Guardian

America's First Choice for Environmental Restoration

A Publication of the Environmental Restoration Program | Travis Air Force Base, California | January 2012

Inside

Viewpoint:
The Department of Defense may soon be working with a much smaller budget, forcing all branches of the armed forces to "do a lot more with a lot less." The Travis Restoration Program Manager offers his thoughts on how fiscal challenges within the Air Force may impact the base's environmental restoration program..... **2**

Environmental Check-ups:
We do not talk much about the Travis AFB Groundwater Sampling and Analysis Program, but its ability to keep track of contaminated groundwater can be compared to routine medical checkups..... **3**

Next RAB Meeting:
The next Restoration Advisory Board meeting will be held on April 19, 2012 at 7 p.m. at the Office of the Northern Solano County Association of Realtors. The meeting agenda is forthcoming..... **4**

Acronyms

AFCEE: *The Air Force Center for Engineering and the Environment provides Air Force leaders with the expertise and professional services needed to protect, preserve, restore, develop and sustain the nation's environmental and installation resources.*

(Photo by Tony Chakurian[CH2M HILL])

Walking the Plank: Field technicians created a roadway of wood panels across a sensitive environmental habitat to allow vehicles to reach groundwater sampling locations. Precautions such as these allow groundwater samples to be collected without damaging the overlying soil and vegetation.

Do No Harm

Base Takes Precautions to Protect Sensitive Habitats

By Lonnie Duke
Travis Environmental Project Manager

We live in a time when a doctor's ability to prevent disease and cure ailments has reached a high point, thanks to modern technology and medical research. However, throughout history, health care providers have always had the desire to fix what is broken and not let the cure be worse than the affliction.

This philosophy is reflected by the Hippocratic Oath, an oath historically taken by doctors and other healthcare professionals to practice medicine ethically. Although it is fairly lengthy and has been revised over the years to reflect changes in society, it can be briefly summarized in three words:

Do no harm.

Similarly, environmental professionals are expected to practice their trade with the overall health of the environment in mind. That is why the Travis AFB Environmental Restoration Program does not focus only on cleanup; it looks for solutions to contamination problems that restore the affected area back to its original condition as much as possible.

A great example of this philosophy was seen last autumn when a routine site investigation took place at Site LF007C.

Site LF007C has a very small groundwater plume that is contaminated with trichloroethene, an industrial solvent. This plume lies directly beneath a flat area of land that is

See **POOL** page 3

Guardian
Travis Air Force Base, California

The *Guardian* is published by the 60th Civil Engineer Squadron's Environmental Restoration Program. The newsletter is designed to inform and educate the public about the base's ongoing environmental cleanup program. Contents expressed herein are not necessarily the official views of, or endorsed by, the U.S. government, the Department of Defense, or the Department of the Air Force. Additional information about the program can be obtained from the public web site at *http://www.travis.af.mil/enviro*. Questions and comments about the program may be sent to this address:

Merrie Schilter-Lowe
60th AMW Public Affairs
400 Brennan Circle
Travis AFB, CA 94535
(707) 424-2011
merrie.schilterlowe@us.af.mil

Questions and comments about the environmental web site may be sent to:

enviropa@travis.af.mil

An Uncertain Economic Future

VIEWPOINT

Mark H. Smith
Travis AFB Remedial Program Manager

Our country is experiencing serious economic challenges that are expected to continue for the foreseeable future. Short sales, foreclosures and the return of our military members from overseas at a time when there are few jobs available and a hiring freeze is in effect are a few of the stories about the economy in our local newspapers. We look to our nation's leaders for answers to many other concerns; but debt reduction, job creation, and budget balancing seem to have risen to the top of our national priorities.

How do efforts in the nation's capital to reduce the federal deficit affect Travis AFB's ability to clean up contaminated soil and groundwater?

Let's start with some background on where our cleanup money comes from. All costs associated with our Environmental Restoration Program (ERP) are paid by the Defense Environmental Restoration Account (DERA) and not the base's operating funds. This account was established by Congress in its Superfund Amendments and Reauthorization Action of 1986. Among other things, this account pays for the salaries of my staff and I, all contracts with environmental consulting firms and contract support from outside agencies, such as the U.S. Army Corps of Engineers.

So, if we need some extra funding to pay for a repair to a groundwater treatment system, we do not go to our Wing Commander. Instead, we ask the Air Force Center for Engineering and the Environment (AFCEE) in San Antonio, TX. This is because the Air Force is assigning its ERP tasks to AFCEE, including DERA funds management. The Travis ERP Staff is assigned to the cleanup of Travis but is not part of the base funding stream or operating budget.

Currently, AFCEE is working with all Air Force facilities to calculate the funding needed to complete the cleanup of all Air Force contaminated sites. Once this work is complete, AFCEE will be in a better position to respond to budget restrictions and still meet Air Force liabilities.

It is safe to assume that DERA funding will start to drop as a result of deficit reduction decisions. Although it is impossible to accurately foresee the impact of less funding at the base level, I can guess as to what will happen EVENTUALLY.

First, ERP manning will drop Air Force-wide. How this will be done without hurting the cleanup efforts at a particular base has yet to be determined, but it makes sense that fewer people will be needed to oversee cleanup work that is expected to shrink. On Travis AFB, we once had an ERP staff of ten but are now down to three, including myself. That trend will probably continue once all of the major cleanup decisions have been made.

Also, future Air Force environmental contracts will be performance-based and tailored to address all remaining liabilities. This includes costs from treatment plant operations and maintenance and groundwater monitoring. Both should shrink over time as we achieve cleanup levels and work toward site closure.

As a result, we believe the upcoming major cleanup decisions should take our fiscal situation into account. Selected cleanup technologies should be able to reach established cleanup levels as cost-effectively as possible. An aggressive but costly technology may shorten the time to cleanup when another approach may take longer but cost less, use fewer natural resources and therefore achieve the same cleanup with a smaller carbon footprint. Interested community members will get their chance to tell us if they agree or disagree with this viewpoint when we issue our Groundwater Proposed Plan and hold a public meeting in April 2012 to solicit comments on the Air Force proposed groundwater remedies. By participating in the remedy selection process, you will help us to make important decisions that support a clean environment and potentially impact the financial health of this nation. Look for the April 2012 Guardian for more details.

Pool

From page 1

dry during the summer but collects and holds rainwater during the winter, allowing certain plant and animal species to thrive until the pool dries up again during the summer. Land with these unique soil characteristics is known as a vernal pool.

To obtain the analytical data needed to properly characterize and clean up the Site LF007C plume, groundwater samples needed to be collected and analyzed in a laboratory. However, the sample collection presented a challenge, because it required the use of heavy equipment (a drilling rig, a fork lift, and several support trucks) that had the potential to permanently damage the delicate vernal pool soil.

Because vernal pools are often home to several threatened or endangered plants and animals, they are closely monitored and protected from incidental damage. The United States Fish and Wildlife Service (USFWS) is the federal agency tasked with overseeing the management of natural habitat such as vernal pools. Before any groundwater samples could be collected, the USFWS had to review and approve all field work procedures.

A sample collection work plan for LF007C was submitted in March of 2009 and approved in August of 2011. It took a while to obtain USFWS approval to proceed with the LF007C field work, mainly because of manning issues and the large amount of construction work on Travis AFB that also needed USFWS coordination.

Along with the USFWS approval, the base received detailed instructions on how the work needed to be carried out in order to protect the vernal pool. For example, the heavy equipment used to collect groundwater samples could not be driven directly on the surface of the vernal pool area, because the tires could cause permanent damage. To protect the sensitive habitat from damage, a temporary plywood road had to be set up. Plywood sheeting was laid out so the vehicles could drive to the sample locations; this method spread the weight of the vehicles out over a larger surface area and prevented their tires from cutting ruts, breaking up the delicate soil, or killing the dormant plants. The USFWS also required a certified wildlife biologist to be on the site while the work was in progress to ensure that all activities on top of the vernal pool surface took place in an environmentally friendly manner.

"We were concerned about getting out into the field so late in last year's construction season as we normally see rain here around November," said Mr. Mark Smith, Travis AFB Restoration Program Manager. "Fortunately, since this has been an extremely dry year, we were able to collect all of the samples needed and install new monitoring wells in the appropriate locations." Once a vernal pool receives a substantial amount of rain water, vehicles cannot be driven through it until the following summer. Work will continue during the summer of 2012 to install any groundwater treatment infrastructure that might be needed to complete the cleanup of the LF007C plume.

This field work illustrates the 'Hippocratic Oath' manner that environmental restoration projects on Travis AFB are carried out. It makes no sense to kill the patient while curing the disease, or in this case to destroy the vernal pool's ability to hold water while cleaning up the groundwater below it. In the end, the base successfully collected the data needed to pick and design an appropriate cleanup strategy for the LF007C groundwater while protecting the vernal pool environment above it.

Environmental Checkups

An important part of a routine health checkup is the blood test. Usually, a nurse collects the blood in multiple vials and sends each vial to a laboratory for a specific analysis. The information collected from these analyses can be used by a doctor to identify health problems and select appropriate cures (or recommend diet or lifestyle changes).

The Travis AFB Restoration Program has its equivalent to a health checkup that is used to monitor the status of contaminated groundwater. Known as the Groundwater Sampling and Analysis Program (GSAP), it uses a network of over 700 monitoring wells and consists of two components.

The first component, the water level measurement, is used to calculate the height of the water table. Just as gravity causes a ball to roll downhill, groundwater flows from high spots to low spots. Since we cannot actually see the water table, water level measurements are used to estimate the direction of groundwater flow. This information is important when installing a new well or designing a groundwater extraction system.

Groundwater sample collection and laboratory analysis is the second component. Groundwater samples are brought up to the surface by either a bailer or a pump and placed in vials. The vials are placed in an ice-filled cooler and shipped to a laboratory for analysis. For example, a Gas Chromatography-Mass Spectrometry (GC-MS) instrument is used to measure the amount of solvents and other volatile organic compounds in a sample. This information helps to determine if a plume (a body of contaminated groundwater) is moving or if a groundwater extraction and treatment system is successfully cleaning up groundwater.

Each year, Travis AFB conducts two rounds of GSAP data collection and generates a large amount of physical and chemical data. GSAP reports are well over 1000 pages in size and fill two large three-ring binders. It takes time to process this data and put it into a format that gives decision makers a snapshot of the groundwater conditions beneath our feet. By looking at several years' worth of these snapshots, the base can follow the progress made in cleaning up groundwater and can plan for system improvements or, if needed, a change in cleanup strategy.

Representatives of three environmental regulatory agencies and the Travis AFB Restoration Advisory Board review the results and conclusions in the GSAP reports and provide their recommendations. Often, a fresh set of eyes can identify minor changes to the GSAP that improve

See **CHECKUP** page 4

Checkup

■ From page 3

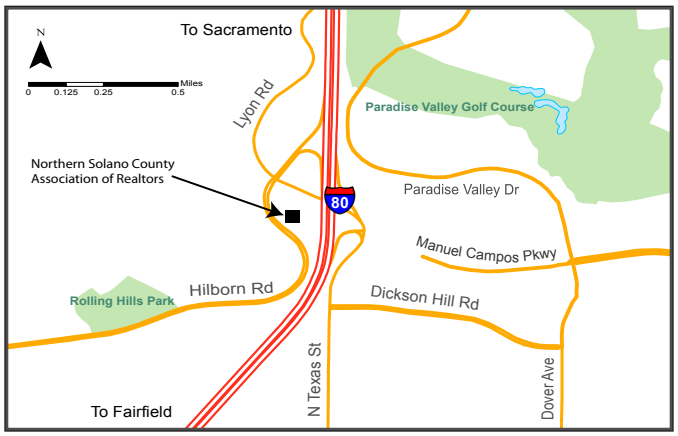
its performance or cost effectiveness.

Even after the final groundwater clean-up strategies are selected by the base and environmental regulatory agencies, GSAP field work and reporting will continue for the foreseeable future. This is the best way to track groundwater cleanup and ensure the protection of human health and the environment.

Travis AFB Restoration Advisory Board Meeting

April 19, 2012
7 p.m.

Northern Solano County Association of Realtors
3690 Hilborn Road
Fairfield, CA



Location of Information Repositories

Vacaville Public Library
1020 Ulatis Drive
Vacaville, CA 95688

(707) 449-6290

Monday-Thursday: 10 a.m. - 9 p.m.
Friday-Saturday: 10 a.m. - 5 p.m.
Sunday: 1 p.m. - 5 p.m.

Fairfield-Suisun Com. Library
1150 Kentucky Street
Fairfield, CA 94533

(707) 421-6500

Monday-Thursday: 10 a.m. - 9 p.m.
Friday-Saturday: 10 a.m. - 5 p.m.
Sunday: 1 p.m. - 5 p.m.

Mitchell Memorial Library
510 Travis Boulevard
Travis AFB, CA 94535

(707) 424-3279

Monday-Thursday: 10 a.m. - 9 p.m.
Friday: Closed
Saturday: 12 p.m. - 6 p.m.
Sunday: 12 p.m. - 6 p.m.

Printed on recycled paper

If you would like more information or need special accommodations for the RAB meeting, please contact Mark Smith, (707) 424-3062. You can also view our web site at http://www.travis.af.mil/enviro

For more information about Travis AFB's restoration program, please contact:

Mark Smith
Restoration Program Manager
Travis AFB
(707) 424-3062
mark.smith.6@us.af.mil

Marcus Simpson
Public Participation Specialist
Cal EPA/DTSC
(916) 255-6683
(866) 495-5651
msimpson@dtsc.ca.gov

David Cooper
Community Involvement
Coordinator, U.S. EPA
(415) 972-3245
(800) 231-3075
cooper.david@epa.gov

Community Relations
60 CES/CEANR (Environmental Restoration)
411 Airmen Drive, Building 570
Travis AFB, CA 94535-2001
(707) 424-4359