ENVIRONMENTAL RESTORATION
BEALE AIR FORCE BASE

Environmental Cleanup Program

ISSUE 25 – August 2004

A QUARTERLY NEWSLETTER REPORTING ON CLEANUP AT BEALE AFB

Welcome Lt. Col. Long

At a July 9, 2004, Change of Command Ceremony, Lt. Col. Gregory Long assumed command of the 9th Civil Engineering Squadron. As the Base Civil Engineer, Long oversees the Environmental Restoration Program. He also serves as the Co-Chair for the Restoration Advisory Board.

Before coming to Beale AFB, Long was the Combat Support Branch Chief for the 16th Air Force at Aviano Air Base in Italy. He supported 2 main operating bases, 4 support bases, and 11 expeditionary sites in an area of responsibility spanning the Mediterranean and Middle East.

Long's military career has taken him as far ranging as North Dakota to Panama, Colorado to Korea. Even California's Central Valley isn't new territory for Long. He attended high school in Sacramento and graduated from California State University, Sacramento, before being commissioned. Long holds a bachelor's degree in electrical engineering and a master's degree in public administration.

For more information on Beale AFB's restoration program, please contact:

Mike O'Brien
Chief, Environmental Restoration
Beale AFB
(530) 634-3856

Heidi Nelson
Public Participation Specialist
Cal EPA/DTSC
(916) 255-3575

Robert Reeves
Project Manager, Central Valley
Regional Water Quality Control Board
(916) 464-4651

Feasibility studies to be conducted for five Beale sites

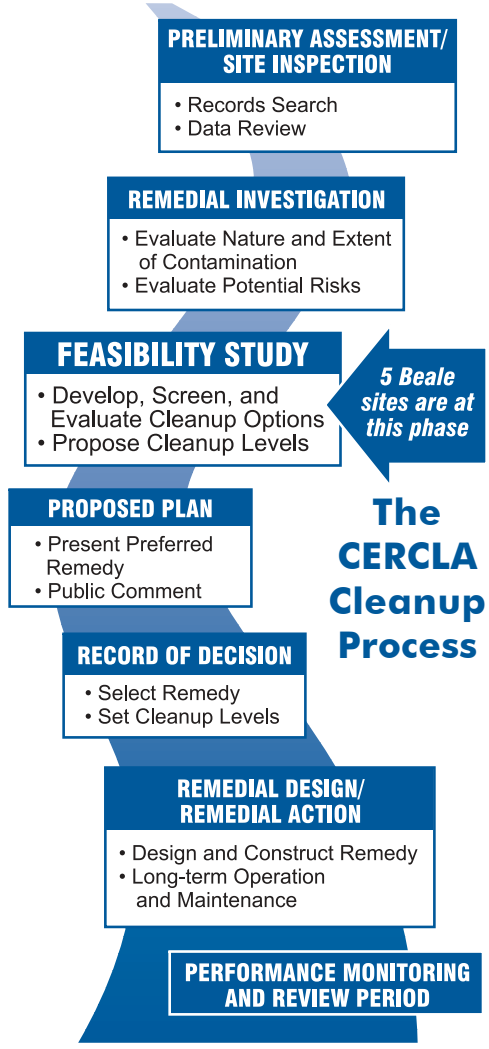
As more and more remedial investigations at Beale AFB near completion, the process of identifying and evaluating potential cleanup strategies begins *(see adjacent chart)*. Over the course of the next year, Beale expects to complete five feasibility studies.

A feasibility study involves weighing several factors to find the best cleanup strategy. Many cleanup technologies have been developed and used successfully over the years, but each site presents unique challenges. Rarely is there a single, obvious solution.

For example, a feasibility study is being conducted for Site 23, the 9th Transportation Yard at Beale AFB, and it provides a simple example of the challenges involved in designing cleanup strategies. This predominately paved site, located adjacent to the truck loading dock area by the Commissary, was formerly used to repair fuel tank trucks. Waste solvents and fuel were disposed of in an oil/water separator. The separator leaked and contaminated the soil, soil gas (the air between soil particles), and eventually groundwater. As an interim cleanup measure, the Air Force removed the oil/water separator and the contaminated soil. Groundwater that was contaminated by the soil will be the focus of the Site 23 feasibility study.

One of the more traditional approaches to groundwater cleanup is to extract contaminated groundwater and treat it above ground. But pump-and-treat technologies like these can be expensive, large, and noisy, and Site 23 is located in a populated portion of the base. Extracted groundwater can be transported by pipeline to a better location for treatment. This increases

Continued on page 2



The CERCLA Cleanup Process

The Beale AFB Environmental Cleanup Program newsletter is a publication of the Environmental Flight, Civil Engineer Squadron, Beale AFB, California. It is produced by URS to inform and educate the public, both at Beale AFB and in the surrounding communities, about the continuing efforts to clean up contamination at Beale AFB. The opinions expressed in the newsletter 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.

For questions, comments, or to be placed on the mailing list, please write to 9 CES/CEVR, 6601 B Street, Beale AFB, CA 95903; call (530) 634-3856; or send an e-mail to *michael.o'brien@beale.af.mil*

Feasibility studies to be conducted for five Beale sites (continued)

The U.S. Environmental Protection Agency publishes a series of fact sheets describing cleanup technologies. To view and print the fact sheets on the Internet, go to *www.cluin.com*, then scroll down to "Citizens Guides."

the cost of the project but eliminates noise near populated areas.

Extracting and treating groundwater creates another issue. Once the groundwater is treated, where does it go? Treated groundwater might be injected into the ground, discharged to a creek, or piped to evaporation ponds, for example. Each of these options involves negotiating permits with State agencies and long-term operation.

Due to challenges like these, the environmental industry continues to develop new and better ways to treat contaminated groundwater without extracting it – that is, to treat it in the ground. Examples of these include injecting substances such as air, hydrogen peroxide, other oxygen-rich compounds, or naturally occurring microbes into the ground to cause the chemical breakdown of the contaminants so they are not harmful to the environment. How effective these methods are depends on what the contaminants are, their concentrations, and the sites' physical characteristics (such as geology). Finding what works for a site often requires small-scale experiments.

In a step-by-step process, the feasibility study weighs the effectiveness, implementability and cost of possible remedies. The feasibility study also proposes cleanup levels based on the results of risk assessments and the expected future uses of the site and groundwater.

Sites undergoing or nearing the feasibility study stage

Site 23 – The 9th Transportation Yard – Contaminated soil has been removed. Feasibility study is for groundwater cleanup. Draft feasibility study report for groundwater is currently in review with regulatory agencies. Final report is scheduled for submittal in September 2004.

Site 32/1 Investigation Areas – Site 32 includes the flightline and the developed area nearby. The restrictions posed by the site's current use are one challenge to cleanup. Cleanup of soil gas has already begun, using vapor extraction. To clean up groundwater without disrupting flightline operations, the feasibility study recommends treating it in place at both the source area and at the downgradient end of the contaminant plume. Site 1 includes the Westside Drainage Area where critical habitat and vernal pools are located. To reduce risk to ecological receptors, excavation of contaminated soils and sediments is recommended. The draft feasibility study report was submitted to regulatory agencies in June; their comments are expected in September 2004.

Site 18/31 – Bulk Fuels Storage Facility – Fuel line leaks and solvent spills led to contamination of soil, soil gas and groundwater. Systems installed years ago are cleaning up the source of soil gas contamination. Now a feasibility study will look at methods to clean up groundwater. One challenge at this site is to design a cleanup system for this many-acre site that won't interfere with fuels storage and transport operations. Draft report is scheduled for September 2004.

Site 3 – Fire Prevention Training Area – Fires set and extinguished at this site for training exercises left lead, dioxins, fuels, and solvents in the area. First, cleanup strategies for soil will be proposed, because cleaning up soil can reduce the potential risk at the site immediately. An interim soil cleanup action is expected in 2005. A feasibility study dealing with groundwater is expected in November 2004.

Site 17 – Best Slough – This is the location of a former disposal area that led to contamination of soil and groundwater. An interim remedy to contain and treat the bulk of contaminated groundwater is already in place. The upcoming feasibility study will look at a diluted portion of the contaminated groundwater plume as well as an additional area of soil and groundwater contamination beyond the reaches of the current remedy. This is an example of remedies being developed in stages to address the most serious portions of the problem first. The draft feasibility study report is scheduled for mid-October 2004.

In the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) cleanup process, the feasibility study is followed by a proposed plan and a 30-day comment period. The Restoration Advisory Board (RAB) at Beale AFB often hears presentations during the feasibility study stage and provides input as the options are being weighed. RAB meetings are open to the public, providing another way for the community to be involved in evaluating cleanup options.

Restoration Advisory Board takes bus tour of several cleanup sites

Restoration Advisory Board (RAB) bus tours of the base offer opportunities for informal discussions about the cleanup program. The June 2004 tour included Site 17 (Best Slough), Site 12 (Pesticide Mixing Area), Site 22 (underground storage tanks), and Site 13 (former landfill). The next tour is scheduled for September 16.

Left to Right: Mike O'Brien (Beale AFB), Joan Saunders (Community RAB Member), Terry Escarda (California Department of Toxic Substances Control), Kent Hawley (Beale AFB), George Gerges (Beale AFB), and Mike Wray (CH2M HILL).

Tour participants stood on the platform of a SCAPS rig as a hollow rod beneath the truck was pushed by hydraulic hammer more than 30 feet into the ground. The process took less than 10 minutes. SCAPS technology allows the Air Force to screen a site for potential chlorinated solvent contamination in far less time than traditional drilling methods.

During the tour, community RAB member Joan Saunders (above right) asked SCAPS operator, Jim Campbell (U.S. Army Corps of Engineers), questions about the cost and relative merits of the SCAPS method.

Tour participants reviewed this summer's plans for completing investigations of former underground storage tank sites.

Meet the RAB

John Allard

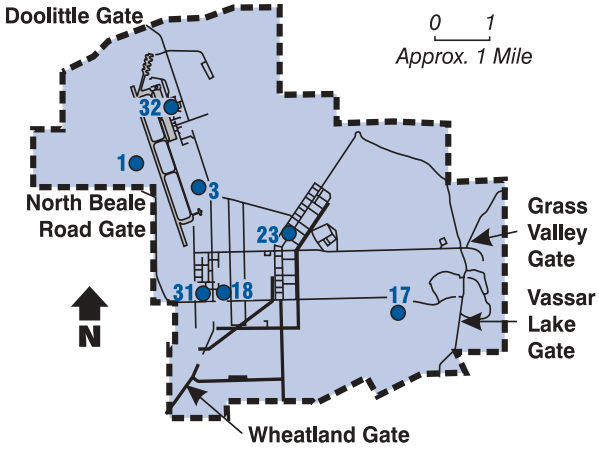
John Allard joined the U.S. Air Force in 1961 and remembers a time when there weren't programs for cleaning up environmental contamination. The environmental programs we have today began in the 1970s, and Allard remembers implementing changes in procedures as a result. Allard retired from the Air Force in 1982. Being a RAB member, he continues to see these programs mature and become standard procedure. Allard is confident Beale AFB will be cleaned up, though he says "it is a long process."

Allard spent many years overseas during his 20-year career in the Air Force. He was stationed in Thailand, Vietnam, Europe and Turkey to name a few. "I was TDY to Cannon AFB and PCS to the world," is the way Allard phrases it. (TDY stands for temporary duty "yonder" and PCS stands for permanent change of station.)

Allard, his wife, and their four sons wanted to stay in the Marysville area after Allard retired. "This is a very nice community. I like its small-town feel. Besides, where else can you be two hours from San Francisco, two hours from the mountains, *and* fish and hunt to your heart's content? This is a great place to live." Allard enjoys exploring other small towns in the foothills and learning their local histories and legends.

In addition to the Beale RAB, Allard is involved in Veterans of Foreign Wars.

Sites Discussed in This Newsletter



Upcoming Events

Restoration Advisory Board Tour

Thursday, September 16, 2004, 4-6 p.m.

Restoration Advisory Board Meeting*/Open to Public

Thursday, November 18, 2004, 6-8 p.m.

Public Comment Period and Meeting*

for No Further Response Action Planned Decision Documents for Site 19

Comment Period:

August 23 to September 22 2004,

Public Meeting:

Wednesday, September 8, 2004, 6 p.m.

*Meetings are held at

One Stop Center for Business & Workforce Development
1114 Yuba Street, Marysville

N

PRINTED ON RECYCLED PAPER