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

Volume 9, Issue 1, August 2014

The Robins AFB EAB

Recognizing the importance of public involvement in environmental matters, Robins Air Force Base (Robins AFB) 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.

Inside this issue…

August 2014 EAB Meeting

The summer EAB meeting was held on Thursday, August 7, 2014. The topics briefed included: "Update on Progress at Selected Restoration Sites."

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

The next meeting will be held on Thursday, 6 November 2014.

UPDATE ON PROGRESS AT SELECT RESTORATION SITES

At the recent EAB meeting, Mr. Mike Perlmutter of CH2M HILL and Mr. David Fortune and Ms. Meg Greenwald of CAPE Environmental Management, Inc. (CAPE) briefed on the status of the cleanup efforts at select restoration sites covered under the Performance-Base Remediation contract. Specifically, the sites discussed during the meeting included: (i) Building 922; (ii) Solid Waste Management Unit (SWMU) 62; (iii) Building 169; (iv) SWMU 57; and (v) SWMU 20. The status of each site is presented in this Fact Sheet.

Mr. Mike Perlmutter of CH2M HILL briefs the EAB members on the status of Building 922.

Building 922

Building 922 (TU/US-C507) is the Base's operational gasoline service station. In 2010, during removal and replacement of Underground Storage Tanks (USTs), residual contamination was observed, and the Georgia Environmental Protection Division Underground Storage Tank (GUST) Program requested site investigations. Based on the results from these site investigations, reme-

(Continued on page 2)

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

(Continued from page 1)

diation of the site is required.

The selected remedy for the site consists of operation of an air sparge/soil vapor extraction (AS/SVE) system. Additionally, multi-phase extraction and/or surfactant flushing may be used to expedite site cleanup.

The AS/SVE commenced operation in December 2013. Since this time, more than 19,233 pounds (3,116 equivalent gallons) of petroleum hydrocarbons have been removed from the subsurface, and the extent of light non-aqueous phase liquid (LNAPL) at the site has decreased.

Trenching to Install Conveyance Lines for AS/SVE System

Area after Installation of Piping

Treatment System for Extracted Soil Vapor

The performance objectives for Building 922 include achieving maximum contaminant levels (MCLs) in groundwater by 2016, with site closeout in 2018.

OT037

OT037 is defined as the chlorinated solvent groundwater plume near the Third Street Sewer Outfall. To optimize the site remedy for OT037, CAPE has implemented an in-situ chemical oxidation (ISCO) approach. The first ISCO injections were conducted between May and July 2013, and 240,000 gallons of a three percent potassium permanganate solution was injected into 22 newly installed injection wells.

Results from groundwater samples collected following the ISCO injections indicate reductions in trichloroethylene (TCE) concentrations, the primary contaminant of concern (COC) at the site. The remediation progress continues to be monitored and additional injections will be performed, if necessary. The performance objectives for SWMU 62 include achieving MCLs in groundwater by 2020.

Tankers and Trailers for ISCO Injections

Typical Injection Well Header

Building 169

Building 169 is an aircraft parts repair facility located in the Greater Base Industrial Area. Soil contamination at the site was identified beneath the floor slab of the building in 2009.

In 2012 and 2013, CAPE conducted Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) activities to define the nature and extent of soil contamination around the exterior building perimeter. Institutional Controls (ICs), including signage and Land Use Controls (LUCs), are in place to prevent exposure to contaminants present adjacent to and below the building, and additional investigations to delineate contamination below the building will be conducted at a later time.

The results of the RFI indicated an area of high volatile organic compounds (VOCs) concentrations in soil near the northwest corner of the building [i.e., concentrations of dichlorobenzene and

(Continued on page 3)

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

(Continued from page 2)

trichlorobenzene exceeded their respective soil saturation concentration (C_{sat})].

The RFI also identified a potential risk for vapor intrusion into the building and hexavalent chromium concentrations in soil that exceed background concentrations. Groundwater contamination at the site is managed as part of the SWMU 20 remedial activities.

Hydrovac Truck and Vacuum Tank

Hydrovac Excavation in Progress

Completed Excavation

SVE Wells during Construction

To address the elevated VOC concentrations, CAPE implemented interim measures including conventional and hydrovac excavation to remove the bulk of the soil contamination, followed by SVE with vapor treatment to remove any residual soil contamination. A low permeability cap was placed over the area to provide an engineering control (i.e., to prevent exposure to residual contaminants and reduce/eliminate leaching).

The excavation activities were completed in April 2014. Approximately 30 cubic yards of soil was excavated conventionally, and 154 cubic yards of soil was removed during the hydro-excavation. The SVE system began operation in May 2014. Air sampling results indicate a decrease in contaminant concentrations since the startup of the SVE system

CAPE is currently preparing a report to document the implementation of the interim measures and will prepare a Corrective Action Plan (CAP) incorporating the interim measures. Response complete for the site is scheduled for September 2015.

SWMU 57

SWMU 57 is defined as the twin 72-inch underground storm drain box culvert system located near the southern end of the main runway. Contamination at the site was identified during a 1995 survey that was conducted to inspect the integrity of the culvert system. Primary contaminants at the site include chlorobenzene and benzene.

The original remedy consisted of groundwater extraction. The groundwater extraction system provided contaminant mass removal and hydraulic containment of the groundwater plume.

As part of the optimized remedy for the site, CAPE installed two biosparge wells with horizontal directional drilling: one along the plume axis and the other as a cutoff curtain along Beale Drive.

In January 2014, the groundwater extraction system was shut down, and the biosparge system began operation. The groundwater sampling results from April 2014 show decreases in benzene and chlorobenzene concentration levels, as well as a decrease in the extent of the groundwater contaminant plume.

The performance objectives for SWMU 57 include achieving maximum contaminant levels (MCLs) in groundwater by 2016 with site closure in 2020.

(Continued on page 4)

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

(Continued from page 3)

SWMU 20

SWMU 20 is defined as the Greater Base Industrial Area chlorinated solvent groundwater plume. The plume extends from multiple soil SWMUs. The remediation system for the site originally included operation of a groundwater extraction system and an AS/ SVE system. Monitored Natural Attenuation (MNA) is implemented for portions of the plume not influenced by the active systems.

As part of the Performance-Based Remediation (PBR) contract, CAPE has conducted a source area investigation to further delineate the contamination at the site; shut down the groundwater extraction system; continued operation of the AS/SVE curtain; and implemented a focused source area remediation using a horizontal directionally drilled AS/SVE well and several vertical AS/SVE well pairs.

The expanded AS/SVE system began operation in March 2014. The performance metric for SWMU 20 is based on the geometric mean of TCE concentrations in groundwater samples collected from two wells located in the source area. Based on the first round of groundwater sampling at these two wells conducted in April 2014, TCE concentrations have decreased by 40 percent over the baseline conditions.

The AS/SVE is scheduled to run through 2018, followed by MNA to remediate the residual contamination at the site. Site closure is projected for 2030.

For more information regarding the EAB, please contact **Ms. Charline Logue, Robins AFB EAB Manager,** at (478) 327-9268 or visit http://www.robinseab.org

Acronyms

AFB	Air Force Base
AS/SVE	Air Sparge/Soil Vapor Extraction
CAP	Corrective Action Plan
COC	Contaminant of Concern
Csat	Saturation Concentration
EAB	Environmental Advisory Board
GA EPD	Georgia Environmental Protection Division
GUST	GA EPD Underground Storage Tank
ICs	Institutional Controls
ISCO	In-Situ Chemical Oxidation
LUCs	Land Use Controls
LNAPL	Non-Aqueous Phase Liquid
MCL	Maximum Contaminant Level
MNA	Monitored Natural Attenuation
NFA	No Further Action
PBR	Performance-Based Remediation
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit
TCE	Trichloroethylene
UST	Underground Storage Tank
VOC	Volatile Organic Compound

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