



Guardian

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TRAVIS AIR FORCE BASE, CALIFORNIA

MARCH 2024

Restoration Advisory Board Meeting Planned for April 18, 2024

The Travis Air Force Base (AFB) Environmental Restoration Program (ERP) is pleased to announce the next Travis AFB Restoration Advisory Board (RAB) meeting will be held on April 18, 2024, at 7:00 p.m.

It's hard to believe a full year has passed since our last in-person RAB meeting. The RAB meeting will start with general introductions and a review of the meeting agenda. This will be followed by updates on the ongoing environmental investigations and restoration activities across Travis AFB. Representatives from the U.S. Environmental Protection Agency (EPA), California Department of Toxic Substances Control (DTSC), and San Francisco Bay Regional Water Quality Control Board (Water Board) will provide regulatory agency updates. The RAB meeting will conclude with a public question-and-answer session on any aspect of our ERP.

Travis AFB In-Person RAB Meeting

Thursday, April 18, 2024; 7:00 p.m.

3690 Hilborn Road, Fairfield, CA 94534

NO RSVP REQUIRED

As always, everyone from the community is welcome to attend. We encourage you to bring a friend who is interested in environmental cleanup activities at Travis AFB or who may be interested in joining the RAB. Please feel free to arrive a little early and catch up with other RAB members and our project staff. Refreshments will be provided.

For more information or to request special accommodations, please contact Travis AFB ERP project staff at (707) 424-2812 or enviropa@us.af.mil.

We look forward to seeing you in April!

Remediation: The Final Frontier

Remediation: The Final Frontier appears to be the theme at Travis AFB. Lately, you may have seen some "space-age" contraptions scattered to different areas on-base. Those with sharp eyes also may

have noticed some familiar names on the contraptions.



"Scotty," one of many SPOC trailers at Travis AFB.
(photo credit: Doug Berwick, Jacobs)

These trailers may look futuristic, but the future is now. Since August 2023, remediation contractor Jacobs, working with Travis AFB, has "boldly gone" where no other ERP has before. Jacobs has been busy designing, developing, building, and commissioning these devices. But what are they, and what is their purpose? Great questions!

Each of these devices is a solar-powered organic carbon (SPOC) trailer. The SPOC trailers are capable of extracting groundwater from specific wells containing chlorinated volatile organic compounds, treating that groundwater, and adding organic carbon and nutrients that can promote more natural treatment when the amended groundwater is reinjected into the ground.

Each of the SPOC trailers holds two drums that contain a special blend of natural ingredients that was designed to reduce chlorinated volatile organic compound contamination within the aquifer. The natural ingredients include organic and inorganic material such as tree mulch, river rock gravel, hay, soybean oil, other proprietary ingredients, and naturally occurring bacteria that feed on organic carbon. The breakdown of the organic carbon stimulates other naturally occurring bacteria that feed on the contaminants. As the pumped

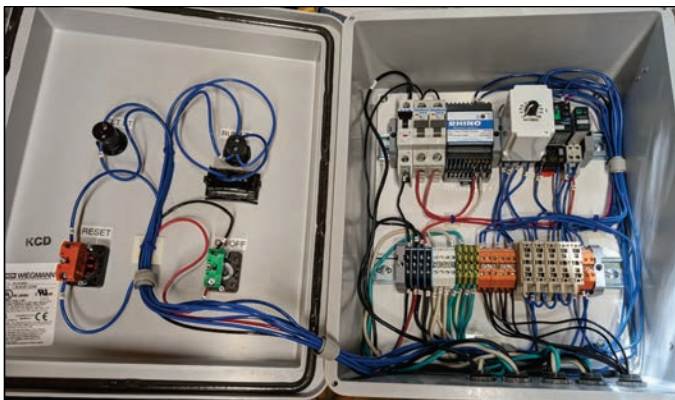
groundwater slowly flows through these drums, the contaminants are degraded in the drums, and the groundwater gets more nutrient and bacteria-rich along the way, until finally it is reinjected back into the aquifer where more chlorinated volatile organic compound treatment occurs.

Why do these trailers have solar panels? Each SPOC trailer has control and safeguard systems as well as a pump for extracting groundwater, both of which need power to operate.



Close-up view of the SPOC control panel
(Photo credit: Doug Berwick, Jacobs)

These SPOC trailers are placed on-base in areas without a power supply. Thus, solar panels were installed on each trailer as a source of renewable energy, enabling their use just about anywhere on-base. If there is insufficient power to operate the system (which results from lack of sunshine), the system can safely shut down and remain offline until enough power is available. The system shuts down when leaks are detected or the tubing or drums have a blockage. When a trailer is operating, treatment is happening in the drums and in the ground.



The "brains" of the SPOC control panel.
(Photo credit: Doug Berwick, Jacobs)

If you want to learn more about the SPOC trailer systems at Travis AFB or have questions, be sure to attend the RAB meeting on April 18, 2024, to hear the technical presentation and talk with our project team.

Phase I RI for AFFF Areas – Field Event #3 Update

Field activities continue for the Phase I Remedial Investigation (RI) for aqueous film-forming foam (AFFF) areas at Travis AFB. The objective of the Phase I RI is to delineate concentrations of per- and polyfluoroalkyl (PFAS) constituents associated with AFFF areas in soil, groundwater, surface water, and sediment, and to provide a better understanding of their presence in the environment. The RI was initiated in July 2020. Field Events #2 and #3 were conducted in November 2023. To date, the RI has completed 109 monitoring well installations, 99 soil borings, 535 groundwater samples, and 20 surface water/sediment samples.

During Field Event #3, the field team installed eight lysimeters at two different areas across the Base. Lysimeters are typically used in the agricultural industry because they measure soil moisture present as pore water, which is water within the small spaces between soil grains.



On the left, field staff prepare the stainless-steel lysimeter for installation. On the right, pore water is sampled during the October 2023 event. (Photo credit: Oneida)

Soil moisture differs from groundwater because it is in the vadose zone, the area of soil between the surface and the top of the groundwater surface. Groundwater at Travis AFB is relatively shallow, between about 3 and 30 feet below ground surface (bgs). The lysimeters were installed at shallow depths, ranging from 8 to 9.5 feet bgs. To accurately measure and assess pore water, it is critical that lysimeters be installed above the presence of

groundwater. Project geologists carefully targeted the depths at which to install the lysimeters based on soil grain size and saturation.

The goal of lysimeter sampling is to measure concentrations in pore water and support evaluation of the vertical and horizontal migration of PFAS through the subsurface. The lysimeters were installed in October 2023, and samples were taken in October 2023 and January 2024. The quarterly sampling will continue in April and July 2024.

After Field Event #3 was completed in November 2023, a comprehensive groundwater gauging event, of over 300 monitoring wells on- and off-base, was conducted. These data provide information on groundwater depth and flow direction.

These field events require a lot of coordination. The Restoration Program Team continues to work, discuss project results, and gain consensus on recommendations from our regulatory stakeholders—EPA, DTSC, and the Water Board.

Annual Land Use Control Inspection

On February 21–22 2024, personnel from Travis AFB, EPA, and Jacobs conducted the annual inspection of restoration cleanup sites which contain land use controls (LUCs). LUCs include any type of physical, legal, or administrative mechanism that restricts the use of, or limits access to, real property to prevent or reduce risk to human health and the environment. The land use restrictions are based on the presence of subsurface soil and/or groundwater contamination that could pose a potential risk to human health if exposure were to occur. Once environmental restoration activities are complete and a restoration site is deemed safe for human exposure (unrestricted use/unrestricted exposure), LUCs are removed. The annual LUC inspection includes a visual inspection of each environmental restoration site to ensure physical controls are in place and/or no unknown development of the area occurred. Nineteen restoration sites were inspected following the procedures outlined in the 2023 *Land Use Control Implementation Plan*, including following the LUC inspection checklist. The official record of inspection results will be published in the 2023 *Annual Land Use Controls Inspection Report* and will be available for public review via the Air Force Administrative Record.



Personnel from Jacobs (left), the EPA (center two) and Travis AFB (right) inspect Restoration Site FT004 for any breaches of LUCs. (Photo Credit: Travis ERP)

Restoration Advisory Board Tours and Meetings

Community members are cordially invited to attend the public RAB meetings and tours. The next RAB meeting is planned to be held in-person at 3690 Hilborn Road, Fairfield, CA. The meeting is scheduled for April 18, 2024, at 7:00 p.m. You are welcome to arrive early to socialize with fellow RAB members, community members, and the project team. Light refreshments will also be provided. We look forward to seeing you there!

If you are interested in finding out more about the Travis AFB RAB, wish to be included on the email mailing list, or want to inquire about becoming a RAB member, let us know:

enviropa@us.af.mil

(707) 424-2812

For more information about Travis AFB's Environmental Restoration Program, contact us:

**Remedial Program Manager
(707) 424-2812**

**Public Affairs Officer
(707) 424-2011**

Or visit:

<https://www.travis.af.mil/Information/Environment/>