



# Guardian

America's First Choice for Environmental Restoration

A Publication of the Environmental Restoration Program

Travis Air Force Base, California

September 2012

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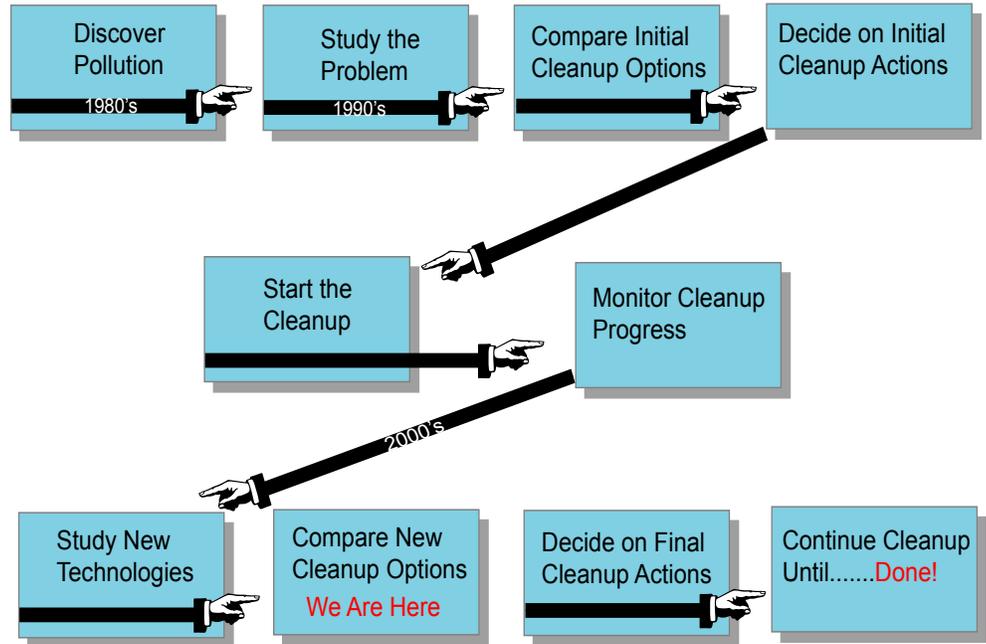
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### Editor's Corner

1. We hope this edition of the Guardian answers most of your questions concerning the Proposed Plan. If not, or if you would like to order a copy of the Proposed Plan, please email us at [enviropa@travis.af.mil](mailto:enviropa@travis.af.mil) or write to us at the address on the last page of this newsletter.

2. The Proposed Plan public meeting will be held on October 18, 2012 at 7 p.m. at the Office of the Northern Solano County Association of Realtors. A map to the realtors office is on page 6. The Proposed Plan public comment period runs from October 10, 2012 to November 9, 2012.



**Pointing the Way to Cleanup:** Since the discovery of contamination in the 1980's, Travis AFB has carried out cleanup actions under the Comprehensive Environmental Response, Compensation, and Liability Act, commonly known as Superfund. Our groundwater cleanup progress is shown above.

## The Proposed Plan Edition

### Community Input Needed to Pick Best Cleanup Options

By Glenn Anderson

Travis Environmental Project Manager

It is an election year, and people across the country will take time from their busy schedules this November to pick their favorite candidates and, in most cases, propositions that will directly impact their lives. Voting is both a right and a responsibility, and it is one of the many things about this country that makes it so great.

This is also the year when Travis AFB and three environmental regulatory agencies prepare to select the best technologies to clean up groundwater

contamination. This Guardian focuses exclusively on the Travis AFB Groundwater Proposed Plan, a key component in the selection process. Travis AFB has written and published a Proposed Plan that describes the Air Force-preferred options (remedies) to complete the cleanup of chemicals that entered the groundwater beneath the base from past aircraft operation and maintenance activities. However, final remedies cannot be selected without community input, so the Proposed Plan describes the Air Force preferred remedies (as well as other potential cleanup options) and gives

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Visit our Environmental Restoration Program web site at <http://www.travis.af.mil/enviro>



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# Frequently Asked Questions

If you have already requested or obtained a paper or electronic copy of our Groundwater Proposed Plan and intend to provide us with your comments on our groundwater cleanup strategies, then I want to give you my heartfelt thanks. Community feedback is such an important part of the remedy selection process, and we really cannot complete the process without you.

But maybe you are on the fence on whether you really want to get a copy of our Proposed Plan, and after reading it, whether it is worth your time to give us your comments on the Air Force-preferred cleanup strategies. Rather than risk repeating a lot of the information that is provided in this newsletter, I hope that the following answers to questions that may come up before or during your review of the Proposed Plan help you to make an informed decision.

## How do my comments really matter - - isn't the Air Force going to do what it wants to do anyway?

Absolutely not! Your comments do matter. We try our best to evaluate and propose those technologies that should clean up groundwater contaminants as quickly and inexpensively as possible. That is what good stewardship is all about. However, there have been cases where feedback from local community members resulted in a change in the proposed remedies for other contaminated sites. For that reason, we do not assume that all of the planning and coordination is done until community feedback is obtained.

## I really want to give you my ideas on your cleanup strategies, but I will be out of town on the



## VIEWPOINT

Mark H. Smith  
Travis AFB Remedial  
Program Manager

## day of your public meeting, so... ...what can I do?

There are several ways to send in your comments. My favorite is email, because it lets me carefully choose my words so that they accurately convey my thoughts or concerns (and it saves paper). You can also call us or write to us. Unfortunately, we are not set up to receive text messages and are not ready to receive comments through social networking websites (yet!).

## What happens to my comments when you get them?

First, we carefully evaluate each comment and develop a response. Second, we send you both the responses and the ways that we revised our proposed cleanup remedies, based on your comments. Finally, we will compile all comments and their responses and publish them in the Responsiveness Summary section of the upcoming Travis AFB Groundwater Record of Decision.

## I do not want my name in your Responsiveness Summary for privacy reasons. Can I still submit my comments?

Yes. Although it might look strange if there are multiple comments from "Anonymous," we will accommodate your desire for privacy.

## I did not get a copy of your Proposed Plan in the mail. Why not?

We are providing paper copies

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## Viewpoint

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of the Proposed Plan to community members who ask for them. By reducing the number of printed copies, we are complying with the President's Executive Order 13589 for Promoting Efficient Spending which directs federal agencies to take assertive steps to ensure that the government is a good steward of taxpayer money. Also, we do not want unwanted copies of the Proposed Plan to end up in the recycling bin (or even worse, the trash can).

### So how do I get a copy of the Proposed Plan?

Thanks to the Internet, the easiest way is to download a PDF copy from our environmental website ([www.travis.af.mil/enviro/library](http://www.travis.af.mil/enviro/library)). You can also get a paper copy from the Vacaville or Fairfield public libraries (see page 6 for their addresses) or chamber of commerce buildings. Finally, you can contact us via telephone, letter or email and ask us to mail a copy to you.

### My brother works with a patented technology that cleans up the environment really quickly. Can I submit his contact information as a comment?

It might be best to submit a detailed summary of the technology so that we can evaluate it. The Air Force Center for Engineering and the Environment has a group of subject matter experts that studies technologies that can clean up the environment quicker and for less money. We would direct your brother to these Air Force experts so that he could show them his technology. If they agree his technology offered a better way to clean up groundwater, we would

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# How Did We Get Here?

By Lonnie Duke

Travis Environmental Project Manager

Since the early 1940's, Travis AFB has had a long and distinguished record of operating aircraft and airlifting troops and supplies around the world in support of national interests. By successfully carrying out its global outreach and humanitarian relief missions decade after decade, the base has earned its reputation of being "the Gateway to the Pacific."

Historically, the safe operation, maintenance and repair of aircraft

In 1980, Congress passed the Comprehensive Environmental Response, Compensation and Liability Act, known as Superfund, that was designed to clean up the worst contaminated sites in the United States. Subsequent legislation provided the funding for the environmental investigation and cleanup of Department of Defense installations.

In the 1990's, the Air Force and three environmental regulatory agencies signed two decision documents (called Records of Decision



**Patching the Tank:** A field technician conducts a repair on one of two 20,000 pound granular activated carbon canisters at the Central Groundwater Treatment Plant on Travis AFB. Because of their many years of service, the costs to maintain the four groundwater treatment plants on base are expected to increase over time. (Photo by Glenn Anderson)

and vehicles involved the use of potentially hazardous materials. The commonly-used waste management practices at the time often resulted in the release of chemicals into soil and groundwater. These practices have been discontinued and replaced with waste collection, recycling and disposal practices that are more protective of the environment. However, the contaminants from past activities needed to be addressed.

or RODs) that allowed the base to start groundwater cleanup on an interim basis. Large industrial groundwater extraction and treatment systems that can handle large volumes of highly contaminated groundwater were designed and built to stop the migration of contaminated groundwater and to clean up the worst areas first. Although the clay soil beneath the base restricts groundwater flow,

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## Viewpoint

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reconsider our proposed remedy.

**You admit that the base went through the remedy selection process in the 1990's. Why are you going through it again? Does this mean that the original groundwater remedies failed?**

Actually, the original remedies have become a victim of their own successes. Let me use an analogy to explain.

Suppose you buy two cubic yards of soil for a backyard project, and a truck delivers the soil onto your recently repaved driveway. You buy a wheel barrow and shovel and begin to move the pile of soil into the backyard, one load at a time. Eventually, almost all of the soil is moved, but the shovel is no longer the best tool to use. It is not good at picking up small quantities of soil, and it might scrape up your driveway. So, you decide to switch tools (to a broom and dust pan) to complete the job while protecting the driveway.

The initial remedies that began the groundwater cleanup excelled at dealing with large volumes of highly contaminated groundwater. However, we are reaching a point where the footprints of the contaminated areas are smaller and the contaminant concentrations are lower. Plus, our four treatment plants are getting "a little long in the tooth" and require a lot more maintenance to keep them running. So, Travis AFB is ready to switch tools, or in this case, technologies to complete the groundwater cleanups that were started in the 1990's and to achieve drinking water standards at all contaminated area.

If you have any other questions about the Proposed Plan, please do not hesitate to ask.

# A New Set of Cleanup Tools

By Lonnie Duke

Travis Environmental Project Manager

Over the last ten years, there have been a number of scientific and engineering advances in groundwater treatment technologies. Organizations such as the Strategic Environmental Research and Development Program and the Environmental Security Technology Certification Program have funded studies to promote the understanding and use of innovative technologies that offer better

system. Older systems use a lot of energy and heavily-engineered equipment to extract groundwater, while innovative technologies tend to use a lot less energy. Also, it is easier to inject a chemical into a tight clay layer than to extract contaminants from the clay, so innovative technologies are more effective under certain conditions, especially when the contaminant concentrations are low.

To see if innovative technologies actually work at Travis AFB, the



**Solvent Sucking Trees:** This grove of eucalyptus trees offers an effective means of removing chlorinated solvents from the subsurface. Known as phytoremediation, this strategy is one of several biology-based cleanup approaches that were innovative but unproven in the past, but studies over the last ten years have shown their capabilities. (Photo by Glenn Anderson)

performance and cost effectiveness.

One of the biggest differences between the older established treatment technologies and the newer innovative technologies is the location where treatment takes place. Older systems extract groundwater and treat it at the surface. When the treatment is done, something has to be done with the treated water. Newer strategies treat groundwater in the subsurface, using chemicals, plants (see photo) or naturally occurring microbes.

Innovative technologies offer significant advantages over older

base has conducted a number of studies and demonstration projects over the last four years. The innovative technologies that rely on natural processes, such as microbes that "eat" or break down contaminants, have shown the most promise and the best results.

The Travis AFB Groundwater Proposed Plan summarizes both the established and the innovative cleanup technologies that the Air Force is proposing to use to complete the cleanup of its groundwater sites.

## History

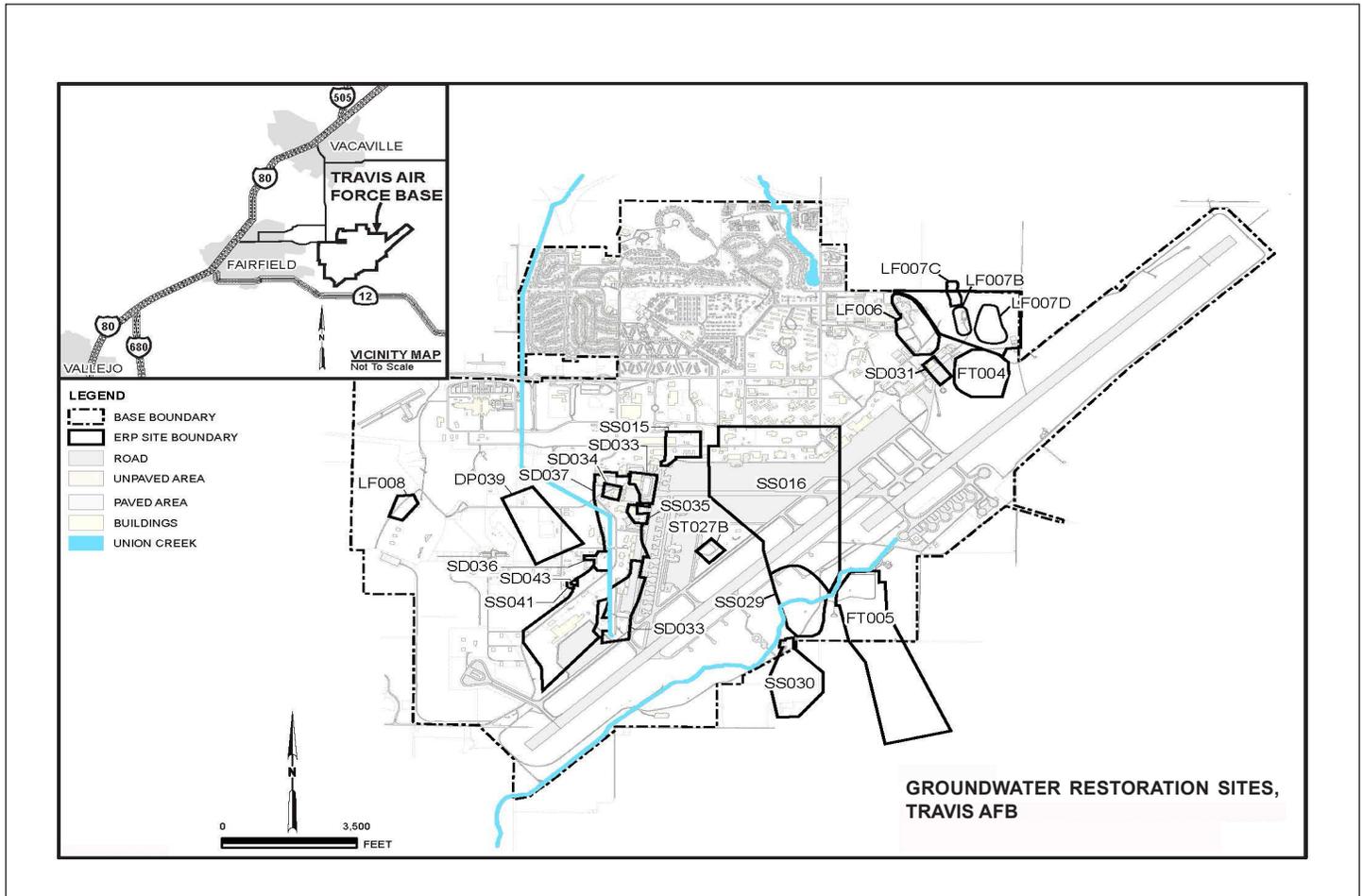
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these treatment systems treated over a billion gallons of groundwater and removed over 11,000 pounds of contaminants.

After over 12 years of treatment, all plumes of contaminated groundwater have shrunk in size, and

contaminant concentrations have been significantly reduced. However, the treatment systems have become less efficient, and the cost per pound of treated contaminant is increasing. Also, many biological and chemical treatment strategies that were considered innovative but unproven in the past have received

a considerable amount of study and are gaining acceptance by the scientific and regulatory communities. So, it makes sense to revisit the remedy selection process and identify any cleanup strategies that can improve upon the performance and/or cost effectiveness of the old groundwater treatment systems. 



## Answering The Ninth Question

By Glenn Anderson

Travis Environmental Project Manager

The Travis AFB Groundwater Proposed Plan presents the Air Force-preferred options (remedies) for cleaning up groundwater contaminants at 19 locations. To identify preferred cleanup options, the Air Force looked at many different cleanup technologies and evaluated their strengths and weaknesses. The more promising technologies were used to create the options, and

a comparison of the options was made by asking the following nine questions.

1. Does it protect human health and the environment?
2. Does it comply with Federal and State requirements?
3. Is it permanent or effective over the long-term?
4. Does it reduce the harmfulness of contamination?
5. Is it effective in the short-term?
6. Is it technically feasible?

7. What is the cost?
8. Do the State Regulatory Agencies accept it?
9. Does the Community accept it?

Most of these questions were answered during the Feasibility Study phase of the remedy selection process, although the eighth question (state regulatory acceptance) isn't answered until the Record of Decision is reviewed. The Proposed Plan was written to answer the ninth question, which is why your participation is so important! 

# Proposed Plan

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you the opportunity to provide your thoughts on them.

The articles in this newsletter summarize the contents of the Proposed Plan, provide some historical background on the Travis AFB Environmental Restoration Program, and discuss some of the technologies that the Air Force wants to use to get the groundwater cleanup job done. The Viewpoint explains how to obtain a copy of the Proposed Plan and how to let the base know what you think about each potential cleanup option.



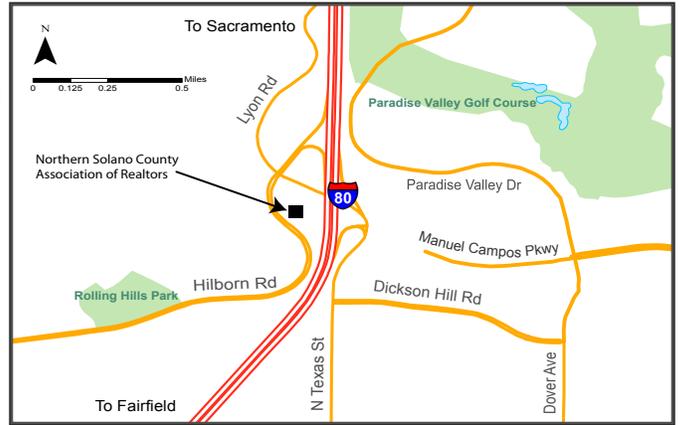
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## Travis AFB Proposed Plan Public Meeting

October 18, 2012  
7 p.m.

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



### LOCATION OF INFORMATION REPOSITORIES

(FOR ADDITIONAL INFORMATION)

#### 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.

*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>*

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