

ATSDR Health Assessment Yields Good News

Preliminary results of the Agency for Toxic Substances and Disease Registry (ATSDR)'s Public Health Assessment (PHA) of F. E. Warren Air Force Base (F. E. Warren) are in — and the results are encouraging. After completing their review of available data and exposure information, ATSDR has concluded that *potential exposures to contaminants at F. E. Warren do not pose any apparent public health hazard.*

The purpose of conducting the PHA was to determine if past activities at the base may have a negative impact on the health of people in the surrounding area.

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According to ATSDR's Public Health Assessment, adverse health effects are unlikely to result from exposures to contaminants at F. E. Warren — including pollutants associated with Landfill 6, pictured above undergoing installation of a geosynthetic clay liner.

Construction of Cover for Landfill 6 on Track

Construction of the geosynthetic clay liner (GCL) cover for Landfill 6 (LF6) is on schedule even though not everything has gone smoothly, mostly due to weather problems. The contractor actually began construction activities two weeks ahead of schedule, and due to the flexibility of the workers and their good working relationships, the project is on track for completion on or before December 31, 1999.

Landfill Location

LF6 is located on the western boundary of the base and covers an

area of about 51 acres. It was used from 1971 through 1984 for disposal of all base wastes and until 1989 for disposal of ash from the base coal-fire steam plant. Some of the wastes are pollutants, and therefore must be stopped from moving further into groundwater.

With agreement from the U.S. Environmental Protection Agency (EPA) and the Wyoming Department of Environmental Quality (WDEQ), the Air Force decided to construct a GCL cover system to prevent water seepage through the

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During the assessment process, ATSDR representatives reviewed environmental data to determine the amount and location of contamination at the base and the ways in which people could come into contact with the contamination. The representatives analyzed hazardous substance pathways such as air, soil, and water, to determine if contaminants could reach people in concentrations that could cause adverse health effects.

Assessment Results

The overall results of the PHA are based on three general conclusions regarding the potential for exposures to contaminants:

- Exposures to off-base residents potentially inhaling or ingesting contaminants in wind blown dust were evaluated using site-specific exposure assumptions. **No adverse health effects to adults or children from**

possible past or current exposures were identified at any of the sites, and future exposures at these sites are unlikely.

- Some volatile organic compounds and metals have been detected in some private wells in neighborhoods surrounding the base. However, **due to actions already taken by the Air Force and the amount of contamination detected in the wells**, ATSDR's exposure evaluation indicates that **adverse health effects are unlikely to result from drinking water from these wells.**

- Although trichloroethylene (TCE), arsenic, lead, and manganese were detected in surface soil, surface water, and/or sediment at the landfills on-base, ATSDR's evaluation indicates that **adverse health effects are unlikely to result**

from past, current, and potential exposures to the contaminants associated with the landfills.

After further review of the PHA results by the Air Force, WDEQ, and EPA, and a 30-day public comment period, the final report will be published later this summer. The PHA will be placed at various repositories for public review. (Please see page 6 for the locations of information repositories in the area.)

Comment Period

The comment period should begin at the end of July 1999. It will be announced publicly, so that you will all have an opportunity to examine the details of the study and the ATSDR conclusions. Additionally, it is likely that a public meeting will be scheduled so that concerned citizens can ask any questions they may have to an ATSDR representative. ☐



Cheyenne and Wyoming Benefit From F. E. Warren Cleanup Activities

The Installation Restoration Program (IRP) at F. E. Warren is benefiting the local and state communities beyond the main purpose of protecting the environment and human health. Over the last decade, much of the money expended in base cleanup has provided income to the City of Cheyenne — in 1999, due to two large construction

projects, the amount of money flowing into the community is especially noteworthy.

In the case of Spill Site 7 (SS7), the approximate flow of money into the local community this year is about \$240,000. This is in the form of sub-contractor support, local services, and food and lodging for workers. LF6 is having an even

greater impact on Cheyenne and other areas in the state of Wyoming. Cheyenne will gain about \$2.3 million in different service and contractor areas from the construction activities at LF6. Additionally, the GCL was purchased from a Wyoming company in Lovell at a cost of approximately \$640,000. ☐

COMMUNITY CORNER

Cheyenne East High Students Visit F. E. Warren Installation Restoration Program Sites

By Jon Lippincott

Science Teacher and RAB member

Nine East High Environmental Science class students visited LF6, SS7, and observed Landfill 2c (LF2c) on May 20, 1999. These students are part of a class which, for the entire 1998-99 school year, has been studying environmental problems ranging from global warming and climate change to the impact of paving a segment of the greenway path along Dry Creek here in Cheyenne. These students represented the “environmentally concerned” teenage population of Cheyenne.

Several of the students had misconceptions about the hazards associated with the base. One student was not allowed to attend the field trip because of his mother’s concerns about radiation (radiation is not an issue at any of the IRP sites). Another student who had lived on the base a few years ago, was not aware that LF2c had ever been a “dump site.” Another misconception included concern about TCE contamination from SS7 getting into the Cheyenne municipal water supply (the municipal water supply is located west of Cheyenne and is not in close proximity to SS7).

Most of the students were impressed by the amount of money required to clean up the Superfund



Representatives from East High School visited three IRP sites at F. E. Warren and witnessed environmental cleanup technology in action.

sites located on base. One student observed that it seemed a shame to have to spend millions of dollars to clean up hazards that should have been prevented in the first place — it is unfortunate that the personnel did not know they were causing environmental damage at the time.

As the teacher of these students and a Restoration Advisory Board (RAB) member, I appreciated the fact that my class could see first-hand some examples of modern environmental cleanup technology in action. The diversity of methods being used at F. E. Warren are impressive.

Capping nonhazardous landfills, intercepting subsurface TCE plumes with reactive iron filing walls, and removing old landfills and restoring the natural land surface are just a few of the techniques being used at the three sites

visited during this field trip. It is unfortunate that most Americans are unaware of the environmental cleanup efforts going on at Superfund sites across the nation. The majority of Americans don’t realize how recently the environmental movement got its start.

It is good to see that F. E. Warren, through its RAB and environmental public awareness activities, are now reaching into the community. The information presented to the group puts a realistic perspective on the hazards associated with more than a hundred years of military activities at the base. The RAB keeps the citizens of Laramie County informed about the massive cleanup effort that is restoring some of the more hazardous sites and mitigating the health hazards and risk once posed by past practices. ☐

Construction of Landfill 6 Cover on Track

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waste. The Air Force is currently conducting a further study of waters and soils to determine other actions required to clean up the landfill. The cover's job is to stop the source of contamination. It consists of an impermeable bentonite matting (the GCL) covered with several layers of soils (see **Figure 1**).

Weather Delays Construction

In late March 1999, surface preparation on the landfill began and placement of the GCL proceeded on schedule at a rate of a little over an acre per day. The troubles began the last week of April when the area was blanketed with 10 inches of wet snow, followed shortly with three days of abnormally heavy rain — about three inches of rain total. As you can imagine, the operation came to a halt. Due to muddy conditions, construction was delayed for about 12 days, and several areas had to be repaired because of erosion. Fortunately, the GCL cover was not damaged.

Several options were explored to minimize costs and get back on schedule. The contractor and base restoration personnel agreed the best approach was to increase the

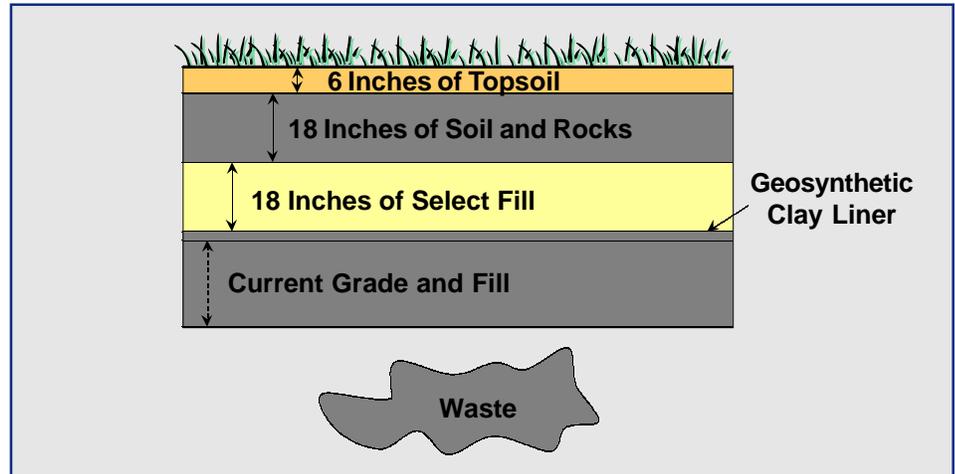


Figure 1: Cross section of the cover for Landfill 6, designed to prevent water from seeping through the waste and carrying pollutants further into groundwater.

workweek to 50 hours and revise the placement method used for the selected cover material. The option of extending the schedule would have further increased costs by requiring that the equipment be utilized for a longer period of time.

Project Back on Schedule

Although minor delays have occurred since the rains, the project is back on schedule. The crews are working five 10-hour days per week and production is improving as experience levels increase. As of the second week in July, the GCL cover had been installed. Now an additional layer of soil is being applied and then the topsoil will be placed and seeded. Installation

Restoration Management at F. E. Warren expects LF6 construction to be completed in October 1999. The cost for this Interim Remedial Action is approximately \$5 million. □



Installation of the Geosynthetic Clay Liner cover for Landfill 6 was completed during the second week in July.

Installation Restoration Program Site Status

Spill Site 7: Construction of the Iron Filings Wall at SS7 has begun and is on schedule, despite several problems encountered while installing the trench box that the iron filings are installed in, and dragging the box through the trench. Construction activities should be complete on or before December 1999.

Remedial Investigations: Drilling and sampling for the Remedial Investigation (RI) of Zone A is complete. Work has begun on Zones B and C. Draft reports for all three zones are due in January 2000.

Base Environmental Cleanup Team

Spotlight: Brady Baker

Brady Baker is one of the two Air Force Center for Environmental Excellence (AFCEE) Project Managers assigned to 90 SW/EM. He graduated from the University of Vermont in 1981 with a Bachelor of Science degree in Civil Engineering.

Brady's Early Career

Brady's first two jobs used his engineering skills in private companies. He started out working in Oklahoma for the Shawnee Steel Company for about two years. From there, he moved to Connecticut to work for a private engineering firm for one year.

His first position working for a government agency was an engineering job in the Connecticut Department of Transportation construction division. He held this position for four years and then moved to his first job with the Air Force at Plattsburgh AFB New York. He worked there as a Project Manager in the IRP, performing

similar work to his current position. Plattsburgh had been selected for closure under Base Realignment and Closure (BRAC), and Brady worked there from 1991 until 1998, at which time the cleanup was completed.

Brady Comes to F. E. Warren

In April 1998, Brady took his current job with AFCEE and came to F. E. Warren. Since then, he has been Project Manager for several cleanup sites on base including SS7, one of our big Remedial Action construction projects this summer. Recently, however; Brady has taken over all Remedial Investigation and Feasibility Studies on F. E. Warren. The Remedial Action projects have been moved to the other Project Manager so that each can focus on a specific type of work.

Brady's education and experience have contributed significantly to our recent successes in the IRP at F. E. Warren. We are happy to have Brady as part of the team! ☐

Access Information on the Internet



Information about cleanup activities at F. E. Warren, as well as other environmental information, is available from many sources on the Internet. Visit these sites to learn about what's going on at F. E. Warren and in the community:

U.S. Environmental Protection Agency

<http://www.epa.gov>

Wyoming Department of Environmental Quality

<http://www.deq.state.wy.us>

Fiscal Year 2000 Projects Validated

Representatives from the Headquarters (HQ) of the Air Force Space Command (AFSPC) visited F. E. Warren the week of May 24, 1999, to review and approve project activities planned for fiscal year (FY) 2000. The "validation" is done annually so that extra sets of eyes have an opportunity to ensure we are proceeding with the IRP in

smarter, faster, and better ways. The two-person team conducted an in-depth review of each clean-up project including construction activities, contracting methods, costs, and executability.

The AFSPC team members, Lt. Col. Steve Ditmer and Greg Simonson, reviewed plans for removal actions at two landfills and several Reme-

dial Investigations. The team suggested a few minor changes to planned costs, but made no recommendations that would change the overall Air Force approach to any particular project. With this hurdle cleared, the next step will be to obtain Air Force HQ Staff approval in Washington D. C. for the funds necessary to support the projects. ☐

For Additional Information...

Information about the F. E. Warren environmental cleanup program is available for review in the Administrative Record File — the official collection of documents, data, reports and other information that supports EPA's decision on cleanup at a site. You may review the Administrative Record File at the following locations:



90 SW/EM

Environmental Restoration Management
6203 15th Cavalry Avenue, Building 367
F. E. Warren AFB, WY 82005

Laramie County Library

2800 Central Avenue
Cheyenne, WY 82001

For additional information about the F. E. Warren environmental restoration management program, please contact one of the following Remedial Project Managers:



John Wright U.S. Air Force

6203 15th Cavalry Ave., Station 1
F. E. Warren AFB, WY 82005-2767
(307) 773-4147
wright.john@warren.af.mil



Dan Moore WDEQ

Herschler Bldg, 4 West
Cheyenne, WY 82002
(307) 777-7092
dmoore3@missc.state.wy.us



Rob Stites U.S. EPA, Region VIII

999 18th St., Station 500
Denver, CO 80202-2466
(303) 312-6658
STITES.ROB@epamail.epa.gov

RAB CONTACTS

For information about the Restoration Advisory Board meetings or membership, please contact:

William K. Springer

RAB Co-Chair (*Representing the Air Force*)

90 SW/EM
6203 15th Cavalry Avenue, Building 367
F. E. Warren AFB, WY 82005
(307) 773-4359
springer.bill@warren.af.mil

Tom Bonds

RAB Co-Chair (*Representing the Community*)

2101 O'Neil Avenue, Room 207
Cheyenne, WY 82001
(307) 637-6281

Inside: Information on F. E. Warren AFB Environmental Restoration



90th Space Wing
Environmental Restoration Management
90 SW/EM
6203 15th Cavalry Avenue, Building 367
F. E. Warren AFB, WY 82005-2793

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