

A Publication of the Environmental Restoration Program

Travis Air Force Base, California

April 2021

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Viewpoint:

Next RAB Meeting:

<u>Editor's Corner</u> This will be my last Guardian, so it had better be a good one!

It has been an honor and a privilege to be the editor of and contributor to this restoration newsletter for the last 17 years, and I hope that you have both enjoyed its content and perhaps learned a little *about the daily challenges* and long-term achievements that we have experienced. Early in my career, I gained an appreciation for the value of effective community relations and the ability to write about complex technical issues in a way that even I could understand! So, please keep watching for the next Guardian in your mail or in-box. I know I will!



Checking our Work: Ms. Kimiye Touchi, project manager for the California Department of Toxic Substances Control, provides regulatory oversight of the installation of a new horizontal groundwater extraction well near the construction site of a new KC-46 hangar. The new well may increase the supply of contaminated water that is piped to a nearby bioreactor, improving its cleanup efficiency.

Start of a Long PFight

Travis Focuses on a New Class of Commonly Used Chemicals

By Glenn Anderson

Travis Environmental Project Manager, Emeritus

(Editor's Note: Most of the content of this article was originally published in an October 2020 fact sheet and has been included to ensure a wider distribution.)

Over the last three decades, the Travis AFB Environmental Restoration Program (ERP) has investigated and cleaned up contaminated soil, sediment and groundwater; achieved residential cleanup standards; and closed sites. It has faced a multitude of different contaminants (various metals, pesticides, petroleum products and solvents), matched each contaminant with a cleanup approach, worked with regulatory agency representatives to make the best cleanup decisions, and built the infrastructure to make those decisions a reality. The end result is cleaned property that can be used to build offices or school playgrounds.

However, there is a new challenge to face, and now is the time to introduce Guardian readers to a new class of chemicals that has made it into the environment. This will eventually lead to the selection of short- and long-term strategies to address them, See **PFAS** page 3

Visit our Environmental Program web site at https://www.travis.af.mil/Information/Environment/



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The Guardian is published by the Air Force Civil Engineer Center's Western Region Restoration Support Team, located at Travis Air Force Base. The newsletter is designed to inform and educate the public about the ongoing environmental cleanup program at Travis Air Force Base. 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 https://www.travis.af.mil/Information/Environment/. Questions and comments about the program may be sent to this address:

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

enviropa@travis.af.mil

Changing of the Guard(ian)

In the Viewpoint of the July 2019 Guardian, the Travis AFB Environmental Restoration Program Manager described the challenges in dealing with an aging workforce and upcoming retirements. His future predictions have become today's reality, and I am living proof of this, because by the time that you read this newsletter, I will be retired and enjoying a wellearned life of leisure and comfort (after I complete this week's honey-do list of projects).

VIEWPOINT

Yes, after 28 years, 3 months and 3 weeks of federal civil service; I have called it guits and have started the next phase of my life. I spent my entire civil service career in the Environmental Restoration Program at Travis AFB, a career that offered plenty of educational opportunities to increase my value to the Air Force along with technical and legal obstacles to overcome. It allowed me to meet many brilliant scientists and engineers, discuss cleanup strategies with outstanding program and project managers, and share our progress with military officials and interested community members. It was a career that was perfect for my temperament and desire to serve and started under less-thanperfect conditions.

When I walked into the Environmental office on Travis AFB as a humble hydrologist on 9 September 1992, I learned that its Environmental Restoration Program (ERP) was understaffed, inexperienced, and unable to keep up with program and project management demands. Please note that the Superfund law that the ERP follows was only a dozen years old at the time, and the Superfund Amendments and Reauthorization Act of 1986 that funds the ERP was half that age. Even the Travis Federal Facility Agreement that established the foundation for



VIEWPOINT

Glenn Anderson Travis AFB Restoration Project Manager (ret.)

managing the ERP was only a year old. The learning curve that everyone involved with environmental restoration faced was steep and challenging.

Fast forward a quarter century later, and we see a General Thomas D. White Award (for the best ERP in the Air Force) and a Secretary of Defense Award (for the best ERP in the Department of Defense) sitting in a trophy case in the Travis Installation Support Section office on-base. They represent the results of a long and difficult climb from the morass of defeat to the top of the mountain (where the view and the air are a lot sweeter!). They remind me of the academic learning and on-the-job training experiences that gave me the tools and foundation to work in this career field. They could not have been won without the dedication of five outstanding Restoration Program Managers, an excellent team of talented service representatives from the U.S. Army Corps of Engineers Omaha, Nebraska office, one exceptional and highly motivated environmental consulting firm that had supported the Travis ERP since 1994, and leadership from the Air Force Civil Engineer Center in San Antonio, Texas. It was great to be a part of a winning team, and I will miss the daily interactions with such a great group of professionals.

I will also miss the work on the Guardian and want to thank all of you who read this newsletter each quarter and provided positive feedback on its content. I look forward to seeing what the next Guardian editor will do to maintain the high standards of excellence that you have come to expect.

PFAS

From page 1

and provide a way for our readers to get involved with the cleanup process.

Per-and polyfluoroalkyl substances (PFAS) are compounds that are made by attaching fluoride ions to carbon chains. The Travis ERP will be looking initially at three PFAS: Perfluorooctane sulfonate (PFOS), Perfluorooctanoic acid (PFOA), and Perfluorobutanesulfonic Acid (PFBS). The Air Force began to use these compounds in the 1970's in the form of Aqueous Film

Forming Foam (AFFF) to put out petroleum fires. Although AFFF excelled at fire suppression, its potential impact on human health when released into the environment is now the reason why Travis AFB is actively using the CERCLA process to deal with these chemicals. This is what the ERP has done so far:

Preliminary Assessment (PA): This is the first step in the CER-CLA process and involves the identification of potential release areas. We interviewed first responders, fire chiefs, hangar staff and anyone on base who might have handled AFFF to learn where AFFF could have been used or released (for example, aircraft crash sites or an accidental AFFF spills). You can find this PA report (AR #2567) on the AFCEC Administrative Record (AR) website (https://ar.afcec-cloud.af.mil/ Search.aspx).

Site Inspection (SI): In the SI, soil and groundwater samples are collected from the potential release

areas. The laboratory analysis of these samples provides the data to show that a release occurred. The Travis AFB SI also included the



Contractor Siting: Two field specialists collect water samples that will be analyzed in a lab. The data from this work identified the PFAS sites to be investigated first.



chemical structure of the two compounds that will be the focus of the upcoming Remedial Investigation. unique? For one, these chemicals Both are made up of a string of 8 carbon atoms and a large number of fluorine atoms. The bond between carbon and fluorine is very strong, and it takes a lot of energy to break it. This explains why these compounds held up well under high temperatures and measurement used to express very were used in AFFF to put out hot petroleum fires.

collection of samples from 10 offbase wells on 8 properties located within 4 miles of the base. For the 3 properties with wells that contain PFAS above their Health Advisories (regulatory standards), the base set up a bottled water service for them and worked with the property owners to attach filtration systems to the wells. You can find this SI

> report (AR #2545) on AFCEC AR website.

Relative Risk Site Evaluation (RRSE):

This step is not a part of the CERCLA process, but it helped us to make the best programming decisions. The RRSE is a tool that compares all release areas in the Air Force and prioritizes funding so that the installations with the highest priority sites can begin the next step in the CERCLA process: the Remedial Investigation (RI). The RI is a thorough

environmental field

effort that determines the nature and extent of chemical distribution, evaluates the risks associated with these chemicals, and provides enough data to make technically efficient and cost effective cleanup decisions.

Recently, the Air Force awarded a new five-year environmental contract to Sustainment and Restoration Services (SRS), a small business consulting firm, to carry out the first phase of the RI. The SRS management team is working on the field and laborary documents What They're Made Of: This diagram shows the that will support the upcoming RI.

What makes this work so in soil and groundwater are measured in parts per trillion (PPT).

What is a PPT? It is a unit of low chemical concentrations. One PPT of Compound X is equal to one ounce of Compound X in one trillion ounces of water. Here is another way to look at it: if one drop of Compound X is mixed in See PFAS page 4

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Sunday: 12 p.m. - 6 p.m.

(707) 421-6500 Monday-Thursday: 10 a.m. Monday-Thursday: 10 a.m. - 9 p.m. - 9 p.m. Friday-Saturday: 10 a.m. - 5 Friday: Closed **Saturday:** 12 p.m. - 6 p.m.

(707) 424-3279

Fairfield-Suisun Com. Library **Mitchell Memorial Library** 510 Travis Boulevard Travis AFB, CA 94535



Editor's Meeting Commentary

participants. This decision will take into account the safety and

We currently don't know with certainty whether we will meet

in person or will produce another virtual presentation for all

well-being of all attendees and will be posted at www.travis. af.mil/Information/Environment/News/ by 19 October 2021.

LOCATION OF LOCAL LIBRARIES

1150 Kentucky Street

Sunday: 1 p.m. - 5 p.m.

Fairfield, CA 94533

p.m.

October 21, 2021 7 p.m.

Travis AFB

Restoration

Advisory

From the comfort

meeting location.

Vacaville Public Library

1020 Ulatis Drive

(707) 449-6290

- 9 p.m.

5 p.m.

Vacaville, CA 95688

Monday-Thursday: 10 a.m.

Friday-Saturday: 10 a.m. -

Sunday: 1 p.m. - 5 p.m.

for the KAB meeting, please contact Lonnie Duke, (707) 424-7520.

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of your computer or at a selected public

Board Meeting Also, these compounds are used in many commonly used products

(cleaning products, polishes, water-

resistant fabrics, etc.), so the field team has to take special precautions to prevent these chemicals from being inadvertently added to the samples when they are collected.

You find more information about the Air Force response to PFOS, PFOA, and PFBS at: https://www. afcec.af.mil/WhatWeDo/Environment/Perfluorinated-Compounds/. In future newsletters and fact sheets, we will point to other excellent sources of online information as well as keep you informed of our progress in completing the PFAS RI and identifying the best technologies to remove these chemicals from soil and groundwater.

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From page 3 the water from 1,000 Olympic-size swimming pools, the water contains about 1 ppt of Compound X.