evaluation by the end of May

1999. When the groundwater sampling results are received, work may begin on the Remedial Investigation Report.

Repairs to the east side of the groundwater containment system (located near the base's South Gate) were completed in April and the entire system is currently in operation. The system is designed to capture contaminated groundwater before it can leave the base. Preliminary results indicate that the system is achieving this objective.

## West Area

OU-5  
OU-9

Sunset, Clinton

The Air Force will reopen and widen the OU-5 Remedial Investigation. An extensive field work program is scheduled to begin in May. The purpose is to determine the extent of contamination in the deeper portions of the shallow aquifer. Newly discovered contamination at OU-9 has prompted this expanded investigation. More detailed information on OU-5 and OU-9 will be included in the next issue of EnviroNews.

At OU-3, the soil vapor extraction system at Bldg. 514 has been turned off, successfully completing the cleanup at the site. Soil samples have been taken to determine if cleanup

## On-base Area Hill AFB

OU-3  
OU-7  
OU-9

goals have been met. If so, the site will be officially closed.

At OU-9, PCB-contaminated soil was removed at three sites. The excavated soil was replaced with a one to two-foot thick layer of clean soil. Post-removal sampling indicated that all three sites now meet regulatory standards for residential areas.

This spring, Hill will conduct its annual inspection of all the land-fill caps currently in place (Berman Pond, Sodium Hydroxide Tank site, Landfill 1 and Bldg. 225).

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.

**Hill AFB Environmental Management Directorate Remedial Project Manager:**  
Shane Firsching (801) 775-3648  
**Environmental Public Affairs:**  
Charles Friedman (801) 775-6951



**Utah Department of Environmental Quality**  
**Remedial Project Manager:**  
Duanne (801) 536-4172  
**Community Involvement Coordinator for UDEQ:**  
Kathy (801) 536-4486



**U.S. Environmental Protection Agency, Region 8**  
**Remedial Project Manager:**  
Sandra Bourne (800) 227-8917, ext. 6660  
**Community Involvement Coordinator for EPA:**  
Ellie Cranford (800) 227-8917, ext. 6621



# RAB News

Hill Air Force Base  
Restoration Advisory Board

**Next  
RAB Meeting**  
June 10, 1999  
7 p.m.  
Hill AFB Officers Club

## RAB seats new community co-chair

by H. Ross Hammond

At its January meeting, Hill AFB's Restoration Advisory Board elected Jerry Everett, Layton's community representative, to be its



Jerry Everett  
RAB Community Co-chair

Community Co-Chair. Everett replaces former co-chair George Schrader, who passed away in December.

Everett brings two perspectives to the board—that of a concerned citizen, and the other as an industrial engineer with hands-on experience dealing with environmental issues. These diverse points of view help him understand the delicate balance between “what needs to be done and what is cost-effective.”

Commenting on the past, he said, “It is unfortunate that many years ago we did not recognize the long-term consequences of environmental recklessness.” Observing the Hill AFB projects presently underway, he remarked, “I am impressed with the

vast amount of work going on to identify the contaminated areas and to select and implement the most effective methods of restoration.”

His roots are deep in Davis County, where he played football at Clearfield High. “My parents, who worked at Hill AFB, taught me that the base is the backbone of the community,” he said.

Everett studied industrial engineering at Weber State University and was later employed by several Utah corporations as an environmental manager, where he implemented governmental regulations. “My experience is that environmental concerns are presently a major corporate issue,” he observes. Presently he is quality assurance manager for Modern Health Strategies in Farmington.

A man of many interests, Everett finds time to officiate high school football games, usher at the Dee Events Center, and assist on the Powder Mountain ski patrol. He is a Mason and a member of the governing board overseeing the nationwide organization of Shriners burn centers and children's hospitals.

He resides in Layton with his two children, Brandon 15 and Nicole 10. 🌐

## Base hosts second successful training session

Following up the RAB's first training session last September, the Air Force hosted another training session for RAB members on February 18.

This session focused primarily on how samples are analyzed in the laboratory and included a tour of the base's chem lab facilities. In addition, attendees were given a tour of the aircraft maintenance hangar (Bldg. 225) and shown the cleanup measures in place at OU-7, which has sites in and around Bldg. 225.

The training began at the Base Chem Lab, where chemist Diane Luke explained the equipment used and how samples are handled and tracked while they are being analyzed. She also explained the different sampling protocols used and how different protocols require different analyses.

Following the Chem Lab tour, Bob Elliott and RAB Facilitator Michele Straube, gave RAB members a

short presentation describing the process prescribed by law for cleaning up Superfund sites, like Hill AFB. Elliott emphasized the importance of public input in the cleanup. “We want RAB members to be involved as early as possible in the process,” he said.

The final stop of the day was a tour of the aircraft maintenance facilities, where much of the maintenance work at Hill AFB is done. Tour leaders John Vidic and Dee Choate showed RAB members how hazardous materials and hazardous wastes are handled and tracked, emphasizing that extreme care is taken to ensure that hazardous chemicals are disposed of properly.

About 10 RAB members attended the training session. At another session, held April 29, RAB members toured the new treatment facility at OU-6. 🌐

## Hill AFB RAB Member List

- Allan Dalpiaz  
Air Force Co-chair
- Jerry Everett  
Community Co-chair
- Layton Cmnty. Rep.
- Dave Hultgren  
Clearfield City Rep.
- Ken Kennedy  
Clinton Cmnty. Rep.
- Peter Matson  
Layton City Rep.
- Lynn Moulding  
Riverdale City Rep.
- Joel Workman  
South Weber City Rep.
- Mark Perkins  
South Weber Cmnty. Rep.
- Mickey Hennessee  
Sunset City Rep.
- Mel Wood  
Sunset City Rep.
- Brent Poll  
South Weber Landfill Coalition Rep.
- Al Herring  
Sierra Club Rep.
- Scott Paxman  
Weber Basin Water Conservancy District
- Louis Cooper  
Davis County Health Dept.
- Brian Cowan  
Weber-Morgan County Health Dept.
- Rex Averett  
Central Weber Sewer District Rep.
- Cliff Specht  
North Davis Sewer District Rep.
- Floyd Baham  
Davis-Weber Canal Co. Rep.
- Sandra Bourgeois  
EPA Region 8 Rep.
- Duane Mortensen  
UDEQ Rep.

**EMR Staff**

Bob Elliott,  
Restoration Division  
Chief

Shane Hirschi,  
Remedial Program  
Manager

Kevin Bourne,  
OU Manager (1, 2,  
3, 4, 6 and 7)

Steve Hicken,  
OU Manager (5, 8,  
9, UTTR and Little  
Mountain)

Howie Aubertin,  
Project Manager  
OU-1, 2 groundwater  
pump-and-treat

Dan Adkins,  
Project Manager  
OU-5, 8 groundwater

1st Lt. Tim Nelson,  
Project Manager  
OU-4, 6 groundwater  
pump-and-treat, cur-  
rent-year funding

Mark Loucks,  
Project Manager  
OU-5, 9 RI/FS/ROD

Oscar Torres,  
Project Manager  
Caps, SVE, Berman  
Pond

Jon Ginn,  
Innovative  
Technologies

Mike Hays,  
Sampling Manager

Anne Connelly,  
Real Estate, RAB Co-  
ordinator, IDW

Ray Spencer,  
Construction Man-  
ager

Mark Holt,  
GIS Manager

Marsha Rogan,  
Secretary

Dan Stone,  
UST Manager

Paul Betts,  
Design Review

# Cleanup program reorganizes to keep pace with change

Change is inevitable, and Hill AFB's environmental cleanup program is no exception. But Restoration Division Chief, Bob Elliott, refuses to allow changes to affect the progress of the base's cleanup effort.

Instead, Elliott has instituted a major restructuring of the Restoration Division, also called EMR, which he believes will not only compensate for recent staff losses, but also position the division for changes yet to come. The ultimate goal is to ensure the cleanup effort continues to progress according to schedule, and that the program will be able to withstand whatever changes are on the horizon.

Elliott cited three major reasons for the restructuring: the recent loss of several key people, a maturing program with different needs, and a need to effectively use the capabilities and resources of the remaining staff.

Elliott said the biggest challenge the program faces is the loss of key personnel. According to Elliott, the main reason people have left is due to the Air Force's outsourcing initiative announced last fall. Un-

der this initiative, the Air Force is conducting a study, called "A-76," to determine if certain functions could be done more cost-effectively by private contractors. Several base organizations, including the environmental management directorate are among those being scrutinized, with a potential impact to hundreds of jobs.

"As a result of A-76, three of the Restoration Division's top engineers have chosen to move to more secure positions at Hill or other bases," Elliott said. "If the Restoration Division's work is outsourced to a private contractor, the restoration staff will realize a 65 percent reduction in personnel," he added. "Considering the circumstances, I feel like we have been fortunate to attract and retain a highly qualified staff," he said.

Another reason for restructuring is due to the changes in the nature of the work being done. Elliott said a significant part of the investigative work is finished and operation of treatment systems is now un-

**See EMR Reorganization, cont. on page 6** ➤

## New arrivals

Hill's Restoration Division recently added two new engineers to its staff.

### 1st Lt. Tim Nelson



Lt. Nelson joined the cleanup program team in October after spending more than two years working in Hill's environmental compliance division, where he managed several compliance monitoring programs.

The Boise native attended the University of Notre Dame on an Air Force

ROTC scholarship. He graduated in 1996 with a degree in environmental engineering. Lt. Nelson is currently pursuing a masters degree from Utah State University and plans to finish this summer.

His current responsibilities include managing the groundwater treatment

systems at OU-6 (Riverdale) and OU-4 (South Weber). He also manages the current year budget for the cleanup program.

In his free time, Lt. Nelson enjoys outdoor activities like fishing, hiking, backpacking and running. In fact, Lt. Nelson has completed two marathons.

### Oscar Torres



Mr. Torres is a recent arrival from Sacramento, Calif., where he worked with McClellan AFB's environmental cleanup program.

A native of the Philippines, Mr. Torres graduated from the Mapua Institute in 1970 with a degree in mechanical engineering. He came to the United States in 1978.

Mr. Torres began his Federal service in construction management with McClellan's civil engineering squadron. He designed interior systems for buildings, such as heating and air conditioning systems.

After 10 years in construction management, he moved to environmental management, first working

with recycling programs and later managing the operations and maintenance for several of the base's soil vapor extraction systems.

He arrived at Hill last December and is responsible for operations and maintenance for the surface caps at OUs 3,4 and 7, as well as the soil vapor extraction system at OU-7.

**Official Business**

## EMR Reorganization—Continued from page 5

derway. “Historically, our project managers have managed a broad range of sites within a geographic area, known as an Operable Unit (OU),” Elliott said. “But that’s changing. We must now begin to consolidate the operation of similar treatment systems to gain efficiency of scale.”

To accommodate the changing operational climate, the new organizational structure shifts emphasis away from individual project managers and their Operable Units, to grouping similar projects together and using more of a team approach to management.

Elliott said the final reason for restructuring is to better utilize the talents and skills of the staff on a broader range of projects across the base. He believes this will improve the quality of the work by “cross-pollinating” good ideas.

At the heart of the new organizational structure is Remedial Project Manager, Shane Hirschi. He is responsible for ensuring the cleanup is progressing according to regulatory schedules and that the projects have long-term budgets in place.

The new organization will have only two Operable Unit managers, Kevin Bourne and Steve Hicken. Bourne is responsible for sites that have cleanup plans in place, while Hicken is responsible for those sites still under investigation. Their primary role is to provide general direction to the project managers and work with regulatory agencies to ensure all requirements are met. In addition, they will serve as the primary link between the Air Force and the public ensuring the public is aware of current and future cleanup activities, facilitating long- and short-term planning, and ensuring the public’s concerns are heard.

The balance of the staff will manage different aspects of various projects, which Elliott said will allow them to focus on the details of those projects.

This represents a major change from the past organization. Previously, a project manager would be responsible for all aspects of the investigation and cleanup of an entire OU. For example, OU-5 had a groundwater pumping system, a groundwater treatment system known as an “aeration curtain,” as well as a significant investigative effort underway. Under the old structure, the project manager was responsible for managing all of the work. Under the new structure, however, one project manager will now oversee the groundwater treatment systems at OU-5 as well as a groundwater treatment system at OU-8, while another project manager will manage the investigative work at OU-5 and OU-9.

“By combining similar work, we can have a stronger technical understanding of a specific area, like groundwater extraction,” Elliott said. “This will allow good ideas, that could enhance the cleanup process, to be implemented more efficiently.”

Elliott said he also expects contractors who conduct the day-to-day maintenance and operation of these treatment systems to be more efficient, since they will be working on similar treatment systems.

Elliott, who is responsible for the division’s administrative and personnel issues, said his roles are to work with his headquarters to ensure the cleanup program is adequately funded, keep a strong staff through this period of instability and make sure the base meets its obligations to the Air Force, regulators and the community to clean up the sites. 🌍

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

Contents of EnviroNews are not necessarily the official view of, or, endorsed by, the U.S. Government, the Department of Defense, the U.S. Air Force, or its contractors.

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