



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



Volume 15, Issue 4, February 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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February 2023 EAB Meeting

The winter EAB meeting was held on Thursday, February 2, 2023.

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

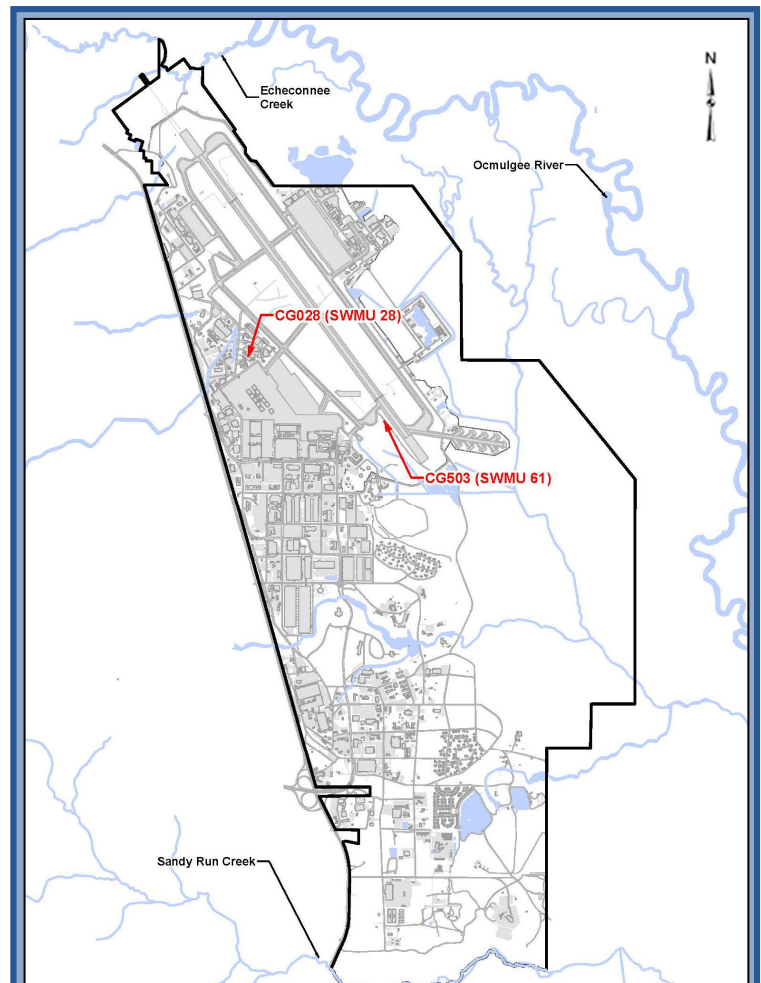
The next meeting will be held on Thursday, May 4, 2023.

UPDATES ON PROGRESS AT SELECT RESTORATION SITES

At the winter EAB meeting, **Ms. Elizabeth Rhine** of Bhate 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 28 (CG028); and (ii) SWMU 61 (CG504). The status of each site is presented in this Fact Sheet.

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During the recent EAB meeting, updates on the cleanup efforts at SWMU 28 and SWMU 61 were provided.

UPDATES ON PROGRESS AT SELECT RESTORATION SITES (CONTINUED...)

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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 light non-aqueous phase liquid (LNAPL) recovery systems, such as absorbent socks, belt skimmers, and different Enhanced Fluid Recovery (EFR) methods, some of which included surfactants. Surfactants can assist in making the LNAPL more mobile and easier to remove from the subsurface.

Under the ORC, Bhate conducted a High Vacuum Recovery (HVR) pilot test in March 2021 to actively remove additional LNAPL from the site. The HVR used the proprietary FRUITS process, which removes free product and contaminated groundwater through drawdown of the water table 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 in accordance with permitted discharge criteria prior to discharge.

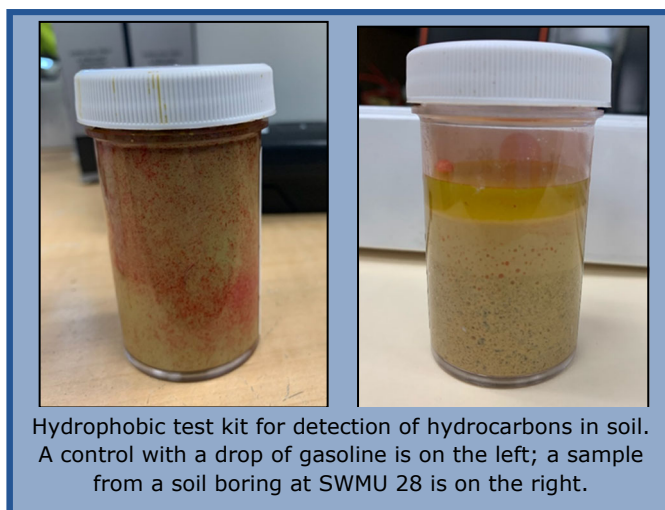
In 2022, Bhate initiated a Supplemental Site Investigation (SSI) at SWMU 28 to further delineate the extent of LNAPL and refine the groundwater contaminant plume. During the SSI activities, Bhate used hydrophobic dye test kits to rapidly field screen for the presence of hydrocarbons in soil samples.

The SSI activities also include a pilot test for Modified Fenton's Reagent (MFR) in areas where LNAPL is less than 0.1 feet thick to address dissolved phase groundwater contamination. A 5-day HVR event is also planned.

The pilot test MFR injections were conducted in November 2022, December 2022, and January 2023. MFR is a higher concentration (i.e., 10 to 12 percent) hydrogen peroxide oxidant mixed with a chelated iron catalyst under a neutral pH. It has

the highest oxidation potential of various oxidants typically used on remediation sites. The oxidant will desorb the contaminant from the soil into the aqueous phase and subsequently treat the dissolved phase concentrations.

The first injection event is conducted to desorb contaminants from soil and drive them into the dissolved phase. The second event is to oxidize dissolved phase contaminants. The third event is for polishing.



The initial groundwater sampling results from the pilot injection events show significant decreases in contaminant of concern (COC) concentrations. Based on these data, Bhate is planning to prepare a Corrective Action Plan (CAP) Addendum and Remedial Design/Remedial Action (RD/RA) Work Plan to conduct MFR injections in additional areas of the site. A 5-day HVR event is scheduled for March 2023.

SWMU 61

SWMU 61 is located at the southern end of the airfield. The source of the petroleum contamination was identified as a leaking valve located on an 8-inch diameter underground Jet Propellant Number 8 (JP-8) fuel supply line. The site was first investigated during the 1999 Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI).

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UPDATES ON PROGRESS AT SELECT RESTORATION SITES (CONTINUED...)



Photographs from MFR injections at SWMU 28. Hydrogen peroxide is received in 55-gallon drums at 30 percent concentration and diluted to 10 percent in totes. Appropriate safety gear is required. Given the location near the flightline, the concrete at the site must be cored. The injection rods are installed using direct push drilling methods, and an injection header is installed on the top of the rod/screen. Catalyst is injected first, followed by a clean water flush, followed by hydrogen peroxide and another clean water flush. Injection quantities are metered and recorded throughout the event.

UPDATES ON PROGRESS AT SELECT RESTORATION SITES (CONTINUED...)

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The original remedial actions for SWMU 61 included air sparge/soil vapor extraction (AS/SVE), followed by monitored natural attenuation (MNA). While AS/SVE was effective, COCs have remained above remediation levels (RLs) in one monitoring well, S61W4.

Under the Performance-Based Remediation (PBR) contract, oxygen emitters were installed at the site and both TersOX™ injections and injections of dilute hydrogen peroxide and water were conducted to stimulate biological processes at the site. However, COC concentrations, particularly naphthalene, have remained above RLs at S61W4.

Under the ORC, Bhate submitted a CAP Addendum and RD/RA

Work Plan to GA EPD to use MFR as a complementary remedial action to achieve site closure. MFR has been shown to be very effective at treating naphthalene. The Work Plan was approved in December 2022.

In January 2023, Bhate conducted MFR injections at 10 injection points in the vicinity of S61W4. The monitoring well is scheduled to be sampled in February 2023. Quarterly sampling will be conducted for at least a year. A second MFR will be conducted if needed.

When the COC concentrations in groundwater samples collected from S61W4 are below RLs, closure monitoring can be initiated. COC concentrations must remain below the RLs for three years before the site can be closed.

Acronyms

| | |
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| AFB | Air Force Base |
| AS | Air Sparge |
| CAP | Corrective Action Plan |
| COC | Contaminant of Concern |
| EAB | Environmental Advisory Board |
| EFR | Enhanced Fluid Recovery |
| HVR | High Vacuum Recovery |
| LNAPL | Light Non-Aqueous Phase Liquid |
| MFR | Modified Fenton's Reagent |
| MNA | Monitored Natural Attenuation |
| ORC | Optimized Remediation Contract |
| PBR | Performance-Based Remediation |
| RA | Remedial Action |
| RCRA | Resource Conservation and Recovery Act |
| RD | Remedial Design |
| RFI | RCRA Facility Investigation |
| RLs | Remediation Levels |
| SSI | Supplemental Site Investigation |
| SVE | Soil Vapor Extraction |
| 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

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| Ms. Shan Williams, Robins AFB Installation Co-Chair | Mayor Lawrence Collins, Byron Community Member | Dr. Richard Mines, Macon Community Member |
| Dr. Linda Smyth, Macon Community Co-Chair | Mr. James Harden, Warner Robins Community Member | Dr. Clarence Riley, Warner Robins Community Member |
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