Guardian

America's First Choice for Environmental Restoration

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Inside

Protecting Union Creek

New Outfall Protection Program Guards Habitat

By Linda Weese
60th AMW Public Affairs

Travis is home to more than 100 plant and animal species that live in or near Union Creek. A new environmental protection program is being implemented to help clean up oil spills and hazardous waste materials from the creek and ensure all affected species live in a safe and clean environment.

Steve Stopher, field manager for the Installation Restoration Program (IRP), realized a need for an initial pre-positioned response capability in case of oil spills here and initiated the Outfall Protection Program. An outfall is a tributary that empties into a larger body of water. At Travis, the tributary is Union Creek.

"The main objective of the outfall program is to prevent hazardous materials from exiting Travis via Union Creek, which runs along the east side of the flightline and eventually empties into Suisun Bay," said Glenn Anderson, IRP hydrologist.

"There are five outfall buildings located by tributaries that lead into Union Creek. The first is at the south end of the runway, the second and third are at the east side of the runway, the fourth building is across from the Navy facilities, and the fifth building is by the fuels storage area near Hanger Avenue," said Stopher.

The primary piece of equipment the program uses is a "boom." The boom is a long cylindrical sock made of absorbent materials designed to eradicate oils and fuels in surface water. The boom is attached to a hook and hung from a horizontal cable that is lowered into the water. It can absorb up to 4 gallons of hazardous waste.

(Photo by Linda Weese)

Preventative Action — Steve Stopher, Travis AFB environmental field manager, demonstrates how to install a "boom" across Union Creek.

The fire department is the first unit to respond to any fuel or oil spill. When there is an oil or fuel spill on or near the flightline, the logistics group team is also called. The third team consists of civil engineers, who respond to spills throughout the rest of the base. There are approximately 20 members on each team.

"When there is a hazardous-waste alert, it takes approximately an hour for team members to assemble, gather their equipment, and report to the spill site. During that time, a lot of oil or fuels can enter the tributaries," Stopher said.

To overcome this problem, Stopher placed equipment, needed to start the cleanup process prior to response teams arriving onsite, in five

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For more information about the Installation Restoration Program, visit ***www.travis.af.mil/pages/enviro***

Guardian

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The Guardian is a publication of the 60th Civil Engineer Squadron's Installation Restoration Program (IRP). 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 website at http://www.travis.af.mil/pages/enviro. Questions and comments about the environmental cleanup program should be addressed to:

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DoD and EPA Locked in Dispute

Air Force Legal Perspective

VIEWPOINT

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The Comprehensive Environmental Response, Compensation and Liability Act and Superfund Amendment and Reauthorization Act of 1986 form the basis for Travis AFB's Installation Restoration Program. The Air Force has been delegated lead agency responsibilities for restoration activities on its installations by the President in Executive Order 12580. Despite the fact that we have a Federal Facilities Agreement, CERCLA, and EO 12580, Travis AFB and EPA Region IX are in dispute over the contents of the West/Annexes/Basewide Operable Unit Soil Record of Decision. In dispute is EPA's role after remedy selection and the status of the Travis Land Use Control Plan. This dispute is a result of fundamental differences in the Department of Defense and EPA's interpretation of these laws at the highest levels of both agencies.

The underlying issue in this dispute and the dispute at Langley AFB is the responsibilities of DoD and EPA during the CERCLA process. After years of EPA acknowledging our role as the lead agency, EPA asserts that their responsibilities under CERCLA § 120 "remedy selection" extend into the area of remedy implementation. The law clearly speaks to EPA's role in remedy selection and does not address implementation. In addition, EPA's own guidance states that implementation responsibility is vested in "other agencies" when clean up is on federal facilities. To date DoD, and specifically Travis AFB, has prudently and responsibly exercised their authority as the lead agency. EPA's dispute implies short of having intensive EPA oversight, DoD installations will not be motivated to comply with our RODs. However, EPA is not requesting non-Federal entities to comply with these requirements. Additionally, the Travis FFA clearly sets out the penalty if we fail to comply with the requirements of the ROD.

Land use controls (LUCs) can take many forms from deed restrictions to fences. The selection of LUCs varies depending upon the site characteristics. In other words, what would make sense on a closing base may not be appropriate for an active installation (i.e. deed restrictions). An example on Travis is the fence around RW013. To date there is no evidence that we have violated that long standing LUC. Travis AFB and the EPA do not dispute the need for land use controls nor do they dispute the type of land use controls as part of the remedial action in the WABOU Soil ROD. The Travis FFA addresses all the post ROD documents that are primary and the TLUCP is not one.

In the WABOU Soil ROD, some sites because of the type or level of contamination are exclusively remediated using LUCs. Other sites will have LUCs if and only if after excavation the contamination level does not meet residential levels. If you are familiar with the base, you know that the WABOU is in an industrial area. Travis AFB like most bases has a comprehensive plan for base development driven by policy, Air Force Instructions, and directives, which prevent residential areas from being located near industrial areas. In addition, none of the sites on base either in the WABOU or NEWIOU are in residential areas. Regardless of who prevails in this dispute, additional time and cost for the remedial action at Travis AFB has been lost. If EPA prevails, additional time and cost will be the result for its additional oversight, which does not increase the protection to human health or the environment.

Editor's Note: *EPA Region IX believes that the issues in dispute at Travis are very narrow, and EPA is optimistic that these specific issues can be resolved by the SEC. Therefore, although EPA disagrees with the positions set forth in this commentary, EPA does not consider it appropriate to debate legal issues at this time.*

Protection

From page 1

outfall buildings. "By pre-positioning spill equipment at outfalls, response time is drastically reduced. It takes only one or two people to deploy the booms to the waterways and that can be accomplished by fire department personnel, who are the first responders," Stopher said. "They can maintain these sites until the main spill teams arrive with spill response trailers and more team members."

Several Travis organizations worked together to make this program possible. Stopher procured the buildings and spill equipment through the Defense Reutilization and Management Office and other onbase units with excess equipment. The only cost was for signs at each location. "The horizontal shop set poles in concrete at the various locations where boom deployment systems are located," Stopher said.

He said if there is ever an occasion to use this equipment, the HAZMAT response team is ready and able. "The vision of the Outfall Protection Program is to preserve and protect the environment for future generations," Stopher said.

(Photo by Linda Weese)

A Closer Look — The "boom" is a long cylindrical sock made of absorbent fibers.

WABOU Soil ROD Sparks Disagreement

Dispute Earns National Attention, Formal Dispute Resolution Process Underway

By Glenn Andersen
Travis AFB Restoration Staff

After a review of the latest version of the West/Annexes/Basewide Operable Unit Soil Record of Decision, the U.S. Environmental Protection Agency exercised its authority under the Travis Air Force Base Federal Facilities Agreement and took Travis AFB to dispute over a portion of the ROD content.

The WABOU Soil ROD is a legal document that details technical information, legal requirements, and managerial considerations that support cleanup decisions at nine onbase locations with contaminated soil. When the ROD is signed by Air Force and regulatory representatives, it gives Travis AFB the legal authority to tap into funds to carry out cleanup actions. These actions are scheduled to start this summer.

Over 4 years of significant effort by Travis AFB, EPA, California Department of Toxic Substances Control, and the San Francisco Bay Regional Water Quality Control Board have gone into production of the WABOU Soil ROD. All local environmental issues are resolved, with the only remaining point of contention involving land use controls. A land use control is a physical or administrative action that documents the presence of residual contamination at an onbase location and restricts the activities there to ensure the protection of base workers and site visitors.

As the April 2002 Guardian described, the disagreement over land use controls is a national issue between the DoD and EPA Headquarters in Washington, DC, and originated at Langley AFB in Virginia. Both sides agree that land use controls are an important part of a cleanup program, but they have not found an acceptable division of post-ROD authority over the controls. It may seem obvious that each base is responsible for its controls, but it is not clear how many documents and how much EPA involvement are required to provide a reasonable assurance that controls will be effective.

To expedite resolution of the disagreement, EPA initiated a sequence of actions under the Travis AFB FFA, known as Dispute Resolution. The FFA is between the four agencies and describes how the investigation and cleanup of contaminated sites will be carried out. It gives regulatory agencies the authority to enforce schedules and issue penalties. It also presents a means to resolve local disagreements between agencies.

Dispute Resolution started at the local level and was elevated to the Dispute Resolution Committee, a group of higher level managers from each agency. They were unable to resolve the dispute in the required time and elevated it to the Senior Executive Committee. The SEC consists of the Air Force's Deputy Assistant Secretary for Environment, the Regional Administrator for EPA Region IX, and the Director of the California DTSC. The SEC has a limited time to resolve the issue, and if the SEC cannot find a solution, the EPA Regional Administrator issues a written position, which becomes the final solution unless either the Air Force or the State appeals to the EPA Administrator for a final decision.

In spite of the hurdles that face the WABOU Soil ROD, Travis AFB and the

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Acronyms

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
DoD: Department of Defense
DTSC: California Department of Toxic Substances Control
EPA: US Environmental Protection Agency
FFA: Federal Facilities Agreement
IRP: Installation Restoration Program
LUC: Land Use Controls
ROD: Record of Decision
SARA: Superfund Amendment and Reauthorization Act of 1986
SEC: Senior Executive Committee
TLUCP: Travis Land Use Controls Plan
WABOU: West/Annexes/Basewide Operable Unit

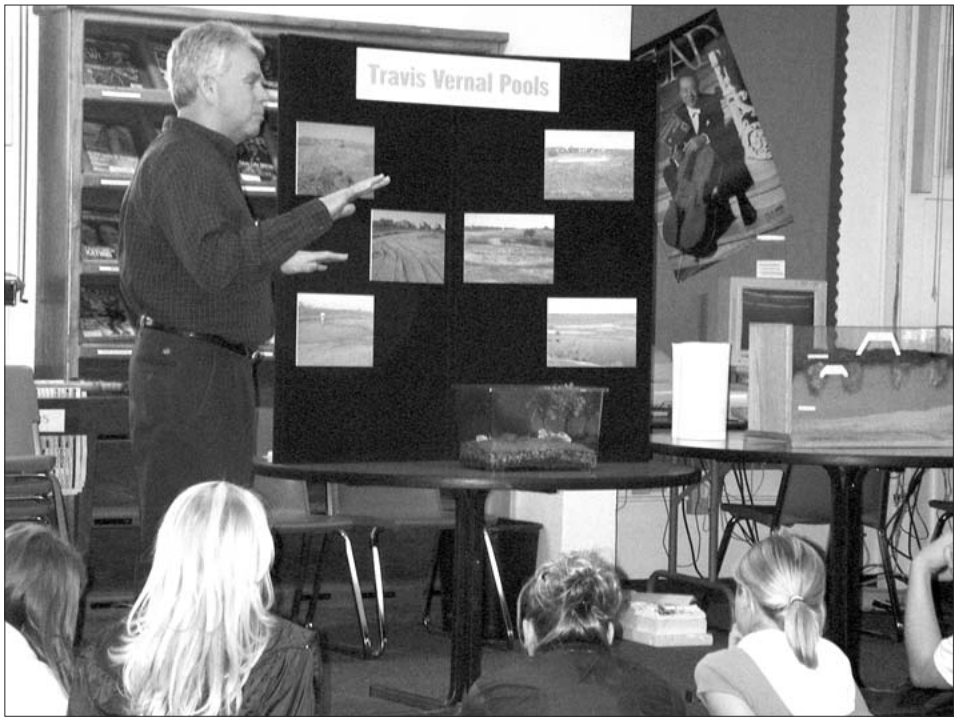
IRP Team Teaches Science at Jepson Middle School

By Joe Saxon
Community Relations Consultant

Environmental experts from Travis Air Force Base recently convened science classes at the Willis Jepson Middle School library for a day to enlighten students on scientific and environmental issues. Al Brickeen, the Travis AFB Environmental Cleanup Program Manager, and Emily Rued, an instructor at Jepson Middle School, arranged the day's events as part of an annual Travis scientific day at the school.

Mr. Brickeen brought chemical, engineering, and environmental experts from URS, an architectural and environmental engineering firm, to assist him with the day's activities. Together, they set up four workstations that focused on groundwater contamination, chemistry analysis, wetlands, soil vapor extraction systems, and health and safety equipment. Around 500 students took advantage of this educational effort. School officials rotated classes, numbering between 60 to 90 students, through the workstations each hour.

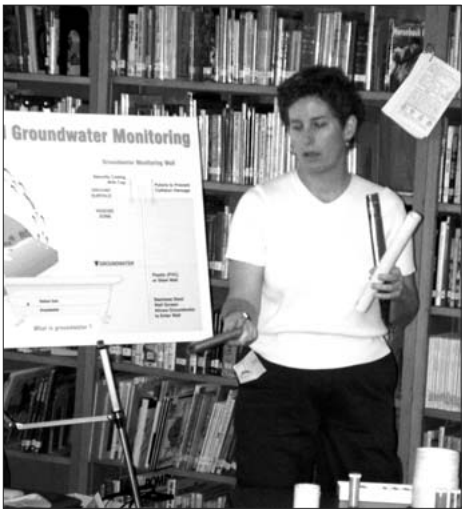
Mr. Brickeen took this opportunity to showcase an environmental effort involving constructing vernal pools onbase. Vernal pools are seasonal wetlands found throughout California's central valleys. He taught students how these wetlands are formed, their value as nature's filters, and how they aid riparian habitat.



Eager Learners — Al Brickeen informs students about vernal pools.

One of the more interesting workstations belonged to Tom Beer, a URS scientist who showed students how to evaluate their drinking water quality. He also taught them to recognize chemical formulas of contaminants, how to modify them, and how they impact people and the environment.

By the end of the day, students had learned more about groundwater, vernal pools, and contamination than most people learn in a lifetime. Judging from the reaction of the scientists-in-waiting, it was an experience most of them won't soon forget.



The class in action — From the left, Deena Stanley, Tom Beer, and Steve Herrera lead science students through workshops and experiments as part of an all-day event at Jepson Middle School.

Advisory Board Membership Changes

By Al Brickeen
Travis AFB Restoration Program Manager

The Travis Air Force Base Restoration Advisory Board or RAB consists of community, regulatory, and base members. Its purpose is to obtain public input for the development and execution of the restoration program. Recently, four members of this board resigned for personal reasons. Their commitment to and participation in the cleanup program have helped ensure that public concerns were addressed during base cleanup activities.

Long-time RAB member Emily Rued retired from her job teaching 7th and 8th grade science in the Vacaville Unified School District. As part of her retirement, Emily also resigned from the RAB on which she served since 1997.

Emily has been involved in the California Native Plant Society and the Audubon Society for many years. Because of this involvement, she took a special interest in base efforts to protect and maintain its vernal pools and wetlands. She coordinated several visits by Travis and contractor environmental professionals to Willis Jepson Middle School to provide hands-on demonstrations of environmental cleanup technologies and equipment. Emily's experience, knowledge, and contributions to the RAB and Travis environmental program will be greatly missed.

Departing — Emily Rued resigned from the RAB after 5 years of service.

Arriving — Vacaville Resident Dick Curtis is the newest RAB member.

The RAB also lost three other members, David Child, Anne D'Lima, and Timothy Guido, who moved from the Fairfield/Vacaville area. They each joined the RAB in 2000 and were active on RAB focus groups. Anne served as chairperson of the Budget/Schedule Focus Group. We wish them the best of luck in future endeavors.

The newest member of the RAB is Dick Curtis. Dick is a Vacaville resident and a member of the Northern Solano County Association of Realtors. Dick retired from the Air Force in 1988 after spending 17 of his 28 year military career at Travis. He has been a realtor since 1990. Dick and his wife have two children and three grandchildren.

FROM THE

FIELD

Construction begins at former municipal waste landfill site

Work has begun on the first phase of the Corrective Action Management Unit (CAMU) construction at site LF007 in the northeast portion of the Base. This first phase consists primarily of scraping, pushing, hauling, grading, and compacting dirt in a wide area covering the former Base municipal waste landfill. Scheduled for completion in August, this work is required both to maintain the existing cover over the old landfill, and to provide a stable foundation for the CAMU that will be built on top of this site.

The second phase of the CAMU construction, in which contaminated soils from several sites in the western area of the Base will be deposited at this site and capped with an engineered landfill cover, is currently set to begin in the spring of 2003.

The VegOil Process

An innovative, cost-effective approach to cleaning up solvents in groundwater

By Tom Sreenivasan
Travis AFB Restoration Staff

Cleaning up chlorinated solvents in groundwater can pose unique challenges because of the solubility, mobility, and toxicity of many industrial compounds. The VegOil process is an innovative, cost-effective approach to remediating solvent constituents, in groundwater.

Technology Description

Relative to pump-and-treat methods that remove groundwater and clean it in a treatment plant, *in situ, or in place* groundwater cleanup methods reduce costs, limit infrastructure disruptions, and minimize waste streams requiring treatment and disposal. To date, a commercially viable and widely accepted process for enhancing *in situ* bioremediation of chlorinated solvents has not yet emerged, though some (e.g., lactate or carbon injection) show promise. One obstacle to successful development and application of commercially viable *in situ* bioremediation processes for chlorinated solvents has been costs associated with operating and maintaining a nutrient or carbon-addition system.

Microbial breakdown of contaminants is a well documented mechanism for the biodegradation of many chlorinated solvents, and several methods for stimulating microbe activity in contaminated groundwater aquifers have been demonstrated. The most common methods involve adding a carbon source dissolved in groundwater to act as a microbe food source. However, because the dissolved carbon mixture must be injected continuously, these methods may not be cost-competitive relative to pump-and-treat options. Other approaches involving the placement of solid materials that release carbon are promising, but the cost of carbon placement is high.

The VegOil process is an innovative, cost-effective method of carbon addition that provides the conditions necessary to promote *in situ* microbial breakdown of solvents in groundwater. Vegetable oil is an inexpensive, innocuous, food-grade carbon source that is not regulated as a contaminant by the Environmental Protection Agency. Vegetable oil can be injected directly into an affected aquifer via conventional wells in sufficient volume to ensure wide distribution throughout a contaminant plume. Because vegetable oil dissolves slowly in groundwater, it serves as a slow-release carbon source. Therefore, a single, low-cost injection can provide sufficient carbon to drive contaminant breakdown for many years. This significantly lowers operation and maintenance costs, compared to dissolved carbon injection, and allows injection of a much greater quantity of carbon than does solid carbon placement.

Added Benefits

As an added benefit, dissolved chlorinated solvents will move out of groundwater into the vegetable oil, further reducing the groundwater contaminant concentrations. Therefore, the process is effective both for accelerating biodegradation in a contaminant source zone and for limiting downgradient contaminant migration.

To demonstrate the feasibility of the Vegetable Oil injection Technology, the Air Force Center for Environmental Excellence is testing the technology at a former solvent spill area at Travis. Vegetable oil was injected into series of wells around the spill area in September 2000. Over the next few years, groundwater samples will be collected from the injection wells and analyzed biannually to see whether the technology is successfully reducing the solvent concentrations in the local groundwater. The study is estimated to be completed in three years.

FROM THE

FIELD

Final phase of groundwater treatment system is underway - Work to complete the groundwater treatment system on the offbase portion of site FT005 is underway this spring. New subsurface investigations have been performed recently to measure the extent of groundwater contamination in the area and enable the system design to be finalized.

Cleanup of low-level radioactive waste site set for this summer - Designs are complete, work plans are being finalized, and excavation is scheduled to begin this summer at site RW013. Soil from this site, a former disposal pit for low-level radioactive wastes, will be excavated and hauled to an offbase certified radioactive waste landfill. The entire cleanup is expected to be completed this summer.

Basewide groundwater monitoring program wraps up annual sampling - Field crews completed the annual sampling of the Base's extensive groundwater monitoring network in June. This annual event involves measuring water levels and collecting analytical samples from nearly 500 wells dispersed throughout the Base. It is an important part of the process used to monitor progress on the numerous groundwater cleanup activities in place at Travis. The samples will be analyzed and results presented in the annual report this fall.

Technology Evaluation — Site SS015 at Travis is a test location for this innovative groundwater cleanup technology.

Travis AFB
Restoration Advisory Board Meeting Agenda
July 25, 2002

McBride Senior Center
411 Kendall Street
Vacaville, California

6:30 - 7:00 p.m. Poster Session

The poster session allows RAB and community members to view posterboards about ongoing Travis AFB restoration program activities. It also allows the public the opportunity to discuss the program with the Travis AFB environmental restoration staff on a one-to-one basis.

7:00 - 9:00 p.m. RAB General Meeting

I. Welcome and Introductions

II. Approval of Minutes

III. Additional Agenda Items and Questions

IV. Discussion Topics

- WABOU ROD Status

Break

V. Cleanup Program Status

- WABOU Soil Site Remedial Designs
- Union Creek Protection
- Vegetable Oil Study Results
- Willis Jepson Middle School Report
- Water Board Orientation

VI. Regulatory Agency Reports

VII. Focus Group Reports

VIII. RAB/Public Questions

IX. Set Time and Place for Next RAB Meeting

X. Set Focus Group Meeting Times

Disputes

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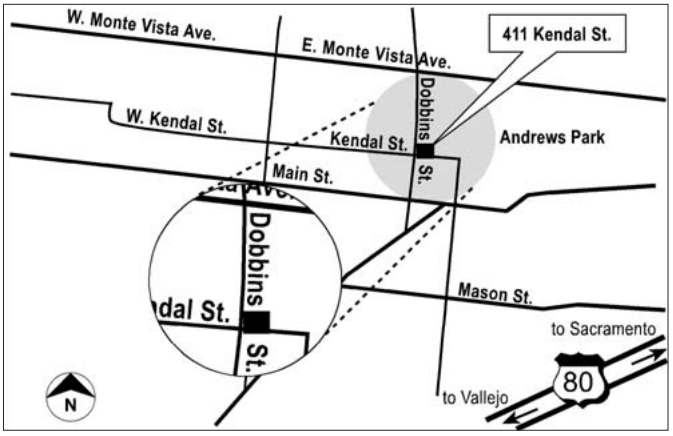
regulatory agencies continue to work on the design and other supporting documents needed to complete soil cleanup actions this summer. "You would never know that we are in a dispute situation," stated Mr. Allen Brickeen, base Remedial Program Manager. "Our local EPA and state representatives are very supportive of our efforts to complete necessary paperwork and allow our program to move quickly, once the dispute is over."

Another positive note is that Travis and agency representatives plan to complete this summer several WABOU cleanup actions that are not significantly impacted by the dispute. "By focusing on where we have consensus, we should be able to clean up a radiological burial site and put a fence and berm around a construction debris field before the end of the construction season, " Mr. Brickeen stated. "The other soil actions will probably start in the spring of 2003."

Travis AFB Restoration Advisory Board Meeting

July 25, 2002
7 p.m.

McBride Senior Center
411 Kendall Street
Vacaville, 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: 10 a.m. - 6 p.m.
Saturday: Closed
Sunday: 12 p.m. - 6 p.m.

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