

**FINAL**

**ENVIRONMENTAL CONDITION OF PROPERTY  
(ECOP)**

**DEPARTMENT OF JUSTICE  
CENTER FOR DOMESTIC PREPAREDNESS  
FORT McCLELLAN, CALHOUN COUNTY, ALABAMA**

**JANUARY 2001**

**TABLE OF CONTENTS**

1.0 PURPOSE ..... 1

2.0 PROPERTY DESCRIPTION ..... 1

3.0 ENVIRONMENTAL CONDITION OF THE PROPERTY ..... 3

    3.1 Environmental Condition of Property Categories..... 4

    3.2 Storage, Release, or Disposal of Hazardous Substances ..... 6

    3.3 Petroleum and Petroleum Products ..... 6

        3.3.1 Storage, Release, or Disposal of Petroleum Products..... 6

        3.3.2 Underground and Aboveground Storage Tanks ..... 7

    3.4 Polychlorinated Biphenyls (PCBs) ..... 8

    3.5 Asbestos ..... 8

    3.6 Lead-Based Paint ..... 8

    3.7 Radiological Materials ..... 8

    3.8 Radon ..... 10

    3.9 Ordnance and Explosives..... 10

    3.10 Other Hazardous Conditions..... 10

4.0 REMEDIATION ..... 12

5.0 HISTORICAL PROPERTIES ..... 12

6.0 REGULATORY/PUBLIC COORDINATION ..... 12

7.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND  
    CONSISTENCY WITH LOCAL REUSE PLAN ..... 122

8.0 ENVIRONMENTAL PROTECTION PROVISIONS ..... 13

9.0 CONCLUSION ..... 133

10.0 REFERENCES ..... 144

**List of Tables**

1. Condition of Property
2. Community Environmental Response Facilitation Act Categories and Codes
3. Adjacent Properties
4. Notification of Hazardous Substances Storage, Release, and Disposal
5. Notification of Petroleum Product Storage, Release, and Disposal

**List of Figures**

1. Fort McClellan: Main Post and Choccolocco Corridor
2. Department of Justice, Fort McClellan: Main Post and Choccolocco Corridor
3. Department of Justice, Area F1.1, Site Map
4. Department of Justice, Area F1.3, Site Map
5. Department of Justice, Areas F1.5 and F1.6, Site Map

## **Attachments**

**Attachment 1** - Environmental Protection Provisions

**Attachment 2** - Underground Storage Tank Closure Reports

**Attachment 3** - Asbestos Containing Materials Survey Reports

**Attachment 4** - Radiological Close-Out Survey Report and NRC License Amendment and Termination Letters

**Attachment 5** - Air Permit

**Attachment 6** - CFC/Halon Survey, Risk Assessment and Equipment Conversion /Replacement Report

## **LIST OF ACRONYMS**

ACM	Asbestos Containing Material
ADEM	Alabama Department of Environmental Management
AST	Aboveground Storage Tank
CDTF	Chemical Defense Training Facility
CERFA	Community Environmental Response Facilitation Act
CFC	Chlorofluorocarbons
DOD	Department of Defense
DOJ	Department of Justice
CWM	Chemical Warfare Materiel
EBS	Environmental Baseline Survey
ECOP	Environmental Condition of Property
EE/CA	Engineering Evaluation/Cost Analysis
EPA	Environmental Protection Agency
FMC	Fort McClellan
GB	Sarin
OE	Ordnance and Explosives
PCB	Polychlorinated Biphenyl
TPH	Total Petroleum Hydrocarbons
UST	Underground Storage Tank

# ENVIRONMENTAL CONDITION OF PROPERTY (ECOP)

Department of Justice, Center for Domestic Preparedness  
Fort McClellan, Calhoun County, Alabama  
January 2001

## 1.0 PURPOSE

The purpose of this Environmental Condition of Property (ECOP) is to document the environmentally related findings and conditions for approximately 64.27 acres of land with 18 facilities (hereafter referred to as the Property) at the U.S. Army Garrison, Fort McClellan (FMC), Alabama. The Property will be transferred from U.S. Army control to the control of another federal agency, the Department of Justice (DOJ), for continued operation of the Center for Domestic Preparedness and other uses as determined by DOJ. The property and its facilities have been permitted to the DOJ for same use since September 1999. The ECOP identifies use restrictions, as specified in the attached Environmental Protection Provisions, necessary to protect human health or the environment.

## 2.0 PROPERTY DESCRIPTION

Fort McClellan is located in Calhoun County in the foothills of the Appalachian Mountains in northeast Alabama (Figure 1). The property proposed for transfer is currently permitted to the DOJ and is located in the north portion of the Main Post of FMC (Figure 2) and consists of approximately 64.27 acres with 18 facilities summarized in Table 1. The Property is divided into four geographical areas: F1.1, F1.3, F1.5, and F1.6 as shown on Figures 3 through 5.

**Area F1.1.** Approximately 12.29 acres with one building; Building 1081, General Instruction Building (less Faith Wing), is defined on the north by 8th Street, on the east by 4th Avenue, and on the west and southwest by 5th Avenue (Figure 3).

Building 1081, General Instruction Building was home for the U.S. Army Chemical School that conducted nuclear, biological, and chemical training. The original portion of Building 1081 (known as the Faith Hall) was constructed in 1954 and will be retained by the U.S. Army for use by the USAR. The remainder of the building is to be transferred to DOJ and consists of the Academic Facility added in 1977 and the final phase of the Academic Facility (known as Sibert Hall) completed in 1989.

**Area F1.3.** The Chemical Defense Training Facility (CDTF) measures approximately 37.18 acres with 8 facilities, is located on the north-central portion of the Main Post of FMC (Figure 4). The Complex was built in 1985 and began operation in 1987. The facility is in a fenced high-security area and is currently operated by the DOJ.

Buildings comprising the CDTF Complex include Buildings 4479 through 4485, and 4487. Building 4479, a Utility Building also known as the Filter Pad Building, is a plant/utility facility; Building 4480, the Access Control Facility is a guardhouse. Building 4481, Limited Use Instruction Building, is an administrative building and for instructional lectures and mask fitting. Building 4482 is a training building that was designed to train up to 10,000 military personnel per year in toxic chemical agent decontamination procedures. The building contains seven chemical agent training bays where chemical warfare material is used. A Refuse/Garbage Building also known as the Incinerator Building, Building 4483 began operation in 1987 and contains the incinerator, pyrolyzer, and autoclave. Building 4484, Hazardous Material Storage Installation, is an operation and maintenance facility. A Water Storage Tank, Building 4485, is east of the fenced compound. Building 4487 is a bus stop shelter.

Four aboveground storage tanks (ASTs) are located at the CDTF site. Three of the ASTs were located within a concrete berm southwest of Building 4484. However, one of the ASTs, a 4,000-gallon tank that previously held sulfuric acid, has been empty since 1988, and was moved to store diesel fuel on the East Side of Building 4482. Sulfuric acid is no longer used at the CDTF. The second AST is a 4,000-gallon tank that currently holds a sodium hydroxide solution and the third AST is a 20,000-gallon wastewater tank. The wastewater tank contains liquid decontamination wastes generated in the training building. The fourth AST, located northwest of Building 4484, is an empty 40,000-gallon fuel oil tank and was used to supply fuel to the Incinerator between 1986 and 1990 before the CDTF switched to natural gas.

One 5,000-gallon heating oil underground storage tank (UST) was previously located northeast of Building 4482. The tank was removed in 1998.

An unnamed road branching off 10th Street leading to the CDTF facility is a portion of Area F1.3.

**Area F1.5.** Area F1.5 measures approximately 3.14 acres with three facilities, is located at the corner of 20th Street and 3rd Avenue (Figure 5). The buildings include the Storage Group Installation Building, Building 303, an Underground Storage Tank, Facility 303F, and the Load and Unload Dock Ramp, Facility 304. Building 303 was built in 1942 as a Central Issue Facility for issuing individual military equipment to soldiers.

One 3,000-gallon heating oil UST, Facility 303F, is located on the west end of Building 303. The tank was installed in 1978 and was removed and replaced with a 3,000-gallon tank in 1996.

**Area F1.6.** Area F1.6 measures approximately 11.66 acres with six buildings, is located at the junction of 6th Street and 21st Street (Figure 5). Buildings 942 and 947, Company Headquarters Buildings, and Buildings 943, 944, 945, and 946, Transient Unaccompanied Personnel Housing, were all constructed in 1988 and were in use until closure of the installation in September 1999. The buildings were constructed on a property that was previously the Old Hospital area [EBS Parcel 95(7)].

### **3.0 ENVIRONMENTAL CONDITION OF THE PROPERTY**

A determination of the environmental condition of the property was made based on the review of existing environmental documents, aerial photographs, recorded chain of title documents, completing associated physical and visual inspection of the parcels and the properties immediately adjacent to the transferring property, and conducting personnel interviews with FMC Real Estate Personnel. Documents reviewed included the Final Environmental Baseline Survey (EBS) and Community Environmental Response Facilitation Act (CERFA) Letter Report (January, 1998); U. S. EPA Region IV and the Alabama Department of Environmental Management's (ADEM) conditional concurrence to the CERFA Report; Final Baseline Environmental Investigation Report, Chemical Defense Training Facility (August 2000); Historic Context Study: World War II and Cold War Era Buildings and Structures (May, 2000); Asbestos Containing Material Survey Report (1998); Commodity Site Survey Report (March 2000); Final Survey Report Radiological Laboratories, Building 1081 and Alpha Field (March 2000); the Disposal and Reuse Environmental Impact Statement (August 1998) and its associated Record of Decision (June 1999); Radon Monitoring Report (December 1998); Lead-Based Paint Risk Assessment Report (1995); Underground Storage Tank Progress Report (October 1998); CFC/Halon Survey, Risk Assessment and Equipment Conversion/Replacement Report (1995); the FMC Archive Search Report (1999); Site Investigation Report, Former Ordnance Motor Repair

Area, EBS Parcels 75(7), 5(7), 6(7), 41(7), and 42(7), (July 2000); and Site Investigation Report, Old Hospital, EBS Parcel 95(7), (May 2000).

### **3.1 Environmental Condition of Property Categories**

Table 2 summarizes the Department of Defense (DOD) Environmental Condition of Property (ECP) Categories and Codes. Following are the ECP Categories included in the proposed property for transferring:

#### **Area F1.1**

**ECP Category 1:** General Installation Building, Building 1081 (less Faith Wing), EBS Parcel 161(1).

#### **Area F1.3**

**ECP Category 1:** Plant/Utility, Building 4479, Access Control Facility, Building 4480, Limited Instruction Building, Building 4481, Water Storage Tank, Building 4485, and Personnel Shelter, Building 4487, EBS Parcel 161(1).

ASTs located at Buildings 4482 and 4484, EBS Parcel 62(1).

The four ASTs at Buildings 4482 and 4484 were previously classified as Category 2 property, EBS Parcel 62(2); areas where only storage of hazardous substances has occurred. DOD revised the environmental condition of property categories so that property may be classified as Category 1 if there was storage of hazardous substances but no release or disposal of the materials. The ASTs that were originally classified as Category 2 are reclassified as Category 1 property.

**ECP Category 3:** Refuse/Garbage Building, Building 4483, EBS Parcel 104(3).  
One 5,000-gallon Heating Oil UST, Building 4482, EBS Parcel 59(3).

In 1999, a baseline environmental investigation was conducted for the CDTF property (Area F1.3) including EBS Parcels 62(2), 59(3), 104(3), and 126Q-CWM. Investigation results indicated that no chemicals associated with the sites present an unacceptable risk to either human health or the environment. "No Further Action" is necessary for the CDTF facility. EBS Parcel 104(3) and 59(3) were originally classified as Category 7 and is reclassified as Category 3. The DOJ will be provided with a copy of the baseline environmental investigation report.

The UST at Building 4482, EBS Parcel 59(3) was removed and site closed. The UST was originally classified as Category 7 and is reclassified as Category 3. See Section 3.3.2 for additional details.

**ECP Category 6:** Landfill No. 2, EBS Parcel 79(6)  
Training Area T-38, Former Technical Escort Reaction Area, EBS Parcel 186(6)

An unnamed road branching off 10th Street leading to the CDTF facility is a portion of the DOJ Property. The road passes through the approximate northern boundaries of Landfill No. 2, EBS Parcel 79(6) (approximately 25 feet) and Training Area T-38, EBS Parcel 186(6) (approximately 900 feet). An EE/CA and supplemental remedial investigation are currently underway for Landfill No. 2 and Training Area T-38, respectively. Copies of the EE/CA Report for EBS Parcel 79(6) and Remedial Investigation Report for EBS Parcel 186(6) will be provided to the DOJ.

**ECP Category 7:** A portion of the Fill Area North of Landfill 2, EBS Parcel 230(7).

Exploratory trenching activities for the Fill Area North of Landfill No. 2 were conducted in November 2000 to determine the horizontal extent of the Fill Area. Findings of the exploratory trenching are currently being evaluated. The DOJ will be provided with the results of the exploratory trenching findings.

#### **Area F1.5**

**ECP Category 7:** Storage Group Installation, Building 303 and Load/Unload Dock Ramp, Facility 304, EBS Parcel 75(7).  
One 3,000-gallon Heating Oil UST, Building 303F, EBS Parcel 41(7).

Area F1.5 is a portion of EBS Parcel 75(7) and includes EBS Parcel 41(7). Site investigations are currently underway for EBS Parcels 75(7) and 41(7) to determine the presence or absence of contamination. A copy of the site investigation report for EBS Parcel 75(7) including EBS Parcel 41(7) will be provided to the DOJ.

#### **Area F1.6**

**ECP Category 3:** Transient Unaccompanied Personnel Housing, Buildings 943 through 946 and Company Headquarters, Buildings 942 and 947, EBS Parcel 95(3).

EBS Parcel 95(3) was originally classified as Category 7. A site investigation was conducted for EBS Parcel 95(3) and the results of the investigation indicated that no chemicals associated with the site present an unacceptable risk to either human health or the environment. Based on these results, site was reclassified as a Category 3. “No Further Action” is necessary for EBS Parcel 95(3) (IT, 2000a). A copy of the site investigation report for EBS Parcel 95(3) will be provided to the DOJ.

Adjacent properties to the Property include Category 1 and Category 7 sites. Site investigations are currently ongoing for all the Category 7 sites adjacent to the Property to determine presence or absence of contamination. There is no indication that any potential contamination has migrated from the adjacent sites to the property. Figures 3 through 5 and Table 3 show Category 7 sites adjacent to Areas F1.1, F1.3, F1.5 and F1.6.

### **3.2 Storage, Release, or Disposal of Hazardous Substances**

Sulfuric acid was the only hazardous substance that was stored at the CDTF in excess of the reportable quantities listed in 40 Code of Federal Regulations (CFR) Parts 373 and 302.4. Between 1985 and 1988, sulfuric acid was stored in one 4,000-gallon AST, located within a concrete berm southwest of Building 4484. The tank was originally manifolded to a 2-inch pipe for transfer of the acid to the 20,000-gallon wastewater tank. The transfer line began leaking at a point within the containment area during the transfer of sulfuric acid. A small volume of acid (approximately 1 quart) leaked and was subsequently neutralized and cleaned up. Sulfuric acid is no longer used at the CDTF. The tank had been empty since 1988 and was moved to store diesel fuel on the East Side of Building 4482. All other hazardous substances stored at the CDTF were below listed reportable quantities. Table 4 summarizes hazardous substances stored at the property in excess of reportable quantities.

### **3.3 Petroleum and Petroleum Products**

#### **3.3.1 Storage, Release, or Disposal of Petroleum Products**

Petroleum products in excess of 55 gallons were stored in a total of four tanks, two USTs and two ASTs. USTs included one 3,000-gallon heating oil tank, Facility 303F [EBS Parcel 41(7)] and one former 5,000-gallon heating oil tank near Building 4482 [EBS Parcel 59(3)]. ASTs included one 4,000-gallon diesel fuel tank near Building 4482 and one former 40,000-gallon fuel oil tank near Building 4484. A release from the 3,000-gallon UST tank, EBS Parcel 41(7), was documented in the tank closure report (Attachment 2).

### 3.3.2 Underground and Aboveground Storage Tanks

**Underground Storage Tanks:** Two USTs were used to store petroleum products. One 3,000-gallon heating oil UST, EBS Parcel 41(7), is located on the west end of Building 303. The original steel tank was installed in 1978 and was removed and replaced with a 3,000-gallon, double walled fiberglass tank in 1996 in accordance with Federal UST requirements under 40 CFR Part 280 and ADEM Administrative Code Chapter 335-6-15. The original tank was removed in good condition. Soils were excavated and stockpiled. A soil sample was collected from the stockpile for analysis for total petroleum hydrocarbons (TPH). A TPH concentration of 179 mg/kg was detected in the soil sample from the stockpile. Soils not exhibiting evidence of contamination were used to backfill the excavation. Approximately 24 cubic yards of contaminated soil were stockpiled to await thermal volatilization which has been completed. The remaining soil not exhibiting evidence of contamination was transported to the Base Borrow Pit. A UST closure report is included in Attachment 2. A site investigation to determine the presence or absence of contamination is currently underway for EBS Parcel 41(7), which was investigated as part of the Former Ordnance Motor Repair Area, EBS Parcel 75(7) (IT, 2000b).

One 5,000-gallon heating oil UST, EBS Parcel 59(7), was previously located northeast of Building 4482. The tank was removed on September 17, 1998. The removed tank was found in good condition and was not leaking. Samples were collected during tank removal activities. Sample results indicated that TPH and benzene, toluene, ethylbenzene, and xylenes (BTEX) were below ADEM guidelines. All excavated soil was returned to the tankpit. The tank was closed in accordance with ADEM guidelines (Riesz, 1998a). Attachment 2 includes the UST Closure Report. A summary of the areas in which petroleum was stored is provided in Table 5.

**Aboveground Storage Tanks:** Two ASTs, EBS Parcel 62(1), used to store petroleum products are located on the Property. One 4,000-gallon diesel AST is located on the East Side of Building 4482. The tank formerly held sulfuric acid adjacent to Building 4484 but was relocated to Building 4482 and currently stores backup fuel.

One 40,000-gallon fuel oil AST was previously used to provide fuel to the CDTF incinerator before the CDTF switched to natural gas. The tank was in operation between 1986 and 1990, and has been empty since 1990.

### **3.4 Polychlorinated Biphenyls (PCBs)**

Based on a review of existing records and available information, there are no PCB contaminated transformers located on the Property and no evidence of releases from PCB equipment. Currently, some fluorescent light ballasts in the buildings may contain PCB in excess of 50 parts per millions (ppm), and would be subject to the Toxic Substance Control Act (TSCA) requirements. The letter of transfer will contain the fluorescent light ballasts PCB notice and covenant provided in the Environmental Protection Provisions (Attachment 1).

### **3.5 Asbestos**

Based on the 1998 Asbestos Containing Material (ACM) Survey Report, Buildings 303 and 1081 contain ACM (Riesz, 1998b). Presumed non-friable asbestos containing 9-inch-square and 12-inch-square vinyl floor tiles and mastic is found in Building 303. The non-friable insulation material is in good condition.

Building 1081 (less Faith Wing) contains non-friable asbestos on the cooling tower that has transite-like material attached to the tower. The non-friable insulation material is in good condition. The ACM survey reports for Buildings 303 and 1081 are included in Attachment 3. The letter of transfer will contain the asbestos notice and covenant provided in the Environmental Protection Provisions (Attachment 1).

### **3.6 Lead-Based Paint**

Building 303 was constructed in 1942. Based on the age of Building 303 (constructed prior to 1978), it is presumed to contain lead-based paint. The letter of transfer will contain the lead-based paint notice and covenant provided in the Environmental Protection Provisions (Attachment 1).

### **3.7 Radiological Materials**

Activities requiring radioactive materials and instruments were conducted in two facilities, Building 1081 and the CDTF. Radio-luminescent compasses were stored in the north end of Building 303A.

**Building 1081.** A radiological laboratory was located in Building 1081, Sibert Hall. The laboratory was used for the training and instruction of radiation protection officers, occupying 14 rooms within Building 1081 (U.S. Army Chemical School, 2000). The laboratory was a National Institute of Standards and Technology traceable laboratory regulated by the U.S. Nuclear Regulatory Commission (NRC) and held two NRC-granted licenses: License Number 01-02861-05, Research and Development Education License; and

License Number SNM-1877, Special Nuclear Materials License. License Number SNM-1877 was terminated and License Number 01-02861-05 was amended by removing Building 1081 in letters from NRC dated July 24 and 27, 2000, respectively (Attachment 4).

Decommissioning activities were conducted for the laboratory prior to installation closure on September 30, 1999 (Allied Tech. Group, 2000). The State of Alabama, Department of Public Health, EPA, and NRC jointly conducted oversight of the final decommissioning survey. The decommissioning survey was conducted in accordance with NRC guidance document NUREG/CR5849; the decommissioning cleanup standards proposed in 10 CFR Part 20; the proposed Multi-Agency Radiation Survey and Site Investigation Manual; EPA OSWER Directive No. 9200.4-18 dated August 22, 1997, titled Establishment of Cleanup Levels for CERCLA Sites with Radioactive Contamination; and Risk Assessment Guidelines for Superfund. The decommissioning survey report was submitted on March 20, 2000. The NRC released Building 1081 for unrestricted use in a letter dated July 27, 2000. The DOJ will be provided with a copy of the final decommissioning report.

**CDTF.** The U. S. Army Chemical School maintained Army commodities through a general radiological license for worldwide operations through the Army Material Command. Army commodities containing radioactive materials were stored in two rooms, the mechanical room in Building 4481 and the blood draw room in Building 4482. A close-out survey was conducted for the mechanical and the blood draw rooms. Attachment 4 includes the radiological closeout survey report for the mechanical and blood draw rooms.

The instrument storage area in Building 4481 is being used by the DOJ, Center for Domestic Preparedness for the same purpose. Therefore, a close-out survey for the instrument storage area by the U.S. Army was not conducted.

**Building 303.** Building 303 served as the Central Issue Facility for storing and issuing individual military equipment to soldiers, including radio-luminescent lensatic compasses. The north end of building 303-A was the only area where radio-luminescent lensatic compasses were stored. A radiological survey was conducted for building 303-A. As low as reasonably achievable (ALARA) guidelines were met in the area. No activity was detected above background or minimum detectable activity (MDA) levels except for tritium removable activity that was at minimum levels of detection per analysis. A copy of the Commodity Site Survey Report will be provided to the DOJ.

### 3.8 Radon

Radon surveys were conducted for Buildings 943, 944, 945, 946, and 947. Radon was not detected above the EPA residential action level of 4 picocuries per liter (pCi/L) in any of the buildings (Radon Monitoring Report, 1998).

### 3.9 Ordnance and Explosives

Based on a review of existing records and available information, the Property is not known or suspected to contain ordnance or explosives (OE) (USACE, 1999). A portion of a 37-mm anti-tank range fan was identified as possibly overlapping the eastern-most boundary of the property. An extensive ground reconnaissance was performed on this overlapping portion of Area F1.3 to investigate the potential presence of OE. No OE was found during this reconnaissance and the area was relatively clear of trash and debris (Foster Wheeler Environmental, 2000). Based on these findings, it is believed that OE is not present on the Property. However, since OE has been found on adjoining property, there is a potential for OE to be present in the vicinity of the areas of the granted property, which may pose an explosive safety hazard. The U.S. Army intends to investigate the surrounding property. The investigation may have an impact on the property through use of exclusion zones (zones established to restrict specific activities in a specific geographic area surrounding any object/structure being demolished using explosives) that intersect the property. The Letter of Transfer will contain the potential for the presence of ordnance and explosives notice provided in the Environmental Protection Provisions and will provide for use of exclusion zones as necessary on Area F1.3 for any potential OE removals on the adjacent property. (Attachment 1).

### 3.10 Other Hazardous Conditions

**Chemical Warfare Material.** Chemical Warfare Agent (CWA) identification and decontamination training has been conducted at the CDTF since 1987. The nerve agents sarin (GB) and O-ethyl-S- [2diisopropylaminoethyl] methylphosphonothiolate (VX) were the only CWA used at this facility. Their use was confined to the Training Building (Building 4482). There are no known or recorded releases of nerve agent to the environment at the CDTF. A baseline environmental investigation was conducted for the CDTF to determine the environmental condition of the property and to determine whether facility operations impacted the on-site and surrounding soils and groundwater. Based on the results of the baseline environmental investigation, there is no evidence that activities performed at the CDTF have adversely impacted the environment (IT, 2000c).

**Clean Air.** The U.S. Army operated an incinerator at the CDTF under ADEM Air Permit No. 301-0017-Z007 (CDTF). A copy of the air permit is provided as Attachment 5. The air permit was reissued to the DOJ when the property was permitted to them in September 1999. No other facilities on the Property require an air permit for operation.

**Ozone Depleting Substances.** The U.S. Army performed a comprehensive survey of FTMC buildings to identify chlorofluorocarbons (CFCs)/Halon equipment, including tenant activities. In addition to the survey, the U.S. Army conducted a leak risk assessment, the associated conversion/replacement cost, maintenance schedule for high-risk systems, and guidance to assist in ensuring compliance with the Clean Air Act Amendments (Riesz, 1995).

There are five (Type I through V) general classifications of CFC/Halon equipment used at FMC. Three of the five classifications (Types I, II, and III) were found in the buildings within the Property. Type I systems consisting of mechanical commercial air conditioning units, known as chillers were identified in Building 1081. The building contains two 200-ton chillers each with a 600-pound charge capacity of refrigerant (R-11). The chillers were installed in 1988 and leaks were not detected. The units require scheduled maintenance and immediate leak repairs.

Type II systems are either air-cooled condenser, air-cooled chillers, condensing units or package units ranging from 25 to 200 tons. Buildings 942, 947, and 1081, each have one Type II air-cooled chiller. The units were installed in 1988 and were rated in good condition during the survey.

Type III units consist of small CFC-containing equipment, including refrigerators, small residential-sized AC units, water fountains, ice machines, and window AC units. Buildings 942, 947, and 1081 contained Type III units. All equipment was found in good condition.

Ozone depleting substances were not found in the buildings within the CDTF facility. A copy of the CFCs/Halon survey and risk assessment report is provided in Attachment 6.

Based on a review of existing records and available information, there are no other hazardous conditions that present an unacceptable threat to human health or the environment on the property.

## **4.0 REMEDIATION**

There are no environmental remediation orders or agreements applicable to the property. The U.S. Army will complete on-going site and remedial investigations and EE/CAs and take any necessary remediation activities resulting from those actions. The letter of transfer will contain a provision reserving the U.S. Army's right to conduct remediation activities provided in the Environmental Protection Provisions (Attachment 1).

## **5.0 HISTORICAL PROPERTIES**

The CDTF is recommended for eligibility to the National Register of Historic Places as a district under the context of the Army's military-industrial role in the Cold War. The CDTF has national significance, and meets National Register criteria for its historical associations and unique technology and design. Even though it was built in the relatively recent past, it does meet the criteria for exceptional importance as documented in the Historic Context Study: World War II and Cold War Era Buildings and Structures dated May 2000. Buildings 4479, 4482, 4483, and 4484 associated with the technological aspects of the district are considered contributing elements. Buildings 4480 and 4481, as well as any other non-technological structures, do not contribute to the district. The letter of transfer will include the notice provided in the Environmental Protection Provisions (Attachment 1).

## **6.0 REGULATORY/PUBLIC COORDINATION**

The U.S. EPA Region IV, ADEM, and the public were notified of the initiation of the ECOP. Regulatory/public comments received during the ECOP development were reviewed and incorporated as appropriate.

## **7.0 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) COMPLIANCE AND CONSISTENCY WITH LOCAL REUSE PLAN**

The environmental impact associated with the proposed transfer of the property has been analyzed in accordance with the National Environmental Policy Act. The results of this analysis have been documented in the Disposal and Reuse Environmental Impact Statement (1998) and its associated Record of Decision (June 1999). Any encumbrances or conditions identified in such analysis as necessary to protect human health or the environment have been incorporated into the ECOP. In addition, the proposed transfer is consistent with the intended reuse of the property as set forth in the Comprehensive Reuse Plan adopted by the Joint Powers Authority.

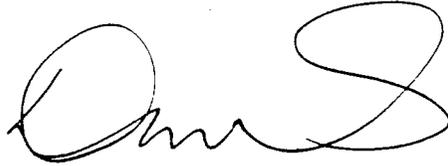
## 8.0 ENVIRONMENTAL PROTECTION PROVISIONS

On the basis of the above results from the baseline environmental investigation and other environmental studies and in consideration of the intended use of the property, certain terms and conditions are required for the proposed transfer. These terms and conditions are set forth in the attached Environmental Protection Provisions (Attachment 1) and will be included in the letter of transfer.

## 9.0 CONCLUSION

The U.S. Army will be responsible for the completion of the environmental program at the U.S. Army Garrison, Fort McClellan. The U.S. Army, EPA, and ADEM will retain, and the DOJ will agree to, a right of entry over and through the property, granting the U.S. Army, EPA, and ADEM access to complete any and all actions if necessary in order to conduct post-transfer environmental requirements.

Based on the above, the Property is determined to be suitable for transfer to the Department of Justice.



FEB 21 2001

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Headquarters United States Army Training and Doctrine Command

## 10.0 REFERENCES

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U.S. Army Corps of Engineers (USACE), Mobile District, 1998, *Final Environmental Impact Statement, Disposal and Reuse of Fort McClellan Alabama*, August.

U.S. Army Office of the Assistant Secretary Installation, 1999, *Final Record of Decision, Fort McClellan, Alabama*, June.

## **TABLES**

1. Condition of Property
2. Community Environmental Response Facilitation Act Categories and Codes
3. Adjacent Properties
4. Notification of Hazardous Substances Storage, Release, and Disposal
5. Notification of Petroleum Product Storage, Release, and Disposal

**Table 1**  
**Condition of Property**  
**Department of Justice, Center for Domestic Preparedness**  
**Fort McClellan, Alabama**

Bldg. No.	Year Built	Area (sq.ft)	Design Use Description	CERFA Category	CERFA Parcel Label	Non-CERCLA Parcel Number	Non-CERCLA Issues								Remarks/Remedial Action
							A	L	R	P	X	CWM	RAD		
<b>F1.1</b>															
1081	1954	232864	GENERAL INSTRUCTION BUILDING	1	161(1)	39Q-A/L(P) 64Q-RD	X	X					X	Decommissioning activities were conducted for the radiological laboratory prior to installation closure.	
1082		50	SHELTER PERSONNEL	1	161(1)										
<b>F1.3</b>															
4479	1985	4680	PLANT/UTILITY BUILDING	1	161(1)	126Q-CWM						X			
4480	1985	389	ACCESS CONTROL FACILITY	1	161(1)	126Q-CWM						X			
4481	1985	15376	LIMITED USE INSTALLATION	1	62(1)HS	126Q-CWM						X			
4482	1985	28630	GAS CHAMBER	1 7	62(1)HS 59(7)PS	126Q-CWM						X		A 5,000-gallon heating oil tank was removed September 17, 1998. The removed tank was found in good condition. All excavated soil was returned to the tankpit. The tank was closed in accordance with ADEM guidelines.  Baseline environmental investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A “No further action” was recommended	
4483	1985	6000	REFUSE/GARBAGE BUILDING	7	104(7)HR(P)	126Q-CWM						X		Baseline environmental investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A “No further action” was recommended.	
4484	1985	7188	HAZARDOUS MATERIAL STORAGE INSTALLATION	1	62(1)HS	126Q-CWM						X			
4485	1985		WATER STORAGE TANK POTABLE	1	161(1)	126Q-CWM						X			
			UNNAMED ROAD BRANCHING OFF 10 <sup>TH</sup> STREET	6 6	79(6) 186(6)									An EE/CA is currently underway for Landfill No. 2. A supplemental remedial investigation is currently underway for Training Area T-38.	

**Table 1  
Condition of Property  
Department of Justice, Center for Domestic Preparedness  
Fort McClellan, Alabama**

Bldg. No.	Year Built	Area (sq.ft)	Design Use Description	CERFA Category	CERFA Parcel Label	Non-CERCLA Parcel Number	Non-CERCLA Issues							Remarks/Remedial Action
							A	L	R	P	X	CWM	RAD	
4487	1985	75	SHELTER PERSONNEL	1	161(1)									
			A PORTION OF FILL AREA NORTH OF LANDFILL NO. 2	7	230(7)									Exploratory trenching was conducted in November 2000 to determine the horizontal extent of the Fill Area. Findings of the investigation are currently being evaluated.
<b>F1.5</b>														
303	1942	9000	STORAGE GROUP INSTALLATION	7	75(7)HS/HR(P)/PS/PR(P)		X							Site investigation is currently underway for the site.
303F			UNDERGROUND STORAGE TANK	7	41(7)PS									One 3,000-gallon underground storage tank operated since 1978 and was replaced in 1996. During tank removal, product odor was not detected. The tank removed was observed to be in good condition. Soil was excavated and stockpiled. Approximately 24 cubic yards of soil were excavated and stockpiled on site to await thermal volatilization. A soil sample was collected from stockpiled soil. Site investigation is currently underway for the site to determine presence or absence of contamination.
304			LOAD/UNLOAD DOCK RAMP	7	75(7)HS/HR(P)/PS/PR(P)									Site investigation is currently underway for the site to determine presence or absence of contamination.
<b>F1.6</b>														
942	1988	4847	COMPANY HEADQUARTER BUILDING	7	95(7)HS/HR(P)									Investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A "No further action" was recommended.
943	1988	30399	TRANSIENT UNACCOMPANIED PERSONNEL HOUSING	7	95(7)HS/HR(P)									Investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A "No further action" was recommended.
944	1988	30399	TRANSIENT UNACCOMPANIED PERSONNEL HOUSING	7	95(7)HS/HR(P)									Investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A "No further action" was recommended.
945	1988	30399	TRANSIENT UNACCOMPANIED PERSONNEL HOUSING	7	95(7)HS/HR(P)									Investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A "No further action" was recommended.

**Table 1**  
**Condition of Property**  
**Department of Justice, Center for Domestic Preparedness**  
**Fort McClellan, Alabama**

Bldg. No.	Year Built	Area (sq.ft)	Design Use Description	CERFA Category	CERFA Parcel Label	Non-CERCLA Parcel Number	Non-CERCLA Issues							Remarks/Remedial Action
							A	L	R	P	X	CWM	RAD	
946	1988	30399	TRANSIENT UNACCOMPANIED PERSONNEL HOUSING	7	95(7)HS/HR(P)									Investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A “ No further action” was recommended.
947	1988	4847	COMPANY HEADQUARTER BUILDING	7	95(7)HS/HR(P)									Investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A “ No further action” was recommended.

- A – Asbestos
- L – Lead
- R – Radon
- P – PCB
- X – Ordnance and explosives
- CWM – Chemical Warfare Materiel
- RAD – Radiological Issues

**Table 2**  
**Community Environmental Response Facilitation Act Categories and Codes**  
**Environmental Condition of Property**  
**Fort McClellan, Calhoun County, Alabama**

<b>Category</b>	<b>Description</b>
Category 1	Areas where no storage, release, or disposal (including migration has occurred)
Category 2	Areas where only storage has occurred
Category 3	Areas of contamination below action levels
Category 4	Areas where all necessary remedial actions have been taken
Category 5	Areas of known contamination with removal and /or remedial action underway
Category 6	Areas of known contamination where required response actions have not been taken
Category 7	Areas that are not evaluated or require further evaluation
<b>CERCLA Codes for Categories 2 through 7</b>	
HS	indicates hazardous substance storage
HR	indicates hazardous substance release and/or storage
PR	indicates petroleum substance release and/or storage
PS	indicates petroleum substance storage
(P)	indicates possible release or disposal, unverified by sampling or analysis

**Table 3**  
**Adjacent Properties**  
**Environmental Condition of Property**  
**Department of Justice, Center for Domestic Preparedness**  
**Fort McClellan, Calhoun County, Alabama**

Parcel No.	Site Name
<b>Area F1.1</b>	
139(7)	Former Gas Station at Building 1094, Former Motor Pool area 1000
16(7)	Former Gas Station at Building 1394, Former Motor Pool area 1300
13(7)	UST Gym Pool Building 1012
148(7)	Former Motor Pool Area 1300, Building 1398 4th Ave
150(7)	Former Motor Pool Area 1000 at Building 1012
<b>Area F1.5</b>	
75(7)	Former Ordnance Motor Repair Area and Warehouses
95(7)	Old Hospital
<b>Area F1.6</b>	
95(7)	Old Hospital

Note: Area F1.3 is surrounded by Category 1 [Parcel 161(1)] property.

**Table 4**  
**Notification of Hazardous Substances Storage, Release and Disposal**  
**Department of Justice, Center for Domestic Preparedness**  
**Fort McClellan, Calhoun County, Alabama**

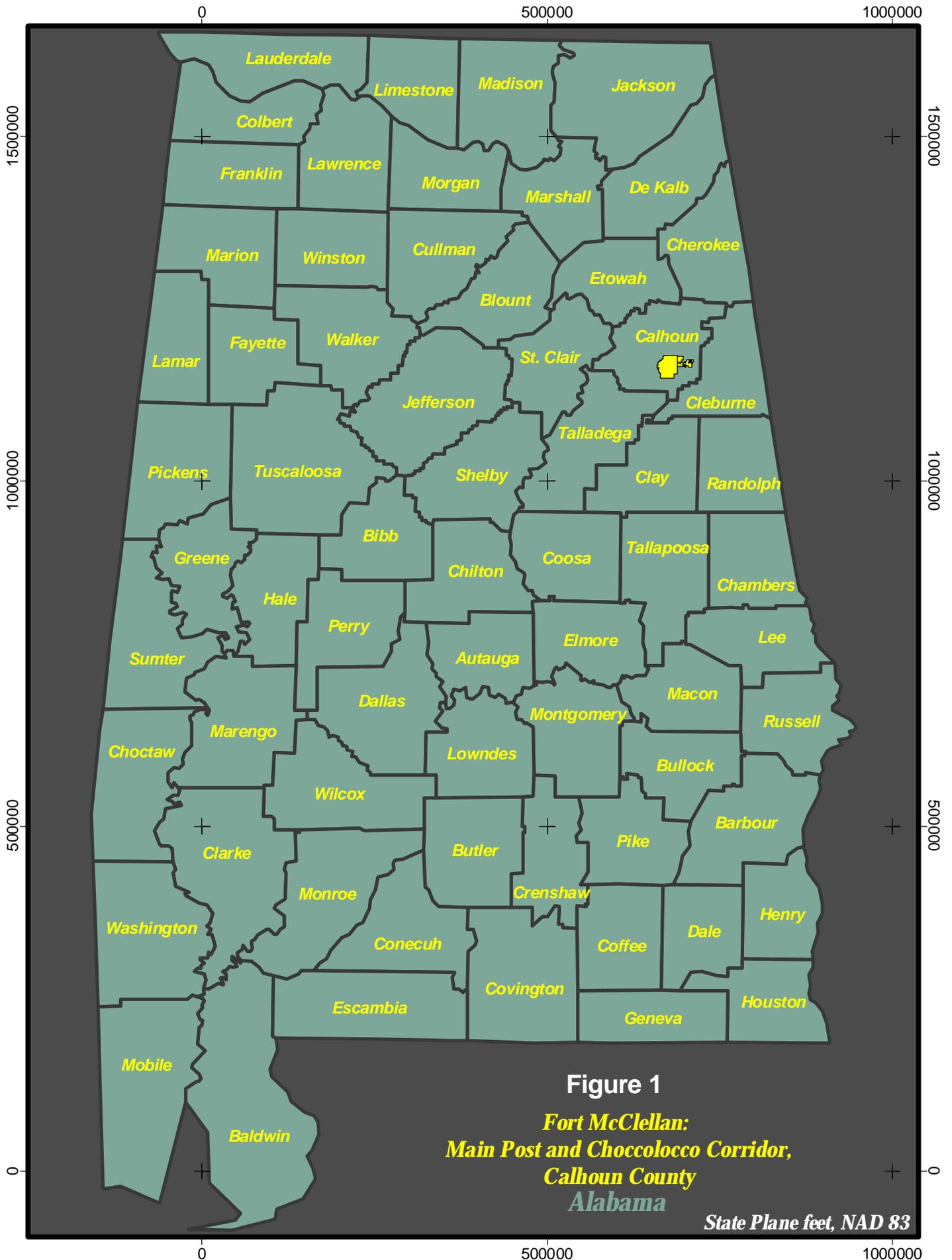
<b>Building No.</b>	<b>Name of Hazardous Substance</b>	<b>Date of Storage, Release, or Disposal</b>	<b>Remedial Actions</b>
4482	Sulfuric Acid	One 4,000-gallon aboveground storage tank operated between 1985 and 1988.	The tank was originally manifolded to a 2-inch pipe for transfer of the acid to the 20,000-gallon wastewater tank. The transfer line began leaking at a point within the containment area during the transfer of sulfuric acid. A small volume of acid, approximately 1 quart leaked and was subsequently neutralized and cleaned up. Sulfuric acid is no longer used at the CDTF. The tank was moved to the east side of Building 4482 and currently stores diesel fuel.

**Table 5**  
**Notification of Petroleum Product Storage, Release and Disposal**  
**Department of Justice, Center for Domestic Preparedness**  
**Fort McClellan, Calhoun County, Alabama**

Building No.	Name of Petroleum Product	Date of Storage, Release, or Disposal	Remedial Actions
303F	Heating Oil	One 3,000-gallon underground storage tank operated since 1978, was replaced in 1996. The current tank is active.	<p>During tank removal, product odor was not detected. The tank removed was observed to be in good condition. Soil was excavated and stockpiled. Approximately 24 cubic yards of soil were excavated and stockpiled to await thermal volatilization. A soil sample was collected from the stockpile, a TPH concentration of 179 mg/kg was detected in the soil sample. A UST closure report was generated.</p> <p>Site investigation is currently underway for the site to determine presence or absence of contamination.</p>
4482	Heating Oil	One 5,000-gallon underground storage tank was removed in 1998.	<p>During tank removal, product odor was not detected within the excavation. The tank was observed to be in good condition. Samples were collected during tank removal, results indicated that TPH and BTEX were below ADEM guidelines. Excavated soil was returned to the tank pit. A UST closure report was generated.</p>
	Diesel	One 4,000 gallon aboveground storage tank	<p>The aboveground storage tank is located at the area that formerly hosted the 5,000-gallon UST. The tank formerly held sulfuric acid adjacent to Building 4484 but was relocated to its current location and stores backup fuel.</p> <p>Investigation results indicated that there are no chemicals associated with the site that present an unacceptable risk to either human or the environment. A “No further action” was recommended.</p>
4484	Fuel Oil	One 40,000-gallon aboveground storage tank operated between 1986 and 1990	The tank used to supply fuel to the incinerator prior to the CDTF switching to natural gas. The tank has been empty since 1990.

## **FIGURES**

1. Fort McClellan: Main Post and Choccolocco Corridor
2. Department of Justice, Fort McClellan: Main Post and Choccolocco Corridor
3. Department of Justice, Area F1.1, Site Map
4. Department of Justice, Area F1.3, Site Map
5. Department of Justice, Areas F1.5 and F1.6, Site Map



675000

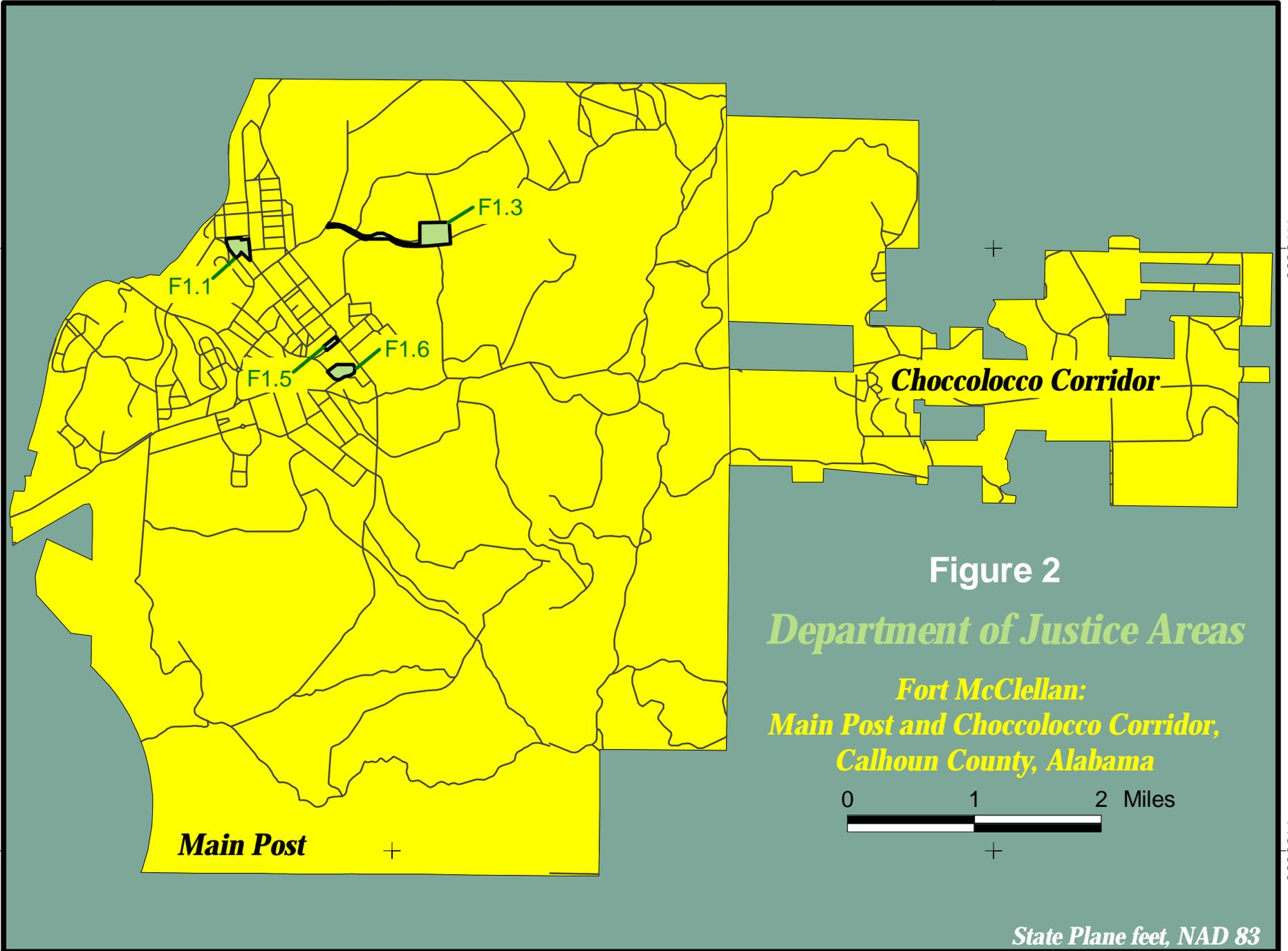
700000

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1175000

1150000

1150000



**Main Post**

**Choccolocco Corridor**

**Figure 2**

*Department of Justice Areas*

*Fort McClellan:  
Main Post and Choccolocco Corridor,  
Calhoun County, Alabama*

0 1 2 Miles

*State Plane feet, NAD 83*

675000

700000

# Figure 4

## Department of Justice Area F1.3 Site Map

### Legend

-  Buildings
- CERFA USTs**
  -  Category 1
  -  Category 7
-  Roads
-  DOJ Area F1.3
- CERFA Parcels**
  -  Category 1
  -  Category 6
  -  Category 7

Former Street Names

911-approved Street Names

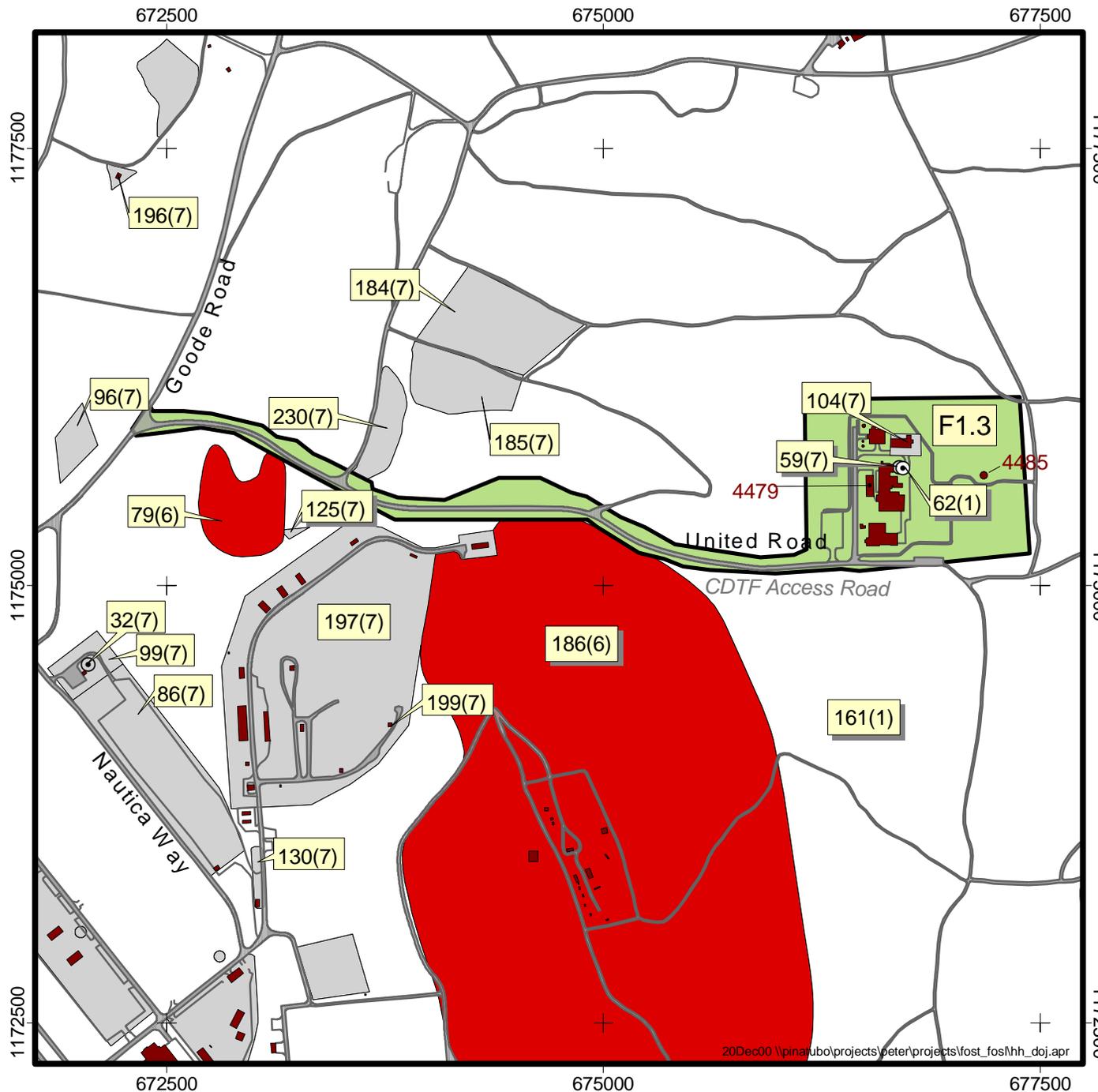


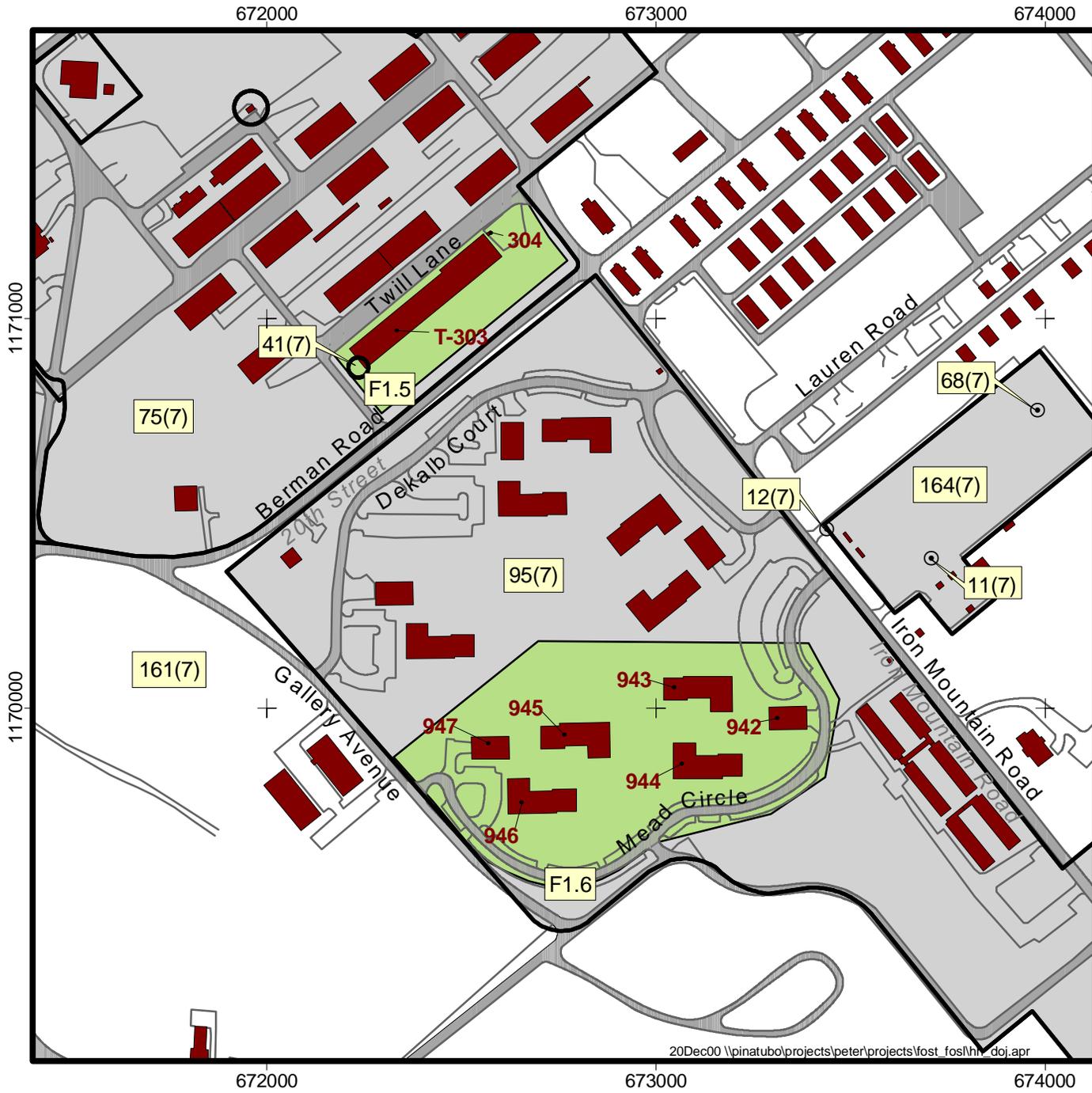
State Plane feet, NAD 83



December  
2000

U.S. Army Corps of Engineers  
Mobile District  
Fort McClellan  
Calhoun County, Alabama  
Contract No.: DACA21-96-D-0018





**Figure 5**  
 Department  
 of Justice  
 Areas F1.5 and F1.6  
 Site Map

**Legend**

-  Buildings
- CERFA USTs**
-  Category 7
-  Roads
-  DOJ Areas F1.5 and F1.6
- CERFA Parcels**
-  Category 1
-  Category 7

Former Street Names  
 911-approved Street Names

0 200 400

**State Plane feet, NAD 83**

Fort McClellan  
  
 Environmental Office

N  
 December  
 2000

U.S. Army Corps of Engineers  
 Mobile District  
 Fort McClellan  
 Calhoun County, Alabama  
 Contract No.: DACA21-96-D-0018



**ATTACHMENT 1**

**ENVIRONMENTAL PROTECTION PROVISIONS**

## ATTACHMENT 1

### **ENVIRONMENTAL PROTECTION PROVISIONS:**

The following conditions, restrictions, and notifications are to be included in the letter of transfer to ensure protection of human health and the environment and to preclude any interference with ongoing or completed remediation activities at U.S. Army Garrison, Fort McClellan.

### **CERCLA ACCESS CLAUSE:**

The U.S. Army, Environmental Protection Agency (EPA) and Alabama Department of Environmental Management (ADEM) and their officers, agents, employees, contractors, and subcontractors have the right, upon reasonable notice to the Transferee, to enter upon the Premises in any case in which a response action or corrective action is found to be necessary after the date of transfer of the property or such access is necessary to carry out a response action or corrective action on adjoining property, including, without limitation, the following purposes:

- (a) To conduct investigations and surveys, including, where necessary, drilling, soil and water sampling, testing-pitting, test soil borings and other activities;
- (b) To inspect field activities of the U.S. Army and its contractors and subcontractors;
- (c) To conduct any test or survey related to the environmental conditions at the transferred Property or to verify any data submitted to the EPA or ADEM by the U.S. Army relating to such conditions;
- (d) To construct, operate, maintain or undertake any other response or remedial actions as required or necessary including, but not limited to monitoring wells, pumping wells and treatment facilities.

### **NO LIABILITY FOR NON-ARMY CONTAMINATION:**

The U.S. Army shall not incur liability for response action or corrective action found to be necessary after the date of transfer, in any case, in which the person or entity to whom the property is transferred, or other non-Army entities is identified as the party responsible for contamination of the property.

### **NOTICE OF THE PRESENCE OF ASBESTOS-CONTAINING MATERIALS (ACM) AND COVENANT:**

- a. The Transferee is hereby informed and does acknowledge that non-friable and friable asbestos or ACM have been found on the Property, as described in the EBS and in the Reisz Engineering Asbestos Surveys and Management Plans, FMC, Alabama. Except as provided for in (b) below, the ACM on the Property does not currently pose a threat to human health or the environment.
- b. Building 303 and 1081 have been determined to contain ACM that may pose a threat to human health. Detailed information is contained in the EBS and referenced asbestos surveys (Attachment 3). The non-friable ACM can be managed in place. The friable ACM can be effectively managed in place, provided the proper precautions are taken to eliminate exposure of personnel to airborne asbestos. The U.S. Army has agreed to transfer Building 303 and 1081 to the Transferee, prior to remediation of asbestos hazards, in reliance upon the

express representation and promise that the Transferee will, prior to use or occupancy of said buildings, agree to undertake any and all abatement or remediation that may be required under CERCLA 120h(3) or any other applicable law or regulation. The Transferee acknowledges that the consideration for Transfer of the Transferred Premises was negotiated based upon the Transferee's agreement to the provision contained in this Condition.

c. The Transferee agrees that its use and occupancy of the Transferred Premises will be in compliance with all applicable laws relating to asbestos; and that the U.S. Army assumes no liability for any future remediation of asbestos or damages for personal injury, illness, disability, or death, to the Transferee, its successors or assigns, or to any other person, including members of the general public, arising from or incident to the purchase, transportation, removal, handling, use, disposition, or other activity causing or leading to contact of any kind whatsoever with asbestos or ACM on the Transferred Premises, whether the Transferee, its successors or assigns have been properly warned or failed to properly warn the individual(s) injured. The Transferee agrees to be responsible for any future remediation of asbestos found to be necessary on the Transferred Premises. The Transferee assumes no liability for damages for personal injury, illness, disability, death or property damage arising from any exposure or failure to comply with any legal requirements applicable to asbestos on any portion of the Transferred Premises arising prior to the U.S. Army's transferring of such portion of the Property to the Transferee pursuant to this letter of transfer, or any disposal of any asbestos or ACM prior to the transfer of the Transferred Premises.

d. Unprotected or unregulated exposures to asbestos in product manufacturing, shipyard, building construction workplaces have been associated with asbestos-related diseases. Both Occupational Safety and Health Administration (OSHA) and EPA regulate asbestos because of the potential hazards associated with exposure to airborne asbestos fibers. Both OSHA and EPA have determined that such exposure increases the risk of asbestos-related diseases, which include certain cancers and which can result in disability or death.

e. The Transferee acknowledges that it has inspected the Property as to its asbestos content and condition and any hazardous or environmental conditions relating thereto prior to accepting the responsibilities imposed upon the Transferee under this subcondition. The failure of the Transferee to inspect, or to be fully informed as to the asbestos condition of all or any portion of the Property, will not constitute grounds for any claim or demand against the United States, or any adjustment under this letter of transfer.

f. The Transferee further agrees to indemnify and hold harmless the U.S. Army, its officers, agents and employees, from and against all suits, claims, demands or actions, liabilities, judgments, costs and attorneys' fees arising out of, or in any manner predicated upon, exposure to asbestos on any portion of the Property to the Transferee or any future remediation or abatement of asbestos or the need therefore.

**NOTICE OF THE POTENTIAL FOR PRESENCE OF POLYCHLORINATED BIPHENYL (PCB) AND COVENANT:**

PCBs have been used widely as nonflammable insulating fluid in transformers, capacitors, and other electrical equipment like fluorescent light ballasts. PCBs are harmful because once released into the environment they are persistent (do not breakdown into other chemicals) and bio-accumulate in organisms throughout the environment. EPA considers PCBs to be possible cancer-causing chemicals. PCBs at concentrations of 50 ppm or greater, when removed from service, must be stored and disposed according to regulations published in 40 CFR Part 761 Subpart D. The Transferee is hereby informed that fluorescent light ballasts containing PCBs may be present on the Property. These ballasts do not currently pose a threat to human health or the environment and are presently in full compliance with applicable laws and regulations. The Transferee agrees that its continued possession, use, and management of these ballasts (PCB Equipment) will be in compliance with all applicable laws relating to PCBs and PCB Equipment, and that the U.S Army shall assume no liability for the future remediation of PCB contamination or damages for personal injury, illness, or disability or death to the Transferee, its successors or assigns, or to any other person, including members of the general public arising from or incident to future use, handling, management, disposition or any activity causing or leading to contact of any kind whatsoever with PCB Equipment. The Transferee agrees to be responsible for any remediation of PCB found to be necessary on the premises resulting from its use or possession thereof.

**NOTICE OF THE PRESENCE OF LEAD-BASED PAINT AND COVENANT AGAINST THE USE OF THE PROPERTY FOR RESIDENTIAL PURPOSE:**

A. The Transferee is hereby informed and does acknowledge that Buildings 303 and 1081 on the Property, that were constructed prior to 1978, are presumed to contain lead-based paint. Lead from paint, paint chips, and dust can pose health hazards if not managed properly. Exposure to lead from lead-based paint may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women.

B. Available information concerning known lead-based paint and/or lead-based paint hazards, the location of lead-based paint and/or lead-based paint hazards, and the condition of painted surfaces is contained in the Environmental Baseline Survey. The Transferee has been provided with the federally approved pamphlet on lead poisoning prevention. The Transferee hereby acknowledges receipt of all of the information described in this subparagraph.

C. The Transferee acknowledges that it has received the opportunity to conduct its own risk assessment or inspection for the presence of lead-based paint and/or lead-based paint hazards prior to execution of this document.

D. The Transferee covenants and agrees that it shall not permit the occupancy or use of any buildings or structures on the Property as Residential Real Property, without complying with this section and all applicable federal, state, and local laws and regulations pertaining to lead-based paint and/or lead-based paint hazards. Prior to permitting the occupancy of the Property

where its use subsequent to sale is intended for residential habitation, the Transferee specifically agrees to perform, at its sole expense, the U.S. Army's abatement requirements under Title X of the Housing and Community Development Act of 1992 (Residential Lead-Based Paint Hazard Reduction Act of 1992) (hereinafter Title X).

The Transferee shall, after consideration of the guidelines and regulations established pursuant to Title X: (1) Perform a reevaluation of the Risk Assessment if more than 12 months have elapsed since the date of the last Risk Assessment; (2) Comply with the joint HUD and EPA Disclosure Rule (24 CFR 35, Subpart H, 40 CFR 745, Subpart F), when applicable, by disclosing to prospective purchasers the known presence of lead-based paint and/or lead-based paint hazards as determined by previous risk assessments; (3) Abate soil-lead hazards in pre-1978 residential real property, in accordance with the procedures in 24 CFR 35; (4) Abate lead-soil hazards following demolition and redevelopment of structures in areas that will be developed as residential real property; (5) Comply with the EPA lead-based paint work standards when conducting lead-based paint activities (40 CFR 745, Subpart L); (6) Perform the activities described in this paragraph within 12 months of the date of the lead-based paint risk assessment and prior to occupancy or use of the residential real property; and (7) Send a copy of the clearance documentation to the U.S. Army.

In complying with these requirements, the Transferee covenants and agrees to be responsible for any abatement or remediation of lead-based paint or lead-based paint hazards on the Property found to be necessary as a result of the subsequent use of the property for residential purposes. The Transferee covenants and agrees to comply with solid or hazardous waste laws that may apply to any waste that may be generated during the course of lead-based paint abatement activities.

E. The Transferee further agrees to indemnify and hold harmless the U.S. Army, its officers, agents and employees, from and against all suits, claims, demands, or actions, liabilities, judgments, costs and attorney's fees arising out of, or in a manner predicated upon personal injury, death or property damage resulting from, related to, caused by or arising out of lead-based paint or lead-based paint hazards on the Property if used for residential purposes.

F. The covenants, restrictions, and requirements of this Section shall be binding upon the Transferee, its successors and assigns and all future owners and shall be deemed to run with the land. The Transferee on behalf of itself, its successors and assigns covenants that it will include and make legally binding, this Section in all subsequent transfers, leases, or conveyance documents."

## **NOTICE OF THE POTENTIAL FOR THE PRESENCE OF ORDNANCE AND EXPLOSIVES**

An archival search conducted during compilation of the Fort McClellan Comprehensive Environmental Response Facilitation Act (CERFA) Report and the Archives Search Report for Ordnance, Ammunition, and Explosives/Chemical Warfare Materials found there are potential ordnance-related training areas within or immediately adjacent to the Property. An extensive ground reconnaissance was performed on the areas of the property suspected of potential OE contamination. No evidence of OE was found during this investigation.

However, in the event the Transferee, its successors, and assigns, should discover any ordnance on the Property, it shall not attempt to remove or destroy it, but shall immediately notify local law enforcement personnel who will notify the nearest military Explosives Ordnance Disposal (EOD) unit to dispose of such ordnance properly at no expense to the Transferee, whenever OE may be discovered.

**NOTICE OF HISTORIC PROPERTY AND PRESERVATION COVENANT:**

1. In consideration of the conveyance of certain real property hereinafter referred to as the CDTF, located in the Calhoun County, Alabama, the Transferee hereby covenants on behalf of itself, its heirs, successors, and assigns at all times to the Alabama State Historic Preservation Officer to preserve and maintain the CDTF in accordance with the recommended approaches in the Secretary of the Interior's Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings (U.S. Department of the Interior, National Park Service 1992), in order to preserve and enhance those qualities that make the CDTF eligible for inclusion in the National Register of Historic Places. In addition, any design review guidelines established by a Preservation Commission with appropriate authority will be followed. If the Transferee desires to deviate from these maintenance standards, the Transferee will notify and consult with the Alabama State Historic Preservation Officer in accordance with paragraphs 2, 3, and 4 of this covenant.
2. The Transferee will notify the Alabama State Historic Preservation Officer in writing prior to undertaking any construction, alteration, remodeling, demolition, or other modification to structures or setting. Such notice shall describe in reasonable detail the proposed undertaking and its expected effect on the integrity or appearance of the CDTF. Demolition or interior retrofit of noncontributing buildings and structures can be undertaken after thirty (30) days of written notice to the Alabama State Historical Preservation Officer without further consultation.
3. Within thirty (30) calendar days of the Alabama State Historic Preservation Officer's receipt of notification provided by the Transferee pursuant to paragraph 2 of this covenant, the Alabama State Historic Preservation Officer will respond to the Transferee in writing as follows:
  - (a) That the Transferee may proceed with the proposed undertaking without further consultation; or
  - (b) That the Transferee must initiate and complete consultation with the Alabama State Historic Preservation Office before it can proceed with the proposed undertaking.

If the Alabama State Historic Preservation Officer fails to respond to the Transferee's written notice, as described in paragraph 2, within thirty (30) calendar days of the Alabama State Historic Preservation Officer's receipt of the same, then the Transferee may proceed with the proposed undertaking without further consultation with the Alabama State Historic Preservation Officer.

4. If the response provided to the Transferee by the Alabama State Historic Preservation Officer pursuant to paragraph 3 of this covenant requires consultation with the Alabama State Historic preservation Officer, then both parties will so consult in good faith to arrive at mutually-agreeable and appropriate measures that the Transferee will implement to mitigate any adverse effects associated with the proposed undertaking. If the parties are unable to arrive at such mutually-agreeable mitigation measures, then the Transferee shall, at a minimum, undertake recordation for the concerned property -- in accordance with the Secretary of Interior's standards for recordation, and any applicable state standards for recordation, or in accordance with such other standards to which the parties may mutually agree -- prior to proceeding with the proposed undertaking. Pursuant to this covenant, any mitigation measures to which the Transferee and the Alabama State Historic Preservation Office mutually agree, or any recordation that may be required, shall be carried out solely at the expense of the Transferee.
5. Alabama State historic Preservation Office shall be permitted upon reasonable notice at a reasonable time to inspect the CDTF in order to ascertain its condition and to fulfill its responsibilities hereunder.
6. In the event of a violation of this covenant, and in addition to any remedy now or hereafter provided by law, the Alabama State Historic Preservation Officer may, following reasonable notice to the Transferee, institute suit to enjoin said violation or to require the restoration of the CDTF. The successful party shall be entitled to recover all costs or expenses incurred in connection with such a suit, including all court costs and attorney fees.
7. In the event that the CDTF is no longer owned by the U.S. Government, and (i) is substantially destroyed by fire or other casualty, or (ii) is not totally destroyed by fire or other casualty, but damage thereto is so serious that restoration would be financially impractical in the reasonable judgement of the Owner, this covenant shall terminate on the date of such destruction or casualty. Upon such termination, the Owner shall deliver a duly executed and acknowledged notice of such termination to the Alabama State Historic Preservation Officer and record a duplicate original of said notice in the Calhoun County Deed Records. Such notice shall be conclusive evidence in favor of every person dealing with the CDTF as to the facts set forth therein.
8. The Transferee agrees that the Alabama State Historic Preservation Officer may at his/her discretion, without prior notice to the Transferee, convey and assign all or part of its rights and responsibilities contained herein to a third party.
9. This covenant is binding on the Transferee, its heirs, successors, and assigns in perpetuity, unless explicitly waived by the Alabama State Historic Preservation Officer. Restrictions, stipulations, and covenants contained herein shall be inserted by the Transferee verbatim or by express reference in any deed or other legal instrument by which it divests itself of either the fee simple title or any other lesser estate in the CDTF or any part thereof.

10. The failure of the Alabama State Historic Preservation Officer to exercise any right or remedy granted under this instrument shall not have the effect of waiving or limiting the exercise of any other right or remedy or the use of such right or remedy at any other time.

The Covenant shall be a binding servitude upon the CDTF and shall be deemed to run with the land. Execution of this covenant shall constitute conclusive evidence that the Transferee agrees to be bound by the foregoing conditions and restrictions and to perform the obligations herein set forth.

**ENVIRONMENTAL RESPONSIBILITIES:**

Except as provided for herein, the U.S. Army agrees that it will take all action necessary to protect human health and the environment, under and in accordance with applicable law and any DOD or U.S Army policies, with respect to any hazardous substances, pollutants or contaminants, or petroleum products that (1) remain on the Property after the date of transfer and were located on the Property at the time of transfer, or (2) come to be located on the Property after the date of transfer as a result of the acts or omissions of the U.S Army, its employees, agents, or contractors. The terms "hazardous substance" and "pollutant or contaminant." mean any substance or material that is identified as a hazardous substance or pollutant or contaminant under the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. 9601 et seq. The parties acknowledge that the U.S. Army is transferring the CDTF (Facility Nos. 4479, 4480, 4481, 4482, 4483, 4484, 4485, and 4487) as an operational facility, to be used by DOJ for the same purpose for which it was used by the U.S. Army. As a result, the parties agree that no further investigation, remediation, or clean up of the CDTF is required at this time. The DOJ agrees to be responsible for any future investigation, remediation, or clean up of the CDTF that may be necessary in the future as a result of cessation of operations, facility disposal or transfer, or for any other reason.

**ATTACHMENT 2**

**UNDERGROUND STORAGE TANK CLOSURE REPORTS**

## **BUILDING 303, UST CLOSURE REPORT**

**BUILDING 4482, UST CLOSURE REPORT**

**ATTACHMENT 3**  
**ASBESTOS CONTAINING MATERIALS SURVEY REPORTS**

**ASBESTOS CONTAINING BUILDING MATERIALS  
SURVEY REPORT**

**BUILDING: 303**

**ASBESTOS CONTAINING BUILDING MATERIALS  
SURVEY REPORT**

**BUILDING: 1081**

**ATTACHMENT 2  
UST CLOSURE REPORTS**

**BUILDING 303, UST CLOSURE REPORT**

**ADEM UST CLOSURE  
SITE ASSESSMENT REPORT**

(Use a separate form for a group of tanks in each tank pit)

Facility I.D. No.: 11953-015-303

Date of this Report: 6-24-96

Incident No. (If applicable)

UST Owner: U.S. DEPT. OF DEFENSE

UST

Facility County: CALHOUN Co.

Address: FORT MCELLRAN, ANISTON,  
ALABAMA

Facility Name: FORT MCELLRAN

Contact: MR. CARY SEFLIK

Location: Bldg 303

Address: ANISTON ALABAMA

Contact Telephone No.: (205)

36205-5000

848-4318

Name of Contractor and/or Consultant used to close tanks: THETA ENGINEERING, INC.

Name of Laboratory used: MEMPHIS ENVIRONMENTAL CENTER

PRIOR TO BEGINNING CLOSURE, THE CONTRACTOR SHOULD BECOME FAMILIAR WITH ALL CLOSURE PROCEDURES IN API BULLETIN 1604, "REMOVAL AND DISPOSAL OF USED UNDERGROUND PETROLEUM STORAGE TANKS".

Number of Tanks Closed: ONE

Number of tanks remaining at site: NONE

Closure Date: 4-29-96

Tank Identification #	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
Tank Size	<u>5'4" x 18'</u>	_____	_____	_____	_____
Tank Capacity	<u>3000</u>	_____	_____	_____	_____
Tank Age	<u>UNKNOWN</u>	_____	_____	_____	_____
Date Tank Last Used	<u>UNKNOWN</u>	_____	_____	_____	_____
Substance Stored	<u>HEATING OIL</u>	_____	_____	_____	_____
Type of Product Piping (pressurized/suction)	<u>SUCKER</u>	_____	_____	_____	_____
Farm Tank	[ ]	[ ]	[ ]	[ ]	[ ]
Heating Oil Tank	<input checked="" type="checkbox"/>	[ ]	[ ]	[ ]	[ ]

1. Tank Closure by Removal

- a. Attach site maps showing the general location of the facility.
- b. Attach plan and sectional views of the excavation and include the following:
  1. All appropriate excavation dimensions.
  2. All soil sample locations and depths using an appropriate method of identification.
  3. Location of areas of visible contamination.
  4. Former location of tank(s), including depth, with tank Identification Number.

- c. Is the groundwater more than 5 feet below the bottom of the excavation? YES \_\_\_\_\_ NO  If not, provide the depth from the ground surface to the groundwater table. APPROX 6 ft. Method used to determine water table depth:
1. Excavation extended 5 feet below base of pit
  2. Boring or Monitor well \_\_\_\_\_
  3. Topographic features \_\_\_\_\_  
(Method must be approved by Department prior to use.)
- d.  YES  NO If yes:
1. The odor strength was (mild)(strong)(other, describe MILD)
  2. The odor indicates what type of product? (gasoline)(diesel)(waste oil)(kerosene)(other \_\_\_\_\_)
- e. Was there water in the excavation? YES  NO \_\_\_\_\_  
If yes, how was it handled?
1. One time discharge to sanitary sewer with local approval
  2. Hauled to facility capable of treating constituents of petroleum products in water \_\_\_\_\_
  3. Hauled to local POTW with local approval \_\_\_\_\_
  4. Other (specify) \_\_\_\_\_
- f. Was free product found in the excavation? YES \_\_\_\_\_ NO   
If yes:
1. How was free product handled? \_\_\_\_\_
  2. What was the measured thickness of free product? \_\_\_\_\_
- g. Were visible holes noted in the tank(s)? YES \_\_\_\_\_ NO   
If yes, please indicate which tank(s) by the Identification Number \_\_\_\_\_  
Also, describe the location(s) and provide general description as to the size and number of holes for above noted tanks, (Example: 3 square feet of pinholes or 3 inch diameter hole):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- h. Describe the soil type and thickness of all soil layers encountered in the excavation: 0-0.5 FT BGS DARK BROWN SANDY TOPSOIL  
0.5-5 FT BGS REDDISH YELLOW SILTY CLAY  
5-7 FT BGS YELLOWISH BROWN WEATHERED TOPSOIL
- i. Was the excavation backfilled? YES  NO \_\_\_\_\_ If yes, provide the date. 5-8-96 DO NOT BACKFILL WITH MATERIAL THAT HAS OR POTENTIALLY HAS A TPH OF GREATER THAN 100 PPM.

2. Tank Closure Without Removal

- a. Attach site maps showing the general location of the facility.
- b. Attach plan and sectional views of the site and include the following:
  - 1. Location of the tank(s) including depth.
  - 2. Location of tank(s) with respect to other tanks, if applicable.
  - 3. Soil boring locations and depth at which soil samples were taken.
  - 4. Boring logs
- c. Is the groundwater more than 5 feet below the bottom of the tank?  
YES \_\_\_\_\_ NO \_\_\_\_\_ If no, provide the depth from the ground surface to the groundwater table. \_\_\_\_\_ ft.  
Method used to determine water table depth: \_\_\_\_\_
  - 1. Boring or Monitor Well \_\_\_\_\_
  - 2. Topographic features \_\_\_\_\_  
(Method must be approved by Department prior to use)
- d. Was there a notable product odor found in the bore holes?  
YES \_\_\_\_\_ NO \_\_\_\_\_ If yes;
  - 1. The odor strength was (mild)(strong)(other, describe \_\_\_\_\_)
  - 2. The odor indicates what type of product? (gasoline)(diesel)(waste oil)(kerosene)(other \_\_\_\_\_)
- e. Was there free product in the bore holes? YES \_\_\_\_\_ NO \_\_\_\_\_  
If yes;
  - 1. How was free product handled? \_\_\_\_\_
  - 2. What was the measured thickness of the free product? \_\_\_\_\_
- f. Describe the soil type and thickness of all soil layers encountered in the bore holes and provide boring logs. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- g. Specify the inert solid material used to fill the tank(s). \_\_\_\_\_  
\_\_\_\_\_
- h. Provide the date the tank(s) were filled. \_\_\_\_\_
- i. Were the bore holes properly sealed with bentonite/soil?  
YES \_\_\_\_\_ NO \_\_\_\_\_ If yes, provide the date: \_\_\_\_\_

3. Product Piping Closure by Removal

- a. Attach site maps showing the general location of the facility.
- b. If the piping was longer than 10 feet, attach plan and sectional views of the piping trench and include the following:
  - 1. All appropriate excavation dimensions and length of piping.
  - 2. All soil sample locations and depths using an appropriate method of identification.
  - 3. Location of areas of visible contamination.

- c. Was the piping purged of product prior to closure?  
 YES  NO
- d. Is the groundwater more than 5 feet below the bottom of the piping trench? YES  NO  If not, provide the depth from the ground surface to the groundwater table depth: Approx 6 Ft BGS
- ①. Excavation extended 5 feet below base of trench (in adjacent tank pit)
2. Boring or Monitor Well \_\_\_\_\_
3. Topographic features \_\_\_\_\_  
 (Method must be approved by Department prior to use.)
- e. Was there a notable product odor found in the piping trench?  
 YES  NO  If yes:  
 1. The odor strength was (mild)(strong)(other, describe \_\_\_\_\_)  
 2. The odor indicates what type of product? (gasoline)(diesel)(waste oil)(kerosene)(other \_\_\_\_\_)
- f. Was there water in the piping trench? YES  NO   
 1. One time discharge to sanitary sewer with local approval \_\_\_\_\_  
 2. Hauled to facility capable of treating constituents of petroleum products in water \_\_\_\_\_  
 3. Hauled to local POTW with local approval \_\_\_\_\_  
 4. Other (specify) \_\_\_\_\_
- g. Was there free product found in the piping trench? YES  NO  If yes,  
 1. How was the free product handled? \_\_\_\_\_  
 2. What was the measured thickness of the free product? \_\_\_\_\_
- h. Were visible holes noted in the piping? YES  NO   
 If yes, please indicate the location(s) and provide a general description as to the size and number of holes \_\_\_\_\_
- i. Describe the soil type and thickness of all soil layers encountered in the piping trench: 0-05 Ft BGS - DARK BROWN SANDY TOPSOIL  
0.5 - 2 Ft BGS - REDDISH YELLOW SILTY CLAY
- j. Was the piping trench backfilled? YES  NO   
 If yes, provide the date 5-23-96 DO NOT BACKFILL WITH MATERIAL THAT HAS OR POTENTIALLY HAS A TPH OF GREATER THAN 100 PPM.

4. Product Piping Closure Without Removal

- a. Attach site maps showing the general location of the facility.
- b. Attach plan and sectional views of the site and include the following:
1. Location of the piping including depth,
  2. Location of piping with respect to tank(s), if applicable,
  3. Soil boring locations and depth at which soil samples were taken.
  4. Boring logs.
- c. Was the piping purged of product prior to closure? YES \_\_\_\_\_  
NO \_\_\_\_\_
- d. Was the piping capped? YES \_\_\_\_\_ NO \_\_\_\_\_
- e. Is the groundwater more than 5 feet below the bottom of the piping  
YES \_\_\_\_\_ NO \_\_\_\_\_ If no, provide the depth  
from the ground surface to the groundwater table. \_\_\_\_\_
- f. Was there a notable product odor found in the bore holes?  
YES \_\_\_\_\_ NO \_\_\_\_\_ If yes:
1. The odor strength was (mild)(strong)(other, describe \_\_\_\_\_
  2. The odor indicates what type of product? (gasoline)(diesel)  
(waste oil)(kerosene)(other \_\_\_\_\_
- g. Was there free product in the bore holes? YES \_\_\_\_\_ NO \_\_\_\_\_  
If yes;
1. How was free product handled? \_\_\_\_\_
  2. What was the measured thickness of the free product? \_\_\_\_\_
- h. Describe the soil type and thickness of all soil layers encountered  
in the bore holes and provide boring logs. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- i. Were the bore holes properly sealed with bentonite/soil?  
YES \_\_\_\_\_ NO \_\_\_\_\_ If yes, provide the date  
\_\_\_\_\_

5. Groundwater Sampling (If required by attached closure guidelines) *GROUNDWATER SAMPLING NOT REQUIRED*

- a. Indicate the following on the plan and sectional views required by  
Section 1.b, 2.b 3.b or 4.b above:
1. The location and depth of the 1 up-gradient and 3 down-gradient  
borings or monitoring wells. (Monitoring wells in lieu of  
borings are not required, but may be desirable in certain  
situations.)
  2. The most probable direction of groundwater flow. State basis  
for determining direction \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- b. Was a monitoring well used? YES \_\_\_\_\_ NO \_\_\_\_\_  
If yes, attach a schematic drawing of the well(s).

6. Laboratory Data

- a. Attach the original chain of custody record (copies are not acceptable) for each sample which includes at least the following:
1. Sample identification number,
  2. Date and time sample was taken,
  3. Name and title of person collecting sample (see certification requirement on page 8 of this form.),
  4. Type of sample (soil or water),
  5. Type of sample container, *NOTE: THIS TANK WAS NOT REGULATED BY ARDM*
  6. Method of preservation, *THE CLOSURE ASSESSMENT PROTOCOL EMPLOYED WAS REVERSED BY ARDM. THE CLOSURE PROTOCOL IS PROVIDED IN ATTACHMENT A.*
  7. Date and time sample was relinquished, *SOIL SAMPLE No. SS-303-CON WAS COLLECTED TO CHARACTERIZE THE CONTAMINATED SOIL STORED.*
  8. Person relinquishing sample,
  9. Date and time sample was received by lab,
  10. Person receiving sample at lab.
- b. Attach the original laboratory data sheet (copies are not acceptable) which includes at least the following:
1. A sample identification method which can be cross referenced with the soil sample locations indicated on the plan and sectional views required by Section 1.b, 2.b, 3.b or 4.b above,
  2. The sample analytical results with appropriate units,
  3. The method used to analyze each sample,
  4. The date and time the sample was analyzed,
  5. The person analyzing each sample.

7. Excavated Soil

ALL EXCAVATED SOIL REQUIRES ANALYSIS PRIOR TO DISPOSAL. TANK CLOSURE SAMPLES FROM THE EXCAVATION MAY NOT BE REPRESENTATIVE OF THE LEVEL OF CONTAMINATION IN THE EXCAVATED SOIL.

For safety and other considerations, it is recommended that open pits should be backfilled as soon as possible with clean backfill. Soils which have TPH levels greater than 100 ppm or soils for which the level of contamination has not been determined shall not be returned to the excavation pit(s). Soils having TPH levels between 10 and 100 ppm can only be returned to the excavation pit if the depth to groundwater is greater than 5 feet from the base of the pit.

- a. If tank was closed by removal, provide an estimate of the volume of soil removed. 156 cubic yds.
- b. Attach "Total Potential VOC Emissions Calculations" for soil removed.
- c. Indicate method and location of soil management and/or treatment prior to final disposal.

SOIL EXHIBITING OLFACTORY EVIDENCE OF  
PETROLEUM CONTAMINATION WAS STORED ON 40 MI PLASTIC SHEETING  
(24 CY). SOIL NOT EXHIBITING EVIDENCE OF CONTAMINATION WAS  
TRANSPORTED TO THE BASE BORROW PIT.

- d. Indicate method of soil disposal used or to be used:
1. Return to the excavation pit only when TPH is less than or equal to 100 ppm and depth of groundwater is greater than 5 feet from the base pit.
  2. Spread in a thin layer (6" or less) on site only when TPH is less than or equal to 100 ppm.
  3. Disposal in a landfill (See attached "Guidelines for the Disposal of Non-Hazardous Petroleum Contaminated Wastes")
  4. Incineration
  5. Thermal volatilization
  6. Other \_\_\_\_\_

d. If soil was disposed of, indicate the final destination and if applicable, attach copies of invoices or receipts.

INVOICES WILL BE PROVIDED UPON DISPOSAL

8. Tank Cleaning

a. The tank(s) were cleaned in accordance with American Petroleum Institute (API) Publication 2015? YES  NO   
 If no, describe how tank(s) were cleaned. \_\_\_\_\_

b. Provide an estimate of the volume of sludge removed from the tank.  
50 gallons

c. Indicate the final destination of the sludge and attach invoices or receipts. SLUDGE IS CONTAINED IN 55 GALLON DRUMS. INVOICES WILL BE PROVIDED UPON DISPOSAL.

THIS FORM SHOULD BE COMPLETED AND RETURNED, ALONG WITH ANY OTHER PERTINENT INFORMATION, TO THE FOLLOWING ADDRESS.

The Alabama Department of Environmental Management  
Groundwater Branch  
Post Office Box 301463  
Montgomery, AL 36130-1463  
(334) 270-5655

INCOMPLETE FORMS WILL BE RETURNED FOR CORRECTION.

Name of person taking soil and/or groundwater samples: D.K. REEVES  
Company: THETA ENGINEERING, INC.  
Telephone Number: (433) 482-0056

I certify under penalty of law that I have obtained representative soil and/or groundwater samples using accepted sampling procedures.

Signature: DK Reeves Date: 6-24-96

-----  
I certify under penalty of law that I have performed this closure site assessment in accordance with accepted geologic practices; I am either a geologist or an Alabama registered professional engineer; I am experienced in hydrogeological investigations; and the information I have submitted, to the best of my knowledge and belief, is true accurate and complete.

Signature of Geologist: DK Reeves Date: 6-24-96

Signature of Alabama Registered Professional Engineer: \_\_\_\_\_  
Date: \_\_\_\_\_

Alabama P.E. Registration No.: \_\_\_\_\_

-----  
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

Signature of Tank Owner: \_\_\_\_\_ Date \_\_\_\_\_

API BULLETINS 1604 AND 2015 ARE AVAILABLE FROM ADEM UPON REQUEST.

Reviewed by: \_\_\_\_\_

Date: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

GRWATER3  
WP+ 1538  
5/2/94

Attachment

UST Closure Guidelines  
(Remove from closure letter)

TOTAL POTENTIAL VOC EMISSIONS CALCULATIONS

	<u>        </u> a	ppm x	<u>        </u> b	cyds x	.002 =	<u>        </u> c	lbs VOC emissions
Sample 1	<u>179</u>	ppm x	<u>24</u>	cyds x	.002 =	<u>8.6</u>	lbs VOC emissions
Sample 2	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 3	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 4	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 5	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 6	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 7	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 8	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 9	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 10	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 11	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 12	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 13	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 14	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 15	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 16	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 17	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 18	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 19	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 20	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 21	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 22	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 23	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 24	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions
Sample 25	<u>        </u>	ppm x	<u>        </u>	cyds x	.002 =	<u>        </u>	lbs VOC emissions

TOTAL POTENTIAL EMISSIONS 8.6 lbs VOC emissions

\* NOTE - If more samples are taken than indicated on this form, please attach additional pages as necessary.

This form must be completed and submitted with the ADEM UST Closure Assessment Report form.



**TPH-IR**  
**Method: SW-846 9071A/EPA 418.1**

Description: THETA - FORT MCCLELLAN  
Client Sample ID: SS-303-CON  
Lab ID Number: 9602363  
File Number: 960883  
Charge Number: 914420000

Matrix: SOIL  
Date Collected: 04/29/96  
Date Received: 05/07/96  
Date Extracted: -  
Date Analyzed: 05/07/96

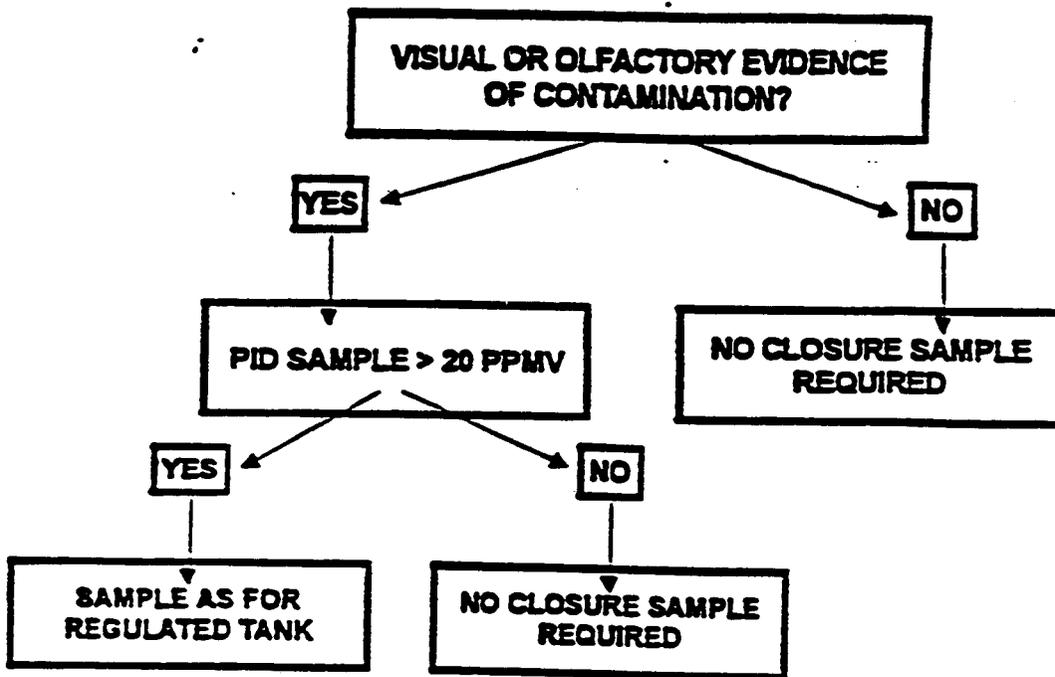
Compound Name	Result	Units	MDL	Notes
TPH	179	mg/Kg, dry	20	

## ATTACHMENT 1

The subject UST formerly contained heating oil for use at the tank location. Consequently the UST was not regulated by the Alabama Department of Environmental Management. Theta Engineering, Inc. (Theta) prepared a Value Engineering Change Proposal (VECP) to guide closure of non-regulated tanks. The VECP was submitted on December 1, 1995 and approved by the Base on February 22, 1996.

In accordance with the VECP, soil not exhibiting visual or olfactory evidence of contamination would be considered non-contaminated and could be used to backfill the tank pit. Soil exhibiting visual and/or olfactory evidence of contamination was field screened using an HNu photoionization detector (PID). Soils exhibiting a PID reading of 20 parts per million vapor (ppmv) or less were considered non-contaminated. Waste characterization samples were collected of soil exhibiting evidence of contamination. UST closure samples were collected only if all soil exhibiting evidence of petroleum contamination was not overexcavated. A Tank Removal Closure Sampling flow chart is provided below that shows the decision logic.

**TANK REMOVAL CLOSURE SAMPLING  
FLOW DIAGRAM  
(FOLLOWING TANK REMOVAL AND OVER-EXCAVATION)**



**CLOSE IN PLACE CLOSURE  
SAMPLING FLOW DIAGRAM**

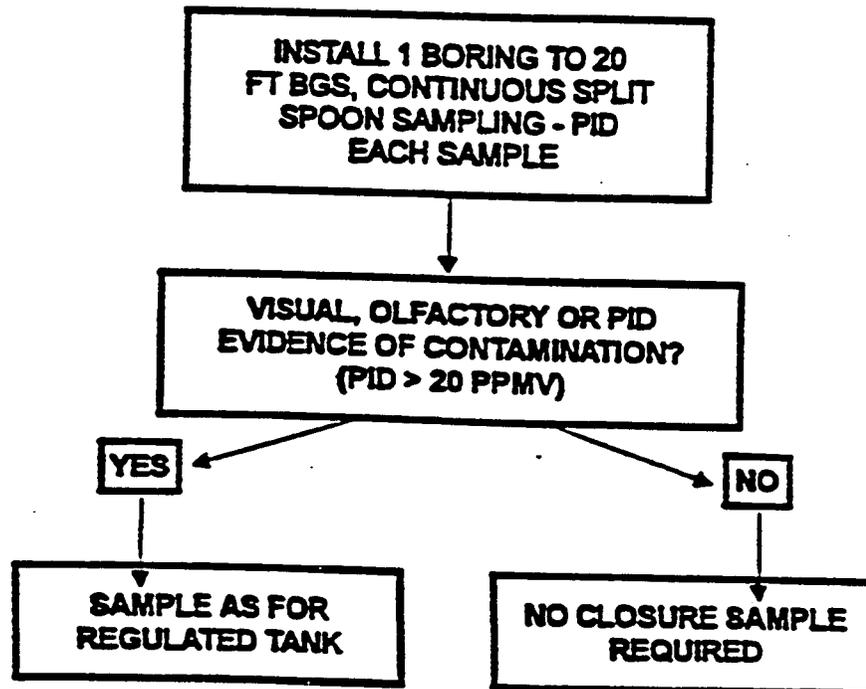


Figure 1. FLOW DIAGRAMS FOR CLOSURES SAMPLING

**BUILDING 4482, UST CLOSURE REPORT**

# REISZ ENGINEERING

3322 MEMORIAL PARKWAY S. • SUITE 221

POST OFFICE BOX 1349

HUNTSVILLE, ALABAMA 35807-1349

TELEPHONE (256) 883-2531

FAX (256) 883-2589

EMAIL: admin@reiszengr.com

TO: Lee Jaye, DOE  
FROM: Alvin Crawford  
SUBJECT: UST Progress Report  
DATE: October 6, 1998

1. After a considerable amount of coordination between DOE, EG&G, GeoProbe, and Reisz Engineering, the excavations date and removal of the underground storage tank (UST) was set to be September 17, 1998.

---

2. Reisz Engineering was on hand to observe the excavation and removal of the tank, as well as, the backfilling of the excavation pit. While observing the procedure, careful consideration was taken to record data and note steps and procedures that would be beneficial in completing the ADEM closure report. In addition to the completion of the closure report, VOC emissions were calculated and attached to the report. Also appended were illustrative diagrams of the tank excavation, sample locations, and soil layers.
3. After the tank was removed, the tank was inspected for any noticeable holes and leaks and it was confirmed that the tank was in premium condition. Sampling was then completed by taking four samples around the tank, one positioned in the trench of the piping, and one at the base of the tank. The samples were brought to a pre-approved laboratory and the analysis has already been received. The analysis complies with all requirements and regulations of ADEM closure report.
4. To determine the depth of groundwater and the location of bedrock, GeoProbe conducted a subsurface exploration of the area. As a result of the boring, the depth of the bedrock was determined to be 25 feet below the surface. Since bedrock was discovered before hitting the groundwater, there was no need in continuing the exploration. During the boring, soil layers and their thickness was noted.
5. The completed closure report has been submitted to DOE (Lee Jaye).

Sincerely,

*Alvin Crawford*

Alvin Crawford

Project Manager/Civil Engineer

**ADEM UST CLOSURE  
SITE ASSESSMENT REPORT**

(Use a separate form for a group of tanks in each tank pit)

Facility I.D. No.: 11953

Date of this Report: 9/30/98

Incident No. (If applicable)

UST Owner: Fort McClellan

UST  
Facility County: Calhoun

Address: Directorate of Environment, Bldg 141A

Facility Name: C DTF

Fort McClellan, AL 36205-5000

Location: Fort McClellan

Contact: Lee Tays

Address: Chemical Decontamination Training Facility, Fort McClellan, AL 36205

Contact Telephone No.:  
(256) 848-3120

Name of Contractor and/or Consultant used to close tanks: Reisz

Engineering  
Name of Laboratory used: Guardian Systems, Inc.

**PRIOR TO BEGINNING CLOSURE, THE CONTRACTOR SHOULD BECOME FAMILIAR WITH ALL CLOSURE PROCEDURES IN API BULLETIN 1604, "REMOVAL AND DISPOSAL OF USED UNDERGROUND PETROLEUM STORAGE TANKS".**

Number of Tanks Closed: 1

Number of tanks remaining at site: 1, above ground

Closure Date:	Tank 1	Tank 2	Tank 3	Tank 4	Tank 5
Tank Identification #					
Tank Size	<u>8' dia.</u>				
Tank Capacity	<u>5,000 gal</u>				
Tank Age	<u>13 yrs</u>				
Date Tank Last Used	<u>9/1/98</u>				
Substance Stored	<u>diesel</u>				
Type of Product Piping (pressurized/suction)	<u>steel</u>				
Farm Tank	[ ]	[ ]	[ ]	[ ]	[ ]
Heating Oil Tank	[ ]	[ ]	[ ]	[ ]	[ ]

**1. Tank Closure by Removal**

- a. Attach site maps showing the general location of the facility.
- b. Attach plan and sectional views of the excavation and include the following:
  1. All appropriate excavation dimensions.
  2. All soil sample locations and depths using an appropriate method of identification.
  3. Location of areas of visible contamination.
  4. Former location of tank(s), including depth, with tank Identification Number.

2. Tank Closure Without Removal

a. Attach site maps showing the general location of the facility.

b. Attach plan and sectional views of the site and include the following:

1. Location of the tank(s) including depth,
2. Location of tank(s) with respect to other tanks, if applicable,
3. Soil boring locations and depth at which soil samples were taken.
4. Boring logs

c. Is the groundwater more than 5 feet below the bottom of the tank?  
YES \_\_\_\_\_ NO \_\_\_\_\_ If no, provide the depth from the ground surface to the groundwater table. \_\_\_\_\_ ft.  
Method used to determine water table depth: \_\_\_\_\_

1. Boring or Monitor Well \_\_\_\_\_
2. Topographic features \_\_\_\_\_  
(Method must be approved by Department prior to use)

d. Has there a notable product odor found in the bore holes?  
YES \_\_\_\_\_ NO \_\_\_\_\_ If yes;

1. The odor strength was (mild)(strong)(other, describe \_\_\_\_\_)
2. The odor indicates what type of product? (gasoline)(diesel)(waste oil)(kerosene)(other \_\_\_\_\_)

e. Was there free product in the bore holes? YES \_\_\_\_\_ NO \_\_\_\_\_  
If yes;

1. How was free product handled? \_\_\_\_\_
2. What was the measured thickness of the free product? \_\_\_\_\_

f. Describe the soil type and thickness of all soil layers encountered in the bore holes and provide boring logs. \_\_\_\_\_

g. Specify the inert solid material used to fill the tank(s). \_\_\_\_\_

h. Provide the date the tank(s) were filled. \_\_\_\_\_

i. Were the bore holes properly sealed with bentonite/soil?  
YES \_\_\_\_\_ NO \_\_\_\_\_ If yes, provide the date: \_\_\_\_\_

3. Product Piping Closure by Removal

a. Attach site maps showing the general location of the facility.

b. If the piping was longer than 10 feet, attach plan and sectional views of the piping trench and include the following:

1. All appropriate excavation dimensions and length of piping,
2. All soil sample locations and depths using an appropriate method of identification,
3. Location of areas of visible contamination.

4. Product Piping Closure Without Removal

- a. Attach site maps showing the general location of the facility.
- b. Attach plan and sectional views of the site and include the following:
1. Location of the piping including depth,
  2. Location of piping with respect to tank(s), if applicable,
  3. Soil boring locations and depth at which soil samples were taken.
  4. Boring logs.
- c. Was the piping purged of product prior to closure? YES  NO
- d. Was the piping capped? YES  NO
- e. Is the groundwater more than 5 feet below the bottom of the piping YES  NO  If no, provide the depth from the ground surface to the groundwater table. \_\_\_\_\_
- f. Was there a notable product odor found in the bore holes? YES  NO  If yes:
1. The odor strength was (mild)(strong)(other, describe \_\_\_\_\_)
  2. The odor indicates what type of product? (gasoline)(diesel)(waste oil)(kerosene)(other \_\_\_\_\_)
- g. Was there free product in the bore holes? YES  NO  If yes:
1. How was free product handled? \_\_\_\_\_
  2. What was the measured thickness of the free product? \_\_\_\_\_
- h. Describe the soil type and thickness of all soil layers encountered in the bore holes and provide boring logs. 0 to -10' same as excavation soil types; -10' to -17', brownish gray sandy clay; -17' to -21', gray sandy clay; -21' to -23', firm greenish gray sandy clay; and -23' to -25', stiff green clay.
- i. Were the bore holes properly sealed with bentonite/soil? YES  NO  If yes, provide the date 9/17/98

5. Groundwater Sampling (If required by attached closure guidelines)

- a. Indicate the following on the plan and sectional views required by Section 1.b, 2.b 3.b or 4.b above:
1. The location and depth of the 1 up-gradient and 3 down-gradient borings or monitoring wells. (Monitoring wells in lieu of borings are not required, but may be desirable in certain situations.)
  2. The most probable direction of groundwater flow. State basis for determining direction \_\_\_\_\_

- 4. Incineration
- 5. Thermal volatilization
- 6. Other \_\_\_\_\_

d. If soil was disposed of, indicate the final destination and if applicable, attach copies of invoices or receipts.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

8. Tank Cleaning

a. The tank(s) were cleaned in accordance with American Petroleum Institute (API) Publication 2015? YES  NO \_\_\_\_\_  
If no, describe how tank(s) were cleaned. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

b. Provide an estimate of the volume of sludge removed from the tank.  
~100 gallons

c. Indicate the final destination of the sludge and attach invoices or receipts. Ownership was granted to Dennis Berden to be used as an above ground tank.

\_\_\_\_\_

\_\_\_\_\_

MEMORANDUM

January 28, 1991

ADEM UST CLOSURE  
TOTAL POTENTIAL VOC EMISSIONS CALCULATIONS

Facility I.D. No.: 11953 Date of this Report: 9/24/98  
 Facility County: Calhoun UST Owner: Fort McClellan  
 Facility Name: CDTF UST Owner: " "  
 Location: Fort McClellan  
 Address: Fort McClellan, AL 36205 Owner Address: DSE, Bldg 147A Fort McClellan, AL 36205-5002  
 \*Contact: Lee Tays  
 \*Contact Telephone No.: (256) 545-320

Name of Consultant who performed calculations: Reisz Engineering

Consultants Phone Number: (256) 883-2531

	a	ppm x	b	cyds x	.002 =	c	lbs VOC emissions		
Sample 1	<u>12</u>	ppm x	<u>60.96</u>	cyds x	.002 =	<u>1.46</u>	lbs VOC emissions	20' = 6.667	
Sample 2	<u>18</u>	ppm x	<u>60.96</u>	cyds x	.002 =	<u>2.19</u>	lbs VOC emissions	15' = 5 yd	
Sample 3	<u>89</u>	ppm x	<u>60.96</u>	cyds x	.002 =	<u>10.85</u>	lbs VOC emissions	10' = 3.323	
Sample 4	<u>65</u>	ppm x	<u>60.96</u>	cyds x	.002 =	<u>7.92</u>	lbs VOC emissions	4' = 1.333	
Sample 5	<u>10</u>	ppm x	<u>60.96</u>	cyds x	.002 =	<u>1.24</u>	lbs VOC emissions		
Sample 6		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 7		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 8		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 9		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 10		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 11		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 12		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 13		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 14		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 15		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 16		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 17		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 18		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 19		ppm x		cyds x	.002 =		lbs VOC emissions		
Sample 20		ppm x		cyds x	.002 =		lbs VOC emissions		
TOTAL POTENTIAL EMISSIONS							<u>23.66</u>	lbs VOC emissions	

5,000 gal = 668.45 ft<sup>3</sup>  
 $V = \pi r^2 h$   
 $668.4 = \pi (1.333)^2 h$   
 $h = 13.39$   
 $= 4.43 yds$

\* Note - If more samples are taken than indicated on this form, please attach additional pages as necessary.

This form must be completed and submitted with the ADEM UST Closure Assessment Report form.

Volume of excavation =  $L \times W \times h = 154 \times 10' \times 15' = 2314 \text{ cu ft} = 25.69$

Volume of tanks =  $\pi r^2 h = \pi (1.333)^2 (4.43) = 24.73 \text{ yds}^3$

Volume of excavation - Volume of tanks =  $25.69 - 24.73 = 60.96$

API BULLETINS 1604 AND 2015 ARE AVAILABLE FROM ADEM UPON REQUEST.

For ADEM Use:

Reviewed by: \_\_\_\_\_

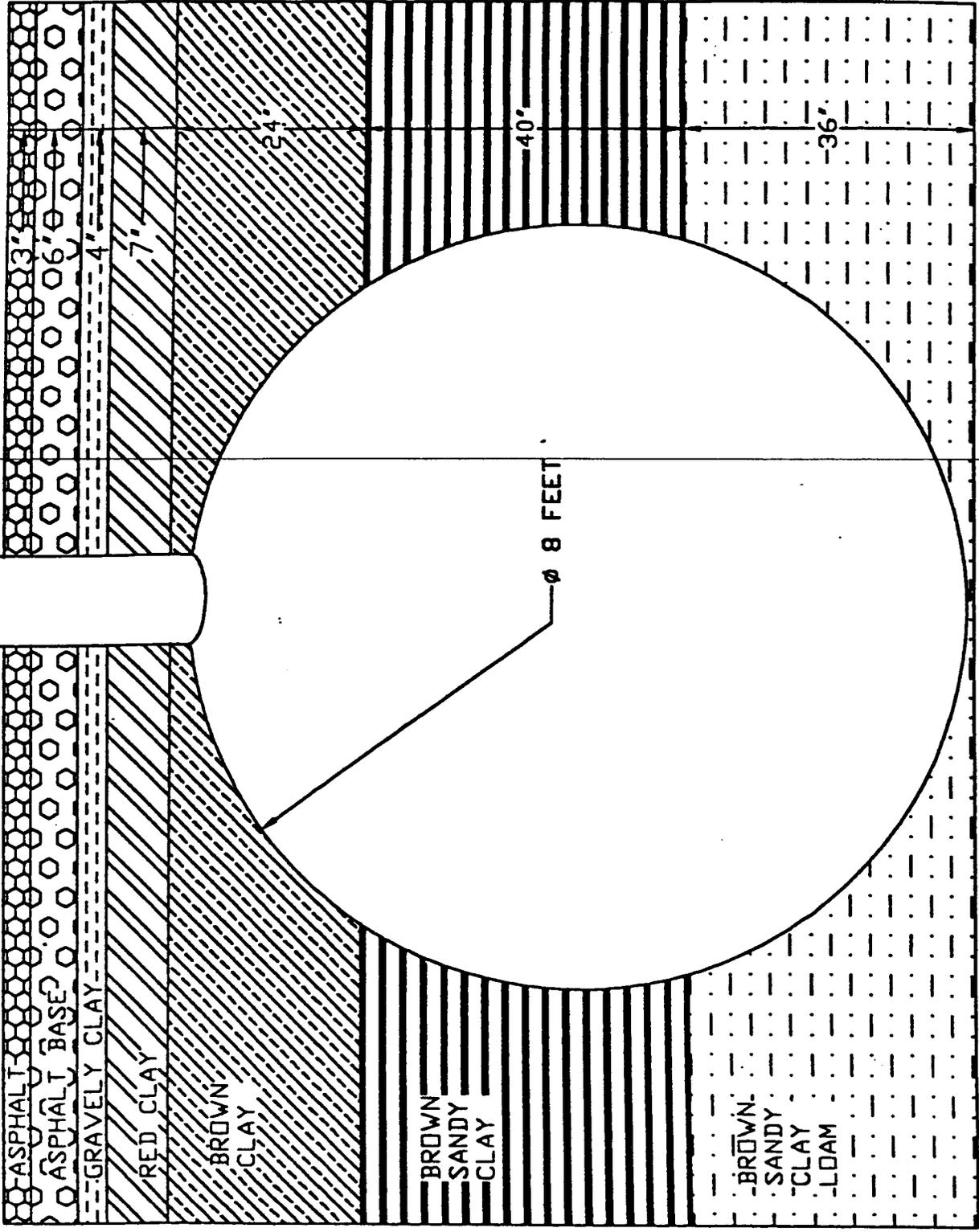
Date: \_\_\_\_\_

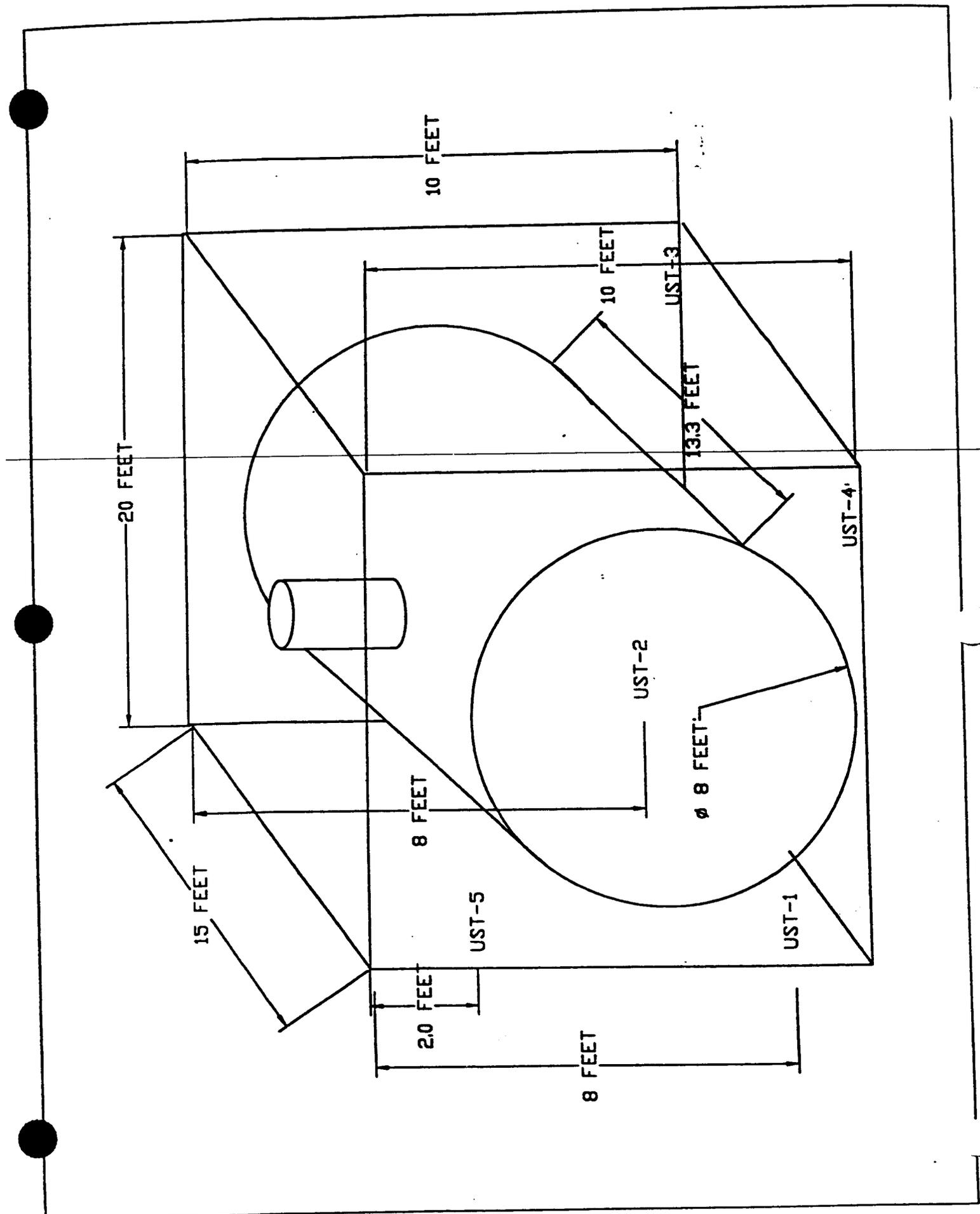
Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

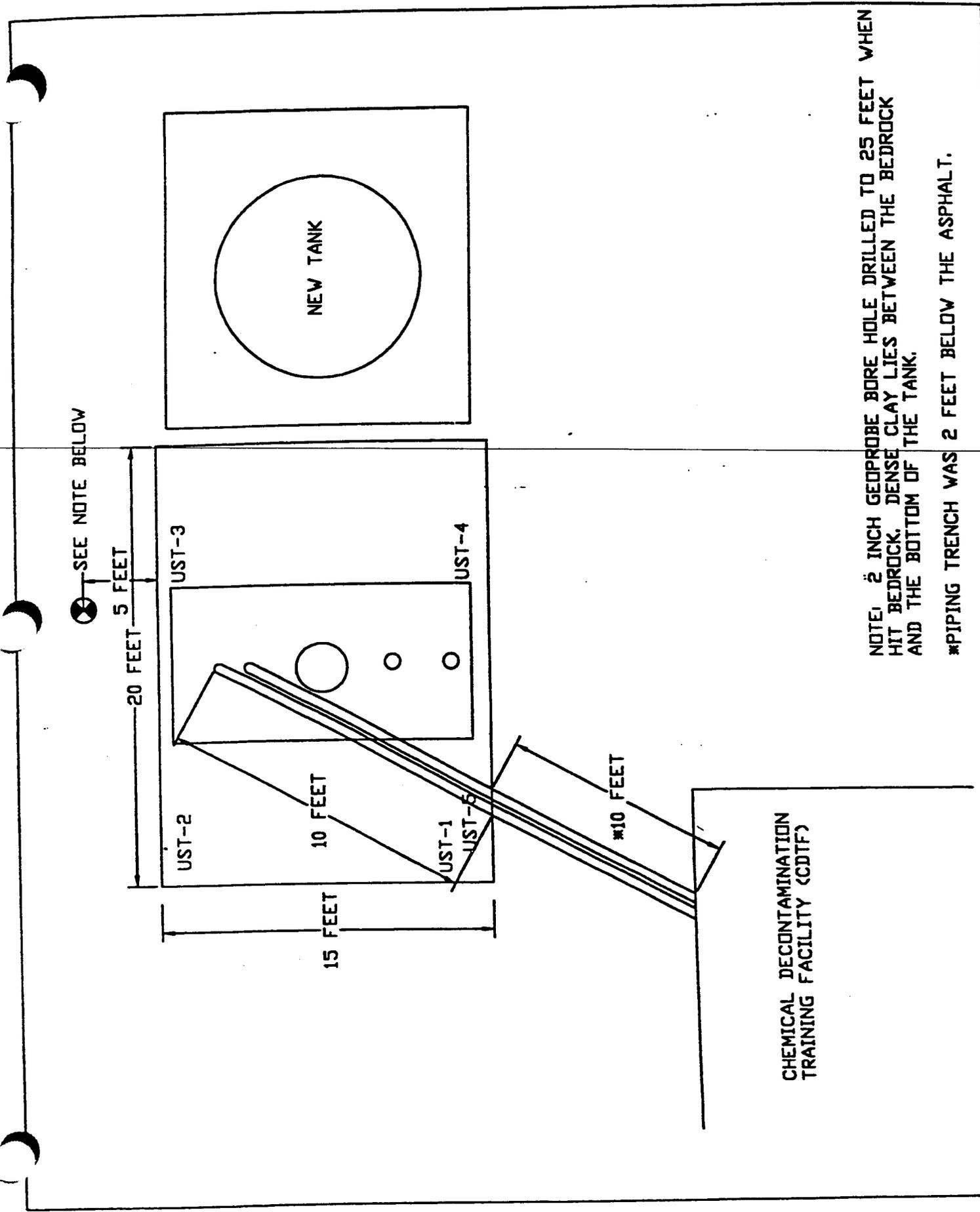
GRWATER3  
WP+ 1538  
10/5/92

Attachment

UST Closure Guidelines  
(Remove from closure letter)

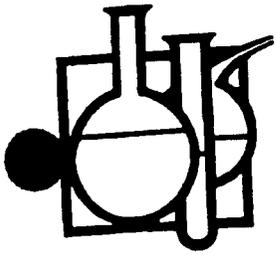






NOTE: 2 INCH GEOPROBE BORE HOLE DRILLED TO 25 FEET WHEN HIT BEDROCK. DENSE CLAY LIES BETWEEN THE BEDROCK AND THE BOTTOM OF THE TANK.

\*PIPING TRENCH WAS 2 FEET BELOW THE ASPHALT.



# GUARDIAN SYSTEMS, INC.

305 Ashville Road  
P.O. Box 190  
Leeds, Alabama 35094

Telephone 205/699-6647  
Wats 800/738-5719  
Fax 205/699-3882

Page: 1

Reisz Engineering  
3322 Memorial Parkway S  
Huntsville, AL 35801

Report Date: 9/21/98  
Receive Date: 9/17/98  
Receive Time: 15:48

Attention:

Control No : 9809-00313 Sample # 001  
Sampler : AC  
Sample ID : Proj. FM-UST, UST-1

Sample Date: 9/17/98  
Sample Time: 9:55

## LABORATORY CERTIFICATE

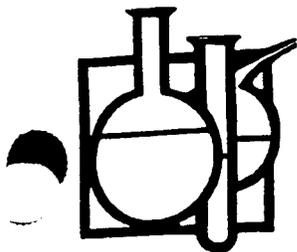
PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD	DETECTION LIMITS
Total Petroleum Hydrocarbons 12. BETX, Method 8260		mg/kg	GT 9/18/98	12:50	418.1	10 mg/kg
Benzene	<5.0	ug/kg	DH 9/18/98	13:26	8260 (3)	5 ug/kg
Toluene	<5.0	ug/kg	DH 9/18/98	13:26	8260 (3)	5 ug/kg
Xylenes, Total	<5.0	ug/kg	DH 9/18/98	13:26	8260 (3)	5 ug/kg

Approved by:

*Charles M. Johnson*

### —METHOD REFERENCES—

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989
- (3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December 1988



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Page: 1

Reisz Engineering  
3322 Memorial Parkway S  
Hunstville,, AL 35801

Report Date: 9/21/98  
Receive Date: 9/17/98  
Receive Time: 15:48

Attention:

Control No : 9809-00313 Sample # 003  
Sampler : AC  
Sample ID : Proj. FM-UST, UST-3

Sample Date: 9/17/98  
Sample Time: 11:25

## LABORATORY CERTIFICATE

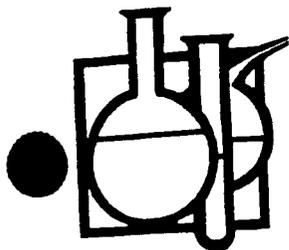
PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD	DETECTION LIMITS
Total Petroleum Hydrocarbons	89.	mg/kg	GT 9/18/98	12:50	418.1	10 mg/kg
BETX, Method 8260			DH 9/18/98	14:47		
Benzene	<5.0	ug/kg	DH 9/18/98	14:47	8260 (3)	5 ug/kg
Toluene	<5.0	ug/kg	DH 9/18/98	14:47	8260 (3)	5 ug/kg
Xylenes, Total	<5.0	ug/kg	DH 9/18/98	14:47	8260 (3)	5 ug/kg

Approved by: \_\_\_\_\_

*Charles M. Johnson*

### —METHOD REFERENCES—

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989
- (3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December 1988



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Page: 1

Reisz Engineering  
3322 Memorial Parkway S  
Huntsville, AL 35801

Report Date: 9/21/98  
Receive Date: 9/17/98  
Receive Time: 15:48

Attention:

Control No : 9809-00313 Sample # 005  
Sampler : AC  
Sample ID : Proj. FM-UST, UST-5

Sample Date: 9/17/98  
Sample Time: 10:10

## LABORATORY CERTIFICATE

PARAMETER	RESULTS	UNITS	ANAL DATE	TIME	METHOD	DETECTION LIMITS	
Total Petroleum Hydrocarbons BETX, Method 8260	< 10.	mg/kg	GT 9/18/98	12:50	418.1	10	mg/kg
Benzene	< 5.0	ug/kg	DH 9/18/98	16:30	8260 (3)	5	ug/kg
Phylbenzene	< 5.0	ug/kg	DH 9/18/98	16:30	8260 (3)	5	ug/kg
Toluene	< 5.0	ug/kg	DH 9/18/98	16:30	8260 (3)	5	ug/kg
Xylenes, Total	< 5.0	ug/kg	DH 9/18/98	16:30	8260 (3)	5	ug/kg

Approved by: \_\_\_\_\_

*Charles M. Johnson*

### ---METHOD REFERENCES---

- (1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-20, revised March 1983
- (2) Standard Methods for the Examination of Water and Waste Water, 17th. Edition, 1989
- (3) Test Methods for Evaluating Solid Wastes Physical/Chemical Method SW-846, 3rd Edition, EPA 1994
- (4) 1987 ASTM Annual Standards
- (5) Code of Federal Regulations, Title 40, Part 136, Appendix A
- (6) Methods for the Determination of Organic Compounds in Drinking Water, EPA-600/4-88/039, December 1988



**ATTACHMENT 3**  
**ASBESTOS CONTAINING MATERIALS SURVEY REPORTS**

**ASBESTOS CONTAINING BUILDING MATERIALS  
SURVEY REPORT**

**BUILDING: 303**

**ASBESTOS CONTAINING BUILDING MATERIALS SURVEY  
MISCELLANEOUS  
BUILDINGS (300s)**

**CONTAINING NON-FRIABLE PACM**

**FORT McCLELLAN, ALABAMA**

U.S. ARMY CONTRACT NO. DABT02-96-D-0005  
DELIVERY ORDER 0005

*Fort McClellan*



*Staying Beautiful*

*Conducted and Prepared by:*

**REISZ ENGINEERING**  
P.O. BOX 1349

HUNTSVILLE, ALABAMA 35807  
**ASBESTOS CONTAINING BUILDING MATERIALS SURVEY**  
**MISCELLANEOUS**  
**BUILDINGS (300s)**

CONTAINING NON-FRIABLE PACM

**FORT McCLELLAN, ALABAMA**

U.S. ARMY CONTRACT NO. DABT02-96-D-0005  
DELIVERY ORDER 0005

*Prepared For:*

DIRECTORATE OF ENVIRONMENT  
FORT McCLELLAN

---

APPROVED FOR TRANSMITTAL BY  
JAMES R. WRIGHT

*Conducted and Prepared by:*

**REISZ ENGINEERING**

June, 1998

## TABLE OF CONTENTS

1.0	PURPOSE AND SCOPE OF SERVICES.....	1
2.0	REGULATORY STANDARDS.....	2
3.0	PROJECT CHARACTERISTICS.....	3
4.0	SURVEY METHODOLOGY.....	4
5.0	LABORATORY ANALYSIS .....	5
6.0	SUSPECT MATERIALS.....	5
7.0	ASBESTOS INSPECTION AND SAMPLING RESULTS.....	6
	FRIABLE ACM.....	7
	NON FRIABLE ACM.....	7
	INACCESSIBLE MATERIAL.....	8
8.0	CONCLUSIONS AND RECOMMENDATIONS.....	8
9.0	ASSUMPTIONS AND LIMITATIONS.....	8

### APPENDICES

APPENDIX A - SUMMARY TABLE OF ACM AND COST ESTIMATES  
APPENDIX B - LIST OF BUILDINGS

## **1.0 PURPOSE AND SCOPE OF SERVICES**

The purpose of this survey was to locate and identify asbestos containing building materials at miscellaneous 300 series buildings located at Fort McClellan, Alabama. (See Appendix B for a complete list of buildings included in this document). Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friable materials such as transite, etc.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method  
EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.

5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.
6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

## 2.0 REGULATORY STANDARDS

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e.g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations

(40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines that include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

### 3.0 PROJECT CHARACTERISTICS

Reisz Engineering accredited Asbestos Inspectors performed inspections of these buildings for the purpose of identifying building materials suspected to contain asbestos. All buildings referenced in this survey contain only non-friable ACM. None of the buildings within this survey were found to have any friable asbestos containing materials. Various renovations may have taken place since the building was originally constructed but no building plans have been found which can be used to verify specific dates and activities.

### 4.0 SURVEY METHODOLOGY

The buildings were visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

#### Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

#### 5.0 LABORATORY ANALYSIS METHODOLOGY

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 600/m4-82-020). Quality control

samples were taken as duplicates at a rate of 1 to 10 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

## 6.0 SUSPECT MATERIALS

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these materials can be found in Appendix B.

### Surfacing

- None

### Thermal System Insulation

- None

#### Miscellaneous Material

- 12x12 vinyl floor tile in various buildings
- 9x9 vinyl floor tile in various buildings
- Vinyl flooring mastics
- Transite

### 7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS

No bulk samples were collected and analyzed.

#### FRIABLE ACM

None

#### NON FRIABLE ACM

Four types of non-friable PACM were found in various buildings. 1) suspect transite pipe, 2) 12x12 inch floor tile, 3) 9x9 floor tile, and 4) mastics associated vinyl floor tile.

- 1) Presumed asbestos containing transite piping can be found penetrating the roof of the following buildings:  
B308 B310 B311 B314

- 2) Presumed asbestos containing 12x12 inch floor tile and mastic is found in the following buildings:  
B303 B324 B325 B338
  
- 3) Presumed asbestos containing 9x9 inch floor tile and mastic is found in the following buildings:  
B303 B325

#### INACCESSIBLE MATERIAL

Insulation and spray-on compounds associated with inaccessible crawl-space and tunnel areas may should be assumed as “like” materials corresponding to materials sampled within the building.

#### 8.0 CONCLUSIONS AND RECOMMENDATIONS

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release may be likely under normal conditions. The asbestos containing materials may be subject to routine maintenance activities that could involve significant disturbance. Proper management of the material in-place may be acceptable assuming the proper precautions are taken to eliminate exposure of personnel to any airborne asbestos. Reisz Engineering has not written a Building Operations & Maintenance Plan for these buildings. Refer to Appendix A for Cost Estimates related to the abatement of the included ACM.

#### 9.0 ASSUMPTIONS AND LIMITATIONS

The results, findings, conclusions and recommendations expressed in this report are based only on conditions that were observed during the inspections of these buildings during 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or materials that were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials that may lie beneath the surface. Our selection of sample locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

## **APPENDIX A**

### **SUMMARY TABLE OF ACM AND COST ESTIMATES**

<b>Building Number</b>	<b>PACM Material</b>	<b>Quantity</b>	<b>Estimated abatement cost*</b>
<b>B303</b>	12x12 floor tile and mastic	1200 sq. ft.	\$2,640
	9X9 floor tile and mastic	495 sq. ft.	\$1,000
		<b>TOTAL</b>	<b>\$3,640</b>
<b>B308,310,311,314</b>	Transite vent insulation	200 sq. ft.	\$800
<b>B324</b>	12x12 floor tile and mastic	2,300 sq. ft.	\$5,100
<b>B325</b>	12x12 floor tile and mastic	6000 sq. ft.	\$13,800
	9x9 floor tile and mastic	54 sq. ft.	
<b>B338</b>	12x12 floor tile and mastic	300 sq. ft.	\$800

\*Includes all air monitoring and design fees

**APPENDIX B**

**LIST OF BUILDINGS**

BUILDING NUMBER

B303

B308

B310

B311

B314

B324

B325

B338

**ASBESTOS CONTAINING BUILDING MATERIALS  
SURVEY REPORT**

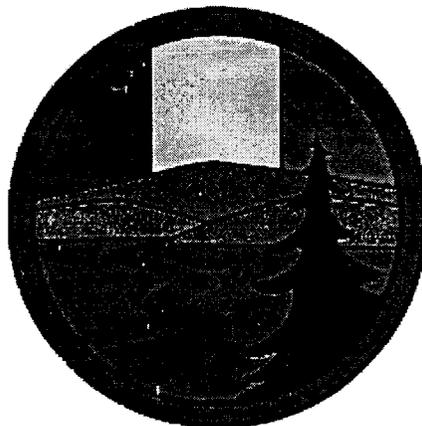
**BUILDING: 1081**

**ASBESTOS CONTAINING BUILDING MATERIALS SURVEY  
GENERAL INSTRUCTION  
BUILDING 1081**

**FORT McCLELLAN, ALABAMA**

U.S. ARMY CONTRACT NO. DABT02-96-D-0005  
DELIVERY ORDER 0005

*Fort McClellan*



*Staying Beautiful*

*Conducted and Prepared by:*

**REISZ ENGINEERING**  
P.O. BOX 1349  
HUNTSVILLE, ALABAMA 35807

**ASBESTOS CONTAINING BUILDING MATERIALS SURVEY  
GENERAL INSTRUCTION  
BUILDING 1081**

**FORT McCLELLAN, ALABAMA**

U.S. ARMY CONTRACT NO. DABT02-96-D-0005  
DELIVERY ORDER 0005

*Prepared For:*

DIRECTORATE OF ENVIRONMENT  
FORT McCLELLAN

---

APPROVED FOR TRANSMITTAL BY  
JOSEPH L. HILLERICH

*Conducted and Prepared by:*

**REISZ ENGINEERING**

**June, 1998**

# TABLE OF CONTENTS

1.0	PURPOSE AND SCOPE OF SERVICES.....	1
2.0	REGULATORY STANDARDS.....	2
3.0	PROJECT CHARACTERISTICS.....	3
4.0	SURVEY METHODOLOGY.....	4
5.0	LABORATORY ANALYSIS .....	5
6.0	SUSPECT MATERIALS.....	5
7.0	ASBESTOS INSPECTION AND SAMPLING RESULTS.....	6
	FRIABLE ACM.....	7
	NON FRIABLE ACM.....	7
	INACCESSIBLE MATERIAL.....	8
8.0	CONCLUSIONS AND RECOMMENDATIONS.....	8
9.0	ASSUMPTIONS AND LIMITATIONS.....	8

## APPENDICES

APPENDIX A - REPORT OF LABORATORY ANALYSIS  
APPENDIX B - SUMMARY TABLE OF ACM  
APPENDIX C - SAMPLE LOCATIONS PLANS  
APPENDIX D - SELECTED ACM LOCATIONS PLANS

## **1.0 PURPOSE AND SCOPE OF SERVICES**

The purpose of this survey was to locate and identify asbestos containing building materials at Building 1081 located at Fort McClellan, Alabama. Pursuant to the Contract, REISZ Engineering was required to provide the survey in accordance with AHERA (40 CFR Part 763 Subpart E) protocol. AHERA is applicable to interior building products installed prior to October 12, 1988. AHERA does not apply to the exterior of buildings and does not apply to non-building materials (e.g. cabinetry, special equipment and chalkboards). REISZ Engineering has included as part of the survey those readily accessible, suspect friable interior non-building materials (e.g. vibration dampers); but has not included certain items (e. g. interior linings of equipment and special supplies, some non-friables such as transite, ect.). Exterior building materials were not sampled as part of this contract unless those materials were suspected to be of friable nature and continuous with indoor materials (e.g. piping insulation). Specifically, REISZ Engineering was contracted to provide the following services:

1. Identify and collect samples of accessible suspect friable building materials within the referenced project area.
2. Perform a visual inspection to provide information on material condition, material quantities, material locations, and building use.
3. Analysis of all bulk samples for asbestos content utilizing Polarized Light Microscopy and Dispersion Staining Techniques performed in accordance with EPA Bulk Analysis Method EPA 600/M4-82-020.
4. Make recommendations as to response actions pertaining to those materials identified as asbestos containing.
5. Compilation of a final report (contained herein) which details all sample results, identifies sample locations, and provides recommendations based upon the results.
6. Preparation of a Building specific Operations & Maintenance (O&M) Plan for buildings containing friable asbestos materials.

## **2.0 REGULATORY STANDARDS**

The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires the Owner or Operator of a facility to determine the presence or non-presence of asbestos containing materials prior to conducting renovation or demolition activities. The NESHAP Standard for asbestos (40CFR Part 61 Sub-part M) requires the use of engineered control procedures for removal of asbestos materials that are or will become friable during renovation or demolition. The removal must occur before renovation or demolition activities impact those materials.

On October 11, 1994 an OSHA promulgated regulation (29 CFR Part 1926.1101) became effective. This Standard is related to asbestos exposure in construction, renovation and building maintenance work places. Building owners are required, pursuant to the Standard, to notify employees, tenants and prospective employers (contractors) of the presence, location and quantities of ACM in the building. Implementation of the "communication of hazards" provisions in the Standard were originally to be not later than April 10, 1995 but was extended to July 10, 1995 and is now in effect. The OSHA Standard does not apply to work performed by employees of State agencies in states without state run OSHA programs (e. g. Alabama).

In October 1986, the Asbestos Hazard Emergency Response Act (AHERA) was signed into law. Included in this act are provisions directing E.P.A. to establish rules and regulations (40CFR Part 763) addressing asbestos-containing materials in schools. Specifically, the E.P.A. was directed to address the issues of: 1) identifying, 2) evaluating, and 3) controlling asbestos containing materials (ACM) in schools. AHERA requires schools to perform building inspections and to prepare management plans for ACM control. Although the AHERA regulation does not specifically apply to this project it is generally accepted as the industry standard and was cited by Fort McClellan in the Asbestos Survey Request as the basis of survey methodology. The AHERA inspections must be conducted using specific guidelines which include a minimum number of samples per material type. This survey was conducted in accordance with those guidelines per the Contract requirements.

On November 28, 1992 a law became effective which extended the EPA's Model Accreditation Plan to all public and commercial buildings. Currently the rule extends the accreditation requirements of persons performing asbestos work (inspectors, project designers, abatement supervisors, and workers) in public and commercial buildings, but does not extend the other aspects of AHERA. This project was conducted utilizing EPA accredited personnel.

### **3.0 PROJECT CHARACTERISTICS**

During the month of November 1997, Reisz Engineering accredited asbestos Inspectors performed inspections of Building 1081 for the purpose of identifying building materials suspected to contain asbestos. This building is a multi-use facility which is comprised of 2 floors and a partial basement containing approximately 232,864 sq. ft. of floor space. Based on information provided by Fort McClellan representatives, our observations, and tests results, it appears that the entire structure was built in 1941.

### **4.0 SURVEY METHODOLOGY**

The building was visually inspected for the presence of material suspected to contain asbestos. Those suspect materials were identified, bulk samples were obtained and placed into individual vials for transportation to the University of Alabama in Huntsville. General areas for sample locations were selected on a random basis with a preference for exact positioning at existing damage. Each sample location is represented by a number on the plans in Appendix C. Those numbers directly correspond with the numbers listed elsewhere in this report.

If any additional suspect materials are identified during renovation or demolition they should be analyzed for asbestos content. Materials visibly identifiable as non-asbestos (fiberglass, foam rubber, wood, etc.) were not sampled. Materials installed after October 12, 1988 (as reported by Fort McClellan staff) were not sampled.

## Hazard Assessment Factors

Each time suspect ACM was sampled, it was classified as either a friable or a non-friable material. Friable material may be crumbled, pulverized, or reduced to powder by hand pressure. Friable ACM is more hazardous than non-friable ACM because friable material can release airborne asbestos fibers more easily. In assessing the fiber release potential, the current condition of all ACM identified was noted. Evidence of deterioration, physical damage, water damage, erosion of ACM due to its' proximity to an air plenum, high vibration, or contact potential was also noted.

## **5.0 LABORATORY ANALYSIS METHODOLOGY**

All bulk samples were analyzed at UAH by polarized light microscopy utilizing dispersion staining or Becke line techniques, in accordance with the EPA's "Interim Method for Determination of Asbestos in Bulk Insulation Samples" (EPA 600/m4-82-020). Quality control samples were taken as duplicates at a rate of 1 to 20 and were sent to a second accredited laboratory. This type of analysis requires the microscopist to take a portion of the bulk sample and treat it with an oil of specific refractive index. This prepared slide is then subjected to a variety of optical tests.

Each type of asbestos displays unique characteristics when subjected to these tests. Percentages of the identified types of asbestos are determined by visual estimation. Even though this is an estimation, any material that contains greater than one percent of any type of fibrous asbestos is considered ACM and must be handled according to OSHA and EPA regulations if disturbed during maintenance, renovation, demolition or removal.

The UAH laboratory participates in the American Industrial Hygiene Association (AIHA) quality assurance program for polarized light microscopy and is accredited by the AIHA through their voluntary program.

## **6.0 SUSPECT MATERIALS**

The following is a general list of building materials that were suspected to contain asbestos. A complete and more detailed description of these substances can be found in Appendix B.

### Surfacing

- None

### Thermal System Insulation

- Brown paper type insulation

### Miscellaneous Material

- Transite like material

## **7.0 ASBESTOS INSPECTION AND SAMPLING RESULTS**

A total of ten bulk samples were collected and analyzed. Details of all laboratory results can be found in Appendix A. A listing of all suspect materials, their corresponding sample numbers, general location, and asbestos content are indicated in Appendix B. A narrative description of all "Friable Asbestos Containing Material" and "Non-Friable ACM" identified during the survey, is given below.

### FRIABLE ACM

Laboratory analysis determined asbestos is present in the brown paper pipe insulation.

## NON FRIABLE ACM

A non-friable ACM's was identified by laboratory testing on the cooling tower which had a transite like material attached to the tower.

## **8.0 CONCLUSIONS AND RECOMMENDATIONS**

None of the materials identified within this report are damaged to the extent that significant asbestos fiber release is likely under normal conditions. However, some of the asbestos containing materials, are subject to routine maintenance activities that could involve significant disturbance. Those materials include the pipe fitting insulations and ceiling tiles. Based upon the aforementioned conditions no action is recommended at this time. Reisz Engineering has written a Building Operations & Maintenance Plan for Building 1081 and we suggest that recommendations included in this plan be followed.

## **9.0 ASSUMPTIONS AND LIMITATIONS**

The results, findings, conclusions and recommendations expressed in this report are based only on conditions which were observed during the inspections of Building 1081 during November 1997. Reisz Engineering and this report make no representation or assumptions as to past conditions or future occurrences.

Our inspection was generally non-destructive in nature. Any conditions or material which were not visible on the surface were not inspected and may differ from those observed. It was not within the scope of this investigation to remove surface materials to investigate portions of the structure or materials which lay beneath the surface. Our selection of sample

locations and frequency is based upon our observations and the assumption that all materials in the same area are homogeneous.

This report is designed to aid the building owner, architect, construction manager, general contractors, and potential asbestos abatement contractors in locating ACM. Under no circumstances is this report to be utilized as a bidding document or as a project specification document.

**APPENDIX A**

REPORT OF LABORATORY ANALYSIS FOR ASBESTOS

# UAH

The University of Alabama in Huntsville

Environmental Laboratory  
Kenneth E. Johnson Research Center

Huntsville, Alabama 35899  
Phone: (205) 890-6391  
Fax: (205) 890-6376

Re : Bulk Asbestos Analysis  
EPA 600/R-93/116

Receipt Date : 11-06-97

AIHA: 023601

Sample Date : 09/30/197 through 10/02/197

Client: Reisz Engineering  
Building 32 Suite A2  
3322 Memorial Parkway South  
Huntsville, AL 35801

Microscopist : Tom Carrington

Sample/Description	Asbestos Fibers (%)				Non-Asbestos Material (%)				
	Chry	Amos	Croc	Othr	Cell	Fbgl	MW	CaSO4	Othr
B 108 1 -01 / Transite, like, material on Cooling Tower	20				10				70
B 1081-02 / Mud on 4" pipe TSI-e,lbw							40		60
B1081-03 /Brown Paper (Aircell) type Insulation					85				15
B1081-04 I Hard Insulation at Elbow							60		40
B 1081-05 / Old Type Ceiling Tile, (paste on)						80			20
B1081-06 /Brown Paper (Aircell) type Insulation	12				78				10
B 108 1 -07 1 Brown Paper ( Aircell) type Insulation					90				10
B1081-08 /Brown Paper (Aircell) type Insulation					90				10
B 1081-09 /Brown Paper (Aircell) type, Insulation					90				10
BIOSI-10 I Brown Paper (Aircell) type Insulation					85				15

Chly = Chrysotile  
Amos = Amosite  
Cmc = Crocidolite

Othr = Other  
Cell = Cellulose

NIW = Mineral Wool  
Ca s04 = Calcium Sulfate  
Fbgl = Fiberglass

**APPENDIX B**

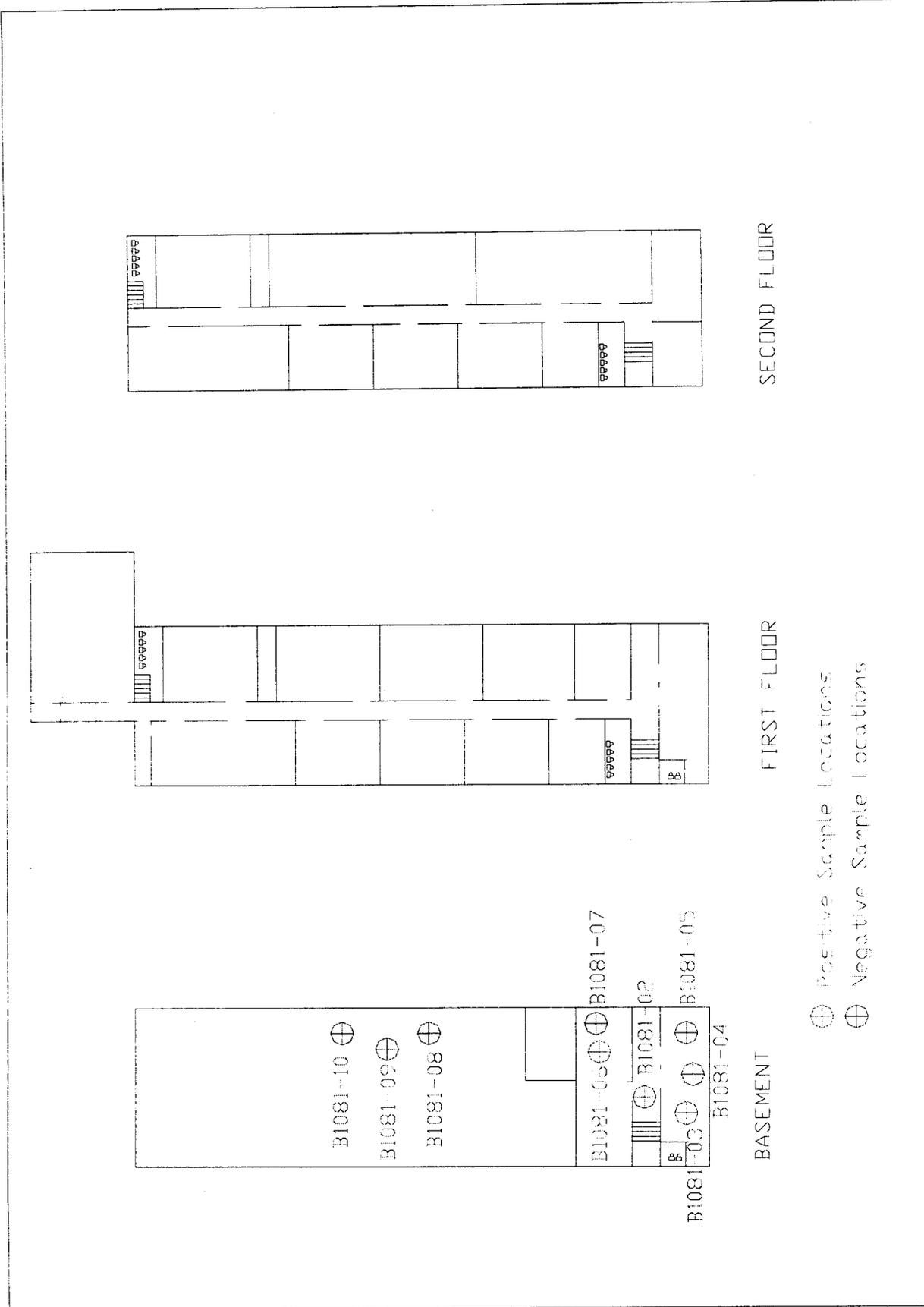
ASBESTOS CONTAINING MATERIALS

**SUMMARY TABLE  
ASBESTOS CONTAINING MATERIALS  
GENERAL INSTRUCTION  
BUILDING 1081  
FORT McCLELLAN, ALABAMA**

<b>SAMPLE # (S)</b>	<b>Description of Materials</b>	<b>General Location of Material</b>	<b>Quantity (approx.)</b>
<b>B1081-01</b>	Transite like material	Cooling Tower	12 pieces 10' X 4' each
<b>B1081-06</b>	Brown paper insulation	Storage area in basement	2 pipes 300 lnr ft (total)

**APPENDIX C**

**SAMPLE LOCATIONS PLANS**



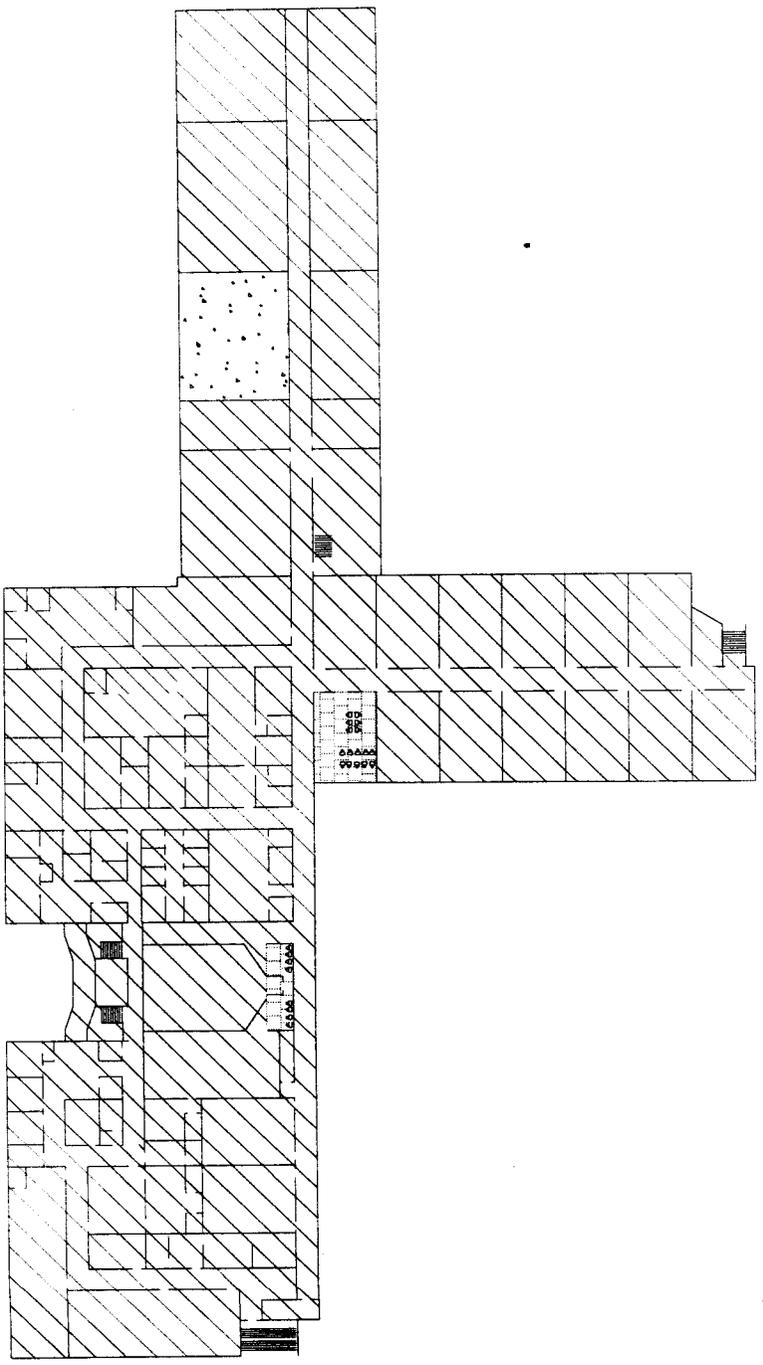
**REISZ ENGINEERING**

ASBESTOS SURVEY  
 DABT02-96-D-0005  
 FM705

BUILDING: 1081

**APPENDIX D**

**SELECTED ACM LOCATION PLANS**

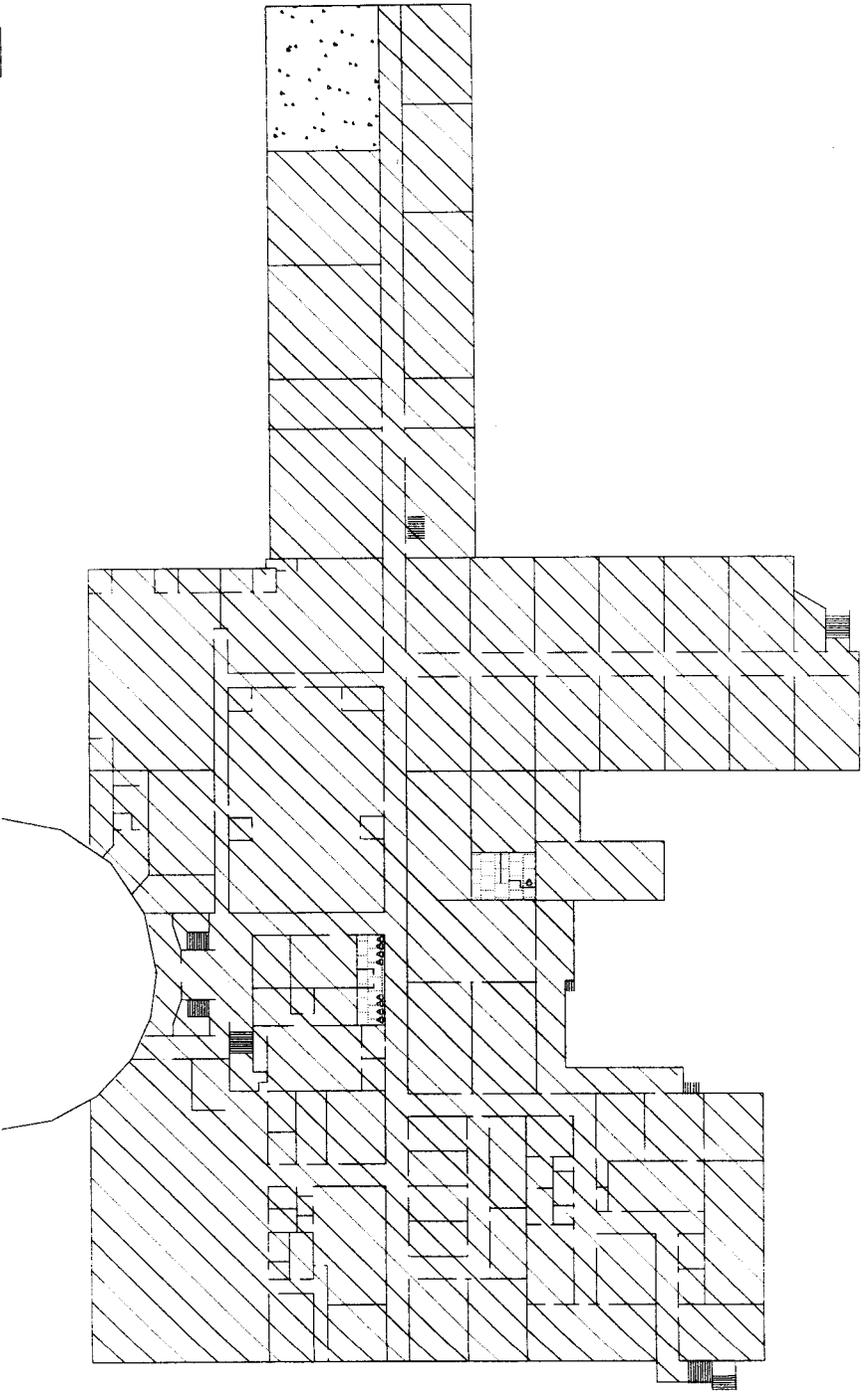


-  12 x 12 Floor Tile
-  Ceramic Floor Tile
-  Ceramic Floor Tile

FIGURE 2

SCALE: 1"=70'

BUILDING: 1081	FIGURE 1: FIRST FLOOR	ASBESTOS SURVEY	<b>REISZ ENGINEERING</b>
	FIGURE 2: SECOND FLOOR	DAB102-96-D-0005	
	FIGURE 3: WEST WING (FF)	FM705	
	FIGURE 4: WEST WING (SF)		



12 x 12 Floor Tile



Ceramic Floor Tile



Ceramic Floor Tile

BUILDING: 1081

FIRST FLOOR

ASBESTOS SURVEY  
DAB102-96-D-0005  
FM705

**REISZ ENGINEERING**

**ATTACHMENT 4**  
**RADIOLOGICAL CLOSEOUT SURVEY REPORTS AND**  
**NRC LICENSE AMENDMENT AND TERMINATION LETTERS**

**BUILDING 4482, CDTF BLOOD DRAW ROOM  
RADIOLOGICAL CLOSEOUT SURVEY REPORT**

MEMORANDUM THRU: CMLS Radiation Safety Officer

FOR: Installation Radiation Control Committee

SUBJECT: Confirmation Survey, CDTF Blood Draw Room

1. Introduction: On 23 December 1997, SFC Aperans of the Health Physics Office conducted an instrument and removable contamination swipe survey of the Blood Draw Room, Building 4482, Chemical Decontamination Training Facility (CDTF). The room had previously been used as the storage location for M43/M8A1 Chemical Agent Detectors and CAMs. The purpose of the survey was to demonstrate that the room was radiologically clean after commodities were removed. The room measures seven feet wide by fourteen feet deep by ten feet high (7' x 14' x 10').

2. Procedures:

a. Survey Grid: The floor and walls were divided into a grid system, conducting of squares measuring three feet by three feet. Grids were established on the walls to a height of seven feet from the floor. Sketches are attached as enclosure 1.

b. Instrument Survey: An AN/PDR-77 RADIAC Set was used to conduct the instrument survey of the room grid. Instrument serial number was 0029A with a calibration due date of 27 Jan 98. A DT-669/PDR-77 Alpha probe was used to monitor for alpha contamination, and a DT-616/VDR-2 Geiger-Mueller detector was used to detect gamma contamination. Alpha count rate readings, recorded in Counts Per Minute (CPM), were taken at 1/8" from the surface, while gamma dose rates, measured in mR/hr, were taken at one foot from the surface with the beta shield open.

c. Swipe Survey: Following the instrument survey, swipes were taken from all surfaces. Four swipes were taken from each three foot by three foot grid square, with each point equidistant from the center of the grid along a diagonal axis. In grid squares measuring less than three feet by three feet, two swipes were taken along the long axis of the grid. The area swiped was 100 square centimeters per sample.

3. Results:

a. Alpha Survey Instrument Count Rates: Alpha background was recorded at zero CPM. Six survey points, highlighted on the survey printout, registered alpha counts above the action limit of twice background. These six areas were swiped. Based upon laboratory results of swipe samples, it is possible that these six recorded events were caused by emissions from naturally occurring materials.

ATZN-CMA-HP (385-11a)

SUBJECT: Confirmation Survey, CDTF Blood Draw Room

b. Gamma Survey Instrument Dose Rates: Gamma background was 0.022 mR/hr. All survey points were found to be less than twice gamma background ( $< 0.044$  mR/hr).

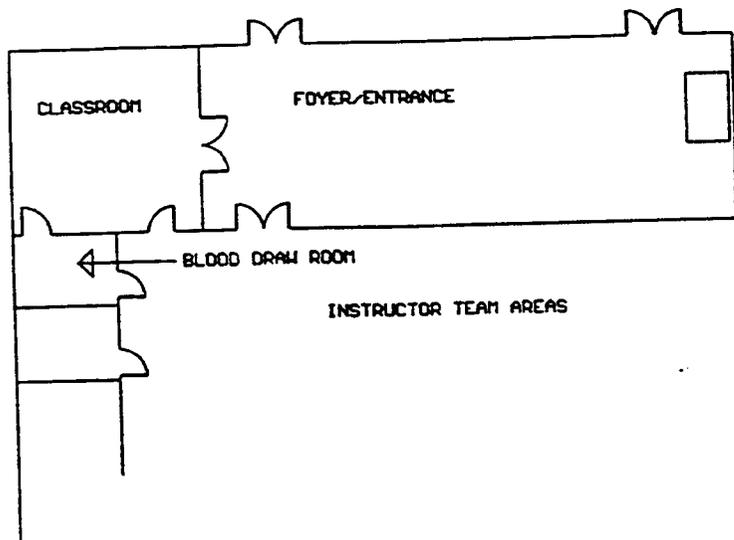
c. Removable Contamination: The Lower Limit of Detection (LLD) for alpha contamination was 1.47 CPM; the gamma LLD was 36.72 CPM. No removable contamination exceeding the LLD was detected in either the alpha or gamma channel.

4. Recommendations: The Blood Draw Room, formerly the CDTF commodities storage area, may be considered to be clean and free for unrestricted use.

encl

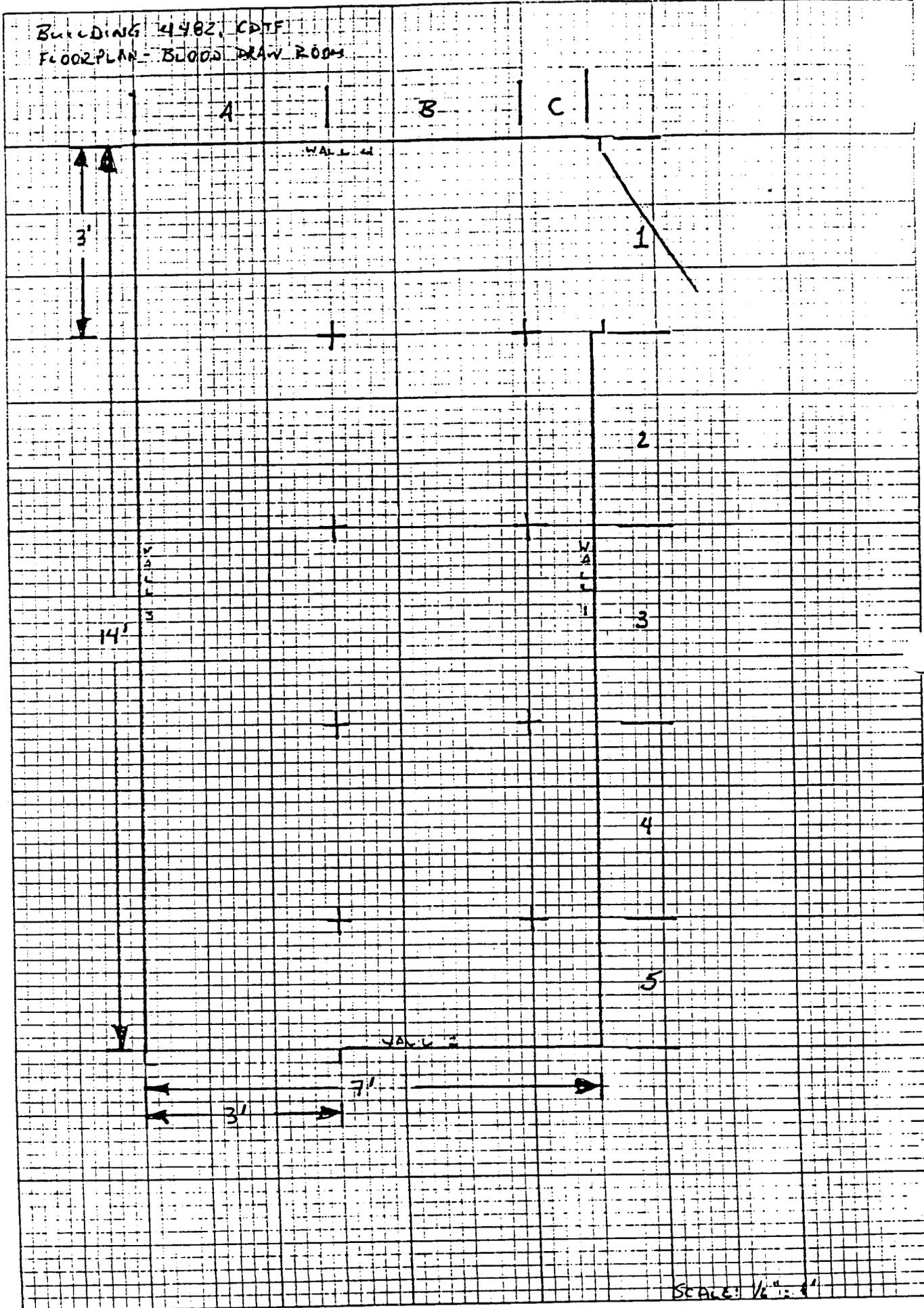
  
JOHN E. AFERANS  
SFC, USA  
NCOIC, Health Physics

CHEMICAL DECONTAMINATION TRAINING FACILITY  
BUILDING 4482, FT MCCLELLAN, AL



Plan by: < Unregistered >

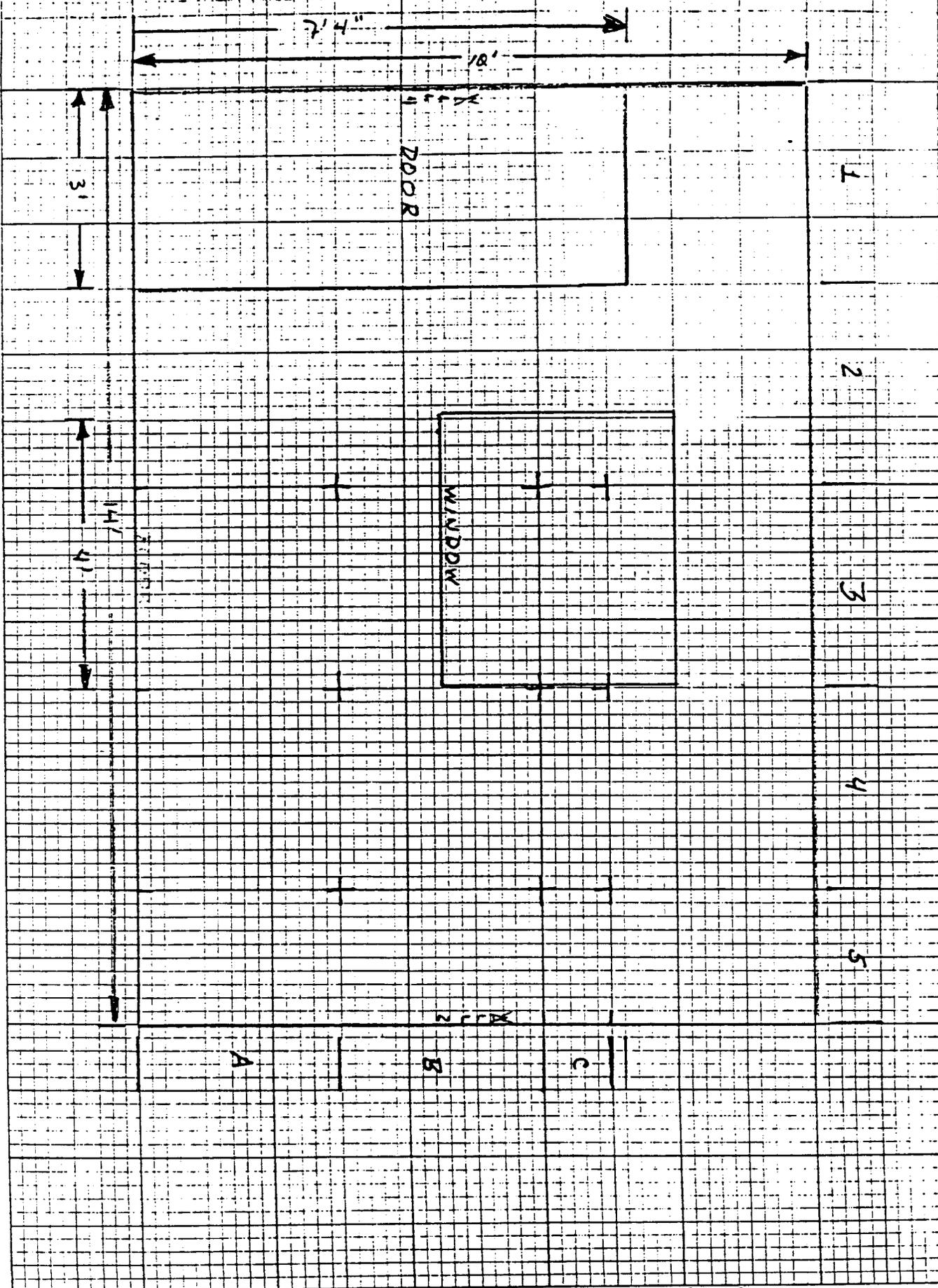
BUILDING 4482, CDTF  
FLOORPLAN - BLOOD DRAW ROOM



PRINTED 10 X 10 TO 1 INCH  
5/8 LINE WEIGHT, 10/16 HEAVY

SCALE: 1/2" = 1'

BUILDING 44BZ. DTF  
WALL #1, BLOOD DRAW ROOM



FILES - 10 7 10 1 INCH  
3/4 TIME ACCEPTED, 10M HEAVY

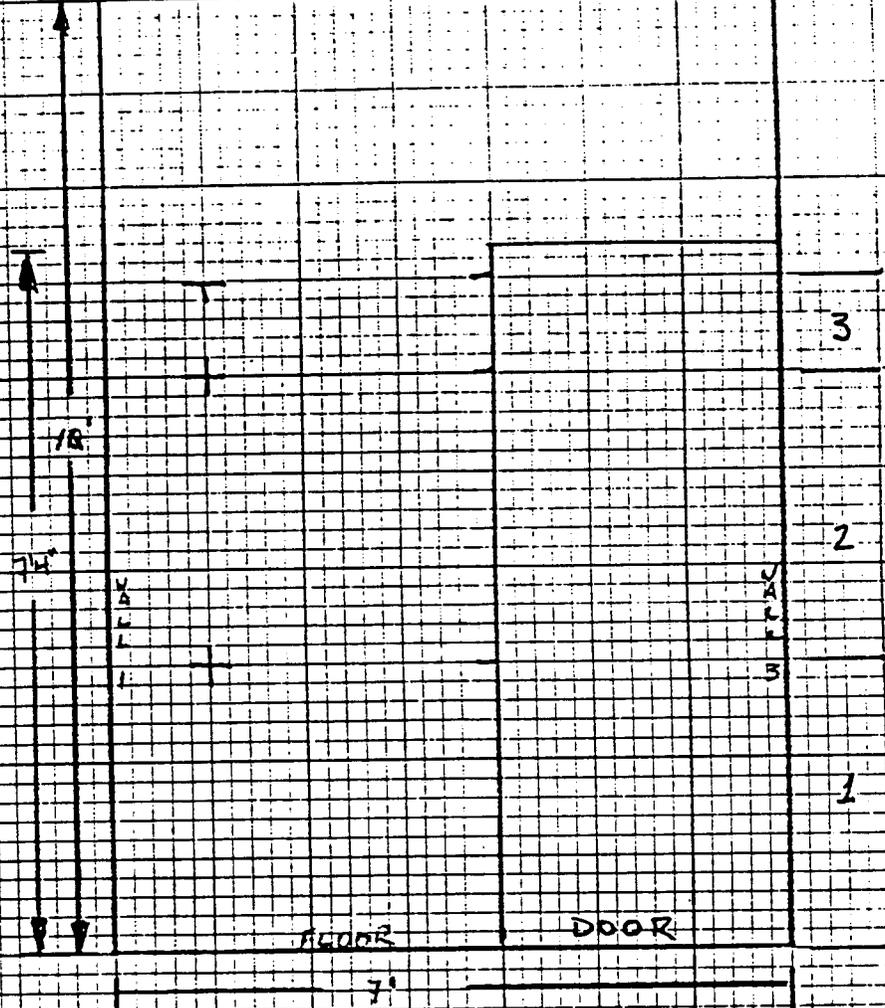
SCALE: 1/2" = 1'

BUILDING 4482, CDTF  
WALL #2

C

B

A

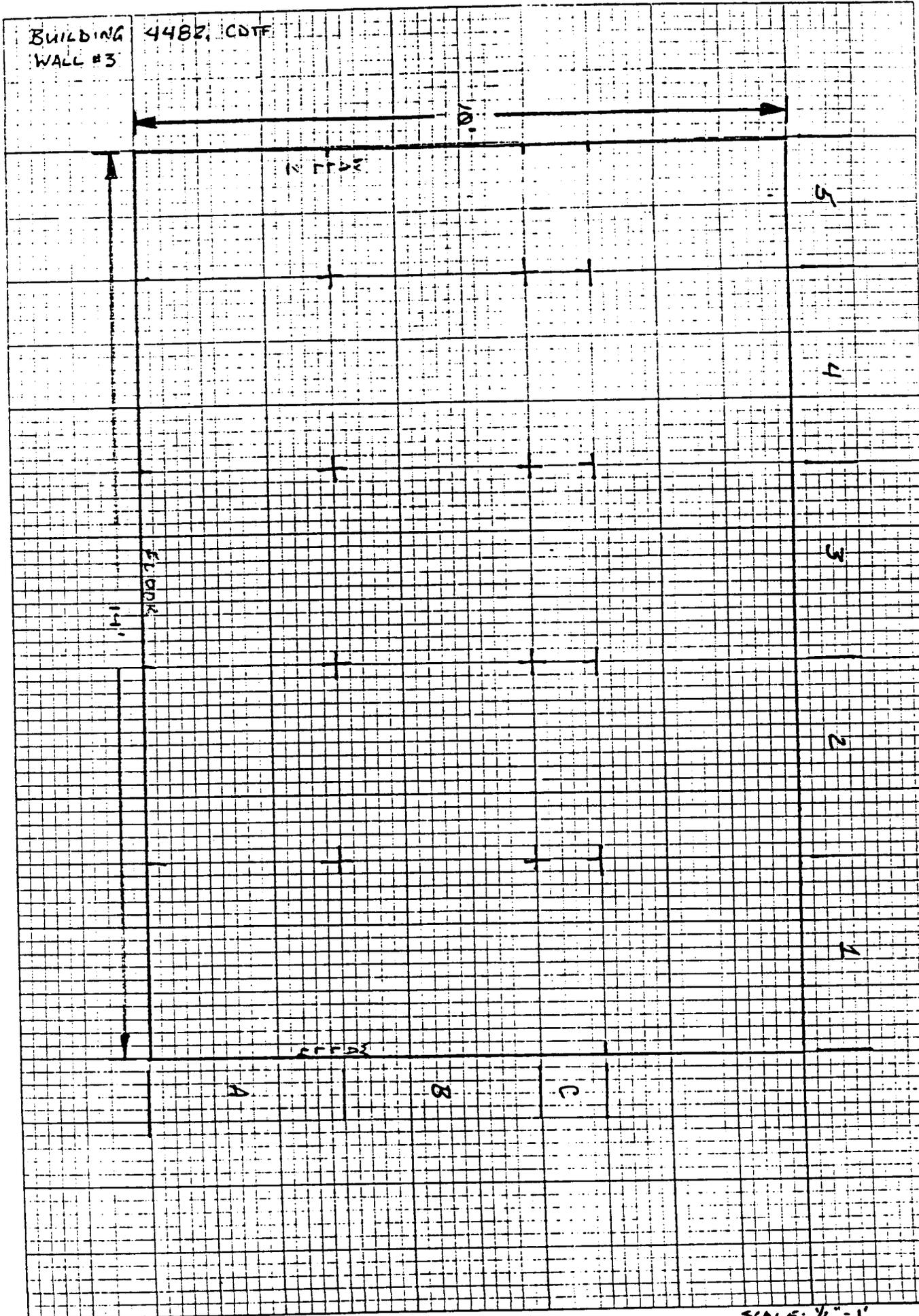


PL-100 10 1/2" x 10 1/2" INCH  
STANDARD ARCHITECTS' AND ENGINEERS' PAPER

SCALE: 1/2" = 1'

BUILDING  
WALL #3

4482. CDTF



FORM 10 x 10 1/2 INCH  
500 SHEETS ACCURATE 100% HEAVY

SCALE: 1/2" = 1'



CDTF

WIPE SURVEY SAMPLE ANALYSIS - 23 December 1997  
 Building 482 - CDTF Blood Draw Room Floor

INSTRUMENT												DISPOSITION		
Contamination Survey						Instrument Survey			RESURVEYED					
Tennelec LB5100, S/N 04169						Meter/Probe: AN/PDR-77			ALPHA > 220 DPM/100 cm <sup>2</sup>					
Efficiency		Alpha	Beta	Gamma		Cal Due: 29-Jan-98			BETA/GAMMA > 2200 DPM/100 cm <sup>2</sup>					
Bkg CPM		0.10	20.30	62.10		SURVEYOR: SFC Aperans			NO ACTION REQUIRED					
Sensitivity		Lc	LLD	Lp		REVIEWED BY: <i>W. J. W.</i>								
Alpha CPM		0.74	1.47	100.63		HEALTH PHYSICS MANAGER								
Beta CPM		10.50	21.00	108.32										
Gamma CPM		18.36	36.72	39.35										
#	LOCATION	Dose Rate			Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>			
		Alpha	Gamma		Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma	
1	Grid 1A-1	0.00	0.023		17.20	61.80		-0.1	-3.1	-0.3	-0.2	-18.8	-1.4	
2	Grid 1A-2	0.00	0.020		19.10	59.00		0.0	-1.2	-3.1	0.0	-7.3	-14.0	
3	Grid 1A-3	0.00	0.022		17.40	58.60		-0.1	-2.9	-3.5	-0.2	-17.6	-15.8	
4	Grid 1A-4	0.00	0.023		17.70	57.50		0.0	-2.6	-4.6	0.0	-15.8	-20.8	
										Average	-0.1	-14.9	-13.0	
										S.D.	0.1	5.2	8.3	
5	Grid 2A-1	0.00	0.021		18.40	56.60		0.0	-1.9	-5.5	0.0	-11.5	-24.9	
6	Grid 2A-2	0.00	0.023		21.40	58.50		-0.1	1.1	-3.6	-0.2	6.7	-16.3	
7	Grid 2A-3	0.00	0.020		18.80	62.30		0.1	-1.4	0.2	0.2	-8.5	0.9	
8	Grid 2A-4	0.00	0.018		20.20	60.70		-0.1	-0.1	-1.4	-0.2	-0.6	-6.3	
										Average	0.0	-3.5	-11.7	
										S.D.	0.2	8.2	11.3	
9	Grid 3A-1	0.00	0.022		18.80	59.20		0.1	-1.5	-2.9	0.2	-9.1	-13.1	
10	Grid 3A-2	0.00	0.021		19.30	59.30		0.0	-1.0	-2.8	0.0	-6.1	-12.7	
11	Grid 3A-3	0.00	0.023		17.80	56.60		0.0	-2.5	-5.5	0.0	-15.2	-24.9	
12	Grid 3A-4	0.00	0.018		19.40	55.30		-0.1	-0.9	-6.8	-0.2	-5.5	-30.8	
										Average	0.0	-9.0	-20.4	
										S.D.	0.1	4.4	9.0	
13	Grid 4A-1	0.00	0.019		21.10	55.80		0.0	0.8	-6.3	0.0	4.9	-28.5	
14	Grid 4A-2	0.00	0.022		19.10	59.30		0.1	-1.2	-2.8	0.2	-7.3	-12.7	
15	Grid 4A-3	0.00	0.021		19.10	63.90		0.0	-1.2	1.8	0.0	-7.3	8.1	
16	Grid 4A-4	0.00	0.022		16.50	55.90		-0.1	-3.8	-6.2	-0.2	-23.1	-28.1	

CDTF

#	LOCATION	Dose Rate			Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>		
		Alpha	Gamma		Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
17	Grid 5A-1	0.00	0.018		0.00	18.00	58.30	-0.1	-1.3		0.0	-8.2	-15.3
18	Grid 5A-2	0.00	0.020		0.00	17.20	60.80	-0.1	-3.1		0.1	11.5	17.3
19	Grid 5A-3	0.00	0.018		0.30	18.80	59.40	0.2	-0.5		-0.2	-7.8	-17.2
20	Grid 5A-4	0.00	0.020		0.20	16.80	59.70	0.1	-3.5		-0.2	-18.8	-5.4
											0.3	-3.0	-12.2
											0.0	-21.3	-10.9
											0.0	-12.8	-11.4
											0.3	8.7	4.8
21	Grid 1B-1	0.00	0.022		0.00	18.10	59.10	-0.1	-2.2		-0.2	-13.4	-13.6
22	Grid 1B-2	0.00	0.018		0.10	16.90	63.20	0.0	-3.4		0.0	-20.6	5.0
23	Grid 1B-3	0.00	0.024		0.00	17.80	59.80	-0.1	-2.7		-0.2	-16.4	-10.4
24	Grid 1B-4	0.00	0.022		0.00	17.80	59.40	-0.1	-2.5		-0.2	-15.2	-12.2
											-0.1	-16.4	-7.8
											0.1	3.1	8.6
25	Grid 2B-1	0.00	0.020		0.10	20.50	59.60	0.0	0.2		0.0	1.2	-11.3
26	Grid 2B-2	0.00	0.023		0.00	19.20	56.10	-0.1	-1.1		-0.2	-6.7	-27.2
27	Grid 2B-3	0.00	0.021		0.00	18.00	57.40	-0.1	-2.3		-0.2	-14.0	-21.3
28	Grid 2B-4	0.00	0.018		0.00	15.70	60.80	-0.1	-4.6		-0.2	-27.9	-5.9
											-0.1	-11.8	-16.4
											0.1	12.4	9.6
29	Grid 3B-1	0.00	0.020		0.00	19.70	56.80	-0.1	-0.6		-0.2	-3.6	-24.0
30	Grid 3B-2	0.00	0.021		0.00	20.10	61.10	-0.1	-0.2		-0.2	-1.2	-4.5
31	Grid 3B-3	0.00	0.022		0.30	18.00	55.70	0.2	-2.3		0.3	-14.0	-29.0
32	Grid 3B-4	0.00	0.022		0.10	20.10	57.30	0.0	-0.2		0.0	-1.2	-21.7
											0.0	-5.0	-19.8
											0.2	6.1	10.6
33	Grid 1C-1	0.00	0.018		0.10	18.90	56.40	0.0	-1.4		0.0	-8.5	-25.8
34	Grid 1C-2	0.00	0.019		0.00	17.90	59.20	-0.1	-2.4		-0.2	-14.8	-13.1
											-0.1	-11.5	-19.5
											0.1	4.3	9.0
35	Grid 2C-1	0.00	0.022		0.00	17.00	59.20	-0.1	-3.3		-0.2	-20.0	-13.1
36	Grid 2C-2	0.00	0.019		0.20	18.40	64.00	0.1	-1.9		0.2	-11.5	8.6
											0.0	-15.8	-2.3
											0.2	6.0	15.4

CDTF

#	LOCATION	Dose Rate		Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>		
		Alpha	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
37	Grid 3C-1	0.00	0.018	0.10	20.50	59.00	0.0	0.2	-3.1	0.0	1.2	-14.0
38	Grid 3C-2	0.00	0.022	0.20	20.30	60.00	0.1	0.0	-2.1	0.2	0.0	-9.5
									Average	0.1	0.6	-11.8
									S.D.	0.1	0.9	3.2
39	Grid 4B-1	0.00	0.020	0.10	18.90	59.30	0.0	-1.4	-2.8	0.0	-8.5	-12.7
40	Grid 4B-2	0.00	0.022	0.20	18.50	59.00	0.1	-1.8	-3.1	0.2	-10.9	-14.0
41	Grid 4B-3	0.00	0.021	0.00	16.20	62.60	-0.1	-4.1	0.5	-0.2	-24.9	2.3
42	Grid 4B-4	0.00	0.023	0.30	18.70	57.60	0.2	-0.6	-4.5	0.3	-3.6	-20.4
									Average	0.1	-12.0	-11.2
									S.D.	0.2	9.1	9.6
43	Grid 4C-1	0.00	0.020	0.10	18.80	56.60	0.0	-1.5	-5.5	0.0	-9.1	-24.9
44	Grid 4C-2	0.00	0.020	0.00	13.80	54.80	-0.1	-1.5	-7.3	-0.2	-9.1	-33.0
									Average	-0.1	-9.1	-29.0
									S.D.	0.1	0.0	5.8
45	Grid 5B-1	0.00	0.020	0.00	19.60	59.70	-0.1	-0.7	-2.4	-0.2	-4.3	-10.9
46	Grid 5B-2	0.00	0.019	0.00	18.20	56.30	-0.1	-2.1	-5.8	-0.2	-12.8	-26.3
47	Grid 5B-3	0.00	0.021	0.20	19.30	59.60	0.1	-1.0	-2.5	0.2	-6.1	-11.3
48	Grid 5B-4	0.00	0.018	0.10	18.10	57.20	0.0	-2.2	-4.9	0.0	-13.4	-22.2
									Average	0.0	-9.1	-17.7
									S.D.	0.2	4.6	7.6
48	Grid 5C-1	0.00	0.021	0.00	18.10	59.60	-0.1	-2.2	-2.5	-0.2	-13.4	-11.3
50	Grid 5C-2	0.00	0.022	0.10	18.00	62.50	0.0	-2.3	0.4	0.0	-14.0	1.8
									Average	-0.1	-13.7	-4.8
									S.D.	0.1	0.4	9.3

WIPE SURVEY SAMPLE ANALYSIS - 23 December 1997  
 Building 4482 - CDTF Blood Draw Room Wall #1

INSTRUMENT										DISPOSITION					
Contamination Survey					Instrument Survey					RESURVEYED					
Tennelec LB5100 S/N 64169					Meter/Probe: AN/PDR-77					ALPHA > 220 DPM/100 cm <sup>2</sup> BETA/GAMMA > 2200 DPM/100 cm <sup>2</sup>					
Efficiency		Beta		Gamma		Cal Due:		SURVEYOR:		NO ACTION REQUIRED					
58.41%		16.47%		22.09%		29-Jan-98		SFC Aperans							
Bkg CPM		LLD		L <sub>0</sub>		L <sub>q</sub>		SFC Aperans							
0.10		20.30		62.10		100.63		SFC Aperans							
Sensitivity		L <sub>c</sub>		L <sub>0</sub>		L <sub>q</sub>		SFC Aperans							
Alpha CPM		0.74		4.18		108.32		SFC Aperans							
Beta CPM		10.50		23.66		113.84		SFC Aperans							
Gamma CPM		18.36		36.72				SFC Aperans							
Dose Rate		Alpha		Gamma		Gross CPM		Net CPM		Alpha		Beta		Gamma	
#	LOCATION	Alpha	Gamma	Alpha	Gamma	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Gamma
51	Grd 2A-1	0.00	0.019	0.00	61.40	18.00	61.90	-0.1	-2.3	-0.7	-0.2	-14.0	-3.2	-0.2	-14.0
52	Grd 2A-2	0.00	0.024	0.00	56.50	17.30	55.70	-0.1	-3.0	-5.6	0.0	-18.2	-25.4	0.0	-18.2
53	Grd 2A-3	0.00	0.022	0.00	61.00	17.40	58.80	-0.1	-2.9	-1.1	-0.2	-17.6	-5.0	-0.2	-17.6
54	Grd 2A-4	0.00	0.025	0.10	57.00	18.10	50.70	0.0	-2.2	-5.1	0.0	-13.4	-23.1	0.0	-13.4
										Average	-0.1	-15.8	-14.1	-0.1	-15.8
										S.D.	0.1	2.5	11.7	0.1	2.5
55	Grd 2B-1	0.00	0.020	0.10	61.90	17.00	61.90	0.0	-3.3	-0.2	0.0	-20.0	-0.9	0.0	-20.0
56	Grd 2B-2	0.00	0.021	0.10	55.70	17.70	55.70	0.0	-2.6	-6.4	0.0	-15.8	-29.0	0.0	-15.8
57	Grd 2B-3	0.00	0.024	0.00	58.80	19.80	58.80	-0.1	-0.5	-3.3	-0.2	-3.0	-14.9	-0.2	-3.0
58	Grd 2B-4	0.00	0.022	0.00	50.70	17.60	50.70	-0.1	-2.7	-11.4	-0.2	-16.4	-51.6	-0.2	-16.4
										Average	-0.1	-13.8	-24.1	-0.1	-13.8
										S.D.	0.1	7.4	21.6	0.1	7.4
59	Grd 2C-1	0.00	0.023	0.00	57.00	17.10	57.00	-0.1	-3.2	-5.1	-0.2	-19.4	-23.1	-0.2	-19.4
60	Grd 2C-2	0.00	0.025	0.10	61.70	18.50	61.70	0.0	-1.8	-0.4	0.0	-10.9	-1.8	0.0	-10.9
										Average	-0.1	-15.2	-12.4	-0.1	-15.2
										S.D.	0.1	6.0	15.0	0.1	6.0
61	Grd 3A-1	0.00	0.023	0.00	58.40	19.00	58.40	-0.1	-1.3	-3.7	-0.2	-7.9	-16.7	-0.2	-7.9
62	Grd 3A-2	0.00	0.026	0.00	60.60	18.70	60.60	-0.1	-1.6	-1.5	-0.2	-9.7	-8.8	-0.2	-9.7
63	Grd 3A-3	0.00	0.023	0.10	60.20	19.00	60.20	0.0	-1.3	-1.9	0.0	-7.8	-8.6	0.0	-7.8
64	Grd 3A-4	0.00	0.022	0.00	61.10	18.00	61.10	-0.1	-1.3	-1.0	-0.2	-7.9	-4.5	-0.2	-7.9
										Average	-0.1	-8.3	-9.2	-0.1	-8.3
										S.D.	0.1	0.8	5.3	0.1	0.8

CDTF

#	LOCATION.	Dose Rate			Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>		
		Alpha	Gamma		Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
65	Grid 3B-1	7.80	0.019		0.00	18.00	59.10	-0.1	-1.3	-3.0	-0.2	-7.9	-13.6
66	Grid 3B-2	0.00	0.023		0.00	18.20	54.90	-0.1	-2.1	-7.2	-0.2	-12.8	-32.6
67	Grid 3B-3	0.00	0.026		0.10	16.70	57.50	0.0	-3.6	-4.6	0.0	-21.9	-20.8
68	Grid 3B-4	0.00	0.024		0.00	18.10	56.70	-0.1	-2.2	-5.4	-0.2	-13.4	-24.4
										Average	-0.1	-14.0	-22.9
										S.D.	0.1	5.8	7.9
69	Grid 4A-1	0.00	0.017		0.10	18.20	54.40	0.0	-2.1	-7.7	0.0	-12.8	-34.9
70	Grid 4A-2	0.00	0.022		0.10	20.20	55.90	0.0	-0.1	-6.2	0.0	-0.6	-28.1
71	Grid 4A-3	0.00	0.026		0.00	18.90	60.90	-0.1	-1.4	-1.2	-0.2	-8.5	-5.4
72	Grid 4A-4	0.00	0.024		0.00	17.50	60.20	-0.1	-2.8	-1.9	-0.2	-17.0	-8.8
										Average	-0.1	-9.7	-19.2
										S.D.	0.1	7.0	14.4
73	Grid 4B-1	8.11	0.019		0.00	19.50	59.00	-0.1	-0.8	-3.1	-0.2	-4.9	-14.0
74	Grid 4B-2	0.00	0.020		0.10	20.70	59.20	0.0	0.4	-2.9	0.0	2.4	-13.1
75	Grid 4B-3	0.00	0.022		0.00	15.90	57.70	-0.1	-4.4	-4.4	-0.2	-26.7	-19.9
76	Grid 4B-4	0.00	0.024		0.00	18.20	61.70	-0.1	-2.1	-0.4	-0.2	-12.8	-1.8
										Average	-0.1	-10.5	-12.2
										S.D.	0.1	12.5	7.6
77	Grid 4C-1	0.00	0.024		0.10	17.70	57.20	0.0	-2.6	-4.9	0.0	-15.8	-22.2
78	Grid 4C-2	0.00	0.022		0.10	16.90	50.60	0.0	-3.4	-11.5	0.0	-20.6	-52.1
										Average	0.0	-18.2	-37.1
										S.D.	0.0	3.4	21.1
79	Grid 5A-1	0.00	0.021		0.00	18.80	62.00	-0.1	-1.5	-0.1	-0.2	-9.1	-0.5
80	Grid 5A-2	0.00	0.021		0.00	19.70	54.90	-0.1	-0.6	-7.2	-0.2	-3.6	-32.6
81	Grid 5A-3	0.00	0.019		0.10	19.70	55.90	0.0	-0.8	-6.2	0.0	-3.6	-28.1
82	Grid 5A-4	0.00	0.023		0.20	18.30	58.70	0.1	-2.0	-3.4	0.2	-12.1	-15.4
										Average	0.0	-7.1	-19.1
										S.D.	0.2	4.2	14.4
83	Grid 5B-1	0.00	0.024		0.00	18.50	54.80	-0.1	-1.8	-7.3	-0.2	-10.9	-33.0
84	Grid 5B-2	0.00	0.026		0.00	18.90	54.40	-0.1	-1.4	-7.7	-0.2	-8.5	-34.9
85	Grid 5B-3	0.00	0.021		0.10	19.10	58.60	0.0	-1.2	-3.5	0.0	-7.3	-15.8
86	Grid 5B-4	0.00	0.022		0.00	16.90	57.50	-0.1	-3.4	-4.6	-0.2	-20.6	-20.8
										Average	-0.1	-11.8	-26.1
										S.D.	0.1	6.1	9.3

CDTF

#	LOCATION	Dose Rate		Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>		
		Alpha	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
87	Grid 5C-1	0.00	0.018	0.10	17.00	57.70	0.0	-3.3	-4.4	0.0	-20.0	-19.8
88	Grid 5C-2	0.00	0.020	0.50	17.40	67.60	0.4	-2.9	5.5	0.7	-17.6	24.8
									Average	0.3	-18.8	2.5
									S.D.	0.5	1.7	31.7

CDTF

WIPE SURVEY SAMPLE ANALYSIS - 23 December 1997  
 Building 4482 - CDTF Blood Draw Room Wall #2, 3, 4

		INSTRUMENT										DISPOSITION					
		Contamination Survey					Instrument Survey					RESURVEYED					
		Tennelec LB5100, S/N 64169					Meter/Probe: AN/PDR-77					ALPHA > 220 DPM/100 cm <sup>2</sup> BETA/GAMMA > 2200 DPM/100 cm <sup>2</sup>					
		Alpha	Beta	Gamma	Lc	Lp	Lo	Cal Due:	29-Jan-98	SURVEYOR:	SFC Aperans	[ ] NO ACTION REQUIRED					
		58.41%	16.47%	22.09%	0.10	20.30	62.10	29-Jan-98									
		Lc	LLD	Lp	Lo	100.63	108.32	113.84	REVIEWED BY:	HEALTH PHYSICS MANAGER							
		0.74	1.47	4.18	23.66	39.35	36.72										
		10.50	21.00	108.32	113.84												
		18.36	36.72														
		Gross CPM										Net DPM/100 cm <sup>2</sup>					
		Dose Rate			Alpha			Beta			Gamma			Alpha	Beta	Gamma	
#	LOCATION	Alpha	Gamma	Alpha	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
89	Grid C1-1	0.00	0.018	0.30	59.00	20.10	-0.2	-3.1	0.2	-0.2	-3.1	0.3	-1.2	-14.0			
90	Grid C1-2	0.00	0.020	0.00	55.20	19.40	-0.9	-6.9	-0.1	-0.9	-6.9	-0.2	-5.5	-31.2			
								Average			Average	0.1	-3.3	-22.6			
								S.D.			S.D.	0.4	3.0	12.2			
91	Grid C2-1	0.00	0.018	0.20	58.10	16.80	-3.4	-4.0	0.1	-3.4	-4.0	0.2	-20.6	-18.1			
92	Grid C2-2	0.00	0.019	0.20	60.50	19.50	-0.8	-1.6	0.1	-0.8	-1.6	0.2	-4.9	-7.2			
								Average			Average	0.2	-12.8	-12.7			
								S.D.			S.D.	0.0	11.2	7.7			
93	Grid C3-1	0.00	0.016	0.10	58.20	19.60	-0.7	-3.9	0.0	-0.7	-3.9	0.0	-4.3	-17.7			
94	Grid C3-2	0.00	0.018	0.20	59.30	17.80	-2.5	-2.8	0.1	-2.5	-2.8	0.2	-15.2	-12.7			
								S.D.			S.D.	0.0	10.9	17.9			
								Average			Average	0.1	-9.7	-15.2			
								S.D.			S.D.	0.0	-2.4	-24.9			
95	Grid B1-1	0.00	0.020	0.10	56.80	19.90	-0.4	-5.5	0.0	-0.4	-5.5	0.0	-2.4	-24.9			
96	Grid B1-2	0.00	0.018	0.00	58.10	21.50	1.2	-4.0	-0.1	1.2	-4.0	-0.2	7.3	-18.1			
97	Grid B1-3	0.00	0.021	0.10	58.40	16.20	-4.1	-2.7	0.0	-4.1	-2.7	0.0	-24.9	-12.2			
98	Grid B1-4	0.00	0.021	0.00	58.50	19.60	-0.7	-3.6	-0.1	-0.7	-3.6	-0.2	-4.3	-16.3			
								Average			Average	-0.1	-6.1	-17.9			
								S.D.			S.D.	0.1	13.5	5.3			
99	Grid B2-1	0.00	0.020	0.10	56.10	19.20	-1.1	-6.0	0.0	-1.1	-6.0	0.0	-6.7	-27.2			
100	Grid B2-2	0.00	0.017	0.00	59.30	18.40	-1.9	-2.8	-0.1	-1.9	-2.8	-0.2	-11.5	-12.7			
101	Grid B2-3	0.00	0.018	0.10	58.60	20.10	-0.2	-2.5	0.0	-0.2	-2.5	0.0	-1.2	-11.3			
102	Grid B2-4	0.00	0.019	0.10	65.80	16.90	-3.4	3.7	0.0	-3.4	3.7	0.0	-20.6	16.7			

CDTF

#	LOCATION	Dose Rate		Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>		
		Alpha	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
103	Grid B3-1	0.00	0.012	0.10	21.20	60.00	0.0	0.9	-2.1	0.0	5.5	-8.6
104	Grid B3-2	0.00	0.016	0.00	21.20	56.30	-0.1	0.9	-5.6	-0.2	5.5	-26.3
									Average	-0.1	5.5	-17.9
									S.D.	0.1	0.0	11.8
	Wall #3											
105	Grid 1A-1	0.00	0.019	0.00	19.50	56.90	-0.1	-0.8	-5.2	-0.2	-4.9	-23.5
106	Grid 1A-2	0.00	0.021	0.10	20.30	56.30	0.0	0.0	-5.8	0.0	0.0	-26.3
107	Grid 1A-3	0.00	0.022	0.00	22.80	57.40	-0.1	2.6	-4.7	-0.2	15.8	-21.3
108	Grid 1A-4	0.00	0.018	0.00	20.20	58.00	-0.1	-0.1	-4.1	-0.2	-0.6	-18.6
									Average	-0.1	2.6	-22.4
									S.D.	0.1	9.1	3.3
109	Grid 1B-1	0.00	0.020	0.00	19.90	58.20	-0.1	-0.4	-2.9	-0.2	-2.4	-13.1
110	Grid 1B-2	0.00	0.021	0.20	18.90	61.50	0.1	-1.4	-0.6	0.2	-8.5	-2.7
111	Grid 1B-3	0.00	0.023	0.00	17.30	55.20	-0.1	-3.0	-6.9	-0.2	-18.2	-31.2
112	Grid 1B-4	0.00	0.019	0.00	19.30	53.90	-0.1	-1.0	-8.2	-0.2	-8.1	-37.1
									Average	-0.1	-8.8	-21.1
									S.D.	0.2	6.8	15.9
113	Grid 1C-1	10.80	0.020	0.00	20.20	56.40	-0.1	-0.1	-5.7	-0.2	-0.6	-25.8
114	Grid 1C-2	0.00	0.022	0.00	18.50	58.70	-0.1	-1.8	-3.4	-0.2	-10.9	-15.4
									Average	-0.2	-5.8	-20.6
									S.D.	0.0	7.3	7.4
115	Grid 2A-1	0.00	0.021	0.00	18.50	60.50	-0.1	-1.8	-1.6	-0.2	-10.9	-7.2
116	Grid 2A-2	0.00	0.023	0.00	18.80	64.80	-0.1	-1.5	2.7	-0.2	-9.1	12.2
117	Grid 2A-3	0.00	0.021	0.00	19.50	60.90	-0.1	-0.8	-1.2	-0.2	-4.9	-5.4
118	Grid 2A-4	0.00	0.020	0.10	19.00	60.90	0.0	-1.3	-1.2	0.0	-7.9	-5.4
									Average	0.0	-4.3	-26.7
									S.D.	0.1	2.6	9.2
119	Grid 2B-1	0.00	0.022	0.20	19.10	58.60	0.1	-1.2	-3.5	0.2	-7.3	-15.8
120	Grid 2B-2	0.00	0.021	0.10	20.80	57.30	0.0	0.6	-4.8	0.0	3.0	-21.7
121	Grid 2B-3	0.00	0.023	0.20	18.20	52.60	0.1	-2.1	-9.5	0.2	-12.8	-43.0
122	Grid 2B-4	0.00	0.020	0.00	20.30	56.30	-0.1	0.0	-5.8	-0.2	0.0	-26.3
									Average	0.0	-5.6	-12.2

COTF

#	LOCATION	Dose Rate			Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>		
		Alpha	Gamma		Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
123	Grid 2C-1	0.00	0.017		0.10	17.60	60.00	0.0	-2.7	-2.1	0.2	7.1	11.7
124	Grid 2C-2	0.00	0.018		0.10	19.30	58.70	0.0	-1.0	-3.4	0.0	-6.1	-15.4
										Average	0.0	-11.2	-12.4
										S.D.	0.0	7.3	4.2
125	Grid 3A-1	0.00	0.021		0.00	20.00	58.00	-0.1	-0.3	-6.1	-0.2	-1.8	-27.6
126	Grid 3A-2	0.00	0.023		0.00	20.90	59.80	-0.1	0.6	-2.3	-0.2	3.6	-10.4
127	Grid 3A-3	0.00	0.020		0.00	18.70	58.80	-0.1	-1.6	-3.3	-0.2	-9.7	-14.9
128	Grid 3A-4	0.00	0.022		0.00	17.50	58.50	-0.1	-2.8	-5.6	-0.2	-17.0	-25.4
										Average	-0.1	-16.2	-17.1
										S.D.	0.0	9.0	8.2
129	Grid 3B-1	4.46	0.019		0.00	17.70	57.90	-0.1	-2.6	-4.2	-0.2	-15.8	-19.0
130	Grid 3B-2	0.00	0.021		0.00	18.40	59.00	-0.1	-1.9	-3.1	-0.2	-11.5	-14.0
131	Grid 3B-3	0.00	0.021		0.20	16.80	58.50	0.1	-3.4	-5.6	0.2	-20.6	-25.4
132	Grid 3B-4	0.00	0.018		0.00	17.50	59.90	-0.1	-2.8	-2.2	-0.2	-17.0	-10.0
										Average	-0.1	-16.2	-17.1
										S.D.	0.2	3.8	6.6
133	Grid 3C-1	0.00	0.019		0.10	20.30	55.10	0.0	0.0	-7.0	0.0	0.0	-31.7
134	Grid 3C-2	0.00	0.020		0.00	19.40	55.70	-0.1	-0.9	-6.4	-0.2	-5.5	-29.0
										Average	-0.1	-2.7	-30.3
										S.D.	0.1	3.9	1.9
135	Grid 4A-1	0.00	0.021		0.00	20.80	60.50	-0.1	0.5	-1.6	-0.2	3.0	-7.2
136	Grid 4A-2	0.00	0.020		0.00	21.30	53.30	-0.1	1.0	-8.8	-0.2	6.1	-39.8
137	Grid 4A-3	0.00	0.018		0.00	18.60	59.80	-0.1	-1.7	-2.3	-0.2	-10.3	-10.4
138	Grid 4A-4	6.81	0.019		0.10	17.70	58.00	0.0	-2.6	-4.1	0.0	-15.8	-18.6
										Average	-0.1	-4.3	-19.0
										S.D.	0.1	10.5	14.7
139	Grid 4B-1	0.00	0.019		0.00	20.20	59.50	-0.1	-0.1	-2.6	-0.2	-0.6	-11.8
140	Grid 4B-2	0.00	0.020		0.00	18.90	57.30	-0.1	-1.4	-4.8	-0.2	-8.5	-21.7
141	Grid 4B-3	0.00	0.017		0.10	16.90	57.80	0.0	-3.4	-4.3	0.0	-20.6	-19.5
142	Grid 4B-4	0.00	0.018		0.00	18.40	62.70	-0.1	-1.9	0.6	-0.2	-11.5	2.7
										Average	-0.1	-10.3	-12.6
										S.D.	0.1	8.3	11.0
143	Grid 4C-1	0.00	0.020		0.00	16.70	59.90	-0.1	-3.6	-2.2	-0.2	-21.9	-10.0

CDTF

#	LOCATION	Dose Rate			Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>		
		Alpha	Gamma		Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
144	Gnd 4C-2	0.00	0.022		0.00	17.90	55.70	-0.1	-2.4	-6.4	-0.2	-14.6	-29.0
										Average	-0.2	-18.2	-19.5
										S.D.	0.0	5.2	13.4
145	Gnd 5A-1	0.00	0.018		0.10	16.40	56.10	0.0	-3.9	-6.0	0.0	-23.7	-27.2
146	Gnd 5A-2	0.00	0.020		0.00	17.80	56.00	-0.1	-2.5	-6.1	-0.2	-15.2	-27.6
147	Gnd 5A-3	0.00	0.024		0.00	21.50	53.60	-0.1	1.2	-8.5	-0.2	7.3	-38.5
148	Gnd 5A-4	0.00	0.019		0.00	19.50	58.90	-0.1	-0.8	-3.2	-0.2	-4.9	-14.5
										Average	-0.1	-9.1	-26.9
										S.D.	0.1	13.4	9.8
149	Gnd 5B-1	0.00	0.020		0.00	18.60	54.40	-0.1	-1.7	-7.7	-0.2	-10.3	-34.8
150	Gnd 5B-2	0.00	0.022		0.00	17.00	59.30	-0.1	-3.3	-2.8	-0.2	-20.0	-12.7
151	Gnd 5B-3	0.00	0.020		0.00	18.80	58.70	-0.1	-1.5	-3.4	-0.2	-9.1	-15.4
152	Gnd 5B-4	0.00	0.021		0.00	18.30	56.80	-0.1	-2.0	-5.3	-0.2	-12.1	-24.0
										Average	-0.2	-12.9	-21.7
										S.D.	0.0	4.9	10.0
153	Gnd 5C-1	6.92	0.037		0.10	16.80	58.50	0.0	-3.5	-3.6	0.0	-21.3	-16.3
154	Gnd 5C-2	0.00	0.035		0.10	18.60	57.70	0.0	-1.7	-4.4	0.0	-10.3	-19.9
										Average	0.0	-15.8	-18.1
										S.D.	0.0	7.7	2.6
	Wall #4												
155	Gnd A1-1	0.00	0.018		0.10	19.40	59.20	0.0	-0.9	-2.9	0.0	-5.5	-13.1
156	Gnd A1-2	0.00	0.019		0.00	18.10	60.70	-0.1	-2.2	-1.4	-0.2	-13.4	-6.3
157	Gnd A1-3	0.00	0.022		0.00	19.00	54.60	-0.1	-1.3	-7.5	-0.2	-7.9	-34.0
158	Gnd A1-4	0.00	0.020		0.20	17.40	59.20	0.1	-2.9	-2.9	0.2	-17.6	-13.1
										Average	0.0	-11.1	-16.6
										S.D.	0.2	5.5	12.0
159	Gnd A2-1	0.00	0.023		0.20	17.70	58.40	0.1	-2.6	-3.7	0.2	-15.8	-16.7
160	Gnd A2-2	0.00	0.025		0.00	17.70	57.50	-0.1	-2.6	-4.6	-0.2	-15.8	-20.8
161	Gnd A2-3	0.00	0.022		0.00	18.10	57.00	-0.1	-2.2	-5.1	-0.2	-13.4	-23.1
162	Gnd A2-4	0.00	0.023		0.00	20.30	58.80	-0.1	0.0	-3.3	-0.2	0.0	-14.9
										Average	-0.1	-11.2	-18.9
										S.D.	0.2	7.6	3.7
163	Gnd A3-1	0.00	0.020		0.20	22.20	56.30	0.1	1.9	-5.8	0.2	11.5	-26.3
164	Gnd A3-2	0.00	0.018		0.10	18.40	63.30	0.0	-1.9	1.2	0.0	-11.5	5.4

CDTF

#	LOCATION	Dose Rate			Gross CPM			Net CPM			Net DPM/100 cm <sup>2</sup>		
		Alpha	Gamma		Alpha	Beta	Gamma	Alpha	Beta	Gamma	Alpha	Beta	Gamma
165	Grid B1-1	0.00	0.019		0.00	19.20	59.80	-0.1	-1.1		0.1	0.0	-10.4
166	Grid B1-2	6.79	0.020		0.00	17.70	58.00	-0.1	-2.6		0.1	16.3	22.4
167	Grid B1-3	0.00	0.019		0.10	19.40	62.40	0.0	-0.9		0.0	-5.5	1.4
168	Grid B1-4	0.00	0.021		0.10	19.20	60.50	0.0	-1.1		0.0	-6.7	-7.2
											Average	-0.1	-8.7
											S.D.	0.1	8.2
169	Grid B2-1	0.00	0.023		0.00	16.20	60.40	-0.1	-4.1		-0.2	-24.9	-7.7
170	Grid B2-2	0.00	0.025		0.10	20.20	55.30	0.0	-0.1		0.0	-0.6	-30.8
171	Grid B2-3	0.00	0.021		0.00	18.20	62.90	-0.1	-2.1		-0.2	-12.8	3.6
172	Grid B2-4	0.00	0.018		0.00	18.10	58.70	-0.1	-2.2		-0.2	-13.4	-15.4
											Average	-0.1	-12.9
											S.D.	0.1	9.9
173	Grid B3-1	0.00	0.021		0.00	15.90	56.80	-0.1	-4.4		-0.2	-26.7	-24.0
174	Grid B3-2	0.00	0.022		0.00	16.60	57.50	-0.1	-3.7		-0.2	-22.5	-20.8
											Average	-0.2	-24.6
											S.D.	0.0	3.0
175	Grid C1-1	0.00	0.018		0.10	16.80	58.00	0.0	-3.5		0.0	-21.3	-18.6
176	Grid C1-2	0.00	0.020		0.20	20.40	58.10	0.1	0.1		0.2	0.6	-13.6
177	Grid C1-3	0.00	0.021		0.20	17.90	56.60	0.1	-2.4		0.2	-14.6	-24.9
178	Grid C1-4	0.00	0.019		0.00	20.50	56.30	-0.1	0.2		-0.2	1.2	-26.3
											Average	0.0	-8.5
											S.D.	0.2	11.2
179	Grid C2-1	0.00	0.024		0.10	19.40	58.50	0.0	-0.9		0.0	-5.5	-16.3
180	Grid C2-2	0.00	0.026		0.10	18.80	58.30	0.0	-1.5		0.0	-9.1	-17.2
181	Grid C2-3	0.00	0.020		0.10	18.80	58.50	0.0	-1.7		0.0	-10.3	-16.3
182	Grid C2-4	0.00	0.018		0.30	18.20	60.30	0.2	-1.1		0.3	-6.7	-8.1
											Average	0.1	-7.9
											S.D.	0.2	4.2
183	Grid C3-1	8.86	0.021		0.00	18.10	54.80	-0.1	-2.2		-0.2	-13.4	-33.0
184	Grid C3-2	0.00	0.023		0.00	18.60	55.20	-0.1	-1.7		-0.2	-10.3	-31.2
											Average	-0.2	-11.8
											S.D.	0.0	2.1

**BUILDING 4481, CDTF MECHANICAL ROOM  
RADIOLOGICAL CLOSEOUT SURVEY REPORT**

MEMORANDUM FOR: Director of Training, ATTN: OIC, Chemical Decontamination Training Facility (CDTF)

SUBJECT: Removable Contamination Survey of Former Commodities Storage Area – Building 4481, CDTF Mechanical Room

1. Reference:
  - a. NUREG-1500, Working Draft Regulatory Guide on Release Criteria for Decommissioning: NRC Staff's Draft for Comment
  - b. Draft Memorandum for Army MACOMs, Subject: DA-Wide Policy on Radiological Surveys at BRAC Commodity Sites
2. History: From May 1997 to August 1998, Army commodities containing radioactive materials (CAMs, M43A1 chemical agent detectors, and excess M43A1 cells) were stored in wall lockers in the mechanical room of the CDTF. Areas were posted with Radioactive Material warning signs and other required documents. CDTF personnel routinely performed leak tests of these commodities on a desk in the area and submitted wipes to verify that areas were clean after each leak test. In August 1998, the commodities, wall lockers, and desk were moved to a warehouse storage area in the CDTF compound, leaving a vacant room. Commodity leak test results on file in the Health Physics Office indicate no presence of removable radioactive materials during the time of storage in this room.
3. Survey Instrumentation: An AN/PDR-77 RADIAC set, S/N 0029A, calibration due 4 June 1999, was used to record dose rates in the mechanical room.
  - a. A DT616/VDR-2 beta/gamma detector was used to record gamma emissions from any Am-241 in the area. Background dose rates at one (1) foot from the floor were recorded at 0.016 mR/hr.
  - b. A DT-695/PDR-77 pancake detector without energy compensation shield was used to record beta dose rates from any Ni-63 in the room. Background count rates at 1/8 inch from the floor were recorded at 112 CPM.
4. Smear Survey: Representative smears were taken throughout the mechanical room to document the removable contamination in and around areas where storage containers had been placed. Samples of 100 cm<sup>2</sup> were taken for both alpha gas proportional and beta liquid scintillation analysis.

**BUILDING 1081**  
**NRC LICENSE AMENDMENT AND TERMINATION LETTERS**



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET SW SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

July 24, 2000

Department of the Army  
ATTN: Colonel Patricia L. Nilo  
U.S. Army Chemical School  
401 Engineer Loop  
Fort Leonard Wood, Missouri 65473-8926

SUBJECT: TERMINATION OF LICENSE NO. SNM-1877 (REFERENCE: CONTROL  
NO. 258980; DOCKET NO. 070-02934)

Dear Colonel Nilo:

In response to your recent request, enclosed please find termination of your NRC materials license. We have taken this action in response to your letters and Certificate of Disposition (NRC Form 314) dated July 10, 2000.

If there are any errors or questions, please notify this office (ATTN: Ms. Diane Heim at (404) 562-4723) so that we can provide appropriate corrections and answers.

Sincerely,

Orysia Masnyk Bailey, License Reviewer  
Division of Nuclear Materials Safety

Enclosure: NRC Materials License Termination

MATERIALS LICENSE  
SUPPLEMENTARY SHEETLicense No.  
SNM-1877Docket or Reference No.  
070-02934

Amendment No. 11

Department of the Army  
U.S. Army Chemical School  
Fort Leonard Wood, Missouri 65473-8926

In accordance with Certification of Disposition of Materials dated July 10, 2000, License No. SNM-1877, is hereby terminated.



FOR THE U.S. NUCLEAR REGULATORY COMMISSION

ORYSIA MASNYK BAILEY

Date JUL 24 2000

By

*Orysia Masnyk Bailey*  
Region II, Division of Nuclear Materials Safety  
61 Forsyth Street, SW, Suite 23T85  
Atlanta, GA 30303



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
61 FORSYTH STREET SW SUITE 23T85  
ATLANTA, GEORGIA 30303-8931

July 27, 2000

Department of the Army  
ATTN: Colonel Patricia L. Nilo  
Commandant  
U. S. Army Chemical School  
Fort Leonard Wood, Missouri 65473-8926

SUBJECT: TRANSMITTAL AND EXPLANATION OF AMENDMENT TO LICENSE NO. 01-02861-05 (REFERENCE CONTROL NO. 258979; DOCKET NO. 030-17584)

Dear Colonel Nilo:

Enclosed please find Amendment No. 15 to your NRC materials license. This action was taken in response to your letter dated June 12, 2000, providing additional survey data obtained at the former Chemical School (Building 1081) at Fort McClellan, Alabama. This information, and the information provided in your March, 2000 Final Survey Report, was compared to the NRC's data obtained during an inspection completed on October 1, 1999. The inspection results were documented in Inspection Report No. 01-02861-05/99-01 issued on March 1, 2000. Additional survey results from the survey conducted in Building 1081 are contained in Enclosure 2 to this letter. The results of this review confirm that Building 1081 meets the criteria for unrestricted release delineated in 10 CFR 20.1402. Accordingly it has been removed from your license. A survey of Alpha Field was not required since the only licensed materials used there were plated U-233 sources and your report indicated that there was no contamination found when the plates were tested.

The following is an update of the remaining issues concerning the burial mound at Pelham Range.

1. The Environmental Assessment for the Decommissioning Plan for the contaminated soil in the burial mound at Pelham Range is under final review and will be published in the Federal Register for public review and comment shortly.
2. We are awaiting your response to our letter dated May 4, 1999. In it we asked what assurance you can provide that contamination is limited to the area of the burial mound. We understand that you plan to address this concern by performing an aerial fly over of the area and have received your fax dated July 12, 2000, which delineates the areas to be considered. Please ensure that the area to be surveyed contains the areas used for radiological exercises at the Pelham Range.
3. We have received your letter dated July 6, 2000, containing information regarding the hydro geologic conditions at the Pelham Range. It will be used to help determine whether the groundwater in the area has been affected by the burial mound.
4. We are also awaiting your response to our letter dated March 1, 2000, asking you to discuss your method of securing any licensed material that may be removed from the mound or accumulated as the work continues.

We have reviewed your November, 1999, Radiological Historical Assessments of the Pelham Range and Main Post as well as your March, 2000, Commodity Site Survey Report. Based on the information provided in these documents and previous NRC inspection activities at Fort McClellan we have determined that the following areas identified in the Commodity Site Survey Report do not require additional attention from the NRC; Buildings 337, 338, 339, 341, 3181, 345, 335, 228, 303-A, 812-1/2, 257, 4416, 256, 3182, and 350, Bromine Field, and Alpha Field. We have no further radiological concerns regarding the use or control of these areas.

No further action is required based on the adequacy and thoroughness of your final surveys, your conservative assessment of the appropriate MARSSIM Class of the areas to be surveyed, your findings that no residual contamination remained, and for the following reasons.

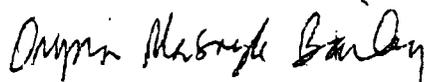
1. Inspectors from the Alabama Department of Radiological Safety and the Federal Environmental Protection Agency were present during the final survey of Building 3181, and based on discussions with them, and review of your report, we have determined that the survey was appropriate and adequate.
2. The materials used in Buildings 228, 256, 257, 303A, 335, 337, 338, 339, 341, 345, 350, 812-1/2, and 4416 were in sealed source form with no history of leaking or contamination or were material not regulated by the NRC.
3. The material used at Bromine Field, Br-82, has a half life of 2.4 days, no contamination can remain, and no survey is required.

We have received your Sampling Plan dated July 20, 2000 for the remaining areas to be surveyed as follows: Buildings T-810, 811, 812, 836 and 837 which housed the original Chemical School in the 1950s; three additional burial or use sites in the Rattlesnake Gulch area, two near the Summerall Gate area and one in the northeast corner of the Anniston Community Center Property; a room in Building 3182, and a location at Range 25 which was used for the testing of prototype actuators.

We will observe the decommissioning and survey activities as time and work load permit. Please advise us if you deviate from the schedule provided in the Sampling Plan.

If you have any questions please call me at (404) 562-4739.

Sincerely,



Orysia Masnyk Bailey, License Reviewer  
Division of Nuclear Materials Safety

Enclosures: 1. Amendment No. 15  
License No. 01-02861-05  
2. Building 1081 Survey Results

cc w/encls: (See page 3)

Department of the Army

3

cc w/encls:

Richard G. Button, Jr.  
Environmental Protection Agency  
345 Courtland Street, N.E.  
Atlanta, GA 30365

James T. Williams  
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**MATERIALS LICENSE**

Pursuant to the Atomic Energy Act of 1954, as amended, the Energy Reorganization Act of 1974 (Public Law 93-438), and Title 10, Code of Federal Regulations, Chapter I, Parts 30, 31, 32, 33, 34, 35, 36, 39, 40, and 70, and in reliance on statements and representations heretofore made by the licensee, a license is hereby issued authorizing the licensee to receive, acquire, possess, and transfer byproduct, source, and special nuclear material designated below; to use such material for the purpose(s) and at the place(s) designated below; to deliver or transfer such material to persons authorized to receive it in accordance with the regulations of the applicable Part(s). This license shall be deemed to contain the conditions specified in Section 183 of the Atomic Energy Act of 1954, as amended, and is subject to all applicable rules, regulations, and orders of the Nuclear Regulatory Commission now or hereafter in effect and to any conditions specified below.

<p>Licensee</p> <p>1. Department of the Army</p> <p>2. U. S. Army Chemical School Fort Leonard Wood, Missouri 65473-8926</p>	<p>In accordance with the letter dated <b>March 20, 2000</b></p> <p>3. License No. 01-02861-05 is amended in its entirety to read as follows:</p> <p>4. Expiration date February 28, 2002</p> <p>5. Docket No. 030-17584</p>	
<p>6. Byproduct, source, and/or special nuclear material</p> <p>A. Cobalt 60</p> <p>B. Cesium 137</p>	<p>7. Chemical and/or physical form</p> <p>A. Residual contamination in soil</p> <p>B. Residual contamination in soil</p>	<p>8. Maximum amount that licensee may possess at any one time under this license</p> <p>A. 296 megabecquerels (MBq) (8 millicuries)</p> <p>B. 18.5 MBq (0.5 millicuries)</p>
<p>9. Authorized use:</p> <p>A. and B. For possession of residual contamination and to perform decontamination and decommissioning activities.</p>		

**CONDITIONS**

10. Licensed material shall be used only at the U. S. Army Chemical School, Building 1081, Fort McClellan, Alabama.
11. The Radiation Protection Officer for the activities authorized by this license is John W. May, and in his absence, John E. Aperans, Ronald DeGumbia, Robert L. Stephens, and Thomas Robinson, Jr.
12. Licensed material shall be used by, or under the supervision of individuals designated by the licensee's Radiation Safety Committee and trained in accordance with the application dated November 29, 1990 and the letter with attachments dated February 6, 1992. The licensee shall maintain records of the training and experience of individuals designated as authorized users.

**MATERIALS LICENSE  
SUPPLEMENTARY SHEET**

License No.  
01-02861-05

Docket No.  
030-17584

Amendment No. 15

13. Except as specifically provided otherwise in this license, the licensee shall conduct its program in accordance with the statements, representations, and procedures contained in the documents including any enclosures, listed below. The Nuclear Regulatory Commission's regulations shall govern unless the statements, representations and procedures in the licensee's application and correspondence are more restrictive than the regulations.

- A. Application dated November 29, 1990
- B. Letter dated August 29, 1991
- C. Letter with attachments dated February 6, 1992
- D. Letter dated May 18, 1998 (changes alternate Radiation Protection Officers)
- E. Letter dated May 28, 1998 (adds Cobalt and Cesium contamination possession)
- F. Letter dated July 16, 1998 (additional information)
- G. Letter dated March 20, 2000 [Final survey for Building 1081 and Alpha Field]
- H. Letter dated June 12, 2000 [Additional information, deletes Building 1081 and Alpha Field from license, deletes "Broad Scope" use of licensed material, license for possession and decontamination only]

FOR THE U.S. NUCLEAR REGULATORY COMMISSION

ORYSIA MASNYK BAILEY

**JUL 27 2000**

Date \_\_\_\_\_

By

*Orysia Masnyk Bailey*

Region II, Division of Nuclear Materials Safety  
61 Forsyth Street, SW, Suite 23T85  
Atlanta, GA 30303

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRan/Hr at observer meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
<b>Building 1081 Room 0</b>				
4N	79	0	-0.1	-1.3
6M	150	0	-0.1	0.7
7L	32	0	-0.1	0.7
6N	150	-1	0.9	-1.3
5N	339	0	-0.1	-0.3
9H	336	-1	-0.1	-0.3
9I	107	0	-0.1	-1.3
8G	382	0	-0.1	0.7
9E	161	-1	-0.1	1.7
8D	7	0	-0.1	-1.3
10F	232	0	0.9	1.7
7G	68	-1	0.9	-0.3
5B	50	-1	-0.1	-0.3
4C	89	-1	-0.1	-0.3
4A	107	0	-0.1	1.7
6B	196	0	-0.1	-0.3
2D	207	-1	-0.1	-0.3
2E	139	-1	-0.1	2.7
3G	286	-1	-0.1	3.7
3I	218	-1	0.9	-1.3
1I	171	-1	-0.1	-1.3
4D	14	0	-0.1	1.7
5E	57	-1	-0.1	-1.3
6F	-46	-1	-0.1	-0.3
7G	79	-1	0.9	-0.3

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRm/Hr. at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
6I	1282	-1	-0.1	2.7
5K	32	-1	-0.1	-0.3
5I	657	-1	-0.1	-0.3
6H	-57	-1	-0.1	-0.3
6D	504	0	-0.1	-0.3
<b>BUILDING 1081 PREP LAB</b>				
Inside Fume Hood	-50	0	-0.1	17.70
Floor Surrounding Fume Hood	scan only	--	-0.1	1.7
6B	118	0	-0.1	3.7
4C	175	0	-0.1	-0.3
9C	257	-2	-0.1	2.7
13F	268	2	-0.1	-0.3
12H	361	-1	-0.1	-0.3
14I	307	0	0.9	-1.3
9M	221	3	-0.1	1.7
10L	61	2	0.9	-0.3
6M	314	3	-0.1	0.7
2I	211	2	-0.1	-1.3
4I	14	1	-0.1	-0.3
1G	100	0	-0.1	-1.3
5F	0	0	-0.1	2.7
2D	239	-1	-0.1	0.7
5E	-57	0	-0.1	-1.3
8F	-21	-1	-0.1	-1.3
9I	79	-1	-0.1	1.7
6K	-14	-1	-0.1	0.7

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRm/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
10D	-50	-1	-0.1	0.7
8E	557	-1	-0.1	-1.3
8I	579	-1	-0.1	-0.3
6K	575	0	-0.1	0.7
<b>BUILDING 1081 AREA V - VAULT</b>				
9G	1411	-1	-0.1	2.7
9J	-96	0	0.9	-0.3
6I	-21	0	-0.1	-0.3
4D	-4	0	-0.1	0.7
6E	18	1	-0.1	-0.3
11I	7	-1	0.9	-0.3
13G	179	0	-0.1	-1.3
9F	182	0	-0.1	-1.3
9I	146	0	-0.1	-1.3
8M	29	0	-0.1	0.7
5L	36	0	-0.1	-0.3
2I	221	0	0.9	-0.3
3F	61	1	-0.1	1.7
4B	154	1	-0.1	-1.3
7F	643	0	-0.1	2.7
9G	-61	0	-0.1	-0.3
8I	557	0	-0.1	0.7
<b>BUILDING 1081 - AREA P - LAB 1</b>				
16D	43	0	0.9	3.7
15G	68	-1	-0.1	0.7
14F	18	-1	-0.1	1.7
11H	7	-1	-0.1	0.7

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	µRem/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
12E	39	-1	-0.1	-1.3
10G	57	-1	-0.1	-1.3
7H	57	-1	-0.1	0.7
6J	75	-1	-0.1	-0.3
6F	100	-1	-0.1	-0.3
4G	107	-1	-0.1	-1.3
10A	246	-1	-0.1	1.7
12B	246	0	-0.1	1.7
14C	232	1	-0.1	-0.3
15B	293	1	-0.1	2.7
6L	114	-1	0.9	-0.3
7K	296	-1	-0.1	-0.3
13L	296	0	-0.1	-1.3
16M	271	0	-0.1	-1.3
19H	418	0	-0.1	0.7
18D	243	0	-0.1	0.7
2I	296	-1	-0.1	-1.3
3D	250	-1	-0.1	0.7
4F	571	-1	-0.1	0.7
8H	579	-1	-0.1	1.7
12D	425	0	-0.1	5.7
15F	650	0	-0.1	-0.3
14I	582	0	-0.1	-0.3
<b>BUILDING 1081 - AREA Q - LAB HALLWAY</b>				
5E	-14	0	-0.1	0.7
8D	61	-1	-0.1	-0.3
11D	-143	0	-0.1	1.7

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRem/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
15E	-46	-1	-0.1	1.7
17B	171	0	-0.1	1.7
7F	50	-1	-0.1	-1.3
7B	207	-1	-0.1	-0.3
10C	121	-1	-0.1	-1.3
<b>BUILDING 1081 - AREA I - JANITOR'S CLOSET</b>				
3C	96	0	-0.1	0.7
3D	-14	-1	-0.1	-0.3
4G	311	0	-0.1	-1.3
5C	161	0	0.9	-0.3
3D	146	0	-0.1	-0.3
2D	-232	-1	-0.1	0.7
<b>BUILDING 1081 - LAB #4</b>				
7E	46	-1	-0.1	0.7
3D	4	-1	-0.1	-1.3
5A	150	0	-0.1	-0.3
3B	129	0	-0.1	0.7
2F	157	3	-0.1	-0.3
3I	304	0	-0.1	-0.3
7H	157	-1	-0.1	0.7
10E	214	-1	0.9	0.7
14B	111	-1	-0.1	-1.3
7C	207	-2	-0.1	-1.3
2G	264	3	-0.1	-0.3
6L	164	-1	-0.1	0.7
13M	393	-1	-0.1	1.7
18H	286	-1	0.9	-0.3

Enclosure 2

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRen/hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
14H	61	-2	-0.1	-1.3
10J	-18	-1	-0.1	-0.3
7E	-86	-1	-0.1	-1.3
13E	-36	-2	-0.1	-0.3
<b>BUILDING 1081 - LAB #2</b>				
13F	157	-1	-0.1	-0.3
12Q	196	-1	.09	.07
10Q	-82	-2	-0.1	-0.3
8W	243	-1	-0.1	-1.3
7S	100	-1	-0.1	-0.3
3R	129	-1	-0.1	-0.3
5R	-32	-2	-0.1	-1.3
6O	-71	-1	-0.1	-1.3
2G	264	0	-0.1	0.7
6F	-118	-1	-0.1	2.7
8C	264	-1	0.9	3.7
9F	7	-1	0.9	1.7
7H	-21	-1	-0.1	-1.3
<b>BUILDING 1081 - LAB #7</b>				
7E	-14	-2	-0.1	0.7
1E	161	-1	-0.1	-1.3
4F	-18	-1	-0.1	-0.3
9L	200	-1	0.9	-0.3
10I	-54	-1	-0.1	-0.3
11F	43	-2	-0.1	0.7
<b>BUILDING 1081 VAULT</b>				
9G	429			

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRem/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
9G	364			
<b>LSC SMEARS FOR H-3</b>				
WATER BACKGROUND			138	
9G			13	
9J			-4	
6I			-51	
4D			42	
6E			-5	
9F			5	
5L			7	
9G			27	
8H			4	
<b>BUILDING 1081 - TANK ROOM</b>				
5D	96	-3	-0.1	4.7
7E	293	-3	-0.1	2.7
7C	75	-3	-0.1	4.7
<b>BUILDING 2281- LAB #1</b>				
NORTH WALL - 1 LOW	-136	-3	-0.1	2.7
NORTH WALL - 5 LOW	339	-1	-0.1	2.7
NORTH WALL - 8 LOW	-30	-4	-0.1	8.7
WEST WALL - A LOW	-171	-6	-0.1	2.7
WEST WALL - C LOW	-150	-5	-0.1	2.7
WEST WALL - F LOW	-86	-5	-0.1	5.7
SOUTH WALL - 8 LOW	500	1	0.9	4.7
SOUTH WALL - 5 LOW	532	-1	-0.1	1.7
SOUTH WALL - 2	707	0	-0.1	1.7
EAST WALL - G	671	2	-0.1	0.7

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	UFM/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
EAST WALL - D	729	3	-0.1	3.7
EAST WALL - A	764	-1	-0.1	5.7
<b>BUILDING 22 81 - HP LAB</b>				
NORTH - RIGHT OF LIGHT SWITCH	-243	-3	-0.1	-1.3
WEST WALL - 8 FT SOUTH - LOW	-239	-5	-0.1	0.7
WEST WALL - 14 FT SOUTH	-96	-6	-0.1	0.7
WEST WALL - 22 FT SOUTH	-286	-8	1.9	1.7
SOUTH WALL - BETWEEN WINDOWS	-343	-8	-0.1	-0.3
EAST WALL - 20 FT SOUTH	575	-1	-0.1	-0.3
EAST WALL - 14 FT SOUTH	-46	-1	-0.1	-0.3
EAST WALL - 6 FT SOUTH	464	0	-0.1	0.7
FLOOR - 6 FT NORTH - 3 FT EAST	-164	7	-0.1	-0.3
FLOOR - 10 FT NORTH - 4 FT EAST	-211	-5	-0.1	-1.3
FLOOR - 18 FT NORTH - 1 FT EAST	-136	-4	-0.1	1.7
FLOOR - 22 FT NORTH - 4 FT EAST	-114	-6	-0.1	-0.3
FLOOR - 20 FT NORTH - 8 FT EAST	-246	-5	0.9	2.7
FLOOR - 12 FT NORTH - 6 FT EAST	-239	-6	-0.1	2.7
<b>BUILDING 2281 - DECON ROOM A</b>				
WEST WALL - 4 FT SOUTH	246	-6	-0.1	-0.3
WEST WALL - 22 FT NORTH	-143	-7	-0.1	5.7

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRem/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
SOUTH WALL - 5 FT EAST - HIGH	-93	-7	-0.1	-0.3
SOUTH WALL - 16 FT EAST - LOW	161	-4	-0.1	-0.3
SOUTH WALL - 22 FT EAST - LOW	161	-6	-0.1	1.7
EAST WALL - 6 FT NORTH	-179	-5	-0.1	-0.3
EAST WALL - 16 FT NORTH	-293	-5	-0.1	-0.3
EAST WALL - 22 FT NORTH	-246	-4	-0.1	-0.3
EAST WALL - XX FT NORTH	-239	-3	-0.1	-0.3
NORTH WALL - 3 FT EAST	489	-3	-0.1	-0.3
NORTH WALL - 8 FT WEST	621	-3	-0.1	0.7
<b>BUILDING 2281 - DECON ROOM B</b>				
WEST WALL - 2 FT SOUTH	-161	-4	-0.1	-0.3
WEST WALL - 12 FT SOUTH	-407	-4	1.9	5.7
WEST WALL - 20 FT SOUTH	-225	-4	-0.1	-0.3
WEST WALL - 24 FT SOUTH	-279	-4	-0.1	1.7
SOUTH WALL - 4 FT WEST	-186	06	-0.1	-0.3
SOUTH WALL - 4 FT NORTH	-425	-4	-0.1	-0.3
EAST WALL - 10 FT NORTH	-171	-6	-0.1	0.7
EAST WALL - 20 FT NORTH	-68	-4	0.9	2.7
EAST WALL - 24 FT NORTH	-161	-4	-0.1	0.7

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRan/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
EAST WALL - 28 FT NORTH	-207	-4	-0.1	-0.3
NORTH WALL - 4 FT EAST	489	-2	-0.1	2.7
NORTH WALL - 16 FT EAST	189	-2	-0.1	-0.3
<b>BUILDING 2281 - PREP LAB</b>				
NORTH WALL - 3 FT EAST	832	-4	-0.1	0.7
NORTH WALL - 15 FT EAST	432	-5	-0.1	1.7
WEST WALL - 7 FT SOUTH	-132	-4	-0.1	-0.3
WEST WALL - 14 FT SOUTH	-296	-5	-0.1	-0.3
WEST WALL - 23 FT SOUTH	-239	-5	-0.1	2.7
SOUTH WALL - 6 FT EAST	118	-5	-0.1	-0.3
SOUTH WALL - 15 FT EAST	-82	-5	-0.1	-0.3
EAST WALL - 2 FT NORTH	757	-4	-0.1	0.7
EAST WALL - 7 FT NORTH	800	-4	-0.1	-0.3
EAST WALL - 13 FT NORTH	-61	-3	0.9	-0.3
EAST WALL - 23 FT NORTH	564	2	-0.1	-0.3
<b>BUILDING 2281 - LAB 2</b>				
T1	-332	-5	-0.1	-1.3
S1	-75	-5	-0.1	-1.3
M2	-396	-4	-0.1	-1.3
L6	-407	-3	-0.1	-1.3
R9	-143	-3	-0.1	-0.3
R11	39	-3	-0.1	0.7
O1	-46	-6	-0.1	-0.3

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	µRem/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
L11	-300	-4	-0.1	-1.3
N9	-261	-4	-0.1	0.7
<b>BUILDING 2281 - HALLWAY OUTSIDE LAB 2</b>				
X11	-307	-3	-0.1	-1.3
V9	-229	-4	-0.1	0.7
BB11	493	-3	-0.1	-0.3
FF10	-64	-3	-0.1	0.7
<b>BUILDING 2281 - LAB 2 OFFICE</b>				
V5	-289	-5	-0.1	-0.3
U4	-282	-4	-0.1	-0.3
V1	-71	-4	0.9	0.7
U8	-179	-6	-0.1	2.7
X7	421	-3	-0.1	2.7
X6	564	-4	0.9	-1.3
X3	400	-4	-0.1	0.7
U1	-257	-4	-0.1	-0.3
U4	-336	-6	-0.1	1.7
V1	-139	-5	-0.1	0.7
<b>BUILDING 2281 - VAULT</b>				
JJ5 TOP	150	-3	-0.1	-1.3
JJ7 BOTTOM	754	-3	-0.1	1.7
JJ5 BOTTOM	-79	4	0.9	0.7
LL6 BOTTOM	-29	-2	-0.1	-1.3
LL8 BOTTOM	-314	-2	-0.1	0.7
LL8 TOP	-139	-2	-0.1	-1.3
LL8 FLOOR	-164	-3	-0.1	0.7
JJ5 FLOOR	-64	-2	-0.1	-1.3

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	µRem/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
DD1	582	-4	-0.1	2.7
1AA BOTTOM	704	3	0.9	-0.3
1AA TOP	457	3	0.9	-0.3
3Y BOTTOM	486	3	-0.1	2.7
4Y BOTTOM	436	-4		-1.3
5Y TOP	-207	2	-0.1	0.7
BB8 TOP	132	-4	-0.1	-0.3
CC8 BOTTOM	-354	-4	-0.1	-0.3
Y8 BOTTOM	471	3	0.9	1.7
GG8 BOTTOM	582	3	-0.1	-1.3
II5 BOTTOM	-221	2	-0.1	-0.3
II2 BOTTOM	-286	4	-0.1	-0.3
II1	-136	5	-0.1	-0.3
<b>BUILDING 2281 - LAB 2</b>				
A8	136	0	-0.1	2.7
A2	-7	-2	-0.1	-1.3
D1	-189	-2	0.9	0.7
J1	-318	-4	-0.1	0.3
H1	57	-1	-0.1	-0.3
K-6	-504	-4	0.9	1.7
G-11	-64	-2	-0.1	0.7
J-11	-236	-2	-0.1	-0.3
J-7	-296	-4	-0.1	-1.3
I-3	-111	-1	-0.1	0.7
F-1	-32	-2	-0.1	0.7
G-5	-107	-3	-0.1	0.7
C-9	-32	-2	-0.1	-1.3

Location/Grid	Fixed Point Measurement (dpm/100 cm <sup>2</sup> )	uRem/Hr at one meter	Wipe Test Alpha (dpm/100 cm <sup>2</sup> )	Wipe Test Beta (dpm/100 cm <sup>2</sup> )
A-3 TOP	-136	-2	-0.1	0.7
A-3 BOTTOM	-196	-2	-0.1	0.7
A-9	218	-2	-0.1	1.7
C-11	-86	-1	-0.1	0.7

**ATTACHMENT 5  
AIR PERMIT**

# ADEM



## ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

Leigh Pegues, Director

December 17, 1992

Guy Hunt  
Governor

1751 Cong. W. L.  
Dickinson Drive  
Montgomery, AL  
36130  
(205) 271-7700  
FAX 271-7950  
270-5612

Department of the Army  
U. S. Army Chemical and Military  
Police Center and Fort McClellan  
Director of Engineering and Housing  
ATTN: Environmental Management Division  
Mr. Shih-Chi Wang  
Fort McClellan, AL 36205-5000

Field Offices:

110 Vulcan Road  
Birmingham, AL  
35209  
(205) 942-6168  
FAX 941-1603

P.O. Box 953  
Decatur, AL  
35602  
(205) 353-1713  
FAX 340-9359

Perimeter Road  
Mableton, AL  
3015  
(205) 450-3400  
FAX 479-2593

Dear Mr. Wang:

RE: Permit No. 301-0017-2007 (CDTF)

The enclosed revised Air Permit is issued pursuant to the Department's air pollution control rules and regulations. It reflects the installation of a steam autoclave at the CDTF to recycle Battle Dress Overgarments. Note the conditions which must be observed in order to retain this permit. Please return the original copy of Air Permit No. 301-0017-2007 dated June 1, 1987 which you presently hold.

If you have any questions or require clarification of permit conditions, please write or call Nathan Hartman at 205/271-7861 in Montgomery.

Sincerely,

A handwritten signature in black ink that reads "Richard E. Grusnick".

Richard E. Grusnick, Chief  
Air Division

REG/NH:klh

Enclosure

cc: Doug Lipsey

# ADEM

Alabama  
Department of Environmental Management

## AIR PERMIT

PERMITTEE: U.S. ARMY CHEMICAL AND MILITARY POLICE CENTERS  
AND FORT MCCLELLAN

LOCATION: FORT MCCLELLAN, ALABAMA

PERMIT NUMBER

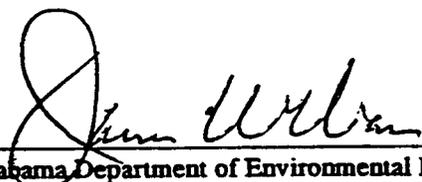
301-0017-Z007

DESCRIPTION OF EQUIPMENT,  
ARTICLE OR DEVICE

Chemical Decontamination Training  
Facility (CDTF) Incinerator with Wet  
Scrubber

*In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Code of Alabama 1975, §§22-28-1 to 22-28-23 (the 'AAPCA') and the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.*

ISSUANCE DATE: December 17, 1992

  
Alabama Department of Environmental Management

U.S. ARMY CHEMICAL AND MILITARY POLICE CENTERS AND FORT MCCLELLAN

Permit No. 301-0017-Z007

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.
2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.
3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.
4. Each point of emission will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
5. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants, the waste feed will be stopped immediately and not resumed until the problem is corrected. The Department shall be notified when the breakdown has been corrected.
6. All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.
7. The system will continuously monitor and record the temperatures of the Pyrolizer Furnace and the Rich Fume Incinerator (RFI), the pH and flow rate of the scrubbing brine, the liquid waste feed rate, the combustion gas velocity and the exhaust gas CO concentration in ppm. System capability to record data at 2 minute intervals is considered continuous monitoring and recording. The weight of solid waste and number of batteries fed to the Pyrolizer Furnace will be manually recorded. These records will be maintained in a manner suitable for inspection of a period of at least two years.

Permit No. 301-0017-Z007

8. Liquid waste feed and gases/condensate feed from the autoclaves to the RFI will not start and will automatically stop when any of the following conditions occur:
  - a. The temperature of the RFI falls below 1,700° F for more than 30 seconds when burning GB and VX decontamination waste water.
  - b. The temperature of the RFI falls below 2,200° F for more than 30 seconds when burning HD decontamination waste water.
  - c. The pH of the scrubber brine falls below 7.5 for more than 60 seconds.
  - d. The stack gas CO concentration exceeds 200 ppm for more than 30 seconds.
  - e. A positive pressure exists in the RFI for more than 30 seconds.
9. A temperature of at least 1,500° F (1,000° F when decontaminating lithium/sulfur dioxide batteries and/or wherlerlite filters) will be maintained for a minimum of 15 minutes for each load of solid waste placed in the Pyrolizer Furnace. Temperature will not exceed 2,500° F. Maximum total load to the Pyrolizer is 1,000 pounds. Maximum battery load is 10. The following conditions will be maintained when the pyrolizer is in operation:
  - (a) RFI temperature  $\geq$  1,700° F when burning GB and VX contaminated residue.
  - (b) RFI temperature  $\geq$  2,200° F when burning HD contaminated residue.
  - (c) Scrubber brine pH  $\geq$  7.5.
  - (d) Stack Gas CO concentration  $\leq$  200 ppm.
  - (e) Negative RFI pressure.
10. Gases and or condensate from the autoclave system will not be fed to the RFI when the pyrolizer is in use.
11. Submission of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

Permit No. 301-0017-Z007

12. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.
13. Nothing in this permit or conditions thereto shall negate any authority granted to the Department pursuant to the Alabama Environmental Management Act or regulations issued thereunder.
14. All instances of automatic cut off of the waste feed, or manual cut off required by Proviso Nos. 5 and 8 above, will be noted in a log book to show date/time of occurrence, duration of occurrence, cause and corrective action taken. This record will be maintained in a manner suitable for inspection for a period of at least two years.

December 17, 1992

Date

U.S. ARMY CHEMICAL AND MILITARY POLICE CENTERS AND FORT McCLELLAN

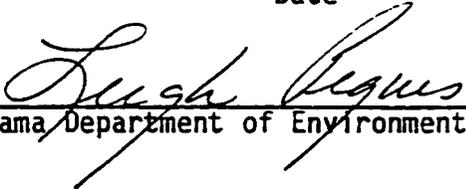
Permit No. 301-0017-Z007

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2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.
3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.
4. Each point of emission will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
5. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants, the waste feed will be stopped immediately and not resumed until the problem is corrected.
6. All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.
7. The system will continuously monitor and record the temperatures of the Pyrolizer Furnace and the Rich Fume Incinerator (RFI), the pH and flow rate of the scrubbing brine, the liquid waste feed rate, the combustion gas velocity and the exhaust gas CO concentration in ppm. The weight of solid waste fed to the Pyrolizer Furnace will be manually recorded. These records will be maintained in a manner suitable for inspection for a period of at least two years.
8. Liquid waste fed to the RFI will automatically stop when any of the following conditions occur:
  - a. The temperature of the RFI falls below 1700°F for more than 30 seconds when burning GB and VX decontamination waste water.
  - b. The temperature of the RFI falls below 2,200°F for more than 30 seconds when burning HD decontamination waste water.
  - c. The pH of the scrubber brine falls below 7.5 for more than 60 seconds.

- d. The stack gas CO concentration exceeds 200 ppm for more than 30 seconds.
  - e. A positive pressure exists in the RFI for more than 30 seconds.
9. A temperature of at least 1500°F will be maintained for a minimum of 15 minutes for each load of solid waste placed in the Pyrolizer Furnace.
  10. Submission of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.
  11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.
  12. Nothing in this permit or conditions thereto shall negate any authority granted to the Department pursuant to the Alabama Environmental Management Act or regulations issued thereunder.
  13. All instances of automatic cut off of the waste feed, or manual cut off required by Proviso 4 above, will be noted in a log book to show date/time of occurrence, duration of occurrence, cause and corrective action taken. This record will be maintained in a manner suitable for inspection for a period of at least two years.

July 12, 1988

\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Alabama Department of Environmental Management

# ADEM

ALABAMA  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



## AIR PERMIT

PERMITTEE: U. S. ARMY CHEMICAL AND MILITARY POLICE CENTERS  
AND FORT McCLELLAN  
LOCATION: FORT McCLELLAN, ALABAMA

PERMIT NUMBER

301-0017-2007

DESCRIPTION OF EQUIPMENT,  
ARTICLE OR DEVICE

Chemical Decontamination Training  
Facility (CDTF) Incinerator with  
Wet Scrubber

*In accordance with and subject to the provisions of the Alabama Air Pollution Control Act of 1971, as amended, Code of Alabama 1975, §§ 22-28-1 to 22-28-23 (the "AAPCA") and the Alabama Environmental Management Act, as amended, Code of Alabama 1975, §§ 22-22A-1 to 22-22A-15, and rules and regulations adopted thereunder, and subject further to the conditions set forth in this permit, the Permittee is hereby authorized to construct, install and use the equipment, device or other article described above.*

ISSUANCE DATE: **June 1, 1987**

Alabama Department of Environmental Management

**U.S. ARMY CHEMICAL AND MILITARY POLICE CENTERS AND FORT McCLELLAN**

**Permit No. 301-0017-Z007**

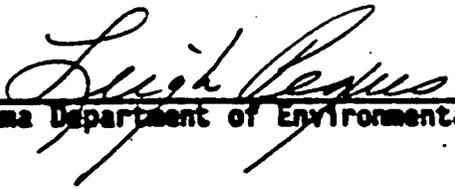
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3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.
4. Each point of emission will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
5. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants, the waste feed will be stopped immediately and not resumed until the problem is corrected.
6. All air pollution control devices and capture systems for which this permit is issued shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.
- \* 7. The system will continuously monitor and record the temperatures of the Pyrolizer Furnace and the Rich Fume Incinerator (RFI), the pH and flow rate of the scrubbing brine, the liquid waste feed rate, the combustion gas velocity and the exhaust gas CO concentration in ppm. The weight of solid waste fed to the Pyrolizer Furnace will be manually recorded. These records will be maintained in a manner suitable for inspection for a period of at least two years.
- \* 8. Liquid waste fed to the RFI will automatically stop when any of the following conditions occur:
  - a. The temperature of the RFI falls below 1700°F for more than 30 seconds when burning GB and VX decontamination waste water.
  - b. The temperature of the RFI falls below 2,200°F for more than 30 seconds when burning HD decontamination waste water.
  - c. The pH of the scrubber brine falls below 7.5 for more than 60 seconds.

Permit No. 301-0017-Z007

- d. The stack gas CO concentration exceeds 200 ppm for more than 30 seconds.
- e. A positive pressure exists in the RFI for more than 30 seconds.
- \* 9. A temperature of at least 1500°F will be maintained for a minimum of 15 minutes for each load of solid waste placed in the Pyrolizer Furnace.
- 10. Submission of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.
- 11. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.
- 12. Nothing in this permit or conditions thereto shall negate any authority granted to the Department pursuant to the Alabama Environmental Management Act or regulations issued thereunder.
- \* 13. All instances of <sup>↑</sup>automatic cut off of the waste feed, or manual cut off required by Proviso<sup>s</sup> 4 above, will be noted in a log book to show date/time of occurrence, duration of occurrence, cause and corrective action taken. This record will be maintained in a manner suitable for inspection for a period of at least two years.

July 12, 1988

Date

  
Alabama Department of Environmental Management

**ROUTING AND TRANSMITTAL SLIP**

Date **11/8/83**

TO: (Name, office symbol, room number, building, Agency/Post)	Initials	Date
2 <b>H.G. MOORE</b>		
2 <b>ROSS HUTCHINS, EN-MM</b>		
2		
4		
5		

Action	File	Note and Return
Approval	For Clearance	Per Conversation
As Requested	For Correction	Prepare Reply
Circulate	For Your Information	See Me
Comment	Investigate	Signature
Coordination	Justify	

**REMARKS**

**RE: CDTF, FT. McCLELLAN, AL.**

**ATTACHED IS COPY OF AIR POLLUTION CONSTRUCTION PERMIT FOR INCINERATOR & SCRUBBER.**

**NOTE STIPULATIONS 7 THRU 12. WE'LL HAVE A LOT OF TESTING TO DO, BUT IT WOULD HAVE TO BE DONE ANYWAY TO PROVE THAT THE SYSTEM WORKS BEFORE WE PAY FOR IT.**

DO NOT use this form as a RECORD of approvals, concurrences, disposals, clearances, and similar actions.

<b>FROM: (Name, org. symbol, Agency/Post)</b> <b>Jony Battaglia, EN-CP</b>	<b>Room No.—Bldg.</b>
	<b>Phone No.</b> <b>3141</b>

OPTIONAL FORM 41 (Rev. 7-76)  
Prescribed by GSA  
FPMR (41 CFR) 101-11.206

GPO : 1981 O - 241-528 (112)

4333

848-3407  
3935  
3539

# ADEM

## ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT



November 2, 1983

ing Address:  
e Capitol  
tgomery, AL  
30  
/277-3630

id Offices:

J. Box 953  
atur, AL  
02  
/353-1713

U.S. Army MP and Chemical Schools/Training Centers  
Director of Engineering and Housing  
(ATZN-FEE, Col. Lindsay)  
Fort McClellan, AL 36205

Re: Facility No. 301-0017

Dear Col. Lindsay:

The enclosed Permit to Construct is issued pursuant to the Department's air pollution control rules and regulations. Please note the conditions which must be observed in order to retain this permit.

The staff has determined that a permit is not necessary for the 6.25 MMBTU/HR package standby boiler as long as it burns only No. 2 fuel oil. If, in the future, a change of fuel for this boiler is contemplated, please notify this Division before taking any action.

If you have questions or require clarification of permit conditions, please write or call Bob Cowme at 834-6570 in Montgomery.

Yours very truly,

A handwritten signature in dark ink, appearing to read "R. Grusnick".

Richard E. Grusnick, Chief  
Air Division

REG/dm  
Enclosure

cc: James J. Smith  
Staff Engineer-Environmental  
Rust International Corporation

Corps of Engineers, Mobile District  
(SAMEN-CP, Mr. Battaglia)

H 806, Building 8  
S Oazmoor Circle  
mingham, AL  
209  
5/942-6188

58 Midmost Drive  
bHe, AL  
609  
5/343-7841

53 D. metropolitan Rd.  
ite 10  
obile, AL  
609  
15/660-0150

STATE OF ALABAMA  
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

PERMIT TO CONSTRUCT  
AN AIR EMISSIONS SOURCE

Issued to: U.S. ARMY MP AND CHEMICAL SCHOOLS/TRAINING CENTERS

Location: FORT MCCLELLAN, ALABAMA

Permit Number:

301-0017-X007

Description of Source:

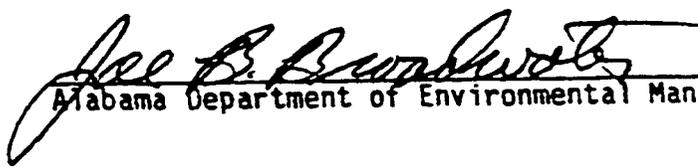
Chemical Agent Incinerator with Scrubber

This Permit to Construct is issued pursuant to the provision of Section 18 of the Alabama Air Pollution Control Act of 1971, Act No. 769 (Regular Session, 1971), and Sections 3,4,5,6 and 8 of the Alabama Environmental Act, Act No. 612 (Regular Session, 1982), as amended, and in accordance with the application filed with the Commission, and subject to the conditions appended hereto, both of which are considered a part of this Permit. This Permit shall be subject to all applicable laws of the State of Alabama and Rules, Regulations, and Orders of the Commission or the Director of the Department of Environmental Management, and shall be effective from the date of issuance.

This Permit is to be kept under file or on display at all times at the location described above and is to be made readily available for inspection by any and all persons who may request to see it. This Permit is not transferable.

Date of Issuance: November 2, 1983

Page 1 of 4 pages

  
Alabama Department of Environmental Management

## U.S. ARMY MP AND CHEMICAL SCHOOLS/TRAINING CENTERS

Permit No. 301-0017-X007

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.
2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.
3. Each point of emission will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.
4. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.
5. On completion of construction of the device for which this permit is issued, notification of the fact is to be given to the Department within 10 days.
6. The device for which this permit is issued may not be operated until a Permit to Operate is obtained from the Department.
7. Detailed descriptions and engineering drawings of the incinerator, scrubber and associated equipment will be supplied to this Division for review before construction or installation of these items commences.
8. The system will be equipped to continuously monitor and record the temperatures of the primary and secondary combustion chambers, the ph and flow rate of the scrubbing liquid through the scrubber, waste feed rates, combustion gas velocity or flow rate, and stack exhaust CO concentration. Anticipated values and/or limits for these parameters will be furnished this Division with the detailed description of the system required above in Proviso No. 7.
9. The system will have automatic safety features to stop the waste feed to the incinerator if the temperatures in the combustion chambers drop below a prescribed minimum temperature; if the scrubber's caustic solution drops below a prescribed ph value or flow rate; if the stack gas CO concentration varies beyond prescribed limits; and if the combustion gas velocity or flow rate varies beyond prescribed limits. These controls should be described in the equipment specifications required in Proviso 7.
10. Emission tests are to be conducted for the following pollutants:
  - a. Particulate
  - b. HCl
  - c. Asbestos
  - d. Diethylenetriamine
  - e. GB
  - f. VX
  - g. HD

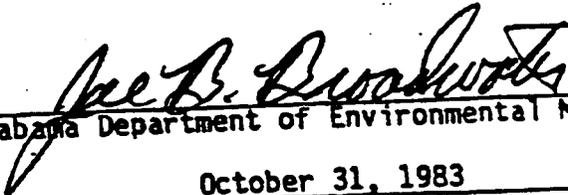
11. The tests are to be conducted to determine compliance with the following standards, and, for HCl and asbestos, to determine whether standards should be set.

- a. Particulate - 0.2 lbs per 100 lbs of waste charged (the weight of water in the waste will be subtracted from the total waste weight to determine the waste weight to be used in compliance calculations).
- b. HCl - Percent of chlorine removal by scrubber and amount of HCl emitted to the atmosphere.
- c. Asbestos - Percent of asbestos removal by scrubber and amount emitted to the atmosphere.
- d. Diethylenetriamine - 99.99% destruction and removal efficiency.
- e. GB - 99.99% destruction and removal efficiency.
- f. VX - 99.99% destruction and removal efficiency.
- g. HD - 99.99% destruction and removal efficiency.

12. The Division must be notified in writing at least ten (10) working days prior to the testing date. The notification shall include the following information:

- a. The date the test crew will arrive on site and the date and time of the start of the first test run.
- b. The names of the testing company and the test crew chief.
- c. A description of the sampling equipment and procedure to be used for each parameter to be tested.
- d. The laboratory analytical equipment, techniques and procedures to be used in the analysis of the samples collected.
- e. The laboratory analytical equipment, techniques and procedures to be used to determine the constituents, and amount there of, of the waste feed to be burned during the test.
- f. The operational parameters that the incinerator and scrubber will maintain during the test. These will include the parameters listed in Proviso No. 8 above.

Preliminary test results will be reported to the Division within 15 days of the completion of the test and the final written report is due within 30 days, unless an extension of time is specifically approved by the Division. A pretest meeting may be held at the request of the source owner, testing company, or the Division. The necessity for such a meeting and the attendees will be determined on a case-by-case basis.

  
Alabama Department of Environmental Management

October 31, 1983

Date

ENGINEERING REPORT

APPLICATION FOR STATE  
INDIRECT DISCHARGE PERMIT  
FOR THE

CHEMICAL DECONTAMINATION  
TRAINING FACILITY

FORT MCCLELLAN, ALABAMA

28 October 1988

**SUBJECT:** Training Procedure and Process Narrative

**LOCATION:** Chemical Decontamination Training Facility, Fort McClellan, Alabama

The Chemical Decontamination Training Facility (CDTF) is a facility used by the Army to instruct trainees how to locate and de-toxify GB and VX nerve agents. The nerve agents are placed on a vehicle or other apparatus within the enclosed environment of the training bays of the CDTF. The trainees then decontaminate the agent using DS 2 decontaminating agent and/or a solution of chlorine bleach. The analysis of DS 2 is provided at Enclosure 1.

The quantity of decontaminated wastewater currently being generated averages 20,000 gallons every six (6) weeks. This wastewater originates from training bay washdown, preliminary (hot) showers, preliminary (hot) laundry washdown, and laboratory waste. The anticipated quantity of decontaminated wastewater discharged every six (6) weeks is approximately 20,000 gallons. Sanitary waste sewage is discharged into a separate system as shown on the Overall Piping Plan at Exhibit 2A and 2B. This sanitary sewer water is made up of discharge from male and female toilets, male and female hygienic showers, and uncontaminated laundry wastes.

Currently, the decontaminated wastewater is pumped to and stored in an approximate 20,000 gallon influent storage tank shown at Exhibits 2B and D. This wastewater has an average pH of 11 when it leaves the training building. It is further treated at the storage tank by adding and mixing a sufficient quantity of sodium hydroxide (Na OH) to raise the pH to above 13. The pH of the decontaminated wastewater is then lowered to less than 8 by adding sufficient quantity of sulfuric acid (H<sub>2</sub> SO<sub>4</sub>). Once this wastewater has been treated and tested for agent it is either re-treated if agent concentrations

exceed 20 ppb (emergency drinking water standards), or incinerated if agent concentrations are less than 20 ppb.

The proposed decontaminated wastewater discharge procedure is to collect approximately 8,000-10,000 gallons in the influent storage tank and then sample for GB and VX nerve agent concentrations. When test results indicate that concentrations are less than 20 ppb the wastewater will be transferred to a 35,000 gallon storage tank as shown by schematic at Exhibit D. This tank is currently a fuel oil storage tank for the incinerator operation; however, when the conversion is made to fuel the incinerator with natural gas this tank can be cleaned and used as a wastewater storage tank. The wastewater will be retained in this storage tank until transfer is complete and pumping has been terminated at the influent storage tank. The wastewater will then be discharged through a metering valve at a specified rate to keep from dumping an excessive amount of discharge into the sanitary sewer system all at one time. If for some reason, the 35,000 gallon storage tank remains a stand-by fuel oil supply, the discharge procedures will be modified to release decontaminated wastewater from the influent storage tank.

Characteristic samples of decontaminated wastewater have been tested by U.S. Army Environmental Hygiene Agency (USAEHA) and Environmental Management and Engineering, Inc. (EME) with the results as indicated at Enclosures 3, 4, and 5. The CDTF laboratory analyses decontaminated wastewater quantitatively for GB and VX agent concentrations at frequent intervals as shown at Enclosure 2.

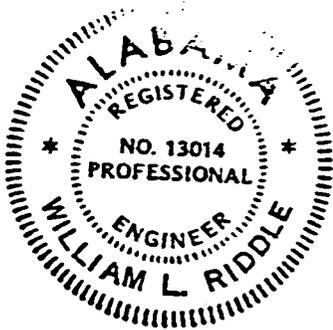
The information contained in this report and narrative representation are believed to be true, correct, and accurate information of the training procedure and the decontaminated wastewater generated at the CDTF. The

current quality control procedures, as well as, the efficiency of the CDTF maintenance contractor, civilian employees, and military personnel are believed to be of the highest standards. This report is submitted under the consideration that these same highest standards will continue to be met pertaining to applicable laws and regulations, that the quality assurance testing procedures will continue to be performed, and that future civilian and military personnel will perform at high levels of competence in accordance with all established procedures.

Respectfully Submitted,



William L. Riddle  
Chief, Engineering, Plans and Services Branch  
Directorate of Engineering and Housing  
Alabama Registration Number 13014



MATERIAL/COMPONENT DATA SHEET

MATERIAL/COMPONENT: Decontaminating Agent, DS-2

CHEMICAL NAME AND SYNONYMS:

MIXTURE OF:

Diethylenetriamine (70%)

Sodium Hydroxide (2%)

Ethylene Glycol  
Monomethyl Ether (28%)

SYNONYMS:

Bis (2-Aminoethyl) amine  
DETA

Caustic soda

Methyl Cellosolve  
2-Methoxyethanol  
EGME

TRADE NAMES AND SYNONYMS:

Decontaminating Agent, DS-2  
DS-2  
Decon Agent DS-2

CHEMICAL FAMILY: Alkaline, Corrosive

FORMULA/CHEMICAL STRUCTURE:

Diethylenetriamine -  $\text{NH}_2 (\text{CH}_2)_2 \text{NH} (\text{CH}_2)_2 \text{NH}_2$   
Sodium Hydroxide -  $\text{NaOH}$   
Ethylene Glycol Monomethyl Ether -  $\text{CH}_3 \text{OCH}_2 \text{CH}_2 \text{OH}$

WASTEWATER ANALYSIS  
FOR  
VX AND GB AGENT

Page 1 of 2

DATE	LOCATION	RESULTS	ANALYST
FEB. 11 1987	HOLDING TANK	NEGATIVE	C.R. HOLMAN
FEB. 18 1987	INFLUENT STO. TANK	NEGATIVE	M.A. PAGAN
MAR. 4 1987	HOLDING TANK	1.2 ppb VX	M.A. PAGAN
MAR. 5 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
MAR. 13 1987	HOLDING TANK	CNA	M.A. PAGAN
MAR. 16 1987	HOLDING TANK	.45 ppb VX 2.99 ppb GB	M.A. PAGAN
MAR. 19 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
MAR. 20 1987	HOLDING TANK	NEGATIVE	G.M. KELLEY
APR. 1 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
APR. 7 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
APR. 8 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
APR. 15 1987	HOLDING TANK	1.98 ppb GB	G.M. KELLEY
APR. 17 1987	HOLDING TANK	1.39 ppb VX 0.62 ppb GB	G.M. KELLEY
APR. 24 1987	HOLDING TANK	NEGATIVE	G.M. KELLEY
MAY 4 1987	HOLDING TANK	CNA	M.A. PAGAN
MAY 7 1987	HOLDING TANK	13.3 ppb VX	M.A. PAGAN
MAY 8 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
MAY 11 1987	HOLDING TANK	NEGATIVE	G.M. KELLEY
MAY 13 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
MAY 13 1987	HOLDING TANK	8.07 ppb VX	M.A. PAGAN
MAY 15 1987	HOLDING TANK	NEGATIVE	C.R. HOLMAN
MAY 22 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
MAY 28 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
JUNE 5 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
JUNE 25 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
JULY 10 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
AUG. 14 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
AUG. 21 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
SEPT. 11 1987	HOLDING TANK	2.1 ppb VX	M.A. PAGAN
SEPT. 18 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
OCT. 16 1987	HOLDING TANK	2.2 ppb VX	M.A. PAGAN
OCT. 23 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
NOV. 13 1987	HOLDING TANK	NEGATIVE	G.M. KELLEY
NOV. 20 1987	HOLDING TANK	11.47 ppb VX	M.A. PAGAN
DEC. 7 1987	HOLDING TANK	NEGATIVE	M.A. PAGAN
DEC. 17 1987	HOLDING TANK	NEGATIVE	C.R. HOLMAN

WASTEWATER ANALYSIS  
FOR  
VX AND GB AGENT

Page 2 of 2

DATE	LOCATION	RESULTS	ANALYST
FEB. 1 1988	HOLDING TANK	NEGATIVE	M.A. PAGAN
FEB. 2 1988	HOLDING TANK	5.8 ppb VX	G.M. KELLEY
FEB. 3 1988	HOLDING TANK	1.8 ppb VX 1.0 ppb GB	C.R. HOLMAN
FEB. 5 1988	HOLDING TANK	1.7 ppb VX	M.A. PAGAN
FEB. 11 1988	HOLDING TANK	NEGATIVE	M.A. PAGAN
FEB. 12 1988	HOLDING TANK	NEGATIVE	M.A. PAGAN
MAR. 18 1988	HOLDING TANK	NEGATIVE	C.R. HOLMAN
APR. 20 1988	HOLDING TANK	13.68 ppb VX	G.M. KELLEY
APR. 26 1988	HOLDING TANK	23.33 ppb VX	M.A. PAGAN
APR. 27 1988	HOLDING TANK	6.6 ppb VX	G.M. KELLEY
MAY 26 1988	HOLDING TANK	13 ppb VX	M.A. PAGAN
JUNE 3 1988	HOLDING TANK	5.7 ppb VX	C.R. HOLMAN
JUNE 14 1988	HOLDING TANK	NEGATIVE	C.R. HOLMAN
JUNE 17 1988	HOLDING TANK	NEGATIVE	G.M. KELLEY
AUG. 1 1988	HOLDING TANK	NEGATIVE	C.R. HOLMAN
AUG. 2 1988	HOLDING TANK	NEGATIVE	G.M. KELLEY
AUG. 15 1988	HOLDING TANK	NEGATIVE	G.M. KELLEY
SEPT. 21 1988	HOLDING TANK	NEGATIVE	C.R. HOLMAN

Location: Chemical Decontamination Training Facility  
Fort McClellan, Alabama



Submitted By: William D. Wilson, CPT

SUBJECT: Hazardous Waste Consultation No. 37-26-0163-87,  
 Chemical Decontamination Training Facility, Fort McClellan, AL  
 May 1987

TABLE 1. EP Toxicity Analyses of Chemical Decontamination Training Facility  
 Samples \* (1)

Sample No.	Sample Type	EP Toxicity (mg/L)							
		Ag	As	Ba	Cd	Cr	Hg	Pb	Se
1A	Incinerator Ash	ND	ND	ND	ND	ND	ND	ND	ND
1B	Incinerator Ash	ND	ND	ND	ND	ND	ND	ND	ND
1C	Incinerator Ash	ND	ND	ND	ND	ND	ND	ND	ND
1D	Incinerator Ash	ND	ND	ND	ND	ND	ND	ND	ND
1E	Incinerator Ash	ND	ND	ND	ND	ND	ND	ND	ND
1F	Incinerator Ash	ND	ND	ND	ND	ND	ND	1.50	ND
2A	Deconned Agent Wastewater	ND	ND	ND	ND	ND	ND	ND	ND
2B	Deconned Agent Wastewater	ND	ND	ND	ND	ND	ND	ND	ND
2C	Deconned Agent Wastewater	ND	ND	ND	ND	ND	ND	ND	ND
3A	Brine	ND	ND	ND	ND	ND	ND	ND	ND
3B	Brine	ND	ND	ND	ND	ND	ND	ND	ND
3C	Brine	ND	ND	ND	ND	ND	ND	ND	ND
Detection Limits		0.5	0.5	10	0.1	0.5	0.02	0.5	0.1
EP Toxicity Criteria		5.0	5.0	100	1.0	5.0	0.2	5.0	1

The U.S. Army Environmental Hygiene Agency (USAEHA) aided the U.S. Army Chemical School on request and provided an analysis of incinerator ash, decontaminated wastewater, and scrubber brine. For the purposes of this permit application only the decontaminated wastewater will be considered and results are synopsized as follows:

The decontaminated wastewater was evaluated from samples collected from each of three batches of agent wastewater following completion of decontamination procedures. The numbers 2A, 2B and 2C were used to represent these samples. Extraction Procedure (EP) Toxicity Analyses were performed and are tabulated above. None of the samples tested exceeded discharge limitations for the Water Works and Sewer Board, City of Anniston, Alabama. The pH of wastewater must be sampled at the CDTF as samples can not be transported off site for analyses; therefore, no pH results were provided by USAEHA.

(1) Copied from 31 July 1987 report of U.S. Army Environmental Hygiene Agency, Aberdeen Proving Ground, Maryland

**GUARDIAN SYSTEMS, INC.**  
P.O. Box 300  
Leeds, Alabama 35094

December 9, 1987

**ENVIRONMENTAL MANAGEMENT & ENGINEERING, INC.**

P.O. Box 55953  
Birmingham, Alabama 35255

Sample Date: 11/16/87  
Steve Osborn 1540

Dr. Gene Gonsoulin

Project # FMC-87-0218  
Station #2-3, Location C.D.T.  
Control # 70798

Parameter	Units	Results	Analyst	Date	Time	Method
Silver (Ag)	mg/L	<0.02	LSC	11/20	1445	272.1(1)
Arsenic (As)	mg/L	<0.005	DRH	11/20	1330	206.3(1)
Barium (Ba)	mg/L	<1.0	DRH	11/20	1500	208.1(1)
Cadmium (Cd)	mg/L	0.14	DRH	11/20	1300	213.1(1)
Chromium (Cr)	mg/L	0.53	DRH	11/20	1030	218.1(1)
Chromium Hexavalent (Cr6)	mg/L	<0.02	CMJ	11/20	1030	312B(2)
Mercury (Hg)	mg/L	<0.005	DRH	12/02	1700	245.1(1)
Lead (Pb)	mg/L	0.03	DRH	11/20	0900	239.2(1)
Selenium (Se)	mg/L	<0.005	DRH	11/18	1400	270.3(1)
pH	SU	6.8	LSC	11/17	0900	150.1(1)

(1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020,  
revised March 1983

(2) Standard Methods for the Examination of Water and Waste Water,  
15th Edition, 1981

**PURGEABLES**  
**Method 624**  
**Analyzed by Mark Sutherland, 12/08/87 at 1400**

Compound	Method Results ug/L	Detection Limit ug/L
Acrolein	<1.0	1.0
Acrylonitrile	<1.0	1.0
Chloromethane	<1.0	1.0
Bromomethane	<1.0	1.0
Vinyl chloride	<1.0	1.0
Chloroethane	<1.0	1.0
Methylene chloride	<1.0	1.0
Trichlorofluoromethane	<1.0	1.0
1,1-Dichloroethene	<1.0	1.0
1,1-Dichloroethane	<1.0	1.0
trans-1,2-Dichloroethene	<1.0	1.0
Chloroform	<1.0	1.0
1,2-Dichloroethane	<1.0	1.0
1,1,1-Trichloroethane	<1.0	1.0
Carbon tetrachloride	<1.0	1.0
Bromodichloromethane	<1.0	1.0
1,2-Dichloropropane	<1.0	1.0
trans-1,3-Dichloropropene	<1.0	1.0
Trichloroethene	<1.0	1.0
Benzene	<1.0	1.0
Dibromochloromethane	<1.0	1.0
1,1,2-Trichloroethane	<1.0	1.0
cis-1,3-Dichloropropene	<1.0	1.0
2-Chloroethylvinyl ether	<1.0	1.0
Bromoform	<1.0	1.0
1,1,2,2-Tetrachloroethane	<1.0	1.0
Tetrachloroethene	<1.0	1.0
Toluene	<1.0	1.0
Chlorobenzene	<1.0	1.0
Ethyl benzene	<1.0	1.0
1,2-Dichlorobenzene	<1.0	1.0
1,3-Dichlorobenzene	<1.0	1.0
1,4-Dichlorobenzene	<1.0	1.0
o-xylene	<1.0	1.0
m,p-xylene	<1.0	1.0

METHOD 625  
BASE NEUTRALS

Analyzed by Mark Sutherland, 11/05/87, 2200 Hrs.

Compound	Results ug/l	Method Detection Limit ug/l
1,3-Dichlorobenzene	<1.0	1.0
1,4-Dichlorobenzene	<1.0	1.0
Hexachloroethane	<1.0	1.0
Bis(2-chloroethyl)ether	<1.0	1.0
1,2-Dichlorobenzene	<1.0	1.0
Bis(-2-chloroisopropyl)ether	<1.0	1.0
N-Nitrosodi-n-propyl amine	<1.0	1.0
Nitrobenzene	<1.0	1.0
Hexachlorobutadiene	<1.0	1.0
1,2,4-Trichlorobenzene	<1.0	1.0
Isophorone	<1.0	1.0
Naphthalene	<1.0	1.0
Bis(-2-chloroethoxy)methane	<1.0	1.0
Hexachlorocyclopentadiene	<1.0	1.0
2-Chloronaphthalene	<1.0	1.0
Acenaphthylene	<1.0	1.0
Acenaphthene	<1.0	1.0
Dimethyl phthalate	<1.0	1.0
2,6-Dinitrotoluene	<1.0	1.0
Fluorene	<1.0	1.0
4-Chlorophenyl phenyl ether	<1.0	1.0
2,4-Dinitrotoluene	<1.0	1.0
Diethylphthalate	<1.0	1.0
N-Nitrosodiphenylamine	<1.0	1.0
Hexachlorobenzene	<1.0	1.0
4-Bromophenyl-phenyl ether	<1.0	1.0
Phenanthrene	<1.0	1.0
Anthracene	<1.0	1.0
Dibutyl-phthalate	<1.0	1.0
Fluoranthene	<1.0	1.0
Benzidine	<1.0	1.0
Butyl benzyl phthalate	<1.0	1.0
Bis(2-ethylhexyl) phthalate	<1.0	1.0
Chrysene	<1.0	1.0
Benzo(a)anthracene	<1.0	1.0
3,3'-Dichlorobenzidine	<1.0	1.0
Di-n-octyl phthalate	<1.0	1.0
Benzo(b)fluoranthene	<1.0	1.0
Benzo(k)fluoranthene (2)	<1.0	1.0
Benzo(a)pyrene	<1.0	1.0

Base Neutrals (continued)

Compound	Results ug/l	Method Detection Limit ug/l
Indeno(1,2,3-c,d)pyrene	<1.0	1.0
Dibenzo(a,h)anthracene	<1.0	1.0
Benzo(ghi)perylene	<1.0	1.0
N-Nitrosodimethyl amine	<1.0	1.0

ACID EXTRACTIBLES

Analyzed by Dennis Lyons. 09/24/87, 1300 Hrs.

Compound	Results ug/l	Method Detection Limit ug/l
2-Chlorophenol	<1.0	1.0
2-Nitrophenol	<1.0	1.0
Phenol	<1.0	1.0
2,4-Dimethylphenol	<1.0	1.0
2,4-Dichlorophenol	<1.0	1.0
2,4,6-Trichlorophenol	<1.0	1.0
4-Chloro-3-methylphenol	<1.0	1.0
2,4-Dinitrophenol	<1.0	1.0
2-Methyl-4,6-dinitrophenol	<1.0	1.0
Pentachlorophenol	<1.0	1.0
4-Nitrophenol	<1.0	1.0

Approved by: Charles M. Johnson



**GUARDIAN SYSTEMS, INC.**  
P.O. Box 300  
Leeds, Alabama 35094

November 9, 1987

**ENVIRONMENTAL MANAGEMENT & ENGINEERING, INC.**

P.O. Box 55953  
Birmingham, Alabama 35255

Sample Date: 10/23/87

Dr. Gene Gonsoulin

Project # FMC-87-0218  
Station #2-3, Location C.D.T.  
Control # 70392

Parameter	Units	Results	Analyst	Date	Time	Method
Silver (Ag)	mg/L	<0.02	LSC	11/02	1000	272.1(1)
Arsenic (As)	mg/L	<0.005	DRH	11/03	1115	206.3(1)
Barium (Ba)	mg/L	<1.0	DRH	11/02	1600	208.1(1)
Cadmium (Cd)	mg/L	0.26	DRH	11/02	1430	213.1(1)
Chromium (Cr)	mg/L	0.26	DRH	11/02	1100	218.1(1)
Chromium Hexavalent (Cr6)	mg/L	<0.02	CMJ	10/28	1200	312B(2)
Mercury (Hg)	mg/L	0.010	DRH	10/30	0900	245.1(1)
Lead (Pb)	mg/L	<0.005	CMJ	10/31	1200	239.2(1)
Selenium (Se)	mg/L	<0.005	CMJ	11/03	1115	270.3(1)
pH	SU	7.8	LSC	10/28	1200	150.1(1)

(1) Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020, revised March 1983

(2) Standard Methods for the Examination of Water and Waste Water, 15th Edition, 1981

**PURGEABLES**

Method 624

Analyzed by Mark Sutherland, 11/04/87 at 1835

Compound	Method	
	Results ug/L	Detection Limit ug/L
Acrolein	<1.0	1.0
Acrylonitrile	<1.0	1.0
Chloromethane	<1.0	1.0
Bromomethane	<1.0	1.0
Vinyl chloride	<1.0	1.0
Chloroethane	<1.0	1.0
Methylene chloride	<1.0	1.0
Trichlorofluoromethane	<1.0	1.0
1,1-Dichloroethene	<1.0	1.0
1,1-Dichloroethane	<1.0	1.0
trans-1,2-Dichloroethene	<1.0	1.0
Chloroform	<1.0	1.0
1,2-Dichloroethane	<1.0	1.0
1,1,1-Trichloroethane	<1.0	1.0
Carbon tetrachloride	<1.0	1.0
Bromodichloromethane	<1.0	1.0
1,2-Dichloropropane	<1.0	1.0
trans-1,3-Dichloropropene	<1.0	1.0
Trichloroethene	<1.0	1.0
Benzene	<1.0	1.0
Dibromochloromethane	<1.0	1.0
1,1,2-Trichloroethane	<1.0	1.0
cis-1,3-Dichloropropene	<1.0	1.0
2-Chloroethylvinyl ether	<1.0	1.0
Bromoform	<1.0	1.0
1,1,2,2-Tetrachloroethane	<1.0	1.0
Tetrachloroethene	<1.0	1.0
Toluene	2.4	1.0
Chlorobenzene	<1.0	1.0
Ethyl benzene	1.3	1.0
1,2-Dichlorobenzene	<1.0	1.0
1,3-Dichlorobenzene	<1.0	1.0
1,4-Dichlorobenzene	<1.0	1.0
o-xylene	31.3	1.0
m,p-xylene	7.9	1.0

**METHOD 625  
BASE NEUTRALS**

Analyzed by Mark Sutherland, 11/05/87, 2200 Hrs.

Compound	Results ug/l	Method Detection Limit ug/l
1,3-Dichlorobenzene	<1.0	1.0
1,4-Dichlorobenzene	<1.0	1.0
Hexachloroethane	<1.0	1.0
Bis(2-chloroethyl)ether	<1.0	1.0
1,2-Dichlorobenzene	<1.0	1.0
Bis(-2-chloroisopropyl)ether	<1.0	1.0
N-Nitrosodi-n-propyl amine	<1.0	1.0
Nitrobenzene	<1.0	1.0
Hexachlorobutadiene	<1.0	1.0
1,2,4-Trichlorobenzene	<1.0	1.0
Isophorone	<1.0	1.0
Naphthalene	<1.0	1.0
Bis(-2-chloroethoxy)methane	<1.0	1.0
Hexachlorocyclopentadiene	<1.0	1.0
2-Chloronaphthalene	<1.0	1.0
Acenaphthylene	<1.0	1.0
Acenaphthene	<1.0	1.0
Dimethyl phthalate	<1.0	1.0
2,6-Dinitrotoluene	<1.0	1.0
Fluorene	<1.0	1.0
4-Chlorophenyl phenyl ether	<1.0	1.0
2,4-Dinitrotoluene	<1.0	1.0
Diethylphthalate	<1.0	1.0
N-Nitrosodiphenylamine	<1.0	1.0
Hexachlorobenzene	<1.0	1.0
4-Bromophenyl-phenyl ether	<1.0	1.0
Phenanthrene	<1.0	1.0
Anthracene	<1.0	1.0
Dibutyl-phthalate	<1.0	1.0
Fluoranthene	<1.0	1.0
Benzidine	<1.0	1.0
Butyl benzyl phthalate	<1.0	1.0
Bis(2-ethylhexyl) phthalate	5.8	1.0
Chrysene	<1.0	1.0
Benzo(a)anthracene	<1.0	1.0
3,3'-Dichlorobenzidine	<1.0	1.0
Di-n-octyl phthalate	<1.0	1.0
Benzo(b)fluoranthene	<1.0	1.0
Benzo(k)fluoranthene (2)	<1.0	1.0
Benzo(a)pyrene	<1.0	1.0

Base Neutrals (continued)

Compound	Results ug/l	Method Detection Limit ug/l
Indeno(1,2,3-c,d)pyrene	<1.0	1.0
Dibenz(a,h)anthracene	<1.0	1.0
Benzo(ghi)perylene	<1.0	1.0
N-Nitrosodimethyl amine	<1.0	1.0

ACID EXTRACTIBLES

Analyzed by Dennis Lyons. 09/24/87, 1300 Hrs.

Compound	Results ug/l	Method Detection Limit ug/l
2-Chlorophenol	<1.0	1.0
2-Nitrophenol	<1.0	1.0
Phenol	<1.0	1.0
2,4-Dimethylphenol	<1.0	1.0
2,4-Dichlorophenol	<1.0	1.0
2,4,6-Trichlorophenol	<1.0	1.0
4-Chloro-3-methylphenol	<1.0	1.0
2,4-Dinitrophenol	<1.0	1.0
2-Methyl-4,6-dinitrophenol	<1.0	1.0
Pentachlorophenol	<1.0	1.0
4-Nitrophenol	<1.0	1.0

Approved by: Charles M. Johnson



The Water Works and Sewer Board  
of the City of Anniston



131 West 11th Street - P.O. Box 2268  
Anniston, Alabama 36202-2268

Phone: 205 236-9429

October 7, 1988

Mr. Bill Pittman  
USA CML & MPCEN & FM  
ATTN: ATZN-FEE  
Fort McClellan, AL 36205

FORT MCCLELLAN WASTEWATER TREATMENT PLANT

Based upon the information that has been made available, the discharge of approximately 1,200 gallons per day, or 8,000 gallons per week, of adequately treated wastewater from the Chemical Decontamination Training Facilities to the sewer system tributary to the Fort McClellan Wastewater Treatment Plant is acceptable.

Acceptance of the wastewater is conditioned upon the thorough testing of each batch of treated wastewater before discharge.

The Board will rely heavily upon the expertise of the Alabama Department of Environmental Management for the establishment of satisfactory discharge limits and testing procedures for this wastewater.

Please contact this writer if additional information is desired.

CHARLES M. LAY, JR.  
CHIEF ENGINEER

CMLjr/nc

cc: Mr. John C. Borden