

APPENDIX F

**REVISED PROBABILITY ASSESSMENT
AND REQUEST FOR EXCEPTION**

**Probability Assessment Revision 1
3X Scrap Removal at Training Area T-38,
Former Technical Escort Reaction Area, Parcel 186(6)
Fort McClellan, Calhoun County, Alabama**

1.0 INTRODUCTION

The U.S. Army is conducting environmental studies of the impact of suspected contaminants at Fort McClellan (FTMC) in Calhoun County, Alabama, under the management of the U.S. Army Corps of Engineers (USACE)-Mobile District. The USACE contracted Shaw Environmental, Inc. (Shaw) to perform 3X scrap removal activities at Training Area T-38, Former Technical Escort Reaction Area, Parcel 186(6). In accordance with Department of the Army (DA) memorandum *Applicability of Biological Warfare Materiel and Non-Stockpile Chemical Warfare Materiel Response Activity Interim Guidance*, Army Regulation (AR) 385-10, *The Army Safety Program*, and AR 385-61, *Toxic Chemical Agent Safety Standards*, this document is provided to assess the probability of an accident occurring involving chemical agent contaminated media (CACM) during the 3X scrap removal at Training Area T-38.

2.0 SITE BACKGROUND

Training Area T-38 was the Former Technical Escort Reaction area also known as the Toxic Gas Yard. The site, approximately 6 acres in size, is located along a topographic ridge, Reservoir Ridge, east of Ruskin Avenue and the cantonment area on the Main Post. The fenced area in the northeastern portion of the parcel was referred to as the Toxic Agent (or Gas) Yard. The training area was reportedly used from 1961 to 1972 for training Technical Escort Unit (TEU) personnel in techniques of eliminating toxic hazards caused by mishaps to chemical munitions during transport.

The area also was used for storage of toxic agents and munitions. The storage facilities included four 1-ton containers of distilled mustard (HD). In addition, decontaminants were reportedly stored on at least two locations and were used for demonstration purposes. Extensive decontamination was reportedly conducted at the site for spills and for decontaminating training aids. The types of decontaminants used, quantities, and frequency of use are unknown, but are assumed to include decontamination agent noncorrosive (DANC), supertropical bleach (STB), and decontamination solution number 2 (DS2) (ESE, 1998).

Training Area T-38 is fenced with an entrance gate in the northern section. Reportedly, a former disposal pit, approximately 10 by 20 by 10 feet, was located in the central portion of the site and was used for disposal of decontaminants and other hazardous wastes. A burial site for an HD drum was also reportedly located in the southern portion of the site.

3.0 PREVIOUS INVESTIGATIONS

Previous investigations have been conducted at Training Area T-38, as summarized in the following paragraphs.

Site Investigation (SI). In 1993, Science Applications International Corporation (SAIC) conducted an SI that included limited geophysical surveys and collection of soil samples from four locations suspected to be areas of prior site activity. The soil samples collected were screened for HD, nerve agent (VX), and sarin (GB) using a miniature continuous air monitoring system (MINICAMS). Chemical agent was not detected in the screening samples. In addition, chemical agent degradation products were not detected in the laboratory (SAIC, 1993).

Remedial Investigation (RI). In 1995, SAIC conducted an RI at Training Area T-38 that included additional geophysical surveys, soil sampling, and the installation of monitoring wells and one soil boring into the disposal pit. Also, numerous shallow soil samples were screened using MINICAMS. Chemical agent was not detected in the soil samples collected. However, volatile organic compound (VOC) contamination was discovered in the groundwater consisting predominantly of chemical decontamination solutions (SAIC, 2000).

Chemical Warfare Materiel (CWM) Engineering Evaluation/Cost Analysis (EE/CA). In 2001, Parsons Engineering Science, Inc. (Parsons) conducted an EE/CA at T-38 to address potential CWM or other subsurface disposal. Field activities included geophysical surveys, excavation of suspect anomalies, continuous air monitoring using MINICAMS, trenching, soil sampling, and laboratory analysis of soil samples for GB, HD, and breakdown products (Parsons, 2002). CWM was not detected during air monitoring, headspace screening, or laboratory analysis of the samples. Parsons concluded that the probability of encountering chemical agent during follow-on intrusive activities at Training Area T-38 is considered remote (Parsons, 2002).

3X Scrap Removal. In November 2003, Shaw conducted 3X scrap excavation operations at T-38 and during excavation, unearthed an intact vial that the Army subsequently confirmed to be a CAIS (Chemical Agent Identification Set) item. There was no release to the environment during excavation, and continuous air monitoring at the site confirmed no release. Shaw

instituted approved notification procedures, and evacuated the site. The item remained secured at the site until the Army's TEU destroyed the vial and neutralized its contents. Fort McClellan managed the resulting hazardous waste. The Army Base Realignment and Closure, Hampton Field Office requested an exception to interim guidance policy for CWM response activities to allow the removal action of 3X material to proceed and be managed as a hazardous and toxic waste response action. The exception was requested based on the nature of the site coupled with the existing safety measures in place and the minimal safety hazard posed by CAIS modules, all of which did not justify the level of safety protocol that would be required for a CWM site cleanup. The Deputy Assistant Secretary of the Army, Installations and Environment, (Environment, Safety and Occupational Health) (OASA(I&E)), approved the request.

4.0 CONTINUATION OF 3X SCRAP REMOVAL ACTIVITIES

The 3X scrap removal activities, which include excavation at T-38 to locate, identify, sort, package, and verify 3X scrap material in preparation for off-site disposal (Shaw, 2004), will resume subject to compliance with procedures outlined in the request for exception and in the approval letter to the request:

- Should any other CWM, to include that associated with a K951 or K953 CAIS be discovered, operations will stop, a chemical event report will be submitted, and a determination, which will be coordinated with the OASA(I&E), the Army Safety Office, and the U.S. Army Technical Center for Explosives Safety, will be made as to whether operations should revert to a CWM response. The anomalies to be excavated at T-38 are believed to be buried in disposal pits that were used to support the training exercises conducted from 1961 to 1972. Based on the results of previous investigations, Shaw does not expect to find any munitions and explosives of concern (MEC) or further CACM. The previously discovered CAIS item is considered anomalous, and only 3X scrap material is anticipated in further excavations. Shaw will also perform unexploded ordnance (UXO) construction support incidental to the 3X scrap removal activities.
- During site activities chemical agent air monitoring will be performed. Depot Area Agent Monitoring Stations (DAAMS) will be emplaced close in to the worksite to confirm agent detection. The monitoring strategy will be designed with the intent to confirm the MINICAMS' real low-level near real-time detections with DAAMS rapidly and with confidence. MINICAMS will be set up near the excavation and the screening area locations to monitor for chemical agents during removal and sorting activities. Air monitoring support will be provided for chemical agents (HD, lewisite [L], GB, and VX) and Category 2 compounds

(cyanogen chloride [CK] and phosgene [CG]). One near-real-time (NRT) agent air monitor (e.g., MINICAMS) will be required for GB and VX and a second NRT monitor will be used for HD and L. For the Category 2 compounds, Dräger® tubes will be used for air monitoring. Air monitoring surveys will occur prior to excavation (baseline) and during excavation, screening, 3X clearing of waste in the hot boxes, and during closeout.

- Eyewash equipment and personnel trained in first aid related to chemical agent exposures will be on site during any intrusive operations.
- Before work resumes, the USACE will modify the contractor's work plan to meet requirements outlined in the request for exception to policy to include a requirement for upgraded PPE and revisions as necessary to address the PPE change. Additionally, the work plan will be revised to address the requirement for eye wash equipment and personnel trained in first aid related to chemical agent exposures to be on site.
- The Local Reuse Authority will be kept fully apprised of the actions to be taken on site. Additionally, to keep the public informed, a press release will be issued prior to continuation of the 3X removal.

5.0 CONCLUSIONS AND RECOMMENDATIONS

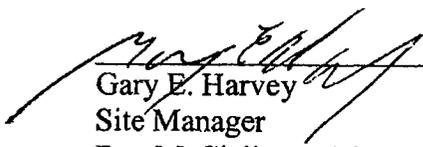
Based on known site history, the results of previous investigations conducted at T-38, and the Army's approval to allow the removal action of 3X materiel to proceed and be managed as a hazardous and toxic waste response action, this assessment concludes the probability of encountering CWM when removing 3X scrap at T-38 to be "remote", i.e., could occur at some time (also described in AR 385-10 and AR 385-61 as having a hazard probability of "seldom"). This assessment recommends UXO construction support and compliance with procedures and conditions outlined in the request for exception to policy and in the approval letter to safely support 3X scrap removal activities at T-38.

6.0 REFERENCES

- Environmental Science and Engineering, Inc. (ESE), 1998, *Final Environmental Baseline Survey, Fort McClellan, Alabama*, prepared for U.S. Army Environmental Center, Aberdeen Proving Ground, Maryland, January.
- Parsons Engineering Science, Inc. (Parsons), 2002, *Final Chemical Warfare Materiel (CWM) Engineering Evaluation/Cost Analysis (EE/CA), Fort McClellan, Alabama*, June.
- Science Applications International Corporation (SAIC), 2000, *Final Remedial Investigation/Baseline Risk Assessment Report, Fort McClellan, Alabama*, July.
- Science Application International Corporation (SAIC), 1993, *Site Investigation Report, Fort McClellan, Alabama*, prepared for U.S. Army Environmental Center, Installation Restoration Division, Aberdeen Proving Ground, Maryland, August 31.
- Shaw Environmental, Inc. (Shaw), 2004, *Site-Specific Work Plan Addendum, 3X Scrap Removal, Training Area T-38, Former Technical Escort Reaction Area, Parcel 186(6) and Training Area T-24A, Former Chemical Munitions Disposal Area, Parcel 187(7)*, July.
- U.S. Department of the Army, OASA(I,L&E), 1997, *Interim Guidance for Biological Warfare Materiel (BWM) and Non-Stockpile Chemical Warfare Materiel (CWM) Response Activities*, September.
- U.S. Department of the Army, DACS-SF, 1998, *Applicability of Biological Warfare Materiel and Non-Stockpile Chemical Warfare Materiel Response Activity Interim Guidance*, March.
- U.S. Department of the Army, HQ, U.S. Army Corps of Engineers, CESO-E, 1998, *Applicability of Biological Warfare Materiel and Non-Stockpile Chemical Warfare Materiel Response Activity Interim Guidance*, April.
- U.S. Department of the Army, 2000, *The Army Safety Program*, Army Regulation 385-10, February.
- U.S. Department of the Army, 2001, *Chemical Surety*, Army Regulation 50-6, June.
- U.S. Department of the Army, 2002, *Toxic Chemical Safety Standards*, Army Regulation 385-61, March.
- U.S. Department of the Army, BRAC-HFO, 2004, *Request for Exception to Interim Guidance for Non-Stockpile Chemical Warfare Materiel Response Activities*, March.
- U.S. Department of the Army, OASA(I&E), 2004, *Request for Exception to Interim Guidance for Non-Stockpile Chemical Warfare Materiel Response Activities*, May.
- U.S. Department of the Army, HQ, U.S. Army Corps of Engineers, CEMP-CE, 2004, *Interim Guidance – Notification Procedures for Discovery of Recovered Chemical Warfare Materiel (RCWM) During USACE Projects*, April.

Approved by:

According to AR 385-10, AR 385-61, and DA memorandum "Interim Guidance for Biological Warfare Materiel and Non-Stockpile Chemical Warfare Materiel Response Activities", which require that risk be determined to human health and the environment at potential non-stockpile CWM sites and to the OASA(I&E) approval letter for an exception to the aforementioned interim guidance policy, I concur with the conclusions presented in this risk assessment document regarding the potential for encountering CWM during 3X scrap removal activities at Training Area T-38. Per the signed Oct 2002 CWM EE/CA Action Memorandum, the Army assumes the risk of conducting site activities as a non-CWM site.



Gary E. Harvey
Site Manager
Fort McClellan, Alabama

14 July 2004
Date



DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY
INSTALLATIONS AND ENVIRONMENT
110 ARMY PENTAGON
WASHINGTON DC 20310-0110

MAY 17 2004

MEMORANDUM THRU ASSISTANT CHIEF OF STAFF FOR INSTALLATION
MANAGEMENT

FOR CHIEF, BASE REALIGNMENT AND CLOSURE OFFICE

SUBJECT: Request for Exception to Interim Guidance for Non-Stockpile Chemical
Warfare Material Response Activities

Your request for an exception to the interim guidance policy for chemical warfare material (CWM) response activities to allow the removal action of 3X material at Training Area T-38, Fort McClellan, Alabama, to proceed and be managed as hazardous toxic waste response action is approved. This approval is subject to compliance with the procedures outlined in your request and the following:

- Should any other CWM, to include that associated with a K951 or K953 CAIS be discovered, operations will stop, a chemical event report will be submitted, and a determination, which will be coordinated with this office, the Army Safety Office and the US Army Technical Center for Explosives Safety, will be made as to whether operations should revert to a CWM response.

- Depot Area Agent Monitoring Stations (DAAMS) will be emplaced close in to the worksite to confirm agent detection. The monitoring strategy will be designed with the intent to confirm the MINICAMS's real low-level near real-time detections with DAAMS rapidly and with confidence.

- Personnel trained in first aid related to chemical agents exposures and eyewash equipment will be on site during any intrusive operations.

My point of contact is J. C. King, (703) 697-5564 or kingjc2@hqda.

Raymond J. Fatz
Deputy Assistant Secretary of the Army
(Environment, Safety and Occupational Health)
OASA(I&E)

cf:
DACS-SF
DAC, ATTN: SJMAC-ESM, MCALESTER, OK 74501-9053