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As described in the preceding *Fact Sheet* (Volume III, Issue IV, page 2), the restoration process involves numerous steps at each SWMU, including assessment, investigation, planning, design/action, monitoring, and closure. As part of the planning step for each SWMU, a corrective action plan is developed and submitted for regulatory and public review.

**Mr. Mike Breazeale**, Project Manager in the **Environmental Management Directorate**, briefed the attendees with a summary of the corrective

action plans for various SWMUs in the GBIA. The plan summaries as presented by Mr. Breazeale are as follows:

- SWMUs 1 and 2 - Institutional controls
- SWMUs 37, 38, and 39 - Institutional controls
- SWMU 40 - Institutional controls
- Old Wet Wing Area - Soil vapor extraction (SVE)
- SWMUs 10B and 55 - Free product recovery, SVE and air sparging (AS), bioventing and

- monitored natural attenuation (MNA)
- SWMU 57 - Groundwater extraction and treatment
- SWMU 61 - AS and SVE, bioventing and MNA
- SWMU 20 - AS and SVE, groundwater extraction and treatment, MNA

According to Mr. Breazeale, as the individual plans are developed and implemented, all appropriate information will be entered into property records to ensure continuity of records and information.



# Fact Sheet

## Robins Air Force Base Restoration Advisory Board



A publication of Robins AFB

Volume IV, Issue I, March 2001

### The Robins AFB RAB

Robins Air Force Base (AFB) established the Restoration Advisory Board (RAB) in September 1994, recognizing the importance of public involvement. The Board, made up of members from the community and the Base, holds four public forums per year designed to encourage regulatory agencies, local communities, and the Base to work together in order to restore the environment. The RAB members advise Robins AFB personnel and disseminate information to all interested parties.

### March RAB Meeting Held

The RAB held their spring meeting on March 8, 2001, at The Lodge at Luna Lake, on Robins AFB. Several topics were discussed including wellhead protection and emerging technologies; status reports on several projects were given.

The RAB *Fact Sheet* provides a summary of the information and topics discussed in the last meeting. The next RAB meeting will be held on June 14, 2001.

### Don Thompson Retires as RAB Community Co-Chair

Since its inception in 1994, the RAB has undergone a number of changes; however, one constant for the RAB has been its community leader, **Mr. Don Thompson**.



*Don Thompson, (L) receives a certificate from Robins RAB Installation Co-Chair, Steven Coyle (R).*

During his term as Community Co-Chair, Mr. Thompson has actively participated in every meeting. Citing the need for "new blood" to take over, Thompson formally retired from his position as Community Co-Chair at the March meeting.

While addressing the RAB membership and guests, Mr. Thompson thanked the RAB membership for their more than seven years of support and encouragement as he has discharged the Community Co-Chair role.

Thompson's leadership of the RAB and its predecessor, the Technical Review Committee, was praised by **Mr. Steven Coyle**, the Board's **Installation Co-Chair**, who presented Mr. Thompson with a certificate of commendation from Robins AFB. He also received a gift of thanks from the RAB members presented by **Ms. Charline Logue**, **RAB Administrator**.



*Passing of the Torch. Jim Harden (L) and Don Thompson examine one of Thompson's appreciation gifts from the RAB Members.*

Thompson added that, although he's stepping down from his leadership role, he's not leaving the RAB altogether, and looks forward to continuing in the role of a RAB Community Member.

**Mr. Jim Harden** officially assumed the role of **Community Co-Chair** at this meeting.

## March RAB Snapshots



### Restoration Advisory Board Members

<b>Mr. Steven Coyle, Robins AFB</b> Installation Co-Chair	<b>Ms. Kathy Bragg, Macon</b> Community Member	<b>Mr. Broderick Lowe, Warner Robins</b> Community Member
<b>Mr. James Harden, Warner Robins</b> Community Co-Chair	<b>Dr. Dan Callahan, Warner Robins</b> Community Member	<b>Mr. Mike Maffeo, Macon</b> Community Member
<b>Ms. Liz Wilde</b> U.S. EPA Region 4 Federal Facility, Hazardous Waste Div.	<b>Ms. Marianne Golmitz, Warner Robins</b> Community Member	<b>Dr. M.B. Neace, Macon</b> Community Member
<b>Mr. Brent Rabon</b> GA EPD Hazardous Waste Management	<b>Mr. Mike Hutchinson, Centerville</b> Community Member	<b>Dr. Brian E. Rood, Macon</b> Community Member
<b>Mr. Kevin Long, Robins AFB</b> Chief, Compliance and Restoration Division	<b>Dr. Joyce Jenkins, Fort Valley</b> Community Member	<b>Dr. Joseph Swartwout, Fort Valley</b> Community Member
	<b>Mr. Steve Johnson, Macon</b> Community Member	<b>Mr. Don Thompson, Macon</b> Community Member

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### Drinking Water Issues: Wellhead Protection

Robins AFB has a fully adequate and completely protected source of drinking water to supply the continuing needs of the Base. Addressing the attendees at the meeting, **Mr. Sam Shannon** of **CH2M Hill** discussed the concept of wellhead protection and how the concept is being implemented at the Base.

The Base draws water from six wells placed into the deep, confined "Blufftown Aquifer," the primary source of drinking water for most communities in the Warner Robins area. Each

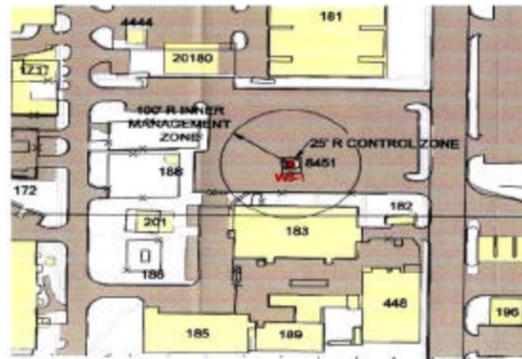
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of these wells represents a major resource for the Base and requires protection from contamination. One mechanism for achieving and ensuring the future protection of the well system is the wellhead protection plan, or WHPP. Mr. Shannon indicated that the Base is developing a single WHPP to cover all six water supply wells.



Water supply well WS-1 and its control zone and inner management zone.

A WHPP typically has five components. These are:

- Identification of the "control zone" (area around the well that should be controlled);
- Identification of the "management zone";
- Development of an inventory of potential pollution sources;
- Development of management plans for the potential pollution sources; and
- Development and submission of contingency plans.

To illustrate the concept, Mr. Shannon presented information about Water Supply Well # 1 (WS-1), located in the central portion of the Base. He reported that WS-1 has overall protection, which includes fences, subsurface "confining zones," partial pavement, a double-walled above-ground storage tank, and remote chemical storage. He also described steps that are being taken to ensure that the water supplied by this well continues to be protected in the future.

As a follow-up to this briefing, Mr. Kevin Long, Chief of the Compliance and Restoration Division, discussed WS-7. This well, which has contaminant plumes containing solvents and petroleum products nearby, has been secured to prevent cross-contamination, and is in the process of being decommissioned.

## Status Report: Building 2070/2072 Fuel Hydrant System

Mr. Paul Barker, Program Manager for underground and aboveground storage tanks in the Environmental Management Directorate, briefed the meeting attendees on progress at the Building 2070/2072 site.

A remedial action is underway at a fuel release site in the northeast portion of the Base. The site includes two fuel hydrant systems associated with aircraft refueling operations. Both systems consist of various tanks, pipelines, and valves related to fuel storage and movement. The 2070 portion of the site is currently active, while the 2072 portion has been deactivated.

The contaminant plume associated with this site is JP-4 (jet fuel). Presently, the active remediation program involves removal of "free product," the actual fuel layer that is floating on the groundwater surface, using various skimming devices.

The passive remediation step involves natural attenuation of the dissolved-phase plume. In this process, the groundwater near the site that contains reasonably low concentrations of dissolved fuel components is allowed to "attenuate" or remediate naturally.

The natural attenuation process includes breakdown of contaminants by naturally occurring microorganisms.

## Summary of Corrective Action Planning for Various GBIA Sites

The Greater Base Industrial Area (GBIA) comprises an area located roughly in the west-central portion of the Base. This area is of great importance and interest to the RAB because of the large number of solid waste management units (SWMUs) contained within its boundaries. While each SWMU has its unique "fingerprint" of contaminants, the contaminants can be generally classified as falling into two broad categories: petroleum hydrocarbons (generally resulting from past fuel releases and similar incidents), and chlorinated solvents such as TCE, PCE, and others (generally resulting from past cleaning, degreasing, and/or depainting operations).

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## Biological Technology Scheduled for Gas Station Site

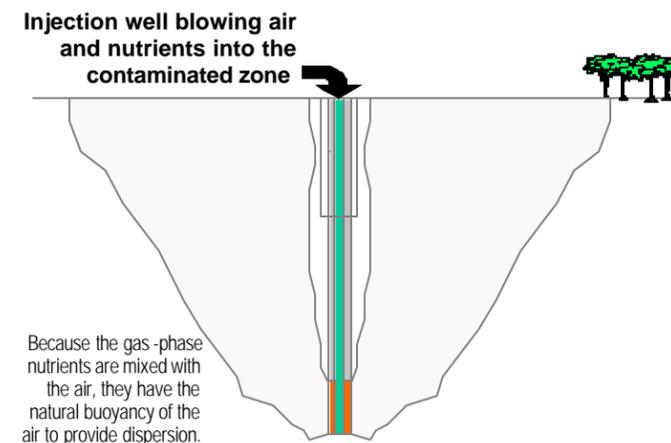
Enhanced biodegradation is a recognized technology that uses naturally occurring microbes to degrade organic contaminants dissolved in groundwater.

According to Dr. Jim Aldrich of Earth Tech, contaminated groundwater below Building 922, the Army and Air Force Exchange Service (AAFES) gas station site, is an excellent candidate at which to use this technology and it has all the characteristics needed for successful application.

In his briefing, Dr. Aldrich discussed the key requirements for biodegradation to occur in the soil and groundwater environments and how these are met at the AAFES gas station site. These requirements are:

- The microbes, or "bugs," must be present – they are known to exist at the AAFES site.
- The environment must be suitable for microbial growth – there are no adverse conditions at the site.
- The microbes must be able to "breathe" – as shown in the schematic below, the system will pump air into the subsurface – like blowing through a straw in a glass of water – to ensure coverage throughout the contaminated zone.
- The microbes must have food - the petroleum contamination is the food source and gas-phase nutrients – nitrogen and phosphorus – will be added as needed.

With all of the microbial requirements met at this site, because of the relatively fast moving groundwater flow rate, enhanced bioremediation can potentially convert this 30-year monitoring site into a two- to three-year cleanup.

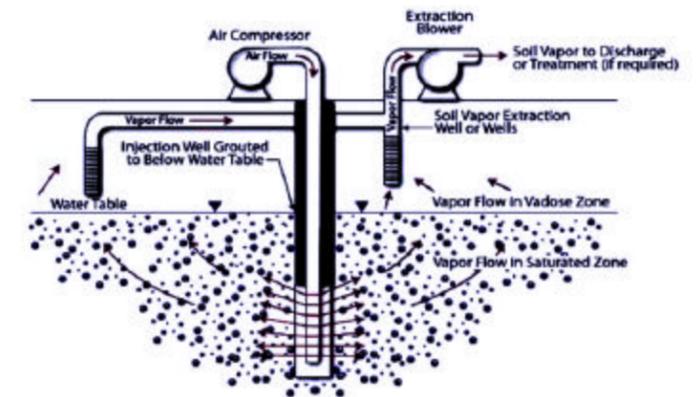


Schematic of gas-phase nutrient feed to enhance biodegradation.

## Innovative Technologies to be Utilized

Scientists are constantly developing new technologies to assist in environmental clean-up and restoration. Two such recent developments can be utilized at several sites at Robins AFB.

Mr. Brent Jacobs of URS Corporation gave a presentation on air sparging and soil vapor extraction. Air sparging is a technology for treating groundwater containing volatile organic compounds (VOCs) in place (in-situ) by injecting air directly into the groundwater by way of an air injection well. The injected air serves to strip the VOCs from the groundwater.



Air sparging and soil vapor extraction work to remove and capture contaminants from the subsurface.

Soil vapor extraction (SVE), as the name implies, then serves to extract the vapors containing the stripped VOCs from the subsurface. The VOCs can either be collected, such as on a bed of activated carbon, or destroyed in a thermal oxidizer or similar device. Since the combination of air sparging and SVE adds oxygen to the subsurface, an added benefit of these technologies in many cases is the stimulation of biodegradation, often enhanced by the addition of nutrients.

For more information regarding the RAB, contact Ms. Charline Logue, Robins AFB RAB Administrator (478) 926-1197, ext. 128.