

**THE MEMPHIS DEPOT
TENNESSEE**

**ADMINISTRATIVE RECORD
COVER SHEET**

AR File Number 607



CWM PROJECT UPDATE: Empty bomb casings removed from Dunn Field



One of the 21 empty 500-kg bomb casings that have been uncovered at Site #24-A

In September, the U.S. Army Corps of Engineers and its contractors began work at Site #24-A and are now progressing through the second phase of the CWM removal action at Dunn Field

As of November 1, 2000, 21 empty 500-kilogram (kg) bomb casings and three empty 250-kg bomb casings have been uncovered at the site and are being sent to an off-site permitted disposal location

Consistent with the historical records, these bomb casings were empty and inactive before being buried. The bursting charges were removed, and no chemical warfare agent was detected in the surrounding soil

In October, the CWM team erected a second vapor containment structure (VCS) at Site #24-B, which has been identified as the disposal site where the bomb casings were drained and the contents were neutralized and buried. The team's first task was to use an underground probe, called a geoprobe, to confirm the location and size of the neutralization pit

With the new VCS in place, work now continues at both sites with the same safety measures in place

The second VCS is an A-frame, tent-like structure measuring 82 ft by 100 ft., with a 13-ft. sidewall and a 26-ft. ceiling. Additional trained workers will be employed as needed

A thorough excavation at Site #1 was completed August 28, 2000. The CWM

team was successful in locating and removing chemical warfare service materials buried in the 1950s, including a box containing 24 empty bottles that would have been used in the production of Chemical Agent Identification Sets (CAIS). The unused bottles were packed in their original box and did not contain any traces of chemical warfare agent. After testing was completed, the bottles were removed to U.S. government archives

Workers at Site #1 also removed approximately 100,000 small vials containing sodium hydroxide pills, identified as being from the M-9 Chemical Agent Detection Kit. The vials, which were used by soldiers to detect chemicals in vapor form, were removed for safe, off-site disposal

More than 856 cubic yards of soil were excavated and carefully sifted to locate and remove all disposed materials at Site #1. This volume of soil is equivalent to approximately 172,900 one-gallon pails. No chemical warfare agent was found at Site #1

More time was spent at the first site than was estimated in the initial CWM schedule. This was due to the volume of items that were removed, and the need to carefully sift more soil than anticipated, combined with the impact of the summer heat on workers inside the VCS. The project is scheduled to continue through May 2001

Weekly CWM briefings are held in the

UPCOMING RAB MEETING

The RAB includes community members who review proposed plans and actions and provide input on the environmental cleanup activities

The next RAB meeting is Thursday, January 18th at 6:00 pm

Watch the Commercial Appeal, Tri-State Defender and the Silver Star News for an announcement about the location of the January RAB meeting □

Memphis Depot Community Outreach Room, Building 144, at the Memphis Depot Business Park, each Wednesday at 10:00 a.m., to update the community on the progress of the CWM removal project. For more information on these briefings, please call the Memphis Depot Community Relations Office at (901) 544-0613 □

A second vapor containment structure (VCS) has been erected on Dunn Field as part of the next phase of the chemical warfare materiel (CWM) removal action



Site Safety Response at Dunn Field

Captain Chris R. McKelvey, Commander of the Defense Distribution Depot Susquehanna, Pennsylvania (DDSP), spoke to the Memphis Depot Restoration Advisory Board (RAB) in October as part of a briefing on safety response procedures at Dunn Field.



Captain Chris McKelvey, the military commander in charge of the Depot, outlines a new communications procedure to ensure the RAB and public receive timely notification of any future events related to health and safety.

On September 15, 2000, three employees of UXB International Inc. were examined and released by doctors at the Regional Medical Center in Memphis, following a routine safety response by on-site medical and safety specialists. The workers noticed a strange odor and reported feelings of nausea, headache, dizziness and sinus irritation, after an hour inside the vapor containment structure (VCS). Air and soil samples taken before and after the incident showed that no mustard agent was present at the site.

The three men had been working in soil around a 500-kilogram empty bomb casing that was being removed from Site #24-A. They were dressed in the personal protective equipment (PPE), as required by the Site Safety Plan.

The incident was reported to the onsite Safety Specialist who sent the workers to the Regional Medical Center. Dr. Lynda Park and toxicologist Dr. Stephen Winberry, who are trained in chemical emergencies, examined the workers and blood tests were performed. They were released to unrestricted work shortly after arriving

at the hospital. While the CWM team is confident that no mustard agent was present, the soil samples contained low levels of two breakdown by-products of sulfur mustard, known as thioxane and dithiane. These by-products were produced when the mustard was combined with a bleach mixture to neutralize the bomb casings prior to being buried in 1946.

The sulfur mustard by-products are not chemical warfare materiel and do not present a health concern at the low levels detected at Site #24-A.

However, Dr. Park and Dr. Winberry believe these by-products could cause the symptoms described by the workers. Follow-up examinations of the workers found no further symptoms.

This was not an emergency situation, and the CWM team took the appropriate steps to manage the on-site safety response. However, Captain McKelvey expressed his concern about the delay in notifying the Depot staff, the RAB members and the community. Under the Captain's order, the U.S. Army Corps of Engineers has implemented a process of daily briefings with the Memphis Depot Caretaker. The CWM on-site safety specialist now reports daily to the Depot on the activities at Dunn Field.

This daily briefing process will continue until the CWM removal action is completed. Captain McKelvey assured the RAB members that they would receive timely notification of any future events related to health and safety. □



Dr. Lynda Park, Chairman of the Department of Emergency and Medical Director of the Regional Medical Center, tells the audience at the October RAB meeting that the three employees were not exposed to CWM.

You A

Throughout the past few months, community and RAB members asked a number of questions about the Depot's environmental program. Here are some of those questions (more can be found in the Q&A section of the Depot's website at www.ddc.dla.mil/memphis):

Q. What is a Risk Assessment and what does it tell me?

A. Conducting a Risk Assessment allows investigators to determine the level of potential health risks that may exist in a geographic area due to the environmental conditions. Also, it identifies what future land uses will be permitted on the site, and determines if there is a need for future site management to protect human health and the environment. Using documented scientific information on the nature and effect of potentially hazardous substances on humans and animals, investigators consider a wide range of exposure scenarios to determine how people might come into contact with the soil. A Risk Assessment provides a high level of confidence about the risks that specific compounds might present.

Q. How was the Risk Assessment performed?

Did it cover 100% of the Main Installation?

A. The Risk Assessment was conducted according to strict standards and procedures approved by the U.S. Environmental Protection Agency (EPA) and the Tennessee Department of Environment and Conservation (TDEC). Based on a complete examination of historical records, the Remedial Investigation looked at areas where past Depot activities involved potentially hazardous substances. In addition, samples were also taken at locations across the Main Installation where there was no evidence of hazardous substances being handled. The soils portion of the Risk Assessment is based on the results of over 99,000 analyses conducted on more than 1,200 soil samples. The methods used for collecting and analyzing the samples were based on proven practices to provide a high level of confidence that the Main Installation is safe for future industrial use.

Q. What is an exposure unit and why is it important?

A. An exposure unit is an area in which people might move around when performing regular activities and, in doing so, they may be exposed to substances in the soil or surface-water that are present across the entire area. The results of all the sampling performed in each exposure unit allows investigators to determine the maximum possible exposure concentrations (or the 'dose') that an individual could potentially receive over time through exposure to the area.

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Q. With so many chemicals in the environment, how can there be no risk?

A. A Risk Assessment tells us whether or not a certain area is within acceptable risk levels for the intended reuse of the property. In most cases, the substances detected across the Main Installation are not different from those found in background samples from other public places in Memphis. Some compounds found at the Depot are from past pesticide use and railroad operations. Other substances found are those that occur naturally in the environment. People come into contact with substances like these in their daily lives with no increased chance of getting cancer or other health concerns. The Risk Assessment tells us if chemicals are at levels that would increase a person's risk of developing health problems. The present risks are similar to what is found elsewhere in the Memphis area, and are considered to be acceptable for the intended reuse of the Main Installation property.

Q. Why are the risks considered acceptable for workers but not for residents? If people work on the site for 12 hours a day, isn't that the same as living on the property for the same length of time? How would excessive working hours affect the assessment?

A. Even with overtime or excessive working hours, residents are more likely to be exposed to affected soil than people at work are. The worker exposure scenario looked at workers who would be outside working in and around the soil. Since the Risk Assessment determined it was safe for them, workers who would spend most of their time inside buildings would also be safe.

Q. Did you test outside of the fence lines? If the soil was affected around the inside of the fence, wouldn't they also be affected outside the fence?

A. During the Remedial Investigation, samples were taken outside the Depot property and throughout the Memphis area. These samples provided important information on 'background' levels, which are levels of certain substances in the soil that are either naturally occurring or the result of traffic, paving, pesticide use or other common urban activities. We also tested sediments in the stormwater ditches outside of the fence lines and found that these areas do not pose any increased risk of health effects. □

Groundwater sampling in Dunn Field community

As part of the Memphis Depot's ongoing cleanup program, additional monitoring wells are being installed and groundwater is being sampled at selected locations on Dunn Field and in neighborhoods around the Depot.

Sampling work on Dunn Field began on October 9. Work in areas near Dunn Field began October 23 and should be completed by mid-November. The off-site locations to be sampled are near the following areas:

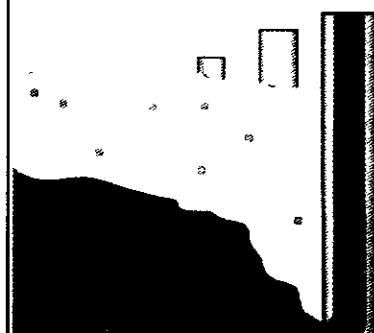
- Rozelle and Kyle (south of Person)
- Menager (between Cincinnati and Rayner)
- Northeast corner of Person and Ragan
- Ragan (south of Person)
- Northeast corner of Dunn Elementary School yard

The Depot's contractor, CH2M Hill, is conducting the sampling to monitor the quality of the groundwater in the Depot area. The Base Realignment and Closure

Cleanup Team (BCT) will use these sampling results – as well as sampling data taken since 1998 – during the Dunn Field Remedial Investigation (RI) to help determine cleanup alternatives for the groundwater. The RI is scheduled to be available for public review in the winter of 2001.

A drilling company (Boart Longyear) will assist the sampling team to install the additional monitoring wells and to drill boreholes, which will allow CH2M Hill to gather samples from various depths below the ground surface. The contractors will begin work early in the mornings and continue throughout the evenings to ensure the work is completed as quickly as possible. The contractors will schedule weekend sampling work on the Depot to lessen the possible noise and disturbance to the community.

For more information, please call the Memphis Depot Community Relations Office at (901) 544-0613. □



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FOR YOUR INFORMATION.....

The Information Repositories are at the following locations:

The Depot, 2163 Airways Blvd., Bldg. 144,
Memphis, TN (901) 544-0613
The Community Outreach Room is located in Building
144. Please call ahead for an appointment to ensure
that we are available to help you

Memphis/Shelby County Health
Department, Pollution Control Division
814 Jefferson Ave, Memphis, TN
(901) 576-7775
The Pollution Control Division is open Monday
to Friday from 7:30 a.m. to 4:30 p.m.

Memphis/Shelby County Public Library,
Cherokee Branch, 3300 Sharpe Ave.,
Memphis, TN (901) 743-3655
The Cherokee Branch is open Monday to Wednesday
from 10 a.m. to 6:30 p.m., Thursday from noon to
6:30 p.m., and Saturday from noon to 6 p.m.

Hillview Village Neighborhood
Network Systems, 2119 Alcy Rd.,
Memphis, TN 38114 (901) 743-0500
The office is open Monday to Friday from
8:00 a.m. to 5:00 p.m.

HOW TO REACH US....

If you have any questions or comments about the Depot's environmental cleanup program, please feel free to contact any one of the following:

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EnviroNews is published by the Memphis Depot to
update the public on the environmental cleanup
program. If you have comments, questions, or
suggestions for future articles, please call
Ms. Alma Black Moore at (901) 544-0613

Visit the Depot's website at www.ddc.dla.mil/memphis



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