



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



Volume 14, Issue 2, November 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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## November 2019 EAB Meeting

The fall EAB meeting was held on Thursday, November 7, 2019. The topics briefed included "Building 647 RFI" and "Introduction to PFAS."

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

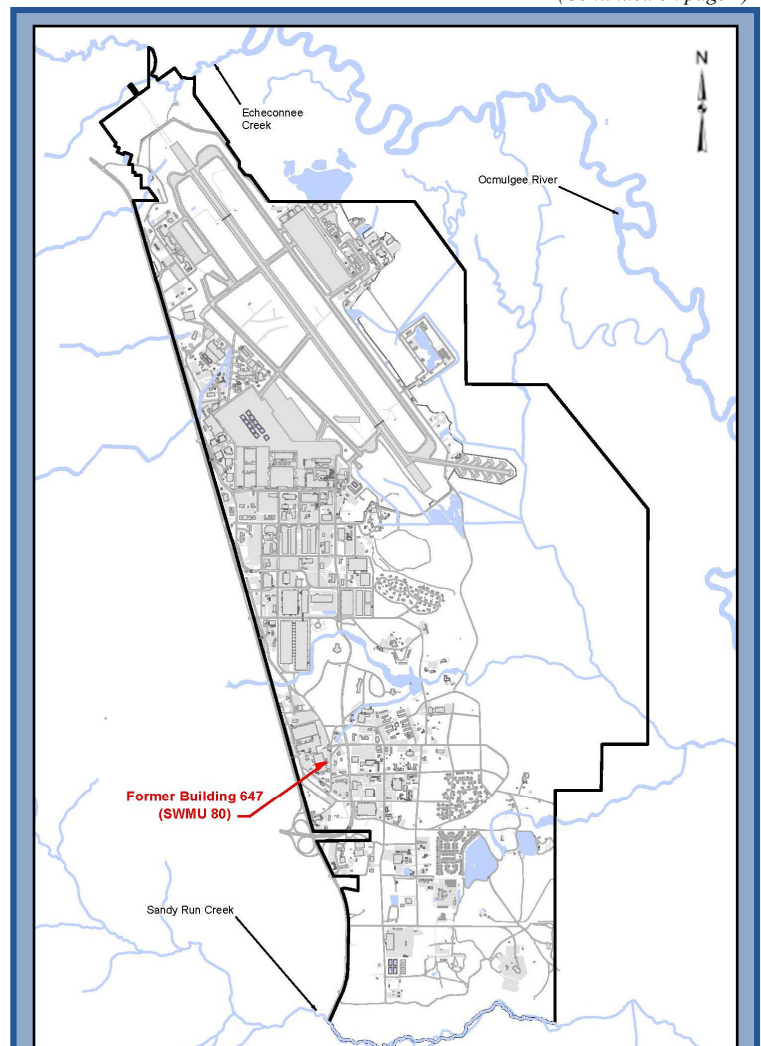
**The next meeting will be held on Thursday, February 6, 2020.**

## Building 647 RFI

At the fall EAB, **Ms. Tammy Hebler with Geosyntec Consultants, Inc. (Geosyntec)** briefed on the Building 647 RFI. The Building 647 Site, which is also known as Solid Waste Management Unit (SWMU) 80, is located in the southwest portion of the Base near the Avionics Complex.

Building 647 was located within the footprint of the Other Site 17 (OT017) restoration site. OT017 is being remediated primarily for trichloroethene (TCE) in ground-

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Geosyntec provided an overview of the Building 647 (SWMU 80) RFI during the recent EAB meeting.

## Building 647 RFI (CONT'D...)

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water due to a release from an upgradient source. Building 647 reportedly served as a maintenance and repair shop, as well as provided janitorial supply storage.

In early 2013, the above ground structure of Building 647 was demolished as part of a project to construct a parking lot in the place of the building footprint. During demolition, the contractor detected an odor when excavating to remove one of the footer walls; construction activities were temporarily halted while the odor was investigated.

Geosyntec was contracted to conduct environmental investigations in 2013 and 2014. The analytical results from these investigations indicated that concentrations of select compounds [primarily select volatile organic compounds (VOCs) such as chlorobenzenes and semi-volatile organic compounds (SVOCs)], exceeded regulatory screening levels. These data, as well as data collected during site investigation and remediation activities associated with OT017, indicated that the soil contamination detected at Building 647 was a separate release and not attributable to OT017. The predomi-

nant compounds detected during the 2013 and 2014 soil investigations were chlorobenzenes and SVOCs, while the predominant compounds detected in groundwater associated with OT017 include TCE and its degradation products. The Georgia Environmental Protection Division (GA EPD) concurred with this assessment and requested the RFI.

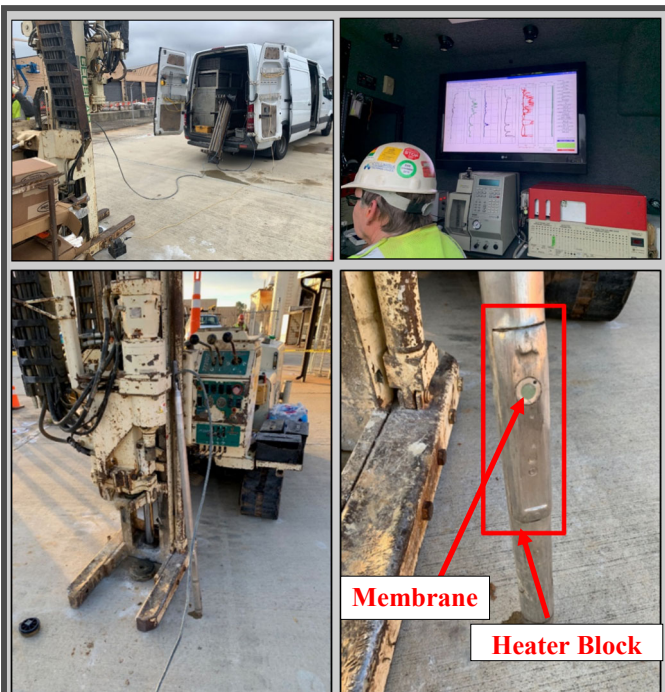
The purpose of the RFI for Building 647 was to characterize the nature and extent of contamination at the former Building 647; develop screening criteria for use in delineation of the contaminants of potential concern; assess risk to human health; and identify contaminants of concern (COCs) that may require corrective action.

The field activities that were conducted to characterize the nature and extent of contamination at the former Building 647 included a Membrane Interface Probe and Hydraulic Profiling Tool (MiHpt) investigation. MiHpt is a high resolution site characterization tool used to generate continuous profiles of subsurface lithology and qualitative soil concentrations. To identify and distinguish chlorobenzene contamination from TCE contamination, an on-site laboratory grade gas chromatograph was also used.

At Building 647, 16 MiHpt borings were conducted in December 2018, and gas chromatograph sample analysis was done at select locations. These activities revealed that detections of chlorobenzenes in soil were generally isolated to the former Building 647 footprint. The highest MiHpt responses were identified in the central portion of the former building footprint. The depth of detections was generally in the range of 6 to 15 feet below ground surface (ft bgs), and a zone of low permeability soil was identified from approximately 7 to 16 ft bgs.

The data collected during the MiHpt investigation were analyzed to select locations for discrete soil sampling for quantitative analysis in a laboratory. Soil borings were drilled using a direct push technology rig, and unsaturated soil samples were collected from discrete depths for analysis of VOCs and SVOCs. In addition, total chromium and hexavalent chromium were analyzed in select samples at the request of the GA EPD, as hexavalent chro-

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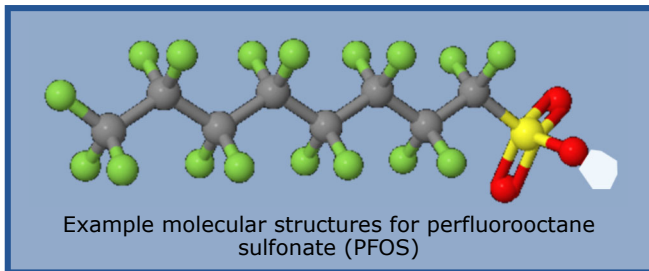


Field activities (clockwise from top left): MiHpt support truck and direct push technology rig, real time data viewing in MiHpt support truck, close-up of drill rig; close-up of MiHpt probe membrane and heater block.

## INTRODUCTION TO PFAS

At the November EAB, **Mr. Fred Otto**, the Restoration Program Manager, and **Mr. Herwig Goldemund**, with Geosyntec, provided a briefing on PFAS. PFAS are a family of 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.

The compounds are excellent surfactants, as they repel both water and oil. The most known and studied of these compounds include perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA). These two compounds are the focus of the Air Force.



PFAS are very persistent in the environment. The compounds tend to accumulate in blood, liver, and kidneys, and they do not metabolize. Humans exposure occurs primarily through our diet with incidental soil/dust ingestion.

In May 2016, the United States Environmental Protection Agency (US EPA) issued a lifetime health advisory (HA) for PFOS and PFOA of 70 parts per trillion (ppt) in drinking water for each of these compounds. The sum of both compounds can also not exceed 70 ppt. The US EPA has also initiated the process to establish maximum contaminant levels for these compounds.

Treatment of these compounds is very challenging and costly. The carbon-fluorine bond is the shortest and strongest bond in nature making these compounds resistant to typical environmental degradation processes.

Air Force investigations are being guided by Comprehensive Environmental Response, Com-

penation, and Liability Act (CERCLA), applicable state laws, and the US EPA drinking water lifetime HA of 70 ppt. The Air Force is moving forward in accordance with the CERCLA process to identify, define, and mitigate potential contamination. The Air Force wants to make sure that no one is drinking water with concentrations of PFOS and PFOA above the lifetime HA.

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 active 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 with record searches and interviews was conducted in May 2015. The Preliminary Assessment identified 30 areas on Robins AFB 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. 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 (300 to 400 ft bgs) and separated from the surficial soils by a thick clay zone known as the Cusseta aquitard.

## Building 647 RFI (CONT'D...)

mium concentrations were not evaluated in the previous Site investigations.

A total of 18 soil borings were completed during the sampling activities in January 2019. VOC and SVOC detections above screening levels were generally located in soil samples within the vicinity of the former building footprint. Additionally, the deepest soil concentrations exceeding screening levels were above 13 ft bgs, more than 10 feet from the water table, indicating that contamination does not extend to groundwater. The hexavalent and total chromium concentrations were below the Robins AFB background concentrations.

These data were then used to conduct a human health risk assessment (HHRA) to evaluate whether

site-related constituents detected in soil may pose unacceptable risks to potential current and future human receptors. Based on the results of the HHRA, there are no unacceptable risks or hazards to future non-residential receptors from assumed exposure to soil.

Under a hypothetical future residential land use, 1,4-dichlorobenzene was identified as a COC for unsaturated soil based on the risk characterization, with a remediation level (RL) of 31 milligrams per kilogram.

The RFI report was submitted to the GA EPD in October 2019. If the GA EPD agrees with the RFI findings, a Corrective Action Plan will be prepared to address the 1,4-dichlorobenzene in unsaturated soil exceeding the RL.

### Acronyms

AFB	Air Force Base
AFFF	Aqueous Film Forming Foam
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Contaminant of Concern
EAB	Environmental Advisory Board
ft bgs	feet below ground surface
GA EPD	Georgia Environmental Protection Division
Geosyntec	Geosyntec Consultants, Inc.
HA	Health Advisory
HHRA	Human Health Risk Assessment
MiHpt	Membrane Interface Probe and Hydraulic Profiling Tool
OT	Other Site
ppt	part per trillion
PFAS	Per- and Polyfluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RL	Remediation Level
SVOC	Semi-Volatile Organic Compound
SWMU	Solid Waste Management Unit
TCE	Trichloroethene
US EPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

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>

### Environmental Advisory Board Members

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