Guardian

America's First Choice for Environmental Restoration

A Publication of the Environmental Restoration Program | Travis Air Force Base, California | April 2008

Inside

Acronyms

CAMU: *A Corrective Action Management Unit is a designated area within a facility that is designed to carry out a corrective action, such as contaminated soil management. The Travis AFB CAMU is an on-base soil repository built on a closed landfill.*

UVOx: *Ultraviolet oxidation, is a two-step treatment technology that injects hydrogen peroxide into contaminated groundwater and exposed it to ultraviolet radiation. Each peroxide molecule is divided into two energized hydroxide ions that in turn chemically break contaminants down into harmless byproducts.*

(Photo by Lonnie Duke)

Plugging the Leak: A welder gets ready to cut a circular piece out of the outer wall of an old groundwater treatment vessel. Because of exposure to harsh weather conditions, moisture and chemicals; these system components require occasional repair work to keep them going.

Plant Patching a Priority

Repairs Needed for Long-Term Treatment System Operation

By Lonnie Duke
Travis Environmental Field Manager

To anything made of metal, time is sometimes the enemy. After years of exposure to chemicals, a sheet of shiny metal can be reduced to a pitted landscape. What started as a tiny pit can become a corrosive cancer that can cause the largest of metal structures to fail.

In the case of the Central Ground Water Treatment Plant (CGWTP) on Travis AFB, time won a battle, but not the war. The victim was a 20,000-pound Granular Activated Carbon (GAC) vessel that was initially installed in 1993. Similar to a carbon filter in a home water filtration system but on a much larger scale, this GAC vessel removes chemicals from contaminated groundwater from most of the groundwater sites on the base.

Activated carbon is generally made from wood, coal, or coconut shells, and the activation process allows the carbon to easily take various chemicals out of either air or water. This cleanup approach is often used in conjunction with other technologies to ensure that treated water meets federal and State of California environmental cleanup standards.

Groundwater treatment at the CGWTP relies primarily on an Ultra-Violet Oxidation system to chemically destroy most of the groundwater contaminants. The GAC vessel

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Travis Air Force Base, California

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New Kids on the Block

VIEWPOINT

Mark H. Smith
Travis Remedial Program Manager

Last month, the Travis AFB Environmental Flight was visited by an evaluation team from the Air Force Center for Engineering and the Environment (AFCEE). This team consisted of our main point of contact from AFCEE's new Program Management Office (PMO) and several environmental support contractors.

Before I describe the visit, it is worthwhile to talk a little about this new office. Basically, the PMO represents a fundamental shift in the way that the Air Force will manage the cleanup of all of its bases.

Up to this point, Travis AFB has received program management support and funding from the environmental staff at Air Mobility Command (AMC) at Scott AFB, Illinois. The Air Force is divided up into eleven major commands, and AMC is the part of the Air Force that manages the worldwide transport of military material and personnel for the Department of Defense. Travis AFB is a part of AMC.

In a lot of ways, AMC serves as a middleman between its bases and the Pentagon, and this relationship worked well for us during the time that we were carrying out site investigations and starting up cleanup actions. However, the Air Force is making a considerable effort to consolidate its expertise in environmental program management, budgeting, engineering and technical support. And it is eliminating the middleman.

Generally, this approach makes sense. Over the years, Air Force personnel have gained a wealth of experience and the accompanying sets of professional skills that are very useful in making future cleanup decisions. The problem was always that a technical expert who worked for Air Combat Command (ACC), for example, was not readily available to provide support to any facility outside of ACC. So, each major command had to groom its own group of managers, scientists and engineers.

With the PMO, every base benefits from this combined reservoir of expertise and experience to get the services needed to make the right decisions and promote their cleanup efforts. It also placed the best and brightest into an organization where they can showcase their talents. Can you say "upwardly mobile"?

Of course, there are a few downsides to this way of conducting business. First and foremost, it takes a lot of effort to bring a large group of people into one location and set up a working organizational structure. Based on the current schedule, the PMO should be ready for business full-time by the time that this newsletter is published. However, it will probably require a number of small adjustments to get the bugs out.

Also, I envision a breaking-in period where each base Remedial Program Manager will have to adjust to the new way of doing business that the PMO has established. It will take time to get all base and PMO personnel on the same sheet of music.

Finally, this centralization of Air Force resources may have a small impact on future budgets. On one hand, the economies of scale gained from the centralization may reduce manpower and technical support requirements, so more funds could be allocated for cleanup actions. However, in the short term, more money might be sent to bases with significant environmental challenges (dealing with the worst first), so the more mature cleanup programs (such as the one on Travis) may not see the benefits of the PMO right away. Only time will tell.

Getting back to the site visit, its main purpose was to get the PMO representatives acquainted with the base and its current level of progress in meeting the Air Force's cleanup schedules. The two environmental contractors (Noblis and Earth Tech) are experts in independent system engineering and acquisition support. They specialize in Remedial Process Optimization (getting the most out of existing treatment systems) which basically means that they look for system changes that can

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Repairs

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serves as a 'polishing step' to filter out any residual contamination.

During a routine maintenance inspection, a small water leak from the GAC vessel was discovered. The source of the leak was a hole in the steel bottom of the vessel. The inspectors quickly took the GAC vessel off line and rerouted the contaminated water to a second GAC vessel to allow the plant to continue its work.

Before

Once notified of the leak, the base evaluated several possible options. The old vessel could be removed from the CG-WTP without replacement, it could be replaced with a new filter system, or it could be repaired and put back into service. After considering the cost of each option and the time that GAC will be needed to complete the groundwater cleanup, the base decided on the repair option.

Tank repair is very specialized work that requires a great emphasis on quality and safety. The base received bids on the repair work from several local companies, and a welding company with experience in the oil and gas industry was selected to make the repair.

The repair work took less than a day to complete. A circular piece of steel was cut out of the vessel, approximately three inches around the center of the corrosion.

After

The edges of the hole were smoothed using a grinder and a wire wheel. Then a patch was placed over the opening and welded from the outside. A Magnetic Particle Test was performed to verify that the weld extended completely around the patch and there were no voids in the steel. After a small amount of additional welding, the patch passed the test. After inspection and additional cleaning with a wire brush, the vessel patch was painted to prevent future corrosion. The GAC filter is now back on line and functioning as designed.

Even though this patch work is complete, there is still more work to be done. "We will perform additional testing on the corroded piece of metal that was cut out of the GAC vessel to determine the cause of the corrosion," stated Mark Smith, Travis AFB Remedial Program Manager. "We suspect that there may have been a flaw in the metal at that spot and that corrosion set in over time." Hopefully, this investigative work will help to estimate the remaining life expectancy of other treatment system components and possibly catch other corrosive pitting before it creates future leaks.

PMO

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clean up sites quicker and therefore shut down treatment systems sooner. They also seek out ways to make these systems more energy efficient with the goal of reducing their carbon footprints.

Later on this year, we should see the team again, and this time the evaluation will be a lot more technically focused. This will come at a great time, since we will also be working with our environmental regulatory agency representatives to select final cleanup remedies for 19 groundwater sites. Any help that the PMO can give us will definitely be appreciated. I will keep you posted.

From the Field

Even though the 2007 construction season is over and the field team has been sent home, there were still a number of tasks at the four cleaned soil sites that needed attention. Erosion control in excavated areas is the biggest concern, and the mild winter rains were sufficient to let a mix of native seed and hydraseed to establish a protective cover over most of these areas. Wetland protection is also a priority, and most of the nearby wetland areas are surrounded by straw wattles to keep non-native seed from moving into recovering wetland soils. Finally, there are always a few housekeeping chores to take care of. With a little luck and a lot of planning, the base will be ready for the next construction season.

(Photo by Glenn Anderson

The cap on the Corrective Action Management Unit (CAMU) uses native plants to prevent erosion and keep water from getting to the contaminated soil.

(Photo by Lonnie Duke

Environmental engineers take vapor readings from a network of soil gas monitoring wells surrounding the CAMU to check for the presence of methane.

(Photo by Glenn Anderson

Straw wattles surrounding wetlands within excavation areas prevent seeds from moving into these sensitive low-lying areas during rain events.

Meeting Agenda

6:30 - 7:00 p.m. Open Forum:

The open forum allows RAB and community members to discuss ongoing Travis AFB restoration program activities with the Travis AFB environmental staff on a one-to-one basis.

7:00 - 9:00 p.m. RAB General Meeting

I. Welcome and Introductions

II. Approval of Minutes

III. Additional Agenda Items and Questions

IV. Discussion Topics
- Soil Cleanup Wrap-up
- Groundwater Update

Break

V. Cleanup Program Status

VI. Regulatory Agency Reports

VII. Focus Group Reports

VIII. RAB/Public Questions

IX. Set Time and Place for Next RAB Meeting

X. Set Focus Group Meeting Times

Adjourn

Travis AFB Restoration Advisory Board Meeting

April 24, 2008
7 p.m.

Northern Solano County Association of Realtors
3690 Hilborn Rd
Fairfield, CA

Location of Information Repositories

Vacaville Public Library
1020 Ulatis Drive
Vacaville, CA 95688

(707) 449-6290

Monday-Thursday: 10 a.m. - 9 p.m.
Friday-Saturday: 10 a.m. - 5 p.m.
Sunday: 1 p.m. - 5 p.m.

Fairfield-Suisun Com. Library
1150 Kentucky Street
Fairfield, CA 94533

(707) 421-6500

Monday-Thursday: 10 a.m. - 9 p.m.
Friday-Saturday: 10 a.m. - 5 p.m.
Sunday: 1 p.m. - 5 p.m.

Mitchell Memorial Library
510 Travis Boulevard
Travis AFB, CA 94535

(707) 424-3279

Monday-Thursday: 10 a.m. - 9 p.m.
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Saturday: 12 p.m. - 6 p.m.
Sunday: 12 p.m. - 6 p.m.

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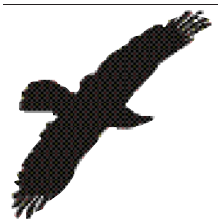

If you would like more information or need special accommodations for the RAB meeting, please contact Mark Smith, (707) 424-3062. You can also view our web site at http://public.travis.amc.af.mil/enviro

For more information about Travis AFB's restoration program, please contact:

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