



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



Volume 13, Issue 4, May 2019

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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May 2019 EAB Meeting

The spring EAB meeting was held on Thursday, May 2, 2019. The topics briefed included "Update on Progress at Select Restoration Sites" and "PFOS/PFOA Overview."

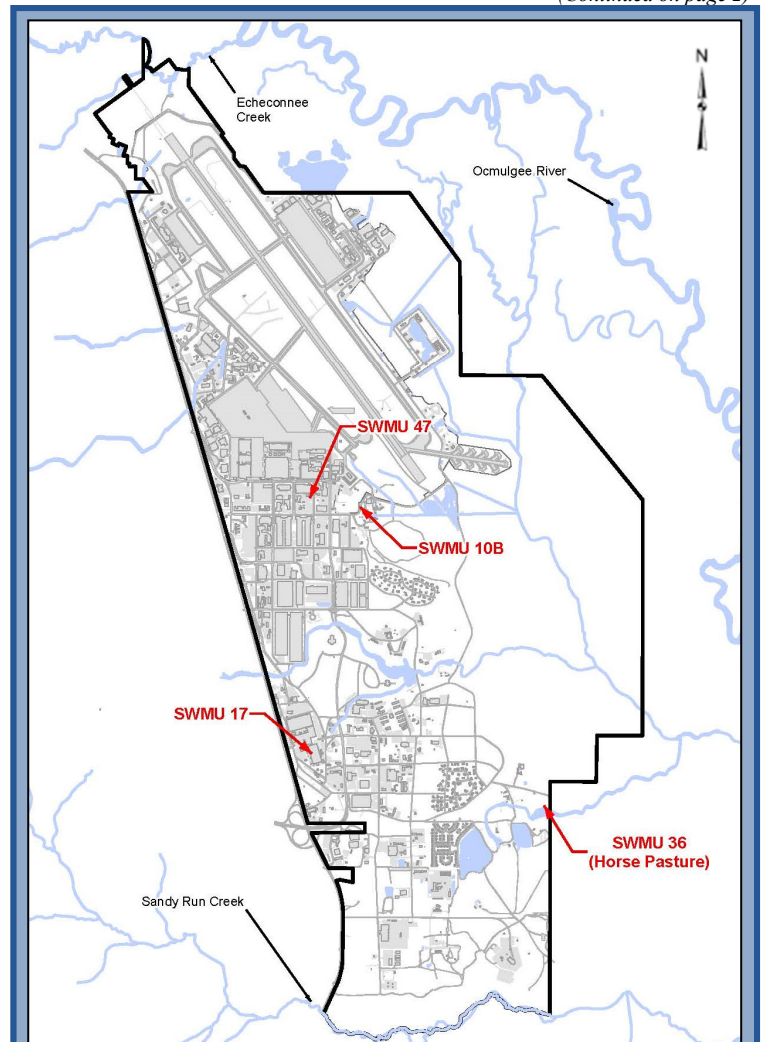
This *Fact Sheet* provides a summary of the information and topics discussed during the meeting.

The next meeting will be held on Thursday, August 1, 2019.

UPDATES ON PROGRESS AT SELECT RESTORATION SITES

At the recent EAB meeting, **Mr. Mike Perlmutter** of Jacobs Engineering Group (Jacobs) briefed on the status of the cleanup efforts at select restoration sites covered under the Performance-Based Remediation (PBR) contract. Specifically, the sites discussed during the meeting included: (i) SWMU 17; (ii) SWMU 36; (iii) SWMU 47; and (iv) SWMU 10B. The status of each site is presented in this Fact Sheet.

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Jacobs provided updates on the cleanup efforts at four restoration sites during the recent EAB meeting.

UPDATES ON PROGRESS AT SELECT RESTORATION SITES (CONT'D...)

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SWMU 17

SWMU 17 is associated with a 5,000-gallon waste solvent underground storage tank northwest of Building 645. Under the PBR contract, Jacobs has operated a soil vapor extraction (SVE) system, and replaced a groundwater extraction system with enhanced reductive dechlorination (ERD).

The contract performance metrics include: (i) reduction of trichloroethene (TCE) concentrations in four unconfined upper Providence wells as compared to April 2011; (ii) reduction of TCE concentrations in four confined upper Providence wells as compared to April 2013; (iii) reduction of total volatile organic concentrations (VOCs) concentrations in four unconfined upper Providence wells as compared to April 2015; and (iv) reduction of total VOC concentrations in four confined upper Providence wells as compared to April 2015.

In the unconfined aquifer, ERD has resulted in the source area being separated from the plume, and source area concentrations have decreased. TCE concentrations in the performance wells in both the unconfined and confined aquifers are below the goals for the site.



Injection trailer for ERD injection event.

SWMU 36

SWMU 36 is known as the Horse Pasture Trench Disposal Site and is located in the southeastern portion of Robins AFB. Under the PBR contract Jacobs has implemented : (i) ERD; (ii) aerobic bioremediation using in situ submerged oxygen curtains (iSOC[®]); and (iii) an air sparge/soil vapor extraction (AS/SVE) cut-off barrier.

The contract performance metrics include: (i) reduction of TCE concentrations in seven ERD performance monitoring wells as compared to April 2009 results; (ii) reduction of total VOC concentrations in 13 ERD performance monitoring wells

as compared to April 2015 results; (iii) reduction of chlorobenzene concentrations in three iSOC[®] performance monitoring wells as compared to April 2009 results; and (iv) reduction of total VOC concentrations in three AS/SVE performance monitoring wells as compared to December 2013.

For the AS/SVE system, the objective is to reduce total VOCs to 10 micrograms per liter (ug/L) in the three performance wells. Based on the 2019 data, concentrations are below 20 ug/L and approaching 10 ug/L. The ERD and iSOC[®] systems are also meeting their goals.

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 aboveground storage tank containing No. 2 diesel fuel.

Under the PBR, the remedy has included light non-aqueous phase liquid (LNAPL) recovery, along with surfactant flushing using a biodegradable surfactant to promote mobilization, solubilization, and recovery of LNAPL. Excavation of a small area (approximately 45 cubic yards) of arsenic-impacted soil was also conducted, as well as soil sampling for hexavalent chromium.

The contract performance metric for SWMU 47 is pending the approval of a Supplement Site Investigation (SSI) and development of an Optimized Exit Strategy (OES) Plan. The goal of the SSI was to delineate the extent of LNAPL and to assess if the LNAPL is migrating below Building 177.

Approximately 12,000,000 gallons of groundwater has been extracted, treated, and discharged to the wastewater treatment plant. Nearly 1,400 gallons of LNAPL have been recovered at this site since remedial activities began. LNAPL thickness and dissolved phase concentrations in groundwater have decreased over time.

SWMU 10B

SWMU 10B is located in the vicinity of the Petroleum, Oil, and Lubricant (POL) yard, which is east

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UPDATES ON PROGRESS AT SELECT RESTORATION SITES (CONT'D...)

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of the GBIA. The site generally includes soil and groundwater contamination resulting from spills at the POL yard.

Under the PBR contract, the optimized remedy has consisted of continued operation of SVE and AS/SVE systems, surfactant flushing to accelerate LNAPL removal and biodegradation, installation of a sub-slab vapor depressurization system at Building 197 for vapor intrusion mitigation, installation and operation of two horizontal directional drilled biosparge wells, and monitored natural attenuation.

The contract performance metrics include: (i) demonstrating reduction of measurable LNAPL in all site monitoring wells to below measurable lev-

els; and (ii) demonstrating reduction of benzene concentrations.

LNAPL has not been detected at the site since 2017. Approximately 75 pounds of VOCs and 3,850 pounds of total petroleum hydrocarbons were removed from the subsurface between July 2017 and June 2018, which is a significant decrease over previous annual totals. Benzene concentrations in groundwater are below the 2020 goals.



Installation of biosparge well.

PFOS/PFOA OVERVIEW

At the May EAB, **Mr. Fred Otto**, the Restoration Program Manager provided a briefing on PFOS and PFOA. PFOS and PFOA are synthetic fluorinated organic compounds used in many industrial and consumer products (e.g., nonstick cookware, waterproof fabric, food packaging, etc.) and Aqueous Film Forming Foam (AFFF), which is used to put out fires. In 2016, the United States Environmental Protection Agency issued a lifetime health advisory (HA) of 70 parts per trillion (ppt) in drinking water.

Because of the health concerns, the Air Force is taking aggressive measures to reduce risk of mission-related PFOS/PFOA contamination to drinking water sources. Investigations are being done under the Comprehensive Environmental Response, Compensation, and Liability Act.

The Air Force is using a three-step approach to assess the potential for PFOS/PFOA contamination of drinking water and respond appropriately. These steps include: (i) identification by assessing potential AFFF releases, verifying releases through sampling, and evaluating if contaminant pathways to drinking water exist; (ii) response by providing an alternative drinking water supply if PFOS/PFOA concentrations are greater than the HA, or continue monitoring if

concentrations are less than the HA; and (iii) prevention by disposing of old AFFF and transitioning to new AFFF and retrofitting fire vehicles.

The drinking water wells on Robins AFB were tested in August 2016, and the results were below the detection limit of 2 ppt. Based on these results, the drinking water at the base has not been impacted.

A Preliminary Assessment (PA) with record searches and interviews was conducted in May 2015. The PA identified 30 areas on base where there was the potential that AFFF has been stored or released. Soil and groundwater at these 30 areas was sampled between March and April 2017 as part of a Site Inspection (SI). PFOS and PFOA were identified in soil and groundwater at 29 sites; and therefore, a recommendation was made for further investigation at these areas. The timeline for this investigation has not been defined.

The identified contamination at these sites presents a low risk to drinking water because there is not a complete pathway. The Blufftown aquifer, which is the source of the base's drinking water, is very deep and separated from the surficial soils by a thick clay zone known as the Cusseta aquitard.

EAB COMMUNITY CO-CHAIR ELECTION

Dr. Linda Smyth was re-elected at the EAB meeting to serve as the Community Co-chair for another three-year term. She has been active on the Board since 2004.

Dr. Smyth is a retired Associate Professor, who served as the Vice President for University Advancement at Fort Valley State University (FVSU) and as Executive Director of the FVSU Foundation for more than a decade.

She has been an active leader in several state, regional, and community organizations. She previously served as Chair of the Middle Georgia Clean Cities Coalition, Georgia Entomology Council, Macon Arts Alliance, and as Treasurer of Central Georgia Cares. She is Secretary Emeritus of the Macon Charter Academy, President of the Central GA Mercedes Club, and Historian of the Ocmulgee Porsche Club.



Dr. Linda Smyth was re-elected as the Community Co-Chair at the May 2019 EAB Meeting.

For more information regarding the EAB, please contact **Ms. Laurel Cordell, Robins AFB EAB Manager**, at (478) 327-9275 or visit <http://www.robinseab.org>

Acronyms

AFB	Air Force Base
AFFF	Aqueous Film Forming Foam
AS	Air Sparge
EAB	Environmental Advisory Board
ERD	Enhanced Reductive Dechlorination
FVSU	Fort Valley State University
GBIA	Greater Base Industrial Area
HA	Health Advisory
iSOC®	In Situ Submerged Oxygen Curtain
Jacobs	Jacobs Engineering Group
LNAPL	Light Non-aqueous Phase Liquid
ug/L	micrograms per liter
OES	Optimized Exit Strategy
ppt	part per trillion
PA	Preliminary Assessment
PBR	Performance-Based Remediation
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
POL	Petroleum, Oil, and Lubricant
SI	Site Inspection
SSI	Supplemental Site Investigation
SWMU	Solid Waste Management Unit
SVE	Soil Vapor Extraction
TCE	Trichloroethene
VOC	Volatile Organic Compound

Environmental Advisory Board Members

Vacant, Robins AFB Installation Co-Chair	Mr. James Harden, Warner Robins Community Member	Dr. Clarence Riley, Warner Robins Community Member
Dr. Linda Smyth, Macon Community Co-Chair	Mayor John Harley, Centerville Community Member	Dr. Brian E. Rood, Macon Community Member
Ms. Anna Cornelious, US EPA Region 4 Superfund Division	Mr. Stephen Johnson, Macon Community Member	Mr. Penrose Wolf, Perry Community Member
Mr. Jim Ashworth GA EPD Hazardous Waste Management	Ms. Debra Jones, Warner Robins Community Member	
Mayor Lawrence Collins, Byron Community Member	Mr. Mike Maffeo, Macon Community Member	