



# Robins Air Force Base Environmental Advisory Board (EAB) *Fact Sheet*



Volume 16, Issue 3, November 2023

## The Robins AFB EAB

Recognizing the importance of public involvement in environmental matters, Robins Air Force Base (Robins AFB or Base) has established the Environmental Advisory Board (EAB). The mission of the EAB is to encourage participation of surrounding communities in the Base's environmental programs and allow community members and other stakeholders to have meaningful dialog with Base officials. Specifically, the EAB serves to promote community awareness and obtain constructive community review, comment, and input on current and proposed actions associated with environmental programs at Robins AFB. The EAB supports the Air Force environmental mission of sustaining readiness, being a good neighbor, protecting human health and the environment for the Base and community, and making smart business decisions.

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## November 2023 EAB Meeting

The fall EAB meeting was held on Thursday, November 2, 2023.

This *Fact Sheet* provides a summary of the information and topics discussed during the meeting.

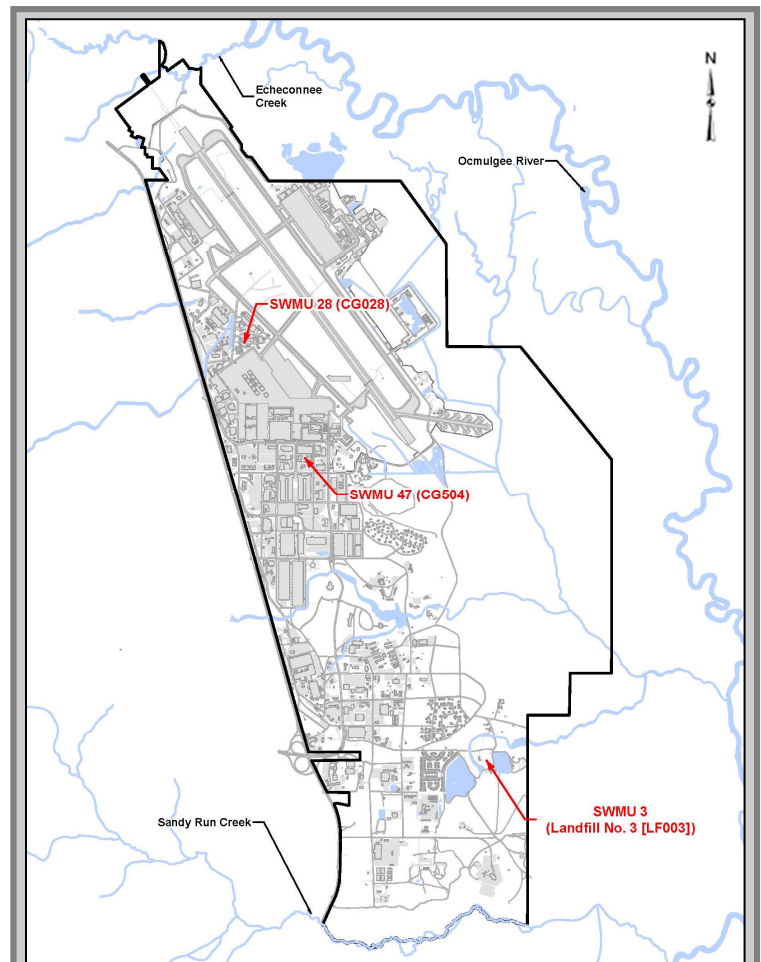
**The next meeting will be held on Thursday, March 14, 2024 at 6:00 p.m.**

## Updates on Progress: SWMU 47, SWMU 28, and LF003

At the fall EAB meeting, **Ms. Elizabeth Rhine** of Bhatte Environmental Associates, Inc. (Bhatte) briefed on the status of cleanup efforts at select restoration sites covered under the Optimized Remediation Contract (ORC).

Specifically, the sites discussed during the meeting included the following: (i) SWMU 47 (CG504); (ii) SWMU 28 (CG028); and (iii) LF003. The status of each site is presented in this Fact Sheet.

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During the recent EAB meeting, updates on progress at SWMU 47, SWMU 28, and LF003 were provided.

## Updates on Progress: SWMW 47, SWMU 28, and LF003 (Continued...)

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### SWMU 47

SWMU 47 is located in the middle of the Greater Base Industrial Area (GBIA), east of Building 177. It is defined as the contaminated soil and groundwater near Building 177 (i.e., the steam plant) that resulted from a leaking underground fuel line connected to a 250,000-gallon above-ground storage tank containing No. 2 diesel fuel. Soil contamination at SWMU 47 was identified in 1996, and a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was completed in 1997.

The remedy for site groundwater has generally included removing light non-aqueous phase liquid (LNAPL) using both passive and active recovery systems. Approximately 12,000,000 gallons of groundwater has been extracted and treated. Nearly 1,400 gallons of LNAPL has been recovered at this site since remedial activities began.

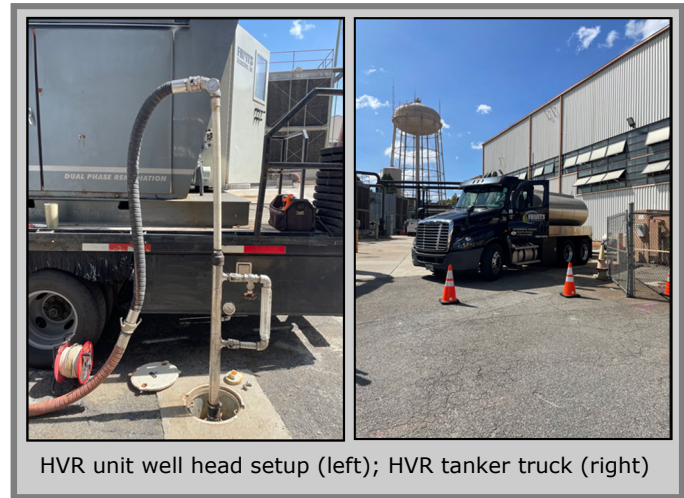
Under the ORC, Bhate is conducting surfactant and bioaugmentation injection events and implementing high vacuum recovery (HVR) events to recover the product. The surfactant and bioaugmentation materials include Ivey-Sol<sup>®</sup> and Petrox<sup>™</sup>, respectively.

The HVR events have extracted 400 pounds of hydrocarbons from the site, and decreasing LNAPL levels in monitoring wells have been observed.

The path forward for this site includes continuing to measure LNAPL thickness monthly, removal of



Ivey-Sol<sup>®</sup> mixed in totes and injected with pneumatic pumps (left); Petrox<sup>™</sup> mixed with IveySol<sup>®</sup> in drums (right)



HVR unit well head setup (left); HVR tanker truck (right)

LNAPL as needed, and future surfactant injection/HVR events. Once free product has been reduced to less than 0.010-foot in thickness, groundwater will be sampled on a semi-annual basis until remediation levels (RLs) are achieved.

### SWMU 28

SWMU 28 is the site of a fuel release from purge fluid tanks originally identified in February 1990 when purge fluid was observed in an excavation during valve maintenance activities at the site. Purge fluid is used to remove jet fuel from aircraft prior to maintenance.

Prior remedial actions at the site have generally included various types of both active and passive LNAPL recovery systems, such as absorbent socks, belt skimmers, and different Enhanced Fluid Recovery (EFR) methods, some of which included surfactants.

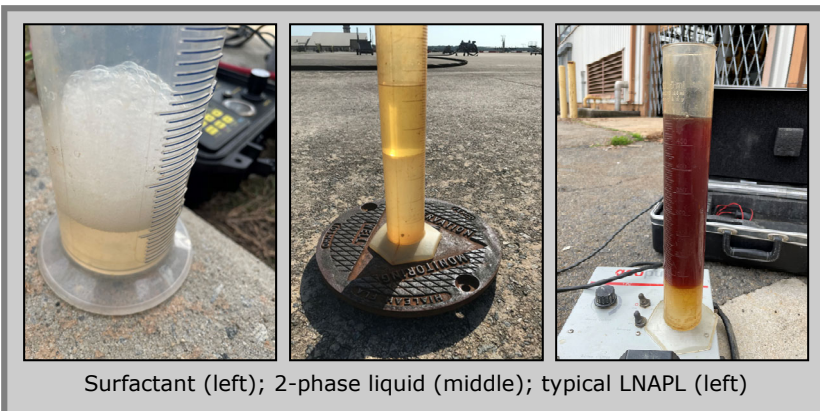
Under the ORC, Bhate conducted a HVR pilot test in March 2021 using the proprietary FRUITS<sup>®</sup> process. The process removes free product and contaminated groundwater while also conducting soil vapor extraction. The free product can be used to power the thermal oxidizer on the unit that is treating the soil vapors, and the contaminated groundwater is treated prior to discharge.

In 2022, Bhate initiated a Supplemental Site Investigation (SSI) to further delineate the LNAPL locations and groundwater plume. The SSI also included a pilot test for Modified Fenton's Reagent (MFR) in areas where LNAPL is <0.1 feet thick to address

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## Updates on Progress: SWMW 47, SWMU 28, and LF003 (Continued...)

(Continued from page 2)



Surfactant (left); 2-phase liquid (middle); typical LNAPL (left)

dissolved phase groundwater contamination and an additional longer (i.e., 5-day) HVR event.

The pilot test MFR injections were conducted in November 2022, December 2022, and January 2023. The groundwater sampling results from the injection events show decreases in contaminant of concern (COC) concentrations and plume extent.

The longer-duration HVR event was conducted in March 2023. Approximately 1,300 gallons of hydrocarbons were extracted. Decreases in LNAPL have been observed in many wells; however, some of the product being extracted appears to contain surfactant, possibly from historical remediation activities. Additional testing is ongoing.

Continued implementation of HVR at the site will be challenging because the groundwater was found to contain perfluoroalkyl and polyfluoroalkyl substances (PFAS). The PFAS requires additional treatment before the water can be discharged.

The path forward for SWMU 28 includes preparation of a Corrective Action Plan (CAP) Addendum and Remedial Design/Remedial Action (RD/RA) Work Plan.

### LF003

LF003 is located in the southeastern portion of Robins AFB. The landfill accepted waste from 1964 to 1967. The surficial aquifer at LF003 is impacted from historical usage of the site.

Remedial actions have included installation of a slurry wall keyed into a confining clay layer ap-

proximately 20 to 30 feet below ground surface (ft bgs). In addition, a groundwater extraction system, leachate collection system, geocomposite cover, and landfill gas collection system was installed.

An SSI was recently completed to investigate increasing COC concentrations in monitoring wells LF3EW9 and LF3EW10. By injecting a sodium bromide tracer inside the existing slurry wall and turning on these extraction wells, it was determined that the extraction wells were not pulling the tracer through the slurry wall. It was concluded that the slurry wall was performing to prevent lateral migration in the shallow aquifer. Furthermore, it was confirmed that the tracer was captured by the leachate collection system.

Additionally, there is a requirement to maintain a 2-foot inward gradient inside the landfill, and this requirement has not historically been met. The Georgia Environmental Protection Division (GA EPD) has waived this requirement if the groundwater extraction system is in operation. An additional purpose of the SSI was to investigate why this gradient cannot be maintained.

The SSI also included detailed monitoring of water levels in wells inside and outside of the landfill with both manual readings and transducers for over a year. Water levels were evaluated with various configurations of the remedial system components in operation (e.g., leachate collection and groundwater extraction wells not pumping, leachate collection wells only).

The results from the SSI indicated that the 2-foot inward gradient cannot be achieved if the exterior extraction wells are turned off or turned on. This is in part due to infiltration of rainwater through the landfill cap, which facilitates unintentional yet beneficial flushing of contaminants captured by the leachate collection system. Additionally, the lateral hydraulic control of the plume is achieved by the slurry wall and leachate collection wells without maintaining the 2-foot inward gradient. The groundwater extraction system provides hydraulic control of the groundwater plume outside of the landfill slurry wall.



## Upcoming EAB Modifications

During the fall EAB, it was announced that several changes are being proposed to the EAB. These changes include the following: (i) beginning the meetings an hour earlier to start at 6:00 pm; (ii) moving the meetings to be semi-annual in the spring and the fall (i.e., middle of March and September on the 2<sup>nd</sup> Thursday of these months); and (iii) changing the structure to align with Air Force guidance, which includes changing from an EAB to a Restoration Advisory Board (RAB) and changing the position for the Installation Co-Chair.

The money for the RAB function is provided by Air Force restoration funding; and therefore, the RAB terminology is more appropriate.

In addition, per Air Force guidance, the Installation Co-

Chair should be either the Wing Commander or the Mission Support Group Commander or equivalent. Historically, the director of Environmental Management was a Mission Support Group Commander. However, with Environmental Management now being under Civil Engineering, an alternative Installation Co-Chair is required.

To implement these changes, the Charter for the group will be updated. The new Charter will be implemented at the next meeting.



November 2023 EAB Meeting

### Acronyms

AFB	Air Force Base
Bhate	Bhate Environmental Associates, Inc.
CAP	Corrective Action Plan
COC	Contaminant of Concern
EAB	Environmental Advisory Board
EFR	Enhanced Fluid Recovery
ft bgs	feet below ground surface
GA EPD	Georgia Environmental Protection Division
GBIA	Greater Base Industrial Area
HVR	High Vacuum Recovery
LF003	Landfill Number 3
LNAPL	Light non-aqueous phase liquid
MFR	Modified Fenton's Reagent
ORC	Optimized Remediation Contract
PFAS	Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RD/RA	Remedial Design/Remedial Action
RFI	RCRA Facility Investigation
RL	Remediation Level
SSI	Supplemental Site Investigation
SWMU	Solid Waste Management Unit

For more information regarding the EAB, please contact  
**Mr. Fred Otto, Robins AFB EAB Manager**, at (478) 327-9272  
 or visit <http://www.robinseab.org>

### Environmental Advisory Board Members

<b>Ms. Shan Williams,</b> Robins AFB Installation Co-Chair	<b>Mr. Lawrence Collins,</b> Byron Community Member	<b>Dr. Richard Mines,</b> Macon Community Member
<b>Dr. Linda Smyth,</b> Macon Community Co-Chair	<b>Mr. James Harden,</b> Warner Robins Community Member	<b>Dr. Clarence Riley,</b> Warner Robins Community Member
<b>Mr. Craig Benedikt,</b> US EPA Region 4 Superfund Division	<b>Mayor John Harley,</b> Centerville Community Member	<b>Dr. Brian E. Rood,</b> Macon Community Member
<b>Mr. Jim Ashworth</b> GA EPD Hazardous Waste Management	<b>Mr. Stephen Johnson,</b> Macon Community Member	
<b>Ms. Tiffany Bowen,</b> Warner Robins Community Member	<b>Mr. Mike Maffeo,</b> Macon Community Member	