Environmental Action UPDATE

A Quarterly Newsletter about the McClellan AFB Restoration Program July 1996

Base Employee Provides Valuable Information on Former Disposal Site

In May, EM employees and Chuck Graham, a current base employee, stood in an empty field on the northeast end of the base looking at old aerial photos. In 1958, Graham worked for a contractor at that location who cleaned aircraft engine containers and dumped the byproducts of solvents and oils into ditches behind the shop. The base acquired the property in the '80s. The old aerial photo helped Graham pinpoint the location.

Chuck Graham (on right) accompanies Tech Sgt Mike Haynes from Civil Engineering and Jerry Vincent from Environmental Management (EM) to the site of a former contractor's shop that cleaned aircraft engine containers.

"Things were a lot different in the 1950s," said Graham. "What was common practice then is now considered unacceptable. Nowadays, one wouldn't think of driving kids around without seatbelts. In the '50s, we didn't even have seatbelts."

The meeting with Graham was part of a continuing effort to find current and retired base employees who have knowledge of past waste disposal practices and dump sites. A July 1995 press release by the base brought forward many current and former employees who knew about past disposal activities. Base employee Chuck Yarbrough and former base employee Burl Taylor, both members of the Restoration Advisory Board, have also been instrumental in putting the base in touch with past employees who have information.

Graham's experience is a perfect example of how valuable memories of retired and longtime base employees have been in identifying old disposal sites and practices. Information like Graham's allows the base to better focus its clean-up efforts by saving time in locating and investigating former sites. It helps identify initial sampling locations and types of analyses that need to be done, benefiting the entire clean-up process.

"The efforts to capture this kind of information are part of the clean-up process that the base has been doing for many years. It's encouraging and valuable to our program when individuals share their knowledge," said Margaret Gidding, a public affairs representative supporting the EM efforts. Anyone with information regarding past disposal activities at McClellan in encouraged to call Gidding at (916) 643-1742, ext. 354.

On the Inside

SVE Treatment Systems Relocate to Save Money

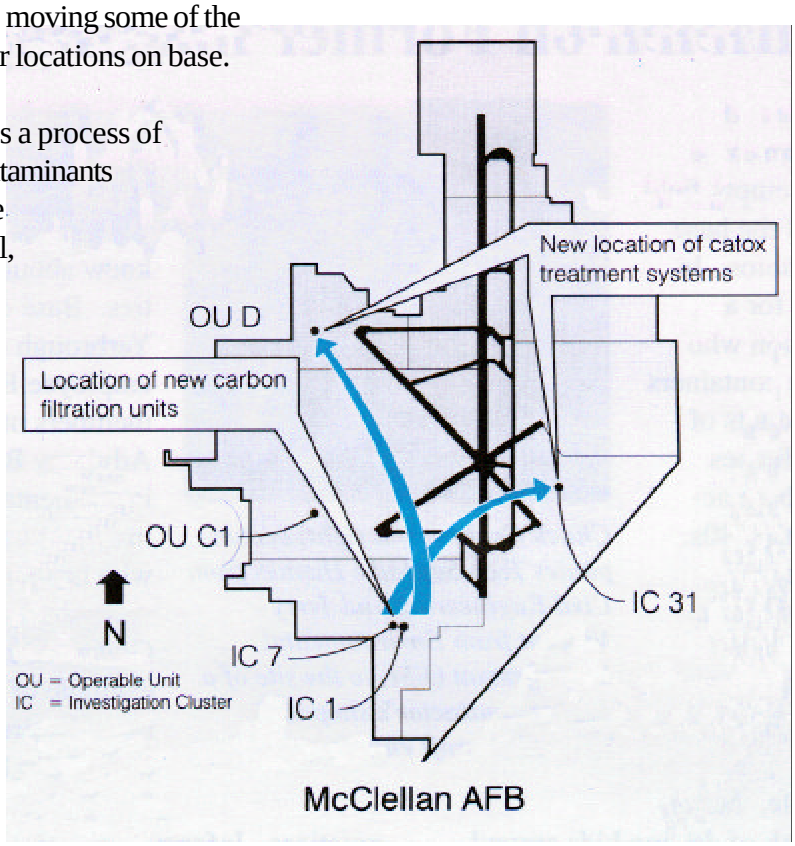
Soil vapor extraction (SVE) has proven to be very successful in removing contaminants from the soil at McClellan (see "SVE Actions Reduce Contaminant Concentrations in Off-base Soil Vapor Wells" in the April 1996 *Environmental Action Update*). Once the contaminants are brought to the surface, they must be treated. To date, McClellan has operated four treatment units to treat soil vapor contaminants. Now, to make optimal use of these systems, Environmental Management is moving some of the treatment units to other locations on base.

Soil vapor extraction is a process of vacuuming volatile contaminants out of the soil. Volatile contaminants in the soil, such as solvents or fuels, are pulled by this vacuum to the surface, where they can be treated.

Different treatment systems work best with different concentrations and types of contaminants. For example, one system, called *catalytic oxidation*, or "catox," is more cost effective with high concentrations of contaminants. Over time, as contaminants are extracted from the soil, the concentrations of the contaminants decrease. Once the contaminant concentrations fall below a certain level, activated charcoal filters (also called "GAC" for *granular activated carbon*) are more cost effective. The moves currently underway are intended to make the most cost-effective use of the various treatment units on base.

Moves Increase Cost-Effectiveness

Re-using the existing treatment systems by moving them to where they are more cost-effective will save about $3 million over the next few years. In one move, a catox treatment system is being moved from Investigation Cluster 1 (IC 1) in the southwestern part of the base to Operable Unit D (OU D) in the northwest (see map at left). This system will replace a much larger treatment system that had been operating in OU D since 1993. Soil vapor from the SVE system at IC 1 will be routed through a carbon filtration system already built at IC 1 as part of a different treatment system.



The base is moving some of the treatment units to continue to make the most cost-effective use of them.

In another move, the catox treatment system from IC 7 in the southwestern part of the base will be moved this summer to IC 31 in the eastern part of the base. Plans are underway to install a carbon filtration unit at IC 7.

The use of smaller, mobile SVE treatment units (instead of large, stationary units) allows the base to move them wherever they are most needed. This also means the base does not need to invest in the larger units, saving money in the long run.

RAB SPOTLIGHT

By Jamie Cameron-Harley

Dr. Bill Gibson

The whole is only as strong as its individual parts. In the case of the Restoration Advisory Board (RAB), one individual bringing strength to the whole is Dr. Bill Gibson. The McClellan RAB has 19 community members, plus agency and base representation. It brings together a cross section of the community to advise the Air Force on community interests in restoration issues.

As a community member, Dr. Bill Gibson followed the environmental condition of McClellan for some time. After reading a notice in the newspaper, he applied to and became a RAB member in January 1995. Soon after, he was elected chair of the RAB Relative Risk Ranking Committee. Dr Gibson believes that "the RAB is an excellent opportunity for anyone who has an interest from an environmental point of view, or is interested in reuse or base privatization efforts. Anyone with these interests should get involved."

Dr. Gibson brings with him 28 years of experience from GENCORP Aerojet aerospace engineering and management. Before that, he worked in the nuclear industry, developing fast breeder and fusion reactors. He also has over 11 years experience in the chemical process industries and the Army Chemical Corps.

It is clear to Gibson and the other RAB members that, with base closure scheduled for 2001, time is of the essence, and mutual understanding is key. Although the Air Force has done much, there is still a lot of work to be done so reuse and privatization can move forward. "We want to privatize the base and keep as many people here as possible," Gibson remarks. "People look at risk differently. There is fear when you don't understand something. This can be overcome by enhancing education and setting standards. We need to know what is there and how to cope with it." Since joining the RAB, Gibson feels more comfortable about how the environmental business is accomplished, but he still has concerns.

What are the challenges ahead? As Gibson sees it: RISK, TIME, and MONEY. He also sees the need to balance protection of the community, reuse interests, and a military mission that hasn't gone away. When asked what he would say about McClellan's restoration program if he had a direct line to the Air Force or Congress, Gibson said, "Restore our funding to the original levels, at least. Help us to do the job. Give us your support — don't bypass environmental aspects. Give us what we need to do the job at hand."

BILL GIBSON is the Chair of the RAB Relative Risk Ranking Committee.
Other Committee Chairs are:

Del Callaway	Base Reuse
Sue Sher	Community Relations
John Leuthe	Technical Report Review

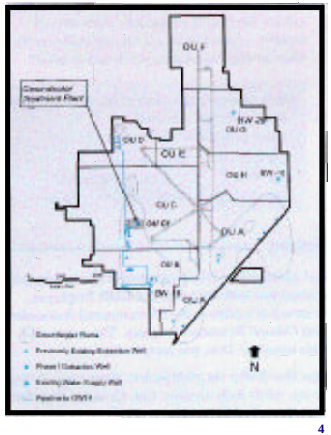
In Memory

The Environmental Management Directorate would like to acknowledge the great personal loss with the passing of EMR Employee, Don Kelley. Don served as a pillar in the Environmental Assessment and the Natural and Cultural Resources Program. The nature area flourished under his nuturing. Don, you are missed.

Doris Gruber helps Don Kelley (in plaid jacket) plant a tree during Creek Week clean-up, while Kelly Gruber; Col. Cervone, Dep. Dir. of EM; and his daughter, Angela, watch.

Improvements Mark 10 Year Anniversary of GWTP Groundbreaking

Groundbreaking for the GWTP took place in June 1986. Today, 750 gallons of water per minute from 23 groundwater extraction wells are treated at the plant. In this photo you can see the main activated charcoal filter water tanks, thermal combustor and air stripper (the equipment that strips contaminants from the groundwater).



Groundwater Treatment Plant—10 Years Of Protecting Human Health and the Environment

In 1986, McClellan AFB engineers broke ground to build the Groundwater Treatment Plant (GWTP) on the base's west side to contain off-base movement of contaminated groundwater. The GWTP was one of the first of its size and type for environmental restoration in the country. It is an integral part of a basewide groundwater containment system that has evolved since 1987. On June 3, 1996, the plant treated its billionth gallon of water; so far it has removed approximately 47,000 pounds of contaminants.

In 1986, six groundwater extraction wells were installed in the most contaminated area at McClellan AFB so they could prevent contaminated groundwater from migrating beyond the base boundary. These first wells were located in what is now called Operable Unit (OU) D, on the base's northwest corner.

The GWTP was built to treat the groundwater removed by the extraction wells. Over the past ten years, more extraction wells have been installed on OUs B and C and connected to the GWTP. Currently, the plant treats 750 gallons of water a minute with 23 wells connected to it. Although the plant has been very reliable over the past decade, EM is making some improvements.

The Groundwater Extraction and Treatment System at McClellan AFB. 23 wells are connected to the GWTP via an extensive pipeline. The extraction wells serve to contain/clean-up contaminated groundwater on base.

UV/Peroxide—A Major Improvement to the Groundwater Treatment System

McClellan GWTP is currently undergoing its first major improvement since it was built 10 years ago. The improvement is being made in conjunction with Phase 1 of the June 1995 Groundwater Operable Unit Interim Record of Decision (GWOU IROD), and is intended to make the plant more cost effective in treating contaminants.

Engineers will disconnect the air stripper and thermal combuster—major components of the old process to treat contaminated groundwater—and replace the components with a smaller treatment system to pre-treat some of the groundwater being removed by extraction wells. This will improve an already effective system, and will continue to protect human health and the environment.

The new pre-treatment system uses ultraviolet (UV) light and hydrogen peroxide to break down the contaminants in the water. Hence, the system is called UV/peroxide. (The hydrogen peroxide is the same substance available at drug stores.) In the presence of UV light, hydrogen peroxide can break down groundwater contaminants found at McClellan into carbon dioxide and water.

The UV/peroxide system will be used on the wells with the highest concentrations of contaminated groundwater from OU D and OU C1. Because contaminant levels have gone down at the base, using charcoal filters as the primary treatment has become more cost effective. Pre-treating the water with the highest concentrations of contaminants improves the efficiency of the whole system.

The small, rectangular unit in the middle (the one with the two gauges on it) is the power supply for the UV/peroxide system—a smaller unit on the backside. It will replace the air stripper (large tower in background) and the thermal combuster. The white tank to the right holds hydrogen peroxide.

Once water passes through the UV/peroxide system, the pre-treated water will be combined with water from the other extraction wells at McClellan and piped to the existing charcoal treatment tanks. Activated charcoal filters have always been a part of the GWTP's treatment system. They are very capable of treating the contaminants in McClellan's groundwater, and are most cost effective with low concentrations of contamination. The water will still meet state standards before being discharged into Magpie Creek.

The changes to the GWTP are intended to optimize the plant's efficiency and cost effectiveness. They will not change the plant's ability to protect human health and the environment. The UV/peroxide system will eliminate air emissions and lower operation and maintenance costs while meeting state water discharge requirements.

RAB Meeting Wednesday, July 24
See Pages 6-7

Changing Places...

Farewell to **Kirk Schmalz**, who left to go to Beale AFB. Thanks for all your hard work!

Elaine Anderson will take over as Remedial Program Manager (RPM). Elaine has served as alternate RPM at McClellan since 1994.

Environmental Management Remedial Scoreboard

As of: **June 1, 1996**

Pounds of Contamination
Removed from Soil and Water:

MCUPD.PM6 JFS 6-24-96

ATSDR Holds Follow-up Meeting

The Agency for Toxic Substances and Disease Registry (ATSDR) held a public meeting on May 21 to present and discuss the final report of the McClellan Cross Sectional Health Study released in April. The study was to determine whether communities living near the base experienced more adverse health effects compared with a community not located near the base from past chemical exposures. The study concluded only two illnesses were significantly self-reported for residents—intestinal problems and ulcers. However, the study also concluded this increase was not medically significant. ATSDR does not plan on any follow-up studies other than monitoring the base's continuing efforts to contain the contaminated groundwater plume to ensure the public and private wellwater remains free of contamination. McClellan RAB members later commented they were satisified with the report. Anyone having questions about the study may call ATSDR at 404-639-0501.

Environmental Action
UPDATE
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