

**FINAL CONSTRUCTION REPORT  
FY 11 HEATING OIL TANK  
REMOVALS/REPLACEMENTS  
FORT BRAGG, NORTH CAROLINA  
CTO NUMBER: W912HN-10-D-0031  
TASK ORDER NUMBER: 0005**

**PREPARED FOR:**



**US Army Corps  
of Engineers**

United States Army Corps of Engineers-Savannah District  
100 W. Oglethorpe Avenue  
Savannah, Georgia 31401-3640

and

Fort Bragg Directorate of Public Works  
Environmental Compliance Branch  
Building 3-1137, 2175 Reilly Road  
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**PREPARED BY:**



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AEROSTAR Project # 0111-400-09

March 2012

A handwritten signature in blue ink, appearing to read "G. Scott Hughes".

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G. Scott Hughes, Senior Project Manager

3/16/2012

Date

A handwritten signature in blue ink, appearing to read "Leon J. Carrero".

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Leon J. Carrero, Manager, Environmental Services

3/16/2012

Date

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## 1.0 INTRODUCTION

### 1.1 Facility Information

Aerostar Environmental Services, Inc. (AEROSTAR) provided environmental and construction services for the United State Army Corps of Engineers (USACE) Savannah District during closure of Underground Storage Tanks (USTs) and Aboveground Storage Tanks (ASTs) and installation of new ASTs at the Fort Bragg Army Base in Cumberland County, North Carolina. The former USTs/ASTs contained heating oil, gasoline, propane, and/or diesel and were replaced with double walled ASTs. AEROSTAR provided labor, equipment, lower-tier subcontractors, materials, and supplies necessary to perform the Scope of Work (SOW) described herein. All work was completed in compliance with current federal, state, USACE, and local regulations, and in accordance with standard industry practices.

### 1.2 Site Characteristics/Background

The U.S. Army Military Reservation at Fort Bragg was established in 1918 as the major logistic, training and mobilization deployment center for the XVIII Airborne Corps, which is part of the U.S. Army's mobile infantry, assault, and armored forces. Fort Bragg occupies about 126,000 acres in southeastern North Carolina. Approximately 115,000 acres are designated for field maneuvers, exercises, firing ranges, impact areas, and parachute drop zones. The cantonment area, which is in the eastern part of Fort Bragg, occupies 11,000 acres and includes about 4,800 buildings. Most military maintenance and production facilities, supply facilities, operation and training facilities, various community facilities and family and troop housing are in the cantonment area.

### 1.3 Scope of Work

The following activities were performed by AEROSTAR for this project.

- Installed 3 ASTs (one at Building C-8727, one at Building F-2534, and one at F-3134), closed in-place 1 UST (Building C-8727), removed 3 USTs (Camp Mackall), and removed 4 ASTs (Building E-2310 Pines Shoppette, Building F-2534, and Building F-3134). The majority of the USTs/ASTs were used to store fuel for the boilers and water heaters located in each individual building at Fort Bragg. **Table 1** provides the details for the USTs and ASTs removed and the new ASTs installed for this project.
- Prepared surfaces to place the new ASTs, including construction of concrete pads and bollards.
- Installed transfer pumps and underground double-wall distribution piping for the AST at Building C-8727 Motor Pool.
- Installed ½-inch diameter copper, ½-inch to ¾-inch diameter black iron, or 1-inch double-walled flexible piping supply and return fuel lines connecting the heating oil ASTs to the furnaces and water heaters located in each building.
- Transferred fuel to the new ASTs prior to removal of the USTs and/or ASTs.
- Transported remaining fuel and tank sludge offsite for recycling.
- Ensure boilers, water heaters, and fueling dispensing components were operating properly following installation of the new ASTs.

- Disconnected, deactivated, and removed the old UST and/or AST appurtenances and electrical systems.
- Transported concrete debris associated with the former USTs and ASTs at Fort Bragg to the Lamont Landfill for recycling.
- Backfilled the UST excavations with clean fill and topsoil.
- Applied grass seeds and wheat straw where applicable to match the existing surrounding surface conditions.
- Provided a Maintenance Manual for the new ASTs, included in **Appendix A**.
- Collected soil samples for laboratory analysis at the locations of the regulated tanks or where evidence of contamination was observed.
- Conducted soil and groundwater sampling in accordance with North Carolina Department of Environmental and Natural Resources (NCDENR) tank closure guidelines.

#### 1.4 Pre-Construction Activities

The following activities were conducted prior to initiating the removal and replacement of the tanks.

- In October 2011, AEROSTAR submitted the Final Work Plan including an Accident Prevention Plan (APP) and Site Safety and Health Plan (SSHP) to the USACE.
- AEROSTAR conducted underground utility locates for the areas requiring removal and installation of the new tanks.
- Following clearance of the underground utilities, AEROSTAR initiated removal/abandonment of the USTs/ASTs.

#### 1.5 Deliverables

In November 2011, AEROSTAR began communication with the USACE and Fort Bragg DPW staff regarding the schedule for removal and installation of the tanks. Documentation of site inspections and other information relevant to the project were recorded via emails and are included in **Appendix B**.

Tank Closure Assessment Reports (TCARs) were prepared for the regulated tanks removed or closed in-place as part of this project. The TCARs for the regulated USTs were submitted to the NCDENR by Fort Bragg Directorate of Public Works (DPW). In accordance with NCDENR, regulated USTs are those with storage capacities greater than 1,100 gallons which were located at Building C-8727 Motor Pool (15,000-gallon UST, abandoned in place). **Table 1** details the sizes of the USTs/ASTs removed or abandoned in-place for this project. Copies of the NCDENR UST-2 and UST-3 forms for the regulated tanks removed at Fort Bragg are included in **Appendix C**. Maps showing the locations of the regulated tanks are also included in **Appendix C**.

## 2.0 FIELD ACTIVITIES

### 2.1 **On-Site Health & Safety and Construction Documentation**

All phases of work were documented as part of the field activities in dedicated field books. Photographs were also taken during the field activities. Copies of AEROSTAR's daily field notes and photographic documentation are included in **Appendix D**.

All AEROSTAR personnel conducting construction work at the site were 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPER) Occupational Safety and Health Administration (OSHA) trained. At the beginning of each day, a safety meeting was conducted with all on-site personnel to discuss the day's anticipated scope-of-work, address health and safety concerns, and review any problems that may have occurred the previous day. All field personnel wore steel toed shoes and modified Level-D PPE. If overhead threats existed, then hard hats were also utilized. Copies of on-site personnel OSHA certificates and personal records were provided in the APP.

### 2.2 **Construction Activities**

#### 2.2.1 ASTs Installation

AEROSTAR installed a total of three ASTs for this project between November 2011 and January 2012. The ASTs installed are Highland UL-142 certified skid tanks. Specifications for the tanks are provided in **Appendix A**. The following summarizes the construction activities conducted at each installation.

Concrete pads and traffic bollards were installed for each new AST. After construction of the pads, the ASTs were set in place using a forklift. Once in place, each AST was connected to the associated boiler and/or water heaters using aboveground, ½-inch diameter, single walled, copper piping or ½-inch to ¾-inch diameter black iron piping and/or underground, double-walled flexible piping. Once the new ASTs were connected to the associated boiler and/or water heater, heating oil was transferred to the new AST. After the fuel transfer was completed, AEROSTAR personnel restarted the boilers and/or water heaters to ensure proper operation. The locations of the ASTs and corresponding buildings are listed in **Table 1**.

#### 2.2.2 USTs/ASTs Removal/Closure

Underground utility locates were obtained prior to excavation and removal activities. Correspondence regarding underground utility locates is included in **Appendix E**. A total of 3 USTs and 4 ASTs were removed, and 1 UST was abandoned in-place due to the close proximity to underground utilities. **Table 1** summarizes which tanks were removed and which tanks were closed in-place as part of this project. The removed tanks were transported off base by A&D Environmental Services, Inc. (A&D) for recycling. Copies of the tank disposal manifests are included in **Appendix F**.

Prior to the closure and/or removal of the USTs and ASTs, all residual fuel in the tank was removed. As requested by the USACE, the bottom six inches of fuel were not transferred to a

new tank. After the residual fuel was removed, the tank was rinsed with a pressure washer to remove all petroleum residues. The rinse water was recovered, using a vacuum truck, and transported off-site for disposal. A total of 3,690 gallons of fuel was removed for recycling during closure of the tanks at Fort Bragg. An additional 168 gallons of residual fuel oil, sludge, and rinse water was generated during closure of the tanks at Fort Bragg. The residual fuel and liquids generated during closure of the tanks at Fort Bragg were transported off site by A&D to their facility for disposal. Copies of the waste disposal manifests are included in **Appendix F**.

The following summarizes the tank closure activities conducted for this project.

### *USTs/ASTs Removal Procedures*

A total of 4 USTs and 4 ASTs were removed or closed in-place during this project. Closure procedures for the USTs consisted of initially removing the overburden and exposing the top of the tank. After exposing the top of the USTs, fuel and associated piping was removed from each tank and an approximate 24-inch square section of the tank was then removed to access the interior of the tank for cleaning. Each tank was allowed to ventilate and gas-monitored according to the American Petroleum Institute (API) Standard 2015 and OSHA requirements. The tanks were then removed using a backhoe, trackhoe, or crane and loaded onto a flatbed trailer for transportation and disposal. Concrete associated with the tank removals at Fort Bragg was transported to the Lamont Landfill for recycling.

### *USTs Closed In-Place*

One UST was closed in-place at Building C-8727 Motor Pool due to its close proximity to underground utilities. Prior to closure, the inside of the tank was triple rinsed. The tank was then filled with Core-Fill 500™ foam. The Core-Fill 500™ foam is an insulation material for use in commercial and industrial construction and is a two-component system consisting of an amino-plastic resin and a catalyst foaming agent surfactant. The underground lines were then grouted with cement.

### 2.2.3 Post Removal Activities

Each UST area was backfilled with clean soil, grass seeded, and covered with straw or resurfaced with concrete, to match the surrounding site conditions. Silt fencing was also installed where necessary for erosion control.

## **2.3 Closure Sampling Procedures**

### *Soil Sampling*

Soil borings were advanced along the perimeter of the UST at Building C-8727 to evaluate soil quality. The borings were advanced using a decontaminated, three-inch diameter, stainless steel hand auger and/or direct push sampling device. During boring advancement, soil samples were collected at two-foot intervals from 0.5-to-1.0 foot BLS to the terminus of each boring. Each sample was field screened with a calibrated Organic Vapor Analyzer equipped with a Photo Ionization Detector (OVA-PID) and inspected for hydrocarbon staining and odors.

Soil samples were collected at depths representing high OVA-PID readings or where evidence of contamination such as hydrocarbon odors or stains were noted. The samples were placed in laboratory supplied containers and submitted to Gulf Coast Analytical Laboratories, Inc. (GCAL) for analyses of the parameters listed in EPA Method 8260 for VOCs, EPA Method 8270 for Semi-Volatile Organic Compounds (SVOCs), and the MADEP Method for Extractable Petroleum Hydrocarbons and Volatile Petroleum Hydrocarbons (EPH and VPH). The results of the soil sampling are included with the TCAR and are discussed in Section 3.2.

### *Groundwater Sampling*

Two existing monitor wells were located adjacent to the former UST at Building C-8727. A groundwater sample was collected from the monitor well closest to the UST and submitted to GCAL for analysis of VOCs by EPA Method 8260B, SVOCs by EPA Method 8270C, and EPH and VPH by the MADEP Method. The results of the groundwater sampling are included with the TCAR and are discussed in Section 3.2.

## **3.0 SAMPLE RESULTS**

### **3.1 Results of Soil Sample Screening**

Hydrocarbon odors, staining and OVA readings above 10 ppm were detected in the soil samples collected at the UST located at Building C-8727. Copies of the soil screening table from the TCAR are included in **Appendix G**.

### **3.2 Results of Soil and Groundwater Sample Analyses**

The results of the laboratory analyses for the regulated tanks are as follows:

#### Building C-8727: UST C-8727-A, Permit # F000039

Soil laboratory analytical results showed hydrocarbon concentrations above NCDENR MSCCs. Groundwater analytical results showed select dissolved hydrocarbon concentrations above North Carolina Groundwater Quality Standards (NC GWQS). Based on these results, further assessment was recommended for the area of former UST C-8727-A.

Copies of the soil and groundwater analytical data summary tables from the TCAR are included in **Appendix G**.

### **3.3 Quality Assurance and Quality Control**

#### **3.3.1 Soil Sampling Procedures**

At the beginning of each day and during soil sample collection activities, the OVA was calibrated per the manufacturer's specifications. Nitrile gloves were worn during the sampling process. Soil samples collected for OVA screening were placed dedicated, heavy duty, zip-lock bags. Samples collected for laboratory analyses were obtained directly from the hand auger bucket or direct push sampling device.

After each sample was collected, all sampling equipment (including hand augers and direct push sampling devices) was decontaminated by washing with a de-ionized water/liquinox cleaning solution, then rinsing the auger with de-ionized water. Soil sampling at the regulated tank closure was conducted in accordance with NCDENR Division of Waste Management Guidelines for Sampling.

### 3.3.2 Groundwater Sampling Procedures

Groundwater sampling was performed using a peristaltic pump and dedicated polyethylene tubing for each sample collected. Nitrile gloves were worn during the sampling process. After completion all sample collection materials were properly disposed. Groundwater sampling was conducted in accordance with NCDENR Division of Waste Management Guidelines for Sampling.

## **TABLES**

**TABLE 1: UST/AST SYSTEM DETAILS**  
**FY 11 HEATING OIL TANK REMOVAL/REPLACEMENTS**  
**FORT BRAGG, CUMBERLAND COUNTY, NORTH CAROLINA**

AST = Aboveground Storage Tank

UST = Underground Storage Tank

NA = Not Applicable

Building	Tank Number	Permit Number	Planned Tank Size (gallons)	Actual Tank Size (gallons)	Replacement Tank Size (gallons)	NOTES
Camp Mackall Propane Tanks	NA	No Permit	6,000 UST x3	NA	NA	Tanks were removed.
C-8727 Motor Pool	C-8727-A	F000039	15,000 UST	15,000 UST	6,000 AST	Tank was abandoned in place. Replaced with a concrete pad mounted AST equipped with integral secondary containment and overflow protection.
E-2310 Pines Shoppette	E-2310	No Permit	12,000 AST x2	12,000 AST x2	NA	Tanks were removed.
F-2534-A ITT Motor Pool	F-2534-A	No Permit	1,000 AST	1,000 AST	2,000 AST	Tank was removed. Replaced with a skid-mounted AST equipped with integral secondary containment and overflow protection.
F-3134 ITT Motor Pool	F-3134-A	No Permit	1,000 AST	1,000 AST	2,000 AST	Tank was removed. Replaced with a skid-mounted AST equipped with integral secondary containment and overflow protection.

## **APPENDICES**

# **APPENDIX A**

O&M MANUALS

# FEATURES

## CLOCK GAUGE ALARM

Morrison Fig 918

--The **CLOCK GAUGE ALARM** has two main components; the **CLOCK UNIT**, and the **ALARM/CONTROL BOX**.

### MOUNTING & LOCATION

--**CLOCK UNIT** mounts to a 2" NPT Female tank bung on top of the tank in the same manner as the original **CLOCK GAUGE**. The **ALARM/CONTROL BOX** mounts like any small electrical box and should be placed in a location where it can be accessed for testing and where it can be heard.

### BATTERY POWERED

--The system is powered by (2) standard 9 Volt batteries. There is no need to connect to an external electrical power source. With proper installation, the system is intrinsically safe.

### LIMITS OF MEASUREMENT & TANK SIZE

--**CLOCK UNIT** handles any measurement up to 12 Fl. (For a Vertical tank - 12FT height. For a Horizontal tank - 12FT diameter.)

--The **ALARM** is set on the **CLOCK UNIT** and will work on any size tank and for any requirement within the range of measurement. Setting the alarm is done in the field at the time of installation. Alarm may be reset for changes in requirements, but otherwise, it is intended to be set only one-time.

### OPERATION

--The **ALARM BOX** switch has an on/off/test feature. The alarm is set up to remain in the "on" position at all times. Prior to filling tank, the operator should engage the "test" switch to verify battery power.

### THE PACKAGE YOU BUY

--The **CLOCK GAUGE ALARM** package comes complete with assembly instructions, junction box, batteries, and lead wire. Connection wire, conduit, and mounting hardware, are not included.

--This system is manufactured by Morrison Bros Co and sold only through authorized distributors.

### MORRISON BROS CO

24th and Elm

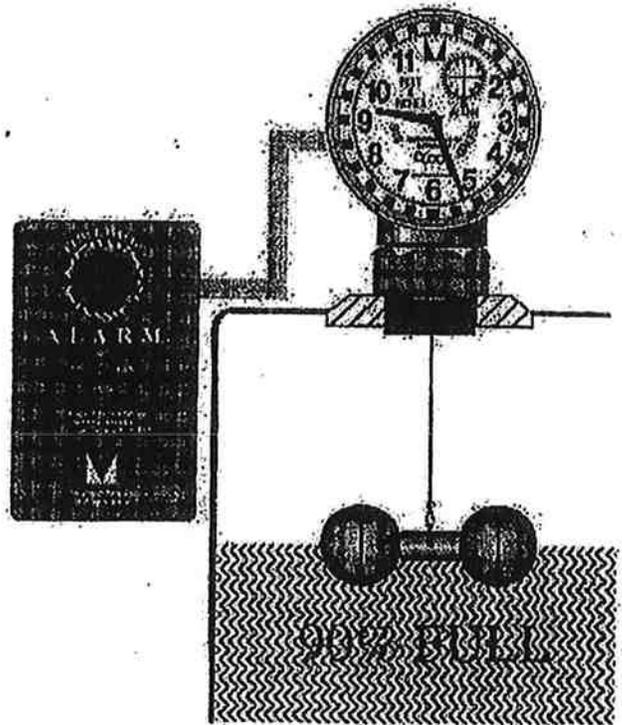
P.O. Box 238

Dubuque, Iowa 52004-0238

TEL: (800) 553-4840

FAX: (319) 583-5028

Printed in the USA



### SPECIAL NOTE:

Although the new **CLOCK GAUGE ALARM (FIG 918)** is built on the same concept as the original **MORRISON CLOCK GAUGE (FIG 818)**, the 818 **CAN NOT** be retrofitted to produce the 918. The 918 design requires it's own factory-made **CLOCK UNIT**.

# Open Vents

**354**

## Updraft Vent

"Open" vent used on underground and aboveground tanks for motor fueling. Vent allows tank to "breathe" during filling/dispensing operations. 1½" and 2" sizes are CARB approved (89-12).

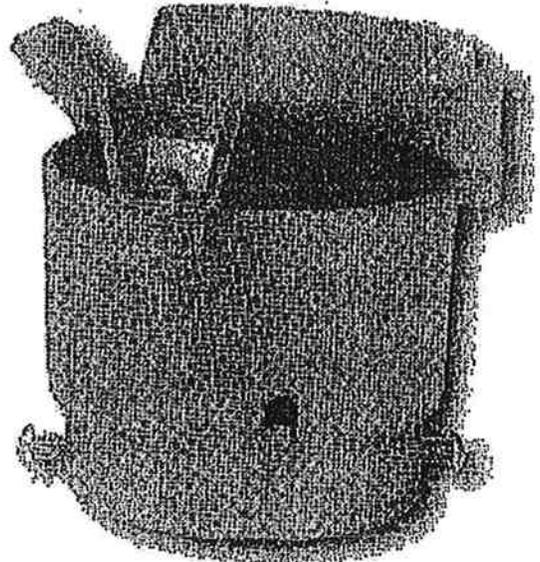


Fig. 354

### Construction Details

Body...aluminum

Cap...aluminum

Screen...40 mesh brass

Size  
(slip-on)

Ship  
Weight  
(lbs)

Venting  
Capacity  
(CFH)

1½"

0.75

27,650

2"

0.75

27,650

3"

1.5

59,000

4"

2.25

116,900

**NOTE**...open vents will allow unrestricted evaporation of product.

**WARNING!**

Tank piping must be equal to the vent size, or less to maintain proper tank design limits. Pumping product through lines larger than the vent size, may cause the tank to rupture or implode.

## OPW 199ASV ANTI-SIPHON VALVE

The OPW 199ASV Anti-Siphon Valve is designed to help prevent siphoning of an aboveground storage tank should a leak or break occur in the fuel supply line. The 199ASV installs on the top of an aboveground storage tank with a suction rod on the inlet and the fuel supply line (to a remote pump) on the outlet of the valve. A poppet in the valve remains normally closed, isolating the tank from siphoning. When the remote pump is activated, it overcomes a factory-adjusted spring set to a predetermined hydrostatic head pressure and allows flow of fuel out of the AST. An internal pressure relief valve helps absorb thermal expansion in the fuel supply line. The 199ASV is available in female NPT threads with four different factory-adjusted hydrostatic head pressure settings.

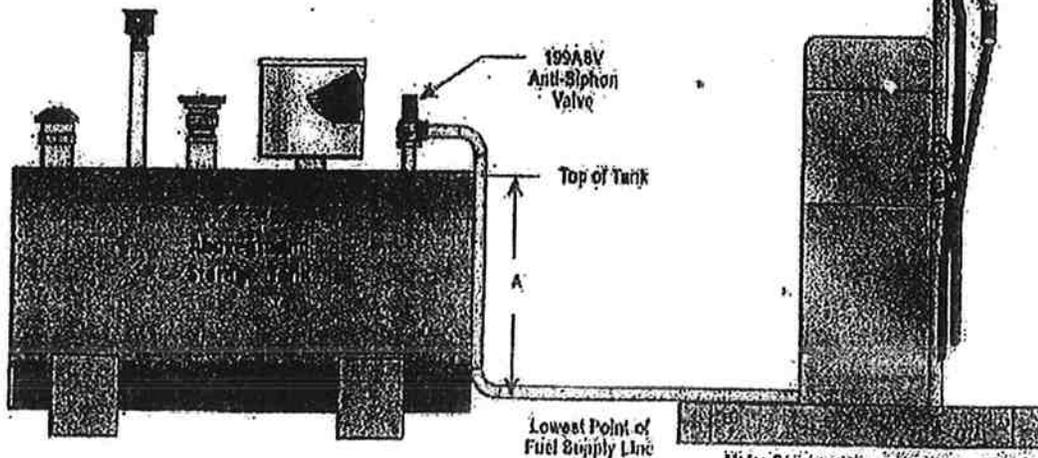
### Features:

- Factory-Adjusted Hydrostatic Head Pressure Settings - Allow for quick, safe, and easy installation on above-ground tanks.
- Internal Pressure-Relief Valve - Helps protect piping & fittings from damage due to thermal expansion.
- Aluminum Bodies - Compatible with gasoline, diesel, kerosene, ethanol, methanol, fuel oil, and jet fuels.

### Ordering Specifications:

Product No.	In.	mm.	Hydrostatic Head Pressure* (Dimension A)
199ASV-1075	7/8"	19	0'-5"
199ASV-2075	7/8"	19	5'-10"
199ASV-3075	7/8"	19	10'-15"
199ASV-4075	7/8"	19	15'-20"
199ASV-1100	1"	25	0'-5"
199ASV-2100	1"	25	5'-10"
199ASV-3100	1"	25	10'-15"
199ASV-4100	1"	25	15'-20"
199ASV-1150	1 1/2"	38	0'-5"
199ASV-2150	1 1/2"	38	5'-10"
199ASV-3150	1 1/2"	38	10'-15"
199ASV-4150	1 1/2"	38	15'-20"
199ASV-1200	2"	51	0'-5"
199ASV-2200	2"	51	5'-10"
199ASV-3200	2"	51	10'-15"
199ASV-4200	2"	51	15'-20"

\* NOTE: Head Pressure - Calculated for Gasoline



Note: Some suction pumps may not have enough horsepower to open valve properly.

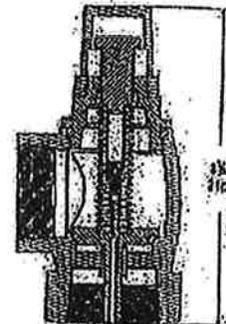


199ASV

**WARNING:**  
Do Not Disassemble  
Do Not Field-Adjust

### Materials:

Body: hard-coated aluminum  
Bonnet: powder-coated aluminum  
Cap: powder-coated aluminum  
Spring: stainless steel  
Poppet: hard-coated aluminum  
Screw: hard-coated aluminum  
Poppet Seal: Buna-N (nitrile)



Valve Rating (l of gasoline S.G. = 0.7)	Approximate Cracking Pressure 199ASV					
	PSI	FT H <sub>2</sub> O	IN H <sub>2</sub> O	IN HG	FT GAS	FT DWGHI
0-5	1.80	4.93	61.86	-3.65	.62	5.35
5-10	3.68	8.48	104.76	-7.58	12.12	10.47
10-15	5.6	12.92	165.04	-11.47	18.61	15.95
15-20	7.4	17.07	204.84	-16.16	24.4	21.07

## **POMECO/OPW 221AST & 211AST DIRECT-FILL ABOVEGROUND STORAGE TANK SPILL CONTAINERS**

POMECO/OPW Direct-Fill AST Spill Containers are designed to prevent spilled product from entering soil near the fill and vapor return riser connections on an aboveground storage tank during normal tank filling operation. The spill containers catch spillage to help prevent soil contamination and groundwater pollution. POMECO/OPW Direct-Fill AST Spill Containers thread on the top of an aboveground tank and allow for drainage of spilled product back into the tank.

### **221AST Features:**

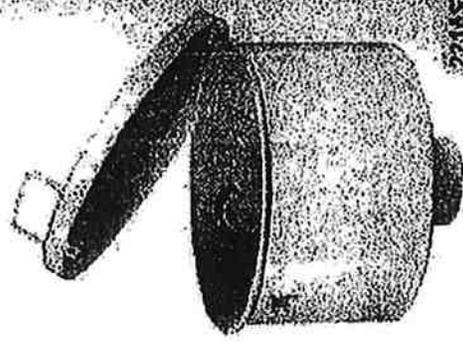
- ◆ **Easy Installation** - 2", 4" and 6" NPT threaded base screws directly to the tank riser pipe. No further adjustments are needed.
- ◆ **Integral Drain Valve** - Allows high-speed drainage of spilled product back into the tank. Push-to-Open Drain Valves are standard on all spill containers.
- ◆ **Capacity** - Available in 3.5-gallon (13.2 liter) or 7-gallon (26.5 liter) container capacity. Smaller 3.5-gallon capacity containers are well suited for 55-gallon drum and waste oil applications. Larger 7-gallon capacity spill containers provide additional clearance for 61FSTOP Overfill Prevention Valves. (3.5 gallon-221 only)
- ◆ **Rain-Shedding Cover Design** - Hooded cover design helps prevent water or snow entry by extending the lip of the cover over the body of the spill container.
- ◆ **Welded-Hinge, Lockable Hatch** - The cover includes a provision for a padlock and a welded-hinge assembly for added security.
- ◆ **12 Gauge Epoxy-Powder Coated Stainless Steel Construction** - Heavy-duty materials, compatible with hydrocarbons, for long service life and added security.
- ◆ **621AST Lightweight Spun Steel Design** - Spun steel construction provides for a lightweight, one-piece design for easy installation and promotes a clean, sleek appearance on above-ground tanks.
- ◆ **6211AST Heavyweight, Welded Base Design** - Thick welded steel base and 12-gauge steel walls provide solid strength for heavy-duty applications.
- ◆ **All models are UL and ULC Listed** - Clearly labeled to identify the listing.

### **Optional Plug or Drain Valve**

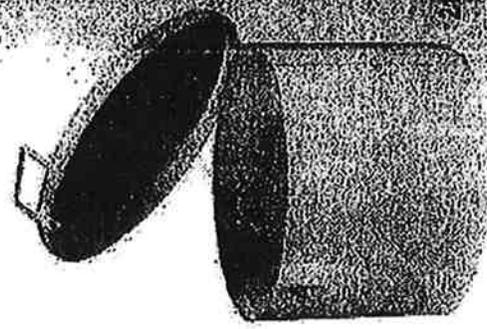
Part No.	Description
PC04422	4" Long Pipe Plug 7 Gal.
PC04423	4" Short Pipe Plug 3.5 Gal.
PC04425	2" Short Pipe Plug 3.5 Gal.
PC04427	Brass Drain Valve, Push-To-Open

UL & ULC

**CARB Approved AGT 94-1**



221AST



621AST



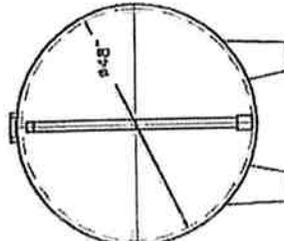
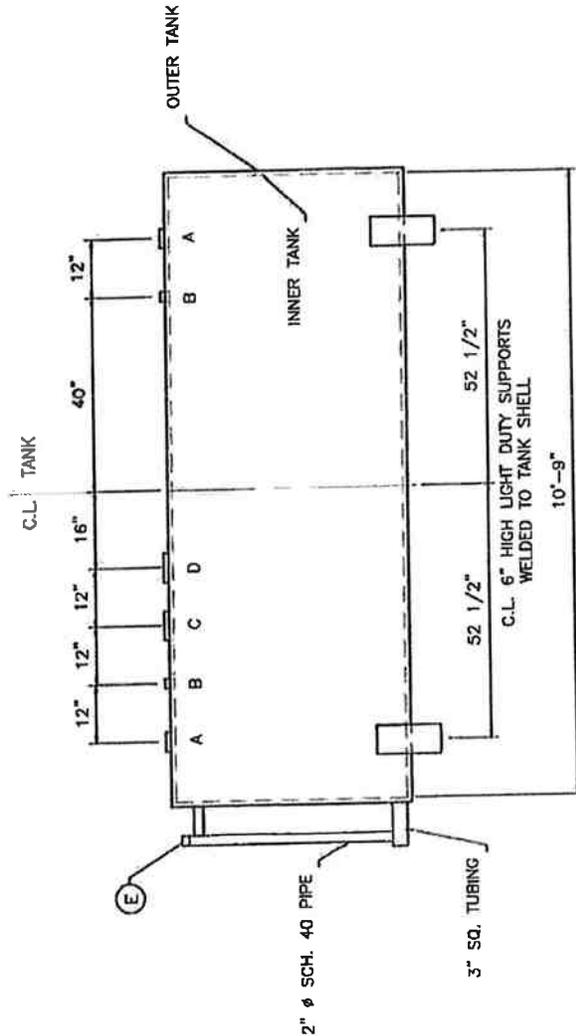
### FITTING SCHEDULE

NOTE : ALL RIGHTS RESERVED. THIS DRAWING OR ANY PART THEREOF MUST NOT BE REPRODUCED IN ANY FORM WITHOUT THE WRITTEN PERMISSION OF HIGHLAND TANK.  
 HIGHLAND TANK SHALL BE RESPONSIBLE ONLY FOR ITEMS INDICATED ON THIS FABRICATION DRAWING UNLESS OTHERWISE NOTED. CUSTOMER IS RESPONSIBLE FOR VERIFYING CORRECTNESS OF SIZE / LOCATION OF FITTINGS , ACCESSORIES & COATINGS SHOWN ON THIS DRAWING

- A= 4" # NPT
- B= 2" # NPT
- C= 6" # NPT (PRIMARY EMERGENCY VENT)
- D= 6" # NPT (SECONDARY EMERGENCY VENT)
- E= 2" # NPT (LEAK DETECTION)

### GENERAL NOTES

CAPACITY : 1000 GALLONS  
 TYPE : DOUBLE WALL TYPE I 360 , ABOVEGROUND, HORIZONTAL, BDH  
 NO. REQ. :  
 MATERIAL : MILD CARBON STEEL  
 TEST : 5 P.S.I.  
 MIN. GAUGE OR THICKNESS (PER U.L. 142):  
 INNER HEADS : 10 GA.  
 OUTER HEADS : 10 GA.  
 INNER SHELL : 10 GA.  
 OUTER SHELL : 10 GA.  
 PAINT :  
 INTERIOR : NONE  
 EXTERIOR : RED PRIMER  
 CONSTRUCTION : FLAT FLANGED HEADS, LAP WELD ALL EXTERIOR SEAMS ONLY  
 APPROVED LABELS : U.L. 142



END VIEW

ELEVATION

REVISIONS	
<b>Highland Tank</b>	
1000 GALLON ABOVEGROUND HORIZONTAL DOUBLE WALL TYPE I 360, BDH	
CUSTOMER:	
PROJECT:	
QUOTE NO:	
ISSUE DATE	DATE
1/27/11	10-3-11
DATE	DATE
10/10/11	10/10/11
DATE	DATE
10/10/11	10/10/11

## **APPENDIX B**

### USACE AND AEROSTAR CORRESPONDENCE

## Scott Hughes

---

**From:** Adcock, Jason K CTR US USA ([jason.adcock@us.army.mil])  
**Sent:** Friday, August 12, 2011 10:41 AM  
**To:** Leon J Carrero; Scott Hughes  
**Subject:** Liquid Level Gauges (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: FOUO

Hey guys,

We are developing a set of standard AST specifications for Fort Bragg. One of the specifications will cover the liquid level gauges. What is the stated accuracy of the liquid level gauges you guys are using? I saw one liquid level gauge spec that called for an accuracy of plus or minus 1/4 inch. That sounds awfully accurate to me, and probably unnecessarily so.

Thanks,

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194

Classification: UNCLASSIFIED  
Caveats: FOUO

**Scott Hughes**

---

**From:** Adcock, Jason K CTR US USA [jason.adcock@us.army.mil]  
**Sent:** Wednesday, September 28, 2011 3:13 PM  
**To:** Scott Hughes  
**Subject:** JSOC Access Form (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Hi Scott,

Could you send me one of the JSOC access forms that you guys used, along with the point of contact you used to get an escort?

Ed Ward passed away a few weeks ago, and he is who I used, but I think you guys were working with somebody else.

Thanks.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Thursday, November 17, 2011 7:12 AM  
**To:** Leon J Carrero  
**Cc:** Harris, Steven USA CIV (US); Scott Hughes; Jim Smith  
**Subject:** RE: C-8727 AST (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

I will measure today and reply to all.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

-----Original Message-----

**From:** Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
**Sent:** Wednesday, November 16, 2011 5:47 PM  
**To:** Adcock, Jason K USA CTR (US)  
**Cc:** Harris, Steven USA CIV (US); Scott Hughes; Jim Smith  
**Subject:** Re: C-8727 AST (UNCLASSIFIED)

Ok. Can you tell me how far is the mechanical room from the pad. I need to get double wall piping  
Sent from my BlackBerryR smartphone with Nextel Direct Connect

-----Original Message-----

**From:** "Adcock, Jason K USA CTR (US)" <[jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)>  
**Date:** Wed, 16 Nov 2011 20:25:23  
**To:** Leon J Carrero<[LCarrero@aerostar.net](mailto:LCarrero@aerostar.net)>  
**Cc:** Harris, Steven USA CIV (US)<[steven.harris11.civ@mail.mil](mailto:steven.harris11.civ@mail.mil)>  
**Subject:** C-8727 AST (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Leon,

Steven and I went to look at the motor pool area again. We will not be able to use the area in front of that bay next to the mechanical room. The large pad over near the fence is the only place we'll be able to put that AST.

Thanks,  
Jason

v/r,

Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

**Scott Hughes**

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Thursday, November 17, 2011 8:03 AM  
**To:** John Meyer  
**Cc:** Scott Hughes; Leon J Carrero  
**Subject:** RE: UST-3 Form for tank C-8727, Ft Bragg (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Hi guys,

The permit number is F-000039.

Also, I thought you were going to abandon this one in place?

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

-----Original Message-----

**From:** John Meyer [<mailto:JMeyer@aerostar.net>]  
**Sent:** Thursday, November 17, 2011 8:00 AM  
**To:** [jason.adcock@us.army.mil](mailto:jason.adcock@us.army.mil)  
**Cc:** Scott Hughes; Leon J Carrero  
**Subject:** UST-3 Form for tank C-8727, Ft Bragg

Hi Jason,

Attached for your review and signature is the UST-3 Form for the 15,000-gallon UST at Building C-8727 in Fort Bragg. Please confirm if this tank has a Permit # and let me know if you have any questions.

Thanks,

John D. Meyer, P.G.

AEROSTAR Environmental Services, Inc.

11181 St. Johns Industrial Parkway North

Jacksonville, Florida 32246

[www.aerostar.net](http://www.aerostar.net)

Phone 904-565-2820

Fax 904-565-2830

Email [jmeyer@aerostar.net](mailto:jmeyer@aerostar.net)

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Thursday, November 17, 2011 8:42 AM  
**To:** John Meyer; Leon J Carrero  
**Cc:** Scott Hughes  
**Subject:** RE: UST-3 Form for tank C-8727, Ft Bragg (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thanks. What is the planned closure date?

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

-----Original Message-----

From: John Meyer [mailto:JMeyer@aerostar.net]  
Sent: Thursday, November 17, 2011 8:22 AM  
To: Leon J Carrero; Adcock, Jason K USA CTR (US)  
Cc: Scott Hughes  
Subject: RE: UST-3 Form for tank C-8727, Ft Bragg (UNCLASSIFIED)

Hi Jason - Attached is the revised UST-3 Form.

Thanks,  
John

-----Original Message-----

From: Leon J Carrero  
Sent: Thursday, November 17, 2011 8:20 AM  
To: Adcock, Jason K USA CTR (US); John Meyer  
Cc: Scott Hughes  
Subject: Re: UST-3 Form for tank C-8727, Ft Bragg (UNCLASSIFIED)

Yes. This will be abandoned in place. Thanks  
Sent from my BlackBerry(r) smartphone with Nextel Direct Connect

-----Original Message-----

From: "Adcock, Jason K USA CTR (US)" <[jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)>  
Date: Thu, 17 Nov 2011 13:02:41  
To: John Meyer<[JMeyer@aerostar.net](mailto:JMeyer@aerostar.net)>  
Cc: Scott Hughes<[SHughes@aerostar.net](mailto:SHughes@aerostar.net)>; Leon J Carrero<[LCarrero@aerostar.net](mailto:LCarrero@aerostar.net)>  
Subject: RE: UST-3 Form for tank C-8727, Ft Bragg (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Hi guys,

The permit number is F-000039.

Also, I thought you were going to abandon this one in place?

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

-----Original Message-----

From: John Meyer [<mailto:JMeyer@aerostar.net>]  
Sent: Thursday, November 17, 2011 8:00 AM  
To: [jason.adcock@us.army.mil](mailto:jason.adcock@us.army.mil)  
Cc: Scott Hughes; Leon J Carrero  
Subject: UST-3 Form for tank C-8727, Ft Bragg

Hi Jason,

Attached for your review and signature is the UST-3 Form for the 15,000-gallon UST at Building C-8727 in Fort Bragg. Please confirm if this tank has a Permit # and let me know if you have any questions.

Thanks,

John D. Meyer, P.G.

AEROSTAR Environmental Services, Inc.

11181 St. Johns Industrial Parkway North

Jacksonville, Florida 32246

[www.aerostar.net](http://www.aerostar.net)

Phone 904-565-2820

Fax 904-565-2830

Email [jmeyer@aerostar.net](mailto:jmeyer@aerostar.net)

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Thursday, November 17, 2011 9:53 AM  
**To:** Leon J Carrero  
**Cc:** Harris, Steven USA CIV (US); Scott Hughes; Jim Smith  
**Subject:** RE: C-8727 AST (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

The mechanical room is 120 feet from the center of the pad diagonally, or about 160 feet if squared-off with two straight runs.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

-----Original Message-----

From: Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
Sent: Wednesday, November 16, 2011 5:47 PM  
To: Adcock, Jason K USA CTR (US)  
Cc: Harris, Steven USA CIV (US); Scott Hughes; Jim Smith  
Subject: Re: C-8727 AST (UNCLASSIFIED)

Ok. Can you tell me how far is the mechanical room from the pad. I need to get double wall piping  
Sent from my BlackBerryR smartphone with Nextel Direct Connect

-----Original Message-----

From: "Adcock, Jason K USA CTR (US)" <[jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)>  
Date: Wed, 16 Nov 2011 20:25:23  
To: Leon J Carrero<[LCarrero@aerostar.net](mailto:LCarrero@aerostar.net)>  
Cc: Harris, Steven USA CIV (US)<[steven.harris11.civ@mail.mil](mailto:steven.harris11.civ@mail.mil)>  
Subject: C-8727 AST (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Leon,

Steven and I went to look at the motor pool area again. We will not be able to use the area in front of that bay next to the mechanical room. The large pad over near the fence is the only place we'll be able to put that AST.

Thanks,  
Jason

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Leon J Carrero  
**Sent:** Thursday, November 17, 2011 10:10 AM  
**To:** Adcock, Jason K USA CTR (US)  
**Cc:** Harris, Steven USA CIV (US); Scott Hughes; Jim Smith; Zainul Kidwai  
**Subject:** Re: C-8727 AST (UNCLASSIFIED)

Ok. We will get the necessary double walled piping them. Also, a couple of years ago you provided us with a GIS database of the base with all utilities and building numbers. When our system crashed this year we lost the database. Can you provide me with another copy? I can get Carlos to stop by and pick it up. Thanks Sent from my BlackBerry® smartphone with Nextel Direct Connect

-----Original Message-----

**From:** "Adcock, Jason K USA CTR (US)" <[jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)>  
**Date:** Thu, 17 Nov 2011 14:52:56  
**To:** Leon J Carrero<[LCarrero@aerostar.net](mailto:LCarrero@aerostar.net)>  
**Cc:** Harris, Steven USA CIV (US)<[steven.harris11.civ@mail.mil](mailto:steven.harris11.civ@mail.mil)>; Scott Hughes<[SHughes@aerostar.net](mailto:SHughes@aerostar.net)>; Jim Smith<[JSmith@aerostar.net](mailto:JSmith@aerostar.net)>  
**Subject:** RE: C-8727 AST (UNCLASSIFIED)

**Classification:** UNCLASSIFIED  
**Caveats:** NONE

The mechanical room is 120 feet from the center of the pad diagonally, or about 160 feet if squared-off with two straight runs.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

-----Original Message-----

**From:** Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
**Sent:** Wednesday, November 16, 2011 5:47 PM  
**To:** Adcock, Jason K USA CTR (US)  
**Cc:** Harris, Steven USA CIV (US); Scott Hughes; Jim Smith  
**Subject:** Re: C-8727 AST (UNCLASSIFIED)

Ok. Can you tell me how far is the mechanical room from the pad. I need to get double wall piping Sent from my BlackBerryR smartphone with Nextel Direct Connect

-----Original Message-----

**From:** "Adcock, Jason K USA CTR (US)" <[jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)>  
**Date:** Wed, 16 Nov 2011 20:25:23  
**To:** Leon J Carrero<[LCarrero@aerostar.net](mailto:LCarrero@aerostar.net)>  
**Cc:** Harris, Steven USA CIV (US)<[steven.harris11.civ@mail.mil](mailto:steven.harris11.civ@mail.mil)>

Subject: C-8727 AST (UNCLASSIFIED)

Classification: UNCLASSIFIED

Caveats: NONE

Leon,

Steven and I went to look at the motor pool area again. We will not be able to use the area in front of that bay next to the mechanical room. The large pad over near the fence is the only place we'll be able to put that AST.

Thanks,

Jason

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467

Mobile: 540.250.3194

Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

\*\* Please note my new email address above. \*\*

Classification: UNCLASSIFIED

Caveats: NONE

Classification: UNCLASSIFIED

Caveats: NONE

## Scott Hughes

---

**From:** Leon J Carrero  
**Sent:** Monday, November 28, 2011 10:41 AM  
**To:** Adcock, Jason K USA CTR (US)  
**Cc:** Jim Smith; Scott Hughes; Kidwai, Zainul A SAS  
**Subject:** Tank installation at Motor pool

Jason

Jim Smith is heading to Ft Bragg to do the installation of the ASTs with Carlos and David. He would like to get with you tomorrow morning 0800 to look at how the piping will be ran and a few other details. He can meet you at the site if that is easier. We anticipate completing the installation of the tank at the Motor pool by end of this week. We will be working also on installing the tanks in the F area and should have those done by middle of next week or earlier. I will be coming up later part of next week to do an initial inspection then coordinate a walk-thru with the corps. Thanks and please call if you have any questions.

## Scott Hughes

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Monday, November 28, 2011 11:02 AM  
**To:** Leon J Carrero; Harris, Steven USA CIV (US)  
**Cc:** Jim Smith; Scott Hughes; Kidwai, Zainul A SAS  
**Subject:** RE: Tank installation at Motor pool (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thanks Leon.

Jim, I will meet you at C-8727 at 0800 tomorrow to look at the piping.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

-----Original Message-----

From: Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
Sent: Monday, November 28, 2011 10:41 AM  
To: Adcock, Jason K USA CTR (US)  
Cc: Jim Smith; Scott Hughes; Kidwai, Zainul A SAS  
Subject: Tank installation at Motor pool

Jason

Jim Smith is heading to Ft Bragg to do the installation of the ASTs with Carlos and David. He would like to get with you tomorrow morning 0800 to look at how the piping will be ran and a few other details. He can meet you at the site if that is easier. We anticipate completing the installation of the tank at the Motor pool by end of this week. We will be working also on installing the tanks in the F area and should have those done by middle of next week or earlier. I will be coming up later part of next week to do an initial inspection then coordinate a walk-thru with the corps. Thanks and please call if you have any questions.

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Jim Smith  
**Sent:** Monday, November 28, 2011 11:17 AM  
**To:** Adcock, Jason K USA CTR (US); Leon J Carrero; Harris, Steven USA CIV (US)  
**Cc:** Jim Smith; Scott Hughes; Kidwai, Zainul A SAS  
**Subject:** Re: Tank installation at Motor pool (UNCLASSIFIED)

Very good. Thanks.  
Sent from my BlackBerry® smartphone with Nextel Direct Connect

-----Original Message-----

From: "Adcock, Jason K USA CTR (US)" <[jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)>  
Date: Mon, 28 Nov 2011 16:02:29  
To: Leon J Carrero<[LCarrero@aerostar.net](mailto:LCarrero@aerostar.net)>; Harris, Steven USA CIV (US)<[steven.harris11.civ@mail.mil](mailto:steven.harris11.civ@mail.mil)>  
Cc: Jim Smith<[JSmith@aerostar.net](mailto:JSmith@aerostar.net)>; Scott Hughes<[SHughes@aerostar.net](mailto:SHughes@aerostar.net)>; Kidwai, Zainul A SAS<[Zainul.A.Kidwai@usace.army.mil](mailto:Zainul.A.Kidwai@usace.army.mil)>  
Subject: RE: Tank installation at Motor pool (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thanks Leon.

Jim, I will meet you at C-8727 at 0800 tomorrow to look at the piping.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

-----Original Message-----

From: Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
Sent: Monday, November 28, 2011 10:41 AM  
To: Adcock, Jason K USA CTR (US)  
Cc: Jim Smith; Scott Hughes; Kidwai, Zainul A SAS  
Subject: Tank installation at Motor pool

Jason

Jim Smith is heading to Ft Bragg to do the installation of the ASTs with Carlos and David. He would like to get with you tomorrow morning 0800 to look at how the piping will be ran and a few other details. He can meet you at the site if that is easier. We anticipate completing the installation of the tank at the Motor pool by end of this week. We will be working also on installing the tanks in the F area and should have those done by middle of next week or earlier. I will be coming up later part of next week to do an initial

inspection then coordinate a walk-thru with the corps. Thanks and please call if you have any questions.

Classification: UNCLASSIFIED

Caveats: NONE

**Scott Hughes**

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Wednesday, January 11, 2012 10:49 AM  
**To:** Leon J Carrero  
**Cc:** Scott Hughes  
**Subject:** RE: J-1138 Results (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thanks guys.

Leon, is there any way you can work around the power line? I called the man from Sandhills Utility and he was okay with it, I just needed to submit a service order. But the service order desk routed me through someone else here in DPW who had to "clear" all power line work first. This is apparently new, and something I see taking longer than a day to get approval for.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

-----Original Message-----

**From:** Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
**Sent:** Wednesday, January 11, 2012 10:14 AM  
**To:** Adcock, Jason K USA CTR (US)  
**Cc:** Scott Hughes  
**Subject:** FW: J-1138 Results

Jason

Attached please find the results of the sampling we did at J-1138. The soil samples are all below reporting limits. We have hits of C9-C18 Aliphatics, C9-C22 Aromatics, and Chrysene above the NC standards in the water sample. We will be putting together a report summarizing the results and recommendation for additional assessment. Call me if you have any questions.

Leon

Classification: UNCLASSIFIED  
Caveats: NONE



## Scott Hughes

---

**From:** Leon J Carrero  
**Sent:** Wednesday, January 11, 2012 10:57 AM  
**To:** Adcock, Jason K USA CTR (US)  
**Cc:** Scott Hughes; Jim Smith  
**Subject:** RE: J-1138 Results (UNCLASSIFIED)

We may need an extra piece of equipment but we will manage. thanks

-----Original Message-----

**From:** Adcock, Jason K USA CTR (US) [<mailto:jason.k.adcock.ctr@mail.mil>]  
**Sent:** Wednesday, January 11, 2012 10:49 AM  
**To:** Leon J Carrero  
**Cc:** Scott Hughes  
**Subject:** RE: J-1138 Results (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thanks guys.

Leon, is there any way you can work around the power line? I called the man from Sandhills Utility and he was okay with it, I just needed to submit a service order. But the service order desk routed me through someone else here in DPW who had to "clear" all power line work first. This is apparently new, and something I see taking longer than a day to get approval for.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

-----Original Message-----

**From:** Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
**Sent:** Wednesday, January 11, 2012 10:14 AM  
**To:** Adcock, Jason K USA CTR (US)  
**Cc:** Scott Hughes  
**Subject:** FW: J-1138 Results

Jason

Attached please find the results of the sampling we did at J-1138. The soil samples are all below reporting limits. We have hits of C9-C18 Aliphatics, C9-C22 Aromatics, and Chrysene above the NC standards in the water sample. We will be putting together a report summarizing the results and recommendation for additional assessment. Call me if you have any questions.

Leon

Classification: UNCLASSIFIED

Caveats: NONE

## Scott Hughes

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Wednesday, January 11, 2012 11:13 AM  
**To:** Leon J Carrero  
**Cc:** Scott Hughes; Jim Smith  
**Subject:** RE: J-1138 Results (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Well, it's not written off yet, but it appears that our request depends on one (government) person. You might imagine how it will turn out.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

-----Original Message-----

From: Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
Sent: Wednesday, January 11, 2012 10:57 AM  
To: Adcock, Jason K USA CTR (US)  
Cc: Scott Hughes; Jim Smith  
Subject: RE: J-1138 Results (UNCLASSIFIED)

We may need an extra piece of equipment but we will manage. thanks

-----Original Message-----

From: Adcock, Jason K USA CTR (US) [<mailto:jason.k.adcock.ctr@mail.mil>]  
Sent: Wednesday, January 11, 2012 10:49 AM  
To: Leon J Carrero  
Cc: Scott Hughes  
Subject: RE: J-1138 Results (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thanks guys.

Leon, is there any way you can work around the power line? I called the man from Sandhills Utility and he was okay with it, I just needed to submit a service order. But the service order desk routed me through someone else here in DPW who had to "clear" all power line work first. This is apparently new, and something I see taking longer than a day to get approval for.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support

Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

-----Original Message-----

From: Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
Sent: Wednesday, January 11, 2012 10:14 AM  
To: Adcock, Jason K USA CTR (US)  
Cc: Scott Hughes  
Subject: FW: J-1138 Results

Jason

Attached please find the results of the sampling we did at J-1138. The soil samples are all below reporting limits. We have hits of C9-C18 Aliphatics, C9-C22 Aromatics, and Chrysene above the NC standards in the water sample. We will be putting together a report summarizing the results and recommendation for additional assessment. Call me if you have any questions.

Leon

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Thursday, January 12, 2012 7:36 AM  
**To:** Leon J Carrero; Jim Smith; Scott Hughes  
**Subject:** Power Line (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

I got a call from the electrical folks this morning confirming the removal of the power line for later this afternoon or first thing tomorrow morning. So looks like it'll happen.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Jim Smith  
**Sent:** Thursday, January 12, 2012 4:41 PM  
**To:** Scott Hughes  
**Subject:** FW: F-2534 and F-3134 ASTs (UNCLASSIFIED)  
**Attachments:** F-2534 New AST.jpg; F-3134 New AST.jpg

James O. Smith, Jr., P.E.  
Vice President - Engineering

Aerostar Environmental Services, Inc.  
11181 St. Johns Industrial Parkway, North Jacksonville, Florida 32246 904-565-2820 Office  
904-565-2830 Fax  
904-483-8951 Cell

-----Original Message-----

From: Adcock, Jason K USA CTR (US) [<mailto:jason.k.adcock.ctr@mail.mil>]  
Sent: Thursday, January 12, 2012 4:02 PM  
To: Leon J Carrero; Jim Smith  
Cc: Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
Subject: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Aerostar,

Request immediate action at the two aforementioned sites please. Bollards were installed directly in front of the remote fill boxes. The fuel truck driver cannot fill the tanks. One of the tanks has about a foot of product in it according to the gauge, so expediency is appreciated.

Thanks!

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Jim Smith  
**Sent:** Thursday, January 12, 2012 6:37 PM  
**To:** Scott Hughes  
**Subject:** Re: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Leon didn't think they could get there fast enuf.

-----Original Message-----

**From:** Scott Hughes  
**To:** Jim Smith  
**Subject:** RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)  
**Sent:** Jan 12, 2012 6:08 PM

Doh, maybe they can just move them to one side instead of installing two...maybe not...

-----Original Message-----

**From:** Jim Smith  
**Sent:** Thursday, January 12, 2012 4:41 PM  
**To:** Scott Hughes  
**Subject:** FW: F-2534 and F-3134 ASTs (UNCLASSIFIED)

James O. Smith, Jr., P.E.  
Vice President - Engineering

Aerostar Environmental Services, Inc.  
11181 St. Johns Industrial Parkway, North Jacksonville, Florida 32246 904-565-2820 Office  
904-565-2830 Fax  
904-483-8951 Cell

-----Original Message-----

**From:** Adcock, Jason K USA CTR (US) [<mailto:jason.k.adcock.ctr@mail.mil>]  
**Sent:** Thursday, January 12, 2012 4:02 PM  
**To:** Leon J Carrero; Jim Smith  
**Cc:** Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
**Subject:** F-2534 and F-3134 ASTs (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Aerostar,

Request immediate action at the two aforementioned sites please. Bollards were installed directly in front of the remote fill boxes. The fuel truck driver cannot fill the tanks. One of the tanks has about a foot of product in it according to the gauge, so expediency is appreciated.

Thanks!

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

Classification: UNCLASSIFIED  
Caveats: NONE

Sent from my BlackBerry® smartphone with Nextel Direct Connect

**Scott Hughes**

---

**From:** Jim Smith  
**Sent:** Friday, January 13, 2012 9:52 AM  
**To:** Adcock, Jason K USA CTR (US); Leon J Carrero  
**Cc:** Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US); Scott Hughes  
**Subject:** RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Jason,

We have cut off the bollards in front of the remote fills for the two F Area ASTs. The fueling truck can now fill both tanks.

We plan to remove the excavation soil when the new bollards are installed.

Also, the concrete has been removed from the area outside of the Yadkins gate and we are filling and grading the area this morning. We will place grass seed and straw later today. Sandhills can replace the electric line this afternoon or next week.

Thanks,

James O. Smith, Jr., P.E.  
Vice President - Engineering

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11181 St. Johns Industrial Parkway, North Jacksonville, Florida 32246 904-565-2820 Office  
904-565-2830 Fax  
904-483-8951 Cell

-----Original Message-----

**From:** Adcock, Jason K USA CTR (US) [<mailto:jason.k.adcock.ctr@mail.mil>]  
**Sent:** Friday, January 13, 2012 8:52 AM  
**To:** Jim Smith; Leon J Carrero  
**Cc:** Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
**Subject:** RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Jim, thanks for your reply. Sounds good.

Also, there is a small soil pile beside each tank. Is this the excavation from the bollard holes? If so, can you tell me when that will be removed?

Thanks again. Have a good weekend.

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

-----Original Message-----

From: Jim Smith [<mailto:JSmith@aerostar.net>]  
Sent: Friday, January 13, 2012 8:29 AM  
To: Adcock, Jason K USA CTR (US); Leon J Carrero  
Cc: Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
Subject: RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Good morning Jason,

Leon is traveling to Savannah this morning so I am replying to your email.

AEROSTAR is cutting off the bollards that were placed in front of the remote fills in order to allow the tanks to be filled. As soon as we can, we will have the concrete subcontractor return to the site to remove the cut-off bollard and install new bollards to the sides of the remote fills. We will let you know when this is scheduled.

Yes, Sandhills removed the power line and we are finishing the concrete removal this morning.

James O. Smith, Jr., P.E.  
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-----Original Message-----

From: Adcock, Jason K USA CTR (US) [<mailto:jason.k.adcock.ctr@mail.mil>]  
Sent: Friday, January 13, 2012 7:48 AM  
To: Leon J Carrero; Jim Smith  
Cc: Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
Subject: RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thanks Leon,

Can you find out if there is a minimum height in NFPA 30 for protective bollards around oil tanks? One of my co-workers, who is a volunteer fireman, thought there might be a minimum height, and we could be written up for having a bollard that's too low. I don't remember there being a minimum height in the code.

Also, please confirm today that Sandhills removed the power line so you guys can load concrete. If they didn't, please let me know.

Thanks!!

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch

Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

-----Original Message-----

From: Leon J Carrero [<mailto:LCarrero@aerostar.net>]  
Sent: Thursday, January 12, 2012 4:27 PM  
To: Adcock, Jason K USA CTR (US); Jim Smith  
Cc: Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
Subject: RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)

We will cut the bollard below the level of the remote fill tomorrow so they hookup right away

-----Original Message-----

From: Adcock, Jason K USA CTR (US) [<mailto:jason.k.adcock.ctr@mail.mil>]  
Sent: Thursday, January 12, 2012 4:02 PM  
To: Leon J Carrero; Jim Smith  
Cc: Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
Subject: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Aerostar,

Request immediate action at the two aforementioned sites please. Bollards were installed directly in front of the remote fill boxes. The fuel truck driver cannot fill the tanks. One of the tanks has about a foot of product in it according to the gauge, so expediency is appreciated.

Thanks!

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: [jason.k.adcock.ctr@mail.mil](mailto:jason.k.adcock.ctr@mail.mil)

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

## Scott Hughes

---

**From:** Adcock, Jason K USA CTR (US) [jason.k.adcock.ctr@mail.mil]  
**Sent:** Friday, January 13, 2012 9:56 AM  
**To:** Jim Smith; Leon J Carrero  
**Cc:** Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US); Scott Hughes  
**Subject:** RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Thanks for the update Jim!

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: jason.k.adcock.ctr@mail.mil

-----Original Message-----

**From:** Jim Smith [mailto:JSmith@aerostar.net]  
**Sent:** Friday, January 13, 2012 9:52 AM  
**To:** Adcock, Jason K USA CTR (US); Leon J Carrero  
**Cc:** Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US); Scott Hughes  
**Subject:** RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Jason,

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Also, the concrete has been removed from the area outside of the Yadkins gate and we are filling and grading the area this morning. We will place grass seed and straw later today. Sandhills can replace the electric line this afternoon or next week.

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Cc: Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
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Classification: UNCLASSIFIED  
Caveats: NONE

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Thanks!!

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Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: jason.k.adcock.ctr@mail.mil

-----Original Message-----

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Sent: Thursday, January 12, 2012 4:27 PM  
To: Adcock, Jason K USA CTR (US); Jim Smith  
Cc: Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
Subject: RE: F-2534 and F-3134 ASTs (UNCLASSIFIED)

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From: Adcock, Jason K USA CTR (US) [mailto:jason.k.adcock.ctr@mail.mil]  
Sent: Thursday, January 12, 2012 4:02 PM  
To: Leon J Carrero; Jim Smith  
Cc: Zainul Kidwai; Harris, Steven CIV (US); Varela, Christopher A USA CTR (US)  
Subject: F-2534 and F-3134 ASTs (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Aerostar,

Request immediate action at the two aforementioned sites please. Bollards were installed directly in front of the remote fill boxes. The fuel truck driver cannot fill the tanks. One of the tanks has about a foot of product in it according to the gauge, so expediency is appreciated.

Thanks!

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: jason.k.adcock.ctr@mail.mil

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

Classification: UNCLASSIFIED  
Caveats: NONE

Scott Hughes

---

**From:** Leon J Carrero  
**Sent:** Monday, March 05, 2012 9:00 AM  
**To:** Scott Hughes  
**Subject:** FW: Final Walk-Thru for HOT 11 tanks (UNCLASSIFIED)

-----Original Message-----

**From:** Adcock, Jason K CTR (US) [mailto:jason.k.adcock.ctr@mail.mil]  
**Sent:** Monday, March 05, 2012 8:58 AM  
**To:** Leon J Carrero; Moser, Fred F SAS; Adcock, Jason K CTR US USA  
**Cc:** Harris, Steven CIV (US); Zainul.A.Kidwai@usace.army.mil  
**Subject:** RE: Final Walk-Thru for HOT 11 tanks (UNCLASSIFIED)

Classification: UNCLASSIFIED  
Caveats: NONE

Hi Leon,

We noticed that the access ports and manway cover on the C-8727 UST had not yet been removed (as of a week or two ago). When do you plan to complete that work?

v/r,  
Jason Adcock  
Storage Tank/IR/CR/MMR Program Support  
Environmental Compliance Branch  
Fort Bragg Directorate of Public Works

Office: 910.432.8467  
Mobile: 540.250.3194  
Email: jason.k.adcock.ctr@mail.mil

-----Original Message-----

**From:** Leon J Carrero [mailto:LCarrero@aerostar.net]  
**Sent:** Monday, March 05, 2012 8:42 AM  
**To:** Moser, Fred F SAS; Adcock, Jason K CTR US USA  
**Cc:** Harris, Steven CIV (US); Zainul.A.Kidwai@usace.army.mil  
**Subject:** Final Walk-Thru for HOT 11 tanks

Hello all. Hope you had a nice weekend. We need to schedule a final walk-thru for the ASTs we installed for the referenced project. Fred and I already did a preliminary walk-thru in early February. Please let me know if the week of March 12 will be good for you (except for Friday March 16).  
It should not take more than ½ a day. Thanks.

Classification: UNCLASSIFIED  
Caveats: NONE

## **APPENDIX C**

NCDENR UST FORMS  
AND LOCATION MAPS

# UST-2 Site Investigation Report for Permanent Closure or Change-in-Service of UST

**Return completed form to:**

The DWM Regional Office located in the area where the facility is located. Send a copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED" and your tank fee account can be closed out. SEE MAP ON THE BACK OF THIS FORM FOR THE CENTRAL AND REGIONAL OFFICE ADDRESSES.

STATE USE ONLY:

I.D. # \_\_\_\_\_

Date Received \_\_\_\_\_

**INSTRUCTIONS (READ THIS FIRST)**

For more than five UST systems you may attach additional forms as needed.

**Permanent closure** – For permanent closure, complete all sections of this form.

**Change-in-service** – For change-in-service where UST systems will be converted from containing a regulated substance to storing a non-regulated substance, complete sections I, II, III, IV, and VIII

Effective February 1, 1995, all UST closure/change-in-service reports must be submitted in the format provided in the UST-12 form. UST closure and change-in-services must be completed in accordance with the latest version of the *Guidelines for Tank Closure*. A copy of the UST-12 form and the *Guidelines for Tank Closure* can be obtained at [www.wastenotnc.org](http://www.wastenotnc.org).

You must make sure that USTs removed from your property are disposed of properly. When choosing a closure contractor, ask where the tank(s) will be taken for disposal. Usually, USTs are cleaned and cut up for scrap metal. This is dangerous work and must be performed by a qualified company. Tanks disposed of illegally in fields or other dumpsites can leak petroleum products and sludge into the environment. If your tanks are disposed of improperly, you could be held responsible for the cleanup of any environmental damage that occurs.

**NOTE:** If a release from the tank(s) has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G.

I. OWNERSHIP OF TANKS				II. LOCATION OF TANKS				
Owner Name (Corporation, Individual, Public Agency, or Other Entity) Fort Bragg Environmental Compliance Branch				Facility Name or Company Fort Bragg				
Street Address BLDG 3-1137, 2175 Reilly Road				Facility ID # (If known) F-000039				
City Fort Bragg		County Cumberland		Street Address BLDG C-8727				
State NC		Zip Code 23810		City Fort Bragg		County Cumberland		Zip Code 28310
Phone Number (910) 396-7432				Phone Number (910) 396-7432				

**III. CONTACT PERSONNEL**

Contact for Facility: Steven Harris			Job Title: Program Manager			Phone. No: (910) 396-7432		
Closure Contractor Name: Tim Parker		Closure Contractor Company: A&D Environmental Services		Address: PO Box 484, High Point, NC			Phone. No: (336) 434-7750	
Primary Consultant Name: Leon Carrero		Primary Consultant Company: Aerostar Environmental Svcs.		Address: 11181 St. Johns Ind. Pkwy, Jax, FL			Phone. No: (904) 565-2820	

IV. UST INFORMATION FOR REGISTERED UST SYSTEMS							V. EXCAVATION CONDITION					
Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Change-in-Service Date	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
C-8727	15000	10'x25'	Heating Oil	12/15/11	12/15/11		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VI. UST INFORMATION FOR UNREGISTERED UST SYSTEMS							VII. EXCAVATION CONDITION					
Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Tank Owner Name *	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

\* If the tank owner address is different from the one listed in Section I., then enter the street address, city, state, zip code and telephone no. below:

**VIII. CERTIFICATION**

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 my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true accurate and complete.

Print name and official title of owner or owner's authorized representative	Signature	Date Signed
---	-----------	-------------

# UST-3 Notice of Intent: UST Permanent Closure or Change-in-Service

## Return completed form to:

The DWM Regional Office located in the area where the facility is located. Send a copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED" and your tank fee account can be closed out. SEE MAP ON THE BACK OF THIS FORM FOR THE CENTRAL AND REGIONAL OFFICE ADDRESSES.

STATE USE ONLY

I.D. # \_\_\_\_\_

Date Received \_\_\_\_\_

### INSTRUCTIONS (READ THIS FIRST)

Complete and return at least **thirty (30) days** prior to closure or change-in-service activities. If a Professional Engineer (P.E.) or a Licensed Geologist (L.G.) provides supervision for closure or change-in-service site assessment activities and signs and seals all closure reports then at least a **five (5) working days** notice is acceptable.

Completed UST closure or change-in-service site assessment reports, along with a copy of the UST-2 form, should be submitted to the appropriate Division of Waste Management (DWM) Regional Office within thirty (30) days following closure activities. The UST-2 form should also be submitted to the Central Office in Raleigh so that the status of the tanks may be changed to permanently closed and your tank fee account can be closed out.

UST closure and change-in-service site assessments must be completed in accordance with the latest version of the *Guidelines for Tank Closure*. The *Guidelines for Tank Closure* can be obtained at [www.wastenotnc.org](http://www.wastenotnc.org).

You must make sure that USTs removed from your property are disposed of properly. When choosing a closure contractor, ask where the tank(s) will be taken for disposal. Usually, USTs are cleaned and cut up for scrap metal. This is dangerous work and must be performed by a qualified company. Tanks disposed of illegally in fields or other dumpsites can leak petroleum products and sludge into the environment. If your tanks are disposed of improperly, you could be held responsible for the cleanup of any environmental damage that occurs.

I. OWNERSHIP OF TANKS		II. LOCATION		
Owner Name (Corporation, Individual, Public Agency, or Other Entity) Fort Bragg Environmental Compliance Branch		Facility Name or Company Fort Bragg		
Street Address BLDG 3-1137 2175 Reilly Road		Facility ID # (If known) F-000039		
City Fort Bragg	County Cumberland	Street Address BLDG C-8727 Motor Pool		
State NC	Zip Code 28310	City Fort Bragg	County Cumberland	Zip Code 28310
Phone Number (910) 396-7432		Phone Number		

### III. CONTACT PERSONNEL

Name: Steven Harris	Company Name: F.B. Env. Comp. Br./IRP/EQ	Job Title: Program Manager	Phone Number: 396-7432
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### IV. TANK REMOVAL, CLOSURE IN PLACE, CHANGE-IN SERVICE

- Contact local fire marshal.
- Plan entire closure event.
- Conduct Site Soil Assessment.
- If removing tanks or closing in place, refer to API Publication 2015 *Cleaning Petroleum Storage Tanks* and 1604 *Removal and Disposal of Used Underground Petroleum Storage Tanks*.
- Provide a sketch locating piping, tanks and soil sampling locations.
- Submit a closure report in the format of UST-12 (including the form UST-2) within thirty (30) days following the site investigation.
- If a release from the tanks has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G. If a release has not occurred, the supervision, signature or seal of a P.E. or L.G. is not required.
- Keep closure records for three (3) years.

### V. WORK TO BE PERFORMED BY

Contractor Name: Leon Carrero		Contractor Company Name: Aerostar Environmental Services, Inc.		
Address: 11181 St. Johns Industrial Parkway		State: FL	Zip Code: 32246	Phone No: 904-565-2820
Primary Consultant Name:		Primary Consultant Company Name:		Consultant Phone No:

### VI. TANKS SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE

Tank ID No.	Size in Gallons	Last Contents	Proposed Activity		
			Closure		Change-In-Service New Contents Stored
			Removal	Abandonment in Place *	
C-8727	15000	Heating Oil	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

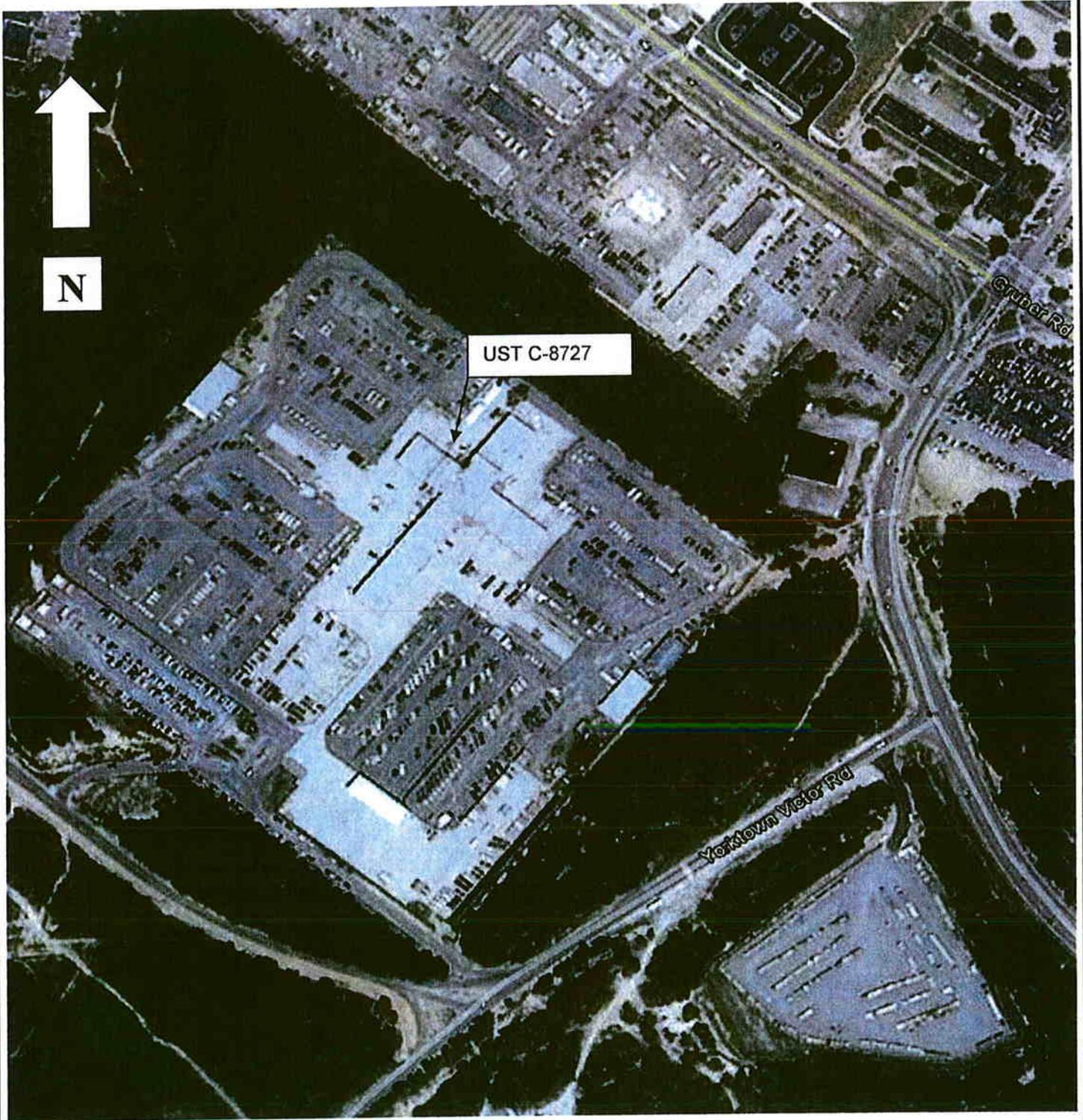
\* Prior written approval to abandon a tank in place must be received from a DWM Regional Office.

### VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

I understand that I can be held responsible for environmental damage resulting from the improper disposal of my USTs.

Print name and official title:

Signature	Date Signed	SCHEDULED REMOVAL DATE	Notify your DWM Regional Office 48 hours before this date if scheduled removal date changes
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UST – Underground Storage Tank

FIGURE 1. STREET SITE LOCATION MAP



BUILDING C-8727  
FORT BRAGG,  
CUMBERLAND COUNTY,  
NORTH CAROLINA

DRAWN BY: JM

REFERENCE: MAP OF  
FAYETTEVILLE, NC  
PREPARED BY: THE  
GOOGLE CORP.

## **APPENDIX D**

FIELD NOTES AND  
PHOTOGRAPHIC DOCUMENTATION

Location Fort Beary Landfill Date 10/23/11

Project / Client PLW 11.5 hrs

5.5 WORK 6 TRAVEL

0600 - Begin Mob from Hotel

0642 - Onsite Start Health and Safety Meeting

0700 - Start Causing Concrete

1130 - Break for Lunch

1205 - Onsite Continue Causing Concrete

1300 - Offsite Headed to Jacksonville

Today Total  
17.97 9/54

Location Fort Beary Hat Date 12/05/11

Project / Client 10 hrs  
ALW DL

0630 - Begin Mob from Hotel

0640 - Start Health and Safety Meeting

0700 - Went to Hubbard for Supplies

0730 - Need more supplies went to Home Depot

0845 - Onsite Begin putting Post in hole for

CONCRETE

0930 - Took Concrete and Reel plus dirt to Landfill

David

0945 - Call Heats Dumptruck Has fuel leak

1030 - Went to RSC to take Chop saw Buck

AND REEL PLATE TRAMP

1100 - Break for Lunch

1138 - Back onsite with Plate Tramp

1233 - Heated to F buildings to heat up Tramps

1605 - Offsite Went to Hotel

1638 - Break at Hotel

Carl Wilcox

Location Foot Burg Hot Date 12/06/11

Project / Client R. Shes  
CW, DL

- 0650 - Begin Mob from Hotel
- 0700 - Start Health and Safety Heavy Equipment Traffic
- 0730 - At Long Street Landfill to pickup dump truck
- 0800 - Put dirt concrete in dump truck taking to Landfill
- 0935 - Took last load of gravel to land fill
- Called off Equipment
- 1001 - Onsite at F Buildings Begin putting Hooking fuel lines to takes
- 1115 - Break for lunch
- 1147 - Continue working on tank hook ups
- 1600 - Offsite taking plate truck to RSC
- 1642 - Plus staying by home depot for supplies Back at Hotel

*Chris Wilber*

Location Foot Burg Hot Date 12/07/11

Project / Client R. Shes  
CW DL JM

- 0630 - Begin Mob from Hotel
- 0640 - Start Health and Safety Meeting Heavy Equipment Traffic
- 0740 - Went to Hubward to get Supplies
- 0822 - Onsite writing on JD Concrete
- 0912 - JD Concrete Onsite
- 0700 - J mixes Onsite
- 1015 - Concrete Onsite
- 1045 - CW, DL Offsite JM Onsite at **C-8127**
- To Continue Onsite with JD Concrete
- CW, DL Going to meet AD to transfer fuel out tanks
- 1108 - CW, DL Onsite to transfer fuel out tanks
- AD KODER Onsite Buildings **F-2534-A F-3194-A**
- 1400 - Tanks hook up complete Rodney from AD
- Offsite CW DL waiting on Guys from DPW to restart tanks.

1500 - JT Offsite at **C-8127**

~~1610 DPW Onsite~~  
 Waiting on DPW to restart tanks  
~~Working properly Offsite~~  
 1700 - BACK AT HOTEL

44 Location Fort Beagg Hot Date 12/08/11

Project / Client 10 hrs CW, DL 8 hrs Longstreet

0630 - Begin Mob from Hotel

0710 - Visite street Health and safety meeting

0712 - Heavy Equipment Traffic

0712 - Waiting on fuel Solutions to set tank

1730 - CW, DL, LC Onsite <sup>CW, LC, DL</sup> went to get seed and straw for landfill

0845 - CW, DL, LC Onsite ~~Longstreet~~ landfill to put straw and seed down.

0954 - Offsite

1054 - CW, LC, went to get more seed and straw

1117 - CW, LC, At sunbelt renting straw blower

1230 - Break for lunch

1307 - On Longstreet Landfill putting seed and straw down. CW, LC

1530 - CW, DL, went to get more seed and straw for Longstreet landfill

1730 - CW, LC, DL, Finish putting straw and seed

CW At long street landfill

~~1745~~ - Back at Hotel

*[Signature]*

Location Fort Beagg Hot Date 12/09/11

Project / Client 11 hrs CW, DL, LC 6 TAMEL 5 work

0630 - Begin Mob from Hotel

0645 - Street Health and Safety Meeting

0700 - CW, DL, LC, Returning straw blower to Sunbelt Rentals

0723 - CW, DL, LC, Getting seed and straw

0821 - CW, DL, LC, Onsite at F-2551A F939-A to see if fuel solutions finished tank pickups

0931 - CW, DL, AT ~~Longstreet~~ Landfill finish putting seed and straw down Offsite

1044 - CW, DL Waiting on LC to come onsite

1123 - Leaving Fort Beagg heading to Jacksonville FL

1730 - Back in Jacksonville FL

*[Signature]*

10815 Run two 1-inch pipes from sump to top of AST

1130 Pipes at AST are complete. Paul leaves to return material to MECO and to get hay for landfill seed. Jim and Carlos to lunch.

1230 Jim and Carlos at C-8727. Set up to run pipes start mechanical room.

1400 Paul returns with hay. All of crew goes to Longstreet landfill to spread seed and have tippy seed and hay at multiple bare locations. Meet Sid and discuss areas needing seed and hay.

1630 Back at C-8727. Secure site

1640 Leave site

1700 OFF job.

~~Jim  
12/14/11~~

H. Bragg HOT

J. Smith, C. W. Karsow  
P. Sarfert

0630 Leave motel.

0700 At C-8727. Tailgate safety. <sup>for Paul</sup>

Open sump

Ladders/Fall

Electrical tools

Set up to finish piping.

Drive ground rod at NE corner of AST.

0900 Gordon of Petroleum Solutions on site with hydraulic equipment to help us make up fittings on one-inch double wall pipe. Make 2 ends in sump and 2 ends by MCC horizontal rods.

1000 Roding of APD on site with vac to transfer diesel to AST.

1030 Connections made to double wall pipes. Gordon leaves.

1045 Bill Bradford of DPW on site. He says to call him if we have any problem starting boiler. (910 309 7630).

1100 Transfer first vac truck to AST

1125 Begin extracting 2<sup>nd</sup> vac truck of diesel. AGT is 4' 5 1/2" full.

1130 Paul goes to check out of motel.

1230 Second vac truck is in AST.

Gauge is at 6' 6 1/2" (90% full).

Use vac truck to prime supply line.  
Full out 3rd lead to take off site.

1300 call Bill Bradford. He will come and start boiler.

1310 Vac truck is full. 36" remaining in AST. (about 3500 gallons - 500 gal)

Vac truck has about 3700 gallons.

Carlos leaves to pick up lunch.

1330 Carlos back. Use vac truck to purge supply line again.

1415 Boiler is running well.

1450 Bill Bradford leaves.

1510 ~~AST~~ vac truck leaves. (full)

Clean up and secure site.

1530 All leave. Jim and Paul head to

Jacksonville in Explorer. Carlos

takes wooden reel from double wgl

pipng to Lambert and landfill.

1630 Carlos stf. ch.

2130 Jim and Paul in Tax. OSE job.

Approved *Jim*

12/14/11

24 Location Fort Pierce Hotel Date 12/15/11  
Project / Client 11 hes  
CW

0630 - Begin Mob from Hotel  
0717 - At Home Depot getting supplies CW  
0745 - Onsite waiting on AD ~~to finish prep work~~  
CW ~~on site~~  
0750 - Finishing Touchup work on tank. C-8727  
0936 - AD onsite to pump out tank and also CLEAN.  
1240 - AD finish cleaning out Tank CW went to get Manifest Signed by Shaun at DPW.  
1300 - CW Back onsite  
Tailored  
1329 - CW ~~For~~ Form Onsite AD also Onsite. Street Framing Tank  
1398 - CW, Offsite to another Tank Job  
1400 - CW Onsite to put ground Reos in at Buildings CW ~~at~~ F-3134-A F-2534-A  
1455 - Offsite  
1520 - CW Onsite at building C-8727 Waiting For Tailored Form To Finish tank  
1730 - Tailored Form Finished Tank AD Offsite CW, Going to Hotel

Location Fort Breach Hotel Date 12/16/11  
Project / Client CW

0700 - Begin Mob from Hotel  
1330 - Check at the Office in Jacksonville FL

Location Fayetteville, NC Date 12/6/11  
Project / Client OW-400-09 / USACE

down

800 down + probe Technology at Bldg  
-> less DRWD site, Formet AST location  
to install 3 soil borings per LFC.  
Weather: Pt cloudy 70s F  
Geoprobe 6620 BT BIT ng mate  
Nick + down w/ PII  
830 Tailgate inty. Install SBS

SBS-1	OWA	LITHOLOGY
2'	0.0	Tan sandy CLAY dry, no odor
4'		odor
6'		
8'		
10'		
12'		Brown sandy CLAY dry no odor
14'		odor
16'		L-Tan sandy CLAY no odor
18'		odor
20'		Moist to damp
22'		wet
24'		
26'		Red sandy CLAY, wet
28'		no odor
30'		

Location Fayetteville, NC Date 12/6/11  
Project / Client OW-400-09 / USACE

SBS-2	OWA	LITHOLOGY
2	0.0	Tan sandy CLAY, dry, no odor
4		
6		
8		
10		
12		
14		
16		Tan sandy CLAY dry no odor
18		Red sandy CLAY dry no odor
20		Grey sandy CLAY dry no odor
SBS-3	OWA	LITHOLOGY
2	0.0	Tan sandy CLAY dry, no odor
4		
6		
8		
10		
12		
14		L-Tan sandy CLAY dry no odor
16		Red sandy CLAY dry no odor
18		"
20		"

900 GW sample called at 28' - 26' - 828

Location Fayetteville, NC Date 12/6/11  
 Project / Client GM-407-09 / USACE

JTM

915 JBM calls GJC about soil OVA & water sample locations. GJC instructs JTM to install SB-4 and collect sample 18'-20' BS.

SB-4	OVA	LITABILITY
2	0.0	Tan sandy CLAY dry in
4		odor
6		
8		
10		
12		
14		
16		Red sandy CLAY dry in
18		
20		grey CLAY stiff in odor

930 Soil sample collected at SB-1 at 4' BS.  
 940 Soil sample collected at SB-4 at 18' BS.  
 950 Soil sample collected at SB-2 at 20' BS.  
 1000 Soil sample collected at SB-3 at 20' BS.

PTJ patches all SB locations. Cust DL w/ PTJ's onsite. All personnel under a C-8727 Mustor foot.

Location Fayetteville, NC Date 12/6/11  
 Project / Client GM-407-09 / USACE

JTM

1030 AESA PT onsite at C-8727 Mustor foot. CWL & AS site. JBM gauges 1.5" camp gauge well on Bldg side of 11st.  
 BNU ~ 23A BLS. PTJ begins coring concrete around 11st.

SB-1	OVA	LITABILITY
2	575	D. Brown sandy CLAY
4	73,999	petroleum odor
6	295	Tan sandy CLAY
8	659	petroleum odor
10	745	
12	2246	
14	1,704	wet staining, green
16	23,999	
18		Gray sand saturated
20		" "

SB-2	OVA	LITABILITY
2	656	D. Brown sandy CLAY
4	1877	petroleum odor
6	305	Tan sandy CLAY some odor
8	162	
10	125	
12	2588	
14	644	wet staining, green

Location Fayetteville, NC Date 12/6/11

Project / Client DM-400-09 / USACE

WATER

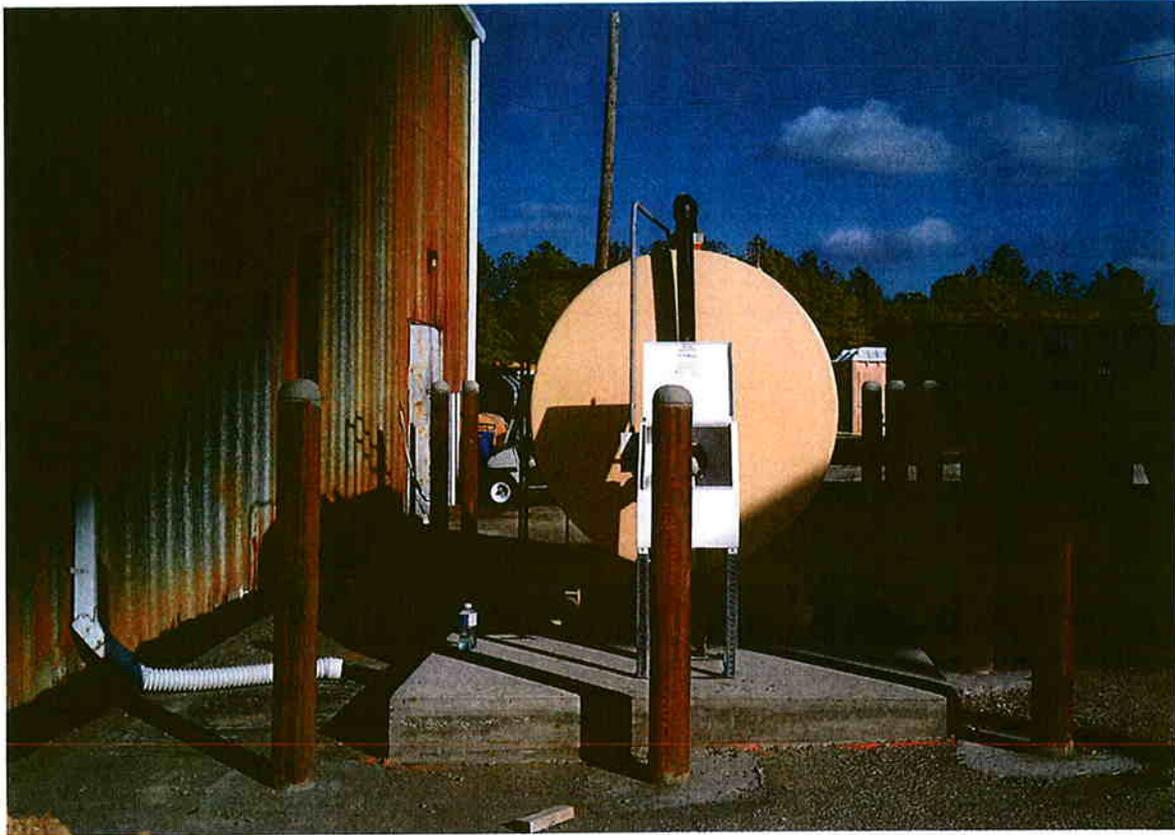
SB-2 (cont)	QVA	LITERATURE
16	> 3,999	Saturated very strong petroleum stain
18		Grey sand
20		
SB-3		
2	> 3,999	D. Brown sandy CLAY
4	> 3,999	petroleum stain
6	2200	
8	1995	
10	1750	
*12	2045	wet
14	1375	
16	1250	
18	678	Saturated strong petroleum stain
20	772	
SB-4		
2	> 3999	D. Brown sandy CLAY
4	> 3,999	petroleum stain dry
6	482	Tan sandy CLAY no odor
8	450	dry
10	200	
*12	1250	
14	440	Grey CLAY to sand
16	> 3999	Saturated

Location Fayetteville, NC Date 12/6/11

Project / Client DM-400-09 / USACE

SB-4 (cont)	QVA	LITERATURE
18	> 3,999	Grey CLAY, saturated
20	> 3,999	" "
ABM gauges UST. 2' FFI pipe 10' depth = 12' TD. 10' diameter UST		
1215		Soil sample collected at SB-4 at 12' BS
1215		Soil sample collected at SB-3 at 12' BS
1230		Soil sample collected at SB-2 at 12' BS
1250		Soil sample collected at SB-1 at 12' BS
1300		No water from DPT sampler
~ 1 m HYDRO to get water.		
Gauge other than near UST. BAW 1845		
1330	26.9 BS	GUW sample collected from MW adjacent to UST.
1400 FT		patches all SBs w/ concrete.
AES loads samples and off-site to Fed Ex.		
1600		Leave Fed Ex for hotel.

*[Handwritten signature]*



Photograph 1: View of AST and bollards installed at Building F-2534-A.



Photograph 2: View of AST and bollards installed at Building F-3134-A.



Photograph 1: View of AST being removed at Building E-2310 Pines Shoppette.



Photograph 2: View of concrete containment after AST removals.



Photograph 1: View looking southwest of UST closed in place at Building C-8727.



Photograph 2: View of flexible piping installed for replacement AST at Building C-8727.



Photograph 3: View looking southwest at concrete trench for replacement AST at Building C-8727.



Photograph 4: View of the replacement AST installed at Building C-8727.

## **APPENDIX E**

### **EXCAVATION PERMITS**

# EXCAVATION PERMIT

AR 420-49

DATE:

*11-3-11*

## INSTRUCTIONS FOR USE OF EXCAVATION PERMIT

1. Excavation permit must be approved prior to any unearthing that penetrates the ground by more than 6 inches.
2. Permit will be approved at jobsite.
3. The DOIM staff shall approve all excavations on Fort Bragg and Camp Mackall.
4. The requestor shall contact DPW at 396-0325 for an appointment and request to locate underground lines at least 5 full business days in advance of desired work commencement. Each locate request shall not exceed 600 linear feet. The requestor shall meet with these organizations at the jobsite with the project/contract drawings.
  - a. DPW, Utilities Branch
  - b. DOIM, Outside Plant Branch
  - c. Embarq
  - d. Time Warner Cable Company
  - e. North Carolina Locate Service
  - f. Sandhills Utilities
  - g. Old North Utilities
5. Excavation Permit is valid for the duration of the project and after all locates are completed it is the sole responsibility of the Project Manager to ensure all underground locates are maintained until the project is released back to the government.
6. Any additional underground utilities that are added to the area must be updated with DPW and DOIM at the completion of the project.
7. Each excavation site must have separate approval. A copy of the permit must remain at the jobsite while work is in progress.
8. Contractors shall **NOT** operate any utilities systems.
9. Any excavations on Pope Air Force Base require a Work Clearance Permit issued by the Base Civil Engineer @ 394-2776.

<b>1. Clearance is Requested To Proceed With Work At</b>	<b>Service/Work Order No.</b>	<b>Contract No.</b>
<i>NEAR F-2534 / F3134</i>		

<b>2. Method of Excavation</b>	<input checked="" type="checkbox"/> Hand <input checked="" type="checkbox"/> Power shovel <input checked="" type="checkbox"/> Ditcher	Other (specify) <b>HAND DIG @ ALL MARKS</b>
<i>Backhoe</i>		

**3. Scope of Work (depth, width, length, location and sketch as applicable). If contract, a copy of applicable drawings or sketches must be attached.**

*INSTALL BOLLARDS AROUND EXISTING TRUCKS ON BOTH BLDGS.*

<b>4. Date Clearance Required</b>	<b>5. Termination Date Of Clearance</b>
<i>11-3-11</i>	<i>KEEP MARKS UP</i>

<b>6. Requesting Organization Or Company</b>	<b>7. Phone No.</b>	<b>8. Signature (Requesting Official)</b>
<i>HERDSTAR</i>	<i>704 580-9097</i>	<i>DAVID</i>

9. Excavation Clearance Approval			
Utility	Responsibility	Remarks	Signature of Approving Official
Electrical Underground Distribution	Primary - Sandhills Utility Service Secondary (DPW)	<i>MARKED</i>	<i>J. Dan</i>
Steam or HTW Distribution	Honeywell	<i>N/A</i>	
Chiller Distribution	Honeywell		
Sewer Lines	Old North Utilities	<i>MARKED</i>	<i>OK</i>
Water Distribution	Old North Utilities		
Natural Gas Distribution	DPW or Honeywell or Piedmont	<i>OK.</i>	<i>J. Dan</i>
Telephone	NEC	<i>OK</i>	<i>Keith West</i>
Telephone	Embarq	<i>OK</i>	<i>Rashan</i>
Cable Company	Time Warner	<i>OK</i>	<i>Rashan</i>
Other			

DIGGING WILL NOT BE PERMITTED UNLESS SIGNED

## **APPENDIX F**

DISPOSAL MANIFESTS



# A&D Environmental Services

# Bill of Lading / Material Manifest

A&D Job No: 18198 Generator ID Number NC 8210020121 Page 1 of 1 Emergency Response Phone 800-434-7750 Tracking Number 15524

Generator's Name and Mailing Address: Acostar Environmental  
Fort Brass  
Fayetteville NC  
 Generator's site address (if different from mailing address):

Transporter 1  2  Company Name **A&D Environmental Services, Inc.** US EPA ID No: NCD98623222  
 Transporter 1  2  Company Name **A&D Environmental Services (SC), LLC** US EPA ID No: SCD987598331

Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
<b>A&amp;D Environmental Services, Inc.</b> 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	<b>A&amp;D Environmental Services, Inc.</b> 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	<b>A&amp;D Environmental Services (SC), LLC</b> 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	<b>A&amp;D Environmental Services (SC), LLC</b> 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	<b>A&amp;D Environmental Services (SC), LLC</b> 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	<u>NON HAZARDOUS LIQUID</u>	<u>1</u>	<u>TT</u>	<u>24</u>	<u>G</u>	

Petroleum Products for Recycle		No.	Type	QTY	Wt/Vol	Profile Number
<input checked="" type="checkbox"/>	NA1993, Diesel fuel, 3, III		ERG# 128			
<input checked="" type="checkbox"/>	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III		ERG# 128			
<input checked="" type="checkbox"/>	UN1203, Gasoline, 3, II		ERG# 128			
<input checked="" type="checkbox"/>	NA1270, Petroleum Oil, 3, III		ERG# 128			

Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle							
HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
<input checked="" type="checkbox"/>					RQ, UN2809, Mercury contained in manufactured articles, 8, III	Mercury Containing Articles	
<input checked="" type="checkbox"/>					RQ, UN2809, Mercury, 8, III	Mercury	
<input checked="" type="checkbox"/>					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	TSCA Exempt PCB Lamp Ballasts	
<input checked="" type="checkbox"/>					UN2800, Batteries, wet, nonspillable, 8, III	Sealed Lead Acid Batteries	
<input checked="" type="checkbox"/>					UN2794, Batteries, wet, filled with acid, 8, III	Lead Acid Batteries	
<input checked="" type="checkbox"/>					UN2795, Batteries, wet, filled with alkali, 8, III	Wet NiCad Batteries	
<input checked="" type="checkbox"/>					UN3090, Lithium batteries, 9, II	Lithium Batteries	
<input checked="" type="checkbox"/>					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	Alkaline Batteries	
<input checked="" type="checkbox"/>					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/UV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Offor's Printed / Typed Name <u>Sidney D. Williamson</u>	Signature 	Month <u>11</u>	Day <u>8</u>	Year <u>11</u>
Transporter 1 Printed / Typed Name <u>John Glover</u>	Signature 	Month <u>11</u>	Day <u>8</u>	Year <u>11</u>
Discrepancy Indication / Additional Information:		Month	Day	Year

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed / Typed Name <u>Tim Parker</u>	Signature 	Month <u>11</u>	Day <u>8</u>	Year <u>11</u>
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**DESIGNATED FACILITY TO GENERATOR**



# A&D Environmental Services

# Bill of Lading / Material Manifest

A&D Job No: <b>64251</b>	Generator ID Number <b>NCR0010020121</b>	Page 1 of <b>1</b>	Emergency Response Phone <b>800-434-7750</b>	Tracking Number <b>15667</b>
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Generator's Name and Mailing Address <b>Sta Ft Bragg Garrison Canal AFZA - PW - EC - Butler Rd FT Bragg NC 28310</b>	Generator's site address (if different from mailing address)
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Transporter 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/>	Company Name <b>A&amp;D Environmental Services, Inc.</b>	US EPA ID No: <b>NCD98623222</b>
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Transporter 1 <input type="checkbox"/> 2 <input type="checkbox"/>	Company Name <b>A&amp;D Environmental Services (SC), LLC</b>	US EPA ID No: <b>SCP987598331</b>
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Designated Facility	Designated Facility	Designated Facility	Designated Facility	Designated Facility
<b>A&amp;D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD98623221</b>	<b>A&amp;D Environmental Services, Inc. 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628</b>	<b>A&amp;D Environmental Services (SC), LLC 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501</b>	<b>A&amp;D Environmental Services (SC), LLC 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331</b>	<b>A&amp;D Environmental Services (SC), LLC 305 B South Main Street Mauldin, SC 29662 803-967-3500 SCR000765677</b>

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	<b>Petroleum Products for Recycle</b>					
<b>X</b>	NA1993, Diesel fuel, 3, III					ERG# 128
<b>X</b>	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III	<b>1</b>	<b>DT</b>	<b>3690</b>	<b>gal</b>	ERG# 128
<b>X</b>	UN1203, Gasoline, 3, II					ERG# 128
<b>X</b>	NA1270, Petroleum Oil, 3, III					ERG# 128

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	<b>Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle</b>					

HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
<b>X</b>					RQ, UN2809, Mercury contained in manufactured articles, 8, III	Mercury Containing Articles	
<b>X</b>					RQ, UN2809, Mercury, 8, III	Mercury	
<b>X</b>					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	TSCA Exempt PCB Lamp Ballasts	
<b>X</b>					UN2800, Batteries, wet, nonspillable, 8, III	Sealed Lead Acid Batteries	
<b>X</b>					UN2794, Batteries, wet, filled with acid, 8, III	Lead Acid Batteries	
<b>X</b>					UN2795, Batteries, wet, filled with alkali, 8, III	Wet NiCad Batteries	
<b>X</b>					UN3090, Lithium batteries, 9, II	Lithium Batteries	
<b>X</b>					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	Alkaline Batteries	
<b>X</b>					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/UV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

**Generator's Certification:** This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Offorer's Printed/Typed Name <b>Shawn C. Handy</b>	Signature 	Month <b>12</b>	Day <b>14</b>	Year <b>11</b>
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Transporter 1 Printed/Typed Name <b>Rodney Reimer</b>	Signature 	Month <b>12</b>	Day <b>14</b>	Year <b>11</b>
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Transporter 2 Printed/Typed Name	Signature	Month	Day	Year
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Discrepancy Indication / Additional Information:	Month	Day	Year
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Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.	Signature 	Month <b>12</b>	Day <b>14</b>	Year <b>11</b>
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**DESIGNATED FACILITY TO GENERATOR**



# A&D Environmental Services

# Bill of Lading / Material Manifest

A&D Job No:	Generator ID Number <b>NCD8210020121</b>	Page 1 of <b>1</b>	Emergency Response Phone <b>800-434-7750</b>	Tracking Number <b>15685</b>
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Generator's Name and Mailing Address: **Director of Pubic Works Fort Bragg  
Bld 3-1137 Butner Rd  
Fort Bragg NC 28310**

Generator's site address (if different from mailing address):

Transporter 1 <input checked="" type="checkbox"/> 2 <input type="checkbox"/>	Company Name <b>A&amp;D Environmental Services, Inc.</b>	US EPA ID No: <b>NCD98623222</b>
Transporter 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/>	Company Name <b>A&amp;D Environmental Services (SC), LLC</b>	US EPA ID No: <b>SCD987598331</b>

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	<b>Non Hazardous Materials N.O.S</b>	<b>1</b>	<b>TT</b>	<b>144</b>	<b>G</b>	

**Petroleum Products for Recycle**

HM	Description	No.	Type	QTY	Wt/Vol	Profile Number
<b>X</b>	NA1993, Diesel fuel, 3, III					ERG# 128
<b>X</b>	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III					ERG# 128
<b>X</b>	UN1203, Gasoline, 3, II					ERG# 128
<b>X</b>	NA1270, Petroleum Oil, 3, III					ERG# 128

**Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle**

HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)	Common Name	Discrepancy
<b>X</b>					RQ, UN2809, Mercury contained in manufactured articles, 8, III	Mercury Containing Articles	
<b>X</b>					RQ, UN2809, Mercury, 8, III	Mercury	
<b>X</b>					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	TSCA Exempt PCB Lamp Ballasts	
<b>X</b>					UN2800, Batteries, wet, nonspillable, 8, III	Sealed Lead Acid Batteries	
<b>X</b>					UN2794, Batteries, wet, filled with acid, 8, III	Lead Acid Batteries	
<b>X</b>					UN2795, Batteries, wet, filled with alkali, 8, III	Wet NiCad Batteries	
<b>X</b>					UN3090, Lithium batteries, 9, II	Lithium Batteries	
<b>X</b>					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	Alkaline Batteries	
<b>X</b>					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	NiCad Batteries	
<b>X</b>					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Fluorescent lamps 4' or >	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	HID/MV/UV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e))	Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)	Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)	Electronics	

**Generator's Certification:** This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Offoror's Printed / Typed Name <b>* Shawn C. Hardy</b>	Signature 	Month <b>12</b>	Day <b>15</b>	Year <b>11</b>
Transporter 1 Printed / Typed Name <b>Richard Joyce</b>	Signature 	Month <b>12</b>	Day <b>15</b>	Year <b>11</b>
Transporter 2 Printed / Typed Name	Signature	Month	Day	Year

Discrepancy Indication / Additional Information:

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed / Typed Name <b>Tim Parker</b>	Signature 	Month <b>12</b>	Day <b>15</b>	Year <b>11</b>
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**DESIGNATED FACILITY TO GENERATOR**



# Environmental Services, Inc.

P.O. Box 484 • High Point, NC • Phone (336) 434-7750 • FAX (336) 434-7752

## TANK DISPOSAL MANIFEST

1) Tank Owner/Authorized Representative: Name and Mailing Address Camp McCall

*A* TEAM Robin SAGE / T-2662

2) Tank Owner/Authorized Representative: Contact \_\_\_\_\_

Phone#: \_\_\_\_\_

### 3) Description Of Tanks:

<u>Tank No.</u>	<u>Capacity</u>	<u>Previous Contents</u>	<u>Comments</u>
(1-4)	1000 EA	Propane	Empty

4) Tank Owner/Authorized Representative Certification: The undersigned certifies that the above listed storage tanks have been removed from the premises of the tank owner.

\_\_\_\_\_  
Printed/Typed Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Month/Day/Year

5) Transporter: The undersigned certifies that the above listed storage tanks have been transported to A&D Environmental and Industrial Services, 2718 Uwharrie Road, Archdale, N.C. 27263.

Rodney Reinertson  
Printed/Typed Name

Rodney Reinertson  
Signature

11-11-11  
Month/Day/Year

6) Disposal Certification: The undersigned certifies that the above-named storage tank(s) have been cut into scrap pieces and accepted by the metal recycling facility.

Recycling Facility: DH Griffin Recycling G.boro, NC

Tim Parker  
Printed/Typed Name

Tim Parker  
Signature

11-11-11  
Month/Day/Year



# Environmental Services, Inc.

P.O. Box 484 • High Point, NC • Phone (336) 434-7750 • FAX (336) 434-7752

## TANK DISPOSAL MANIFEST

1) Tank Owner/Authorized Representative: Name and Mailing Address \_\_\_\_\_  
HQ Fort Bragg Garrison Command ATTN: IMSE BRG-PWE-C  
BLDG 3-1137 Butler Road  
Fort Bragg NC 28310 910 396-2141

2) Tank Owner/Authorized Representative: Contact Sid Williamson / Fort Bragg  
 Phone#: 910 396-2141 / 910 977-2502

### 3) Description Of Tanks:

<u>Tank No.</u>	<u>Capacity</u>	<u>Previous Contents</u>	<u>Comments</u>
<u>#1</u>	<u>1000</u>	<u>#2 Fuel oil</u>	<u>Empty</u>
<u>#2</u>	<u>1000</u>	<u>#2 Fuel oil</u>	<u>Empty</u>

4) Tank Owner/Authorized Representative Certification: The undersigned certifies that the above listed storage tanks have been removed from the premises of the tank owner.

Sidney D. Williamson Sidney D. Williamson 12-7-11  
 Printed/Typed Name Signature Month/Day/Year

5) Transporter: The undersigned certifies that the above listed storage tanks have been transported to A&D Environmental and Industrial Services, 2718 Uwharrie Road, Archdale, N.C. 27263.

Rodney Reinertson Rodney Reinertson 12-7-11  
 Printed/Typed Name Signature Month/Day/Year

6) Disposal Certification: The undersigned certifies that the above-named storage tank(s) have been cut into scrap pieces and accepted by the metal recycling facility.

Recycling Facility: DH Griffin Recycling Gboro, NC  
Tim Parker [Signature] 12-7-11  
 Printed/Typed Name Signature Month/Day/Year

## **APPENDIX G**

DATA TABLES FROM TCARs

**TABLE 1: SOIL SCREENING SUMMARY**

**FY11 HEATING OIL TANK REMOVALS/REPLACEMENTS  
BUILDING C-8727 MOTOR POOL  
FORT BRAGG, CUMBERLAND COUNTY, NORTH CAROLINA**

ft bls - feet below land surface

OVA-PID - Organic vapor analyzer equipped with a photo-ionization detector

\* sample collected for laboratory analysis

ppm - parts per million

Sample ID	Date	Depth To Water (ft bls)	Sample Depth (ft bls)	OVA-PID Reading (ppm)	COMMENTS
SB-1	12/6/2011	14	2	575	*soil sample collected at 12 ft bls
			4	>3,999	
			6	295	
			8	659	
			10	795	
			12	2,246	
			14	1,794	
			16	>3,999	
			18	>3,999	
			20	>3,999	
SB-2	12/6/2011	14	2	656	*soil sample collected at 12 ft bls
			4	1,877	
			6	305	
			8	162	
			10	125	
			12	2,088	
			14	644	
			16	>3,999	
			18	>3,999	
			20	>3,999	
SB-3	12/6/2011	14	2	>3,999	*soil sample collected at 12 ft bls
			4	>3,999	
			6	2,200	
			8	1,695	
			10	1,750	
			12	2,095	
			14	1,375	
			16	1,250	
			18	678	
			20	772	
SB-4	12/6/2011	14	2	>3,999	*soil sample collected at 12 ft bls
			4	>3,999	
			6	482	
			8	450	
			10	200	
			12	1,250	
			14	400	
			16	>3,999	
			18	>3,999	
			20	>3,999	

**TABLE 2: SAMPLE ID & ANALYSES SUMMARY**

**FY11 HEATING OIL TANK REMOVALS/REPLACEMENTS  
 BUILDING C-8727 MOTOR POOL  
 FORT BRAGG, CUMBERLAND COUNTY, NORTH CAROLINA**

feet bls - feet below land surface  
 MADEP - Massachusetts Department of Environmental Protection

EPH - Extractable Petroleum Hydrocarbons  
 VPH - Volatile Petroleum Hydrocarbons

Sample Location	Sample ID	Date Collected	Depth (feet bls)	Sample Matrix	Analyses Conducted
SB-1	C-8727-001-12	12/6/2011	12	soil	8260B, 8270C, MADEP (EPH & VPH)
SB-2	C-8727-002-12	12/6/2011	12	soil	8260B, 8270C, MADEP (EPH & VPH)
SB-3	C-8727-003-12	12/6/2011	12	soil	8260B, 8270C, MADEP (EPH & VPH)
SB-4	C-8727-004-12	12/6/2011	12	soil	8260B, 8270C, MADEP (EPH & VPH)
MW-1	C-8727-MW-1	12/6/2011	24	groundwater	8260B, 8270C, MADEP (EPH & VPH)

**TABLE 3: SOIL ANALYTICAL SUMMARY**  
**FY11 HEATING OIL TANK REMOVALS/REPLACEMENTS**  
**BUILDING C-8727 MOTOR POOL**  
**FORT BRAGG, CUMBERLAND COUNTY, NORTH CAROLINA**

MSCC - Maximum Soil Contaminant Concentrations  
 PRG - Preliminary Remediation Goals  
 EPH - Extractable Petroleum Hydrocarbons  
 J - Indicates the result is between the MDL and RDL

<MDL - less than method detection limit  
 Results in milligrams per kilogram (mg/kg)  
 VPH - Volatile Petroleum Hydrocarbons  
 RDL - Reporting Detection Limit

Bolded - Parameter above Residual Soil Cleanup Levels  
 NS - No Applicable Standard  
 MTBE - Methyl tert butyl ether

Sample Location	Sample ID	Date	Depth (feet)	C9-C18 Aliphatics	EPH C19-C36 Aliphatics	C9 to C22 Aromatics	VPH C5-C8 Aliphatics	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Naphthalene	Bromoform	Bromodichloromethane	Chloromethane	Chloroform	Acetone
Soil-to-Water MSCC				3,300	Im-mobile	34	72	0.0056	7.3	4.6	5.00	0.92	0.56	0.028	NS	0.02	0.37	2.8
Residential MSCC				9,386	93,860	469	939	18	3200	1,560	3,129	213	313	81	NS	49	100	1,564
EPA Region IX Residential Risk Based PRG				NS	NS	NS	NS	0.64	520	400	270	NS	56	62.0	0.82	1.1	0.220	14,000
SB-1	C-8727-001-12	12/6/2011	12	1,770	297	3,188	47.5 J	<MDL	<MDL	1.86	3.00	<MDL	10.8	<MDL	<MDL	<MDL	<MDL	<MDL
SB-2	C-8727-002-12	12/6/2011	12	2,170	182	3,073	169 J	0.0637 J	<MDL	3.59	4.62	<MDL	14.0	<MDL	<MDL	<MDL	<MDL	<MDL
SB-3	C-8727-003-12	12/6/2011	12	157 J	22.5	54.70 J	<MDL	0.000495 J	<MDL	0.00442	<MDL	<MDL	0.120 J	<MDL	<MDL	<MDL	<MDL	0.0229
SB-4	C-8727-004-12	12/6/2011	12	<MDL	2.19 J	<MDL	<MDL	0.00103 J	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	0.0115 J

Sample Location	Sample ID	Date	Depth (feet)	Carbon Disulfide	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Isopropylbenzene	n-Propylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	p-Isopropyltoluene	2-Butanone	4-Isopropyltoluene	4-methyl-2-pentanone	Trichloro-fluoromethane	1,2-Dichloroethane	Methylene Chloride
Soil-to-Water MSCC				4.3	4.3	3.3	3.4	1.7	1.7	7.5	7.3	NS	NS	NS	NS	31	0.0018	0.02
Residential MSCC				1,564	626	626	626	1,564	626	782	782	NS	NS	NS	NS	4,692	7	85
EPA Region IX Residential Risk Based PRG				360	240	220	390	570	240	52	21	NS	NS	NS	NS	390	280	9.1
SB-1	C-8727-001-12	12/6/2011	12	<MDL	3.23	1.83	<MDL	1.44	2.09	10.4	1.31	<MDL	0.270 J	1.60	<MDL	<MDL	<MDL	<MDL
SB-2	C-8727-002-12	12/6/2011	12	<MDL	6.54	3.24	0.640 J	2.35	3.97	21.6	6.67	<MDL	0.511 J	3.04	2.68	<MDL	<MDL	0.109 J
SB-3	C-8727-003-12	12/6/2011	12	<MDL	0.00739	0.00762	<MDL	0.00370 J	0.00609	<MDL	<MDL	<MDL	0.00514	<MDL	<MDL	<MDL	<MDL	<MDL
SB-4	C-8727-004-12	12/6/2011	12	<MDL	<MDL	0.000293	<MDL	<MDL	<MDL	0.000325 J	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL

**TABLE 3: SOIL ANALYTICAL SUMMARY**

**FY11 HEATING OIL TANK REMOVALS/REPLACEMENTS  
BUILDING C-8727 MOTOR POOL  
FORT BRAGG, CUMBERLAND COUNTY, NORTH CAROLINA**

MSCC - Maximum Soil Contaminant Concentrations  
PRG - Preliminary Remediation Goals  
EPH - Extractable Petroleum Hydrocarbons

<MDL - less than method detection limit  
Results in milligrams per kilogram (mg/kg)  
VPH - Volatile Petroleum Hydrocarbons

MSCC - Maximum Soil Contaminant Concentrations  
PRG - Preliminary Remediation Goals  
EPH - Extractable Petroleum Hydrocarbons

Bolded - Parameter above Residual Soil Cleanup Levels  
NS - No Applicable Standard  
MTBE - Methyl tert butyl ether

Sample Location	Sample ID	Date	Depth (feet)	Dibromochloro-methane	Dichlorodifluoro-methane	Chrysene	Fluoranthene	Acenaphthene	Acenaphthylene	Fluorene	Dibenzo(a,h)-anthracene	Indeno(1,2,3-cd)pyrene	Phenanthrene	Anthracene	Benzo(a)anthracene	Benzo (a)pyrene	Benzo (b)fluoranthene	Benzo (g, h, i)perylene	
<b>Soil-to-Water MSCC</b>																			
<b>Residential MSCC</b>																			
<b>EPA Region IX Residential Risk Based PRG</b>																			
SB-1	C-8727-001-12	12/6/2011	12	<MDL	<MDL	0.0590 J	<MDL	<MDL	<MDL	2.97	<MDL	<MDL	7.73	<MDL	0.0307 J	<MDL	<MDL	<MDL	
SB-2	C-8727-002-12	12/6/2011	12	<MDL	<MDL	<MDL	0.210 J	2.95 J	<MDL	4.15 J	<MDL	<MDL	8.12 J	<MDL	<MDL	<MDL	<MDL	<MDL	
SB-3	C-8727-003-12	12/6/2011	12	<MDL	<MDL	<MDL	0.0110 J	0.0306 J	<MDL	0.0325 J	<MDL	<MDL	0.0391 J	<MDL	<MDL	<MDL	<MDL	<MDL	
SB-4	C-8727-004-12	12/6/2011	12	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	

Sample Location	Sample ID	Date	Depth (feet)	Benzo (k) fluoranthene	Pyrene	1,1,2,2-Tetrachloroethane	1,1-Dichloroethane	1,2,4-Trichlorobenzene	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloropropane	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Chlorobenzene	cis-1,2-Dichloroethane	Dichlorodifluoromethane	2,4-Dimethylphenol	Hexachlorobutadiene	
<b>Soil-to-Water MSCC</b>																			
<b>Residential MSCC</b>																			
<b>EPA Region IX Residential Risk Based PRG</b>																			
SB-1	C-8727-001-12	12/6/2011	12	<MDL	0.470	<MDL	0.38	2.60	0.000002	0.28	<MDL	<MDL	<MDL	<MDL	0.350	306	0.9	0.3	
SB-2	C-8727-002-12	12/6/2011	12	<MDL	0.527 J	<MDL	1,560	156	0.0075	1,400	<MDL	<MDL	<MDL	<MDL	156	3,129	312	3	
SB-3	C-8727-003-12	12/6/2011	12	<MDL	<MDL	<MDL	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
SB-4	C-8727-004-12	12/6/2011	12	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	

**TABLE 3: SOIL ANALYTICAL SUMMARY**  
**FY11 HEATING OIL TANK REMOVALS/REPLACEMENTS**  
**BUILDING C-8727 MOTOR POOL**  
**FORT BRAGG, CUMBERLAND COUNTY, NORTH CAROLINA**

MSCC - Maximum Soil Contaminant Concentrations  
 PRG - Preliminary Remediation Goals  
 EPH - Extractable Petroleum Hydrocarbons

<MDL - less than method detection limit  
 Results in milligrams per kilogram (mg/kg)  
 VPH - Volatile Petroleum Hydrocarbons

Bolded - Parameter above Residual Soil Cleanup Levels  
 NS - No Applicable Standard  
 MTBE - Methyl tert butyl ether

Sample Location	Sample ID	Date	Depth (feet)	1,3-Dichlorobenzene	1,4-dichlorobenzene	Styrene	trans-1,2-Dichloroethene	Vinyl Chloride	Acetone	2-Hexanone	Isopropylether	1,2-Dichlorobenzene	2-Methyl Naphthalene	Phenol	1,2,4-Trichlorobenzene	Dibenzofuran	Pentachlorophenol
Soil-to-Water MSCC				6.5	0	2.2	0.54	0.000094	2.8	1.9	0.37	0.28	1.7	1.7	2.6	4.7	0.0063
Residential MSCC				1,400	27	3,128	320	0.46	1,564	625	156	1,400	63	4,693	156	62	5
EPA Region IX Residential Risk Based PRG				NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
SB-1	C-8727-001-12	12/6/2011	12	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<b>24.8</b>	<MDL	<MDL	<MDL	<MDL
SB-2	C-8727-002-12	12/6/2011	12	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<b>58.4</b>	<MDL	<MDL	<MDL	<MDL
SB-3	C-8727-003-12	12/6/2011	12	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	0.549	<MDL	<MDL	<MDL	<MDL
SB-4	C-8727-004-12	12/6/2011	12	>MDL	<MDL	>MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL	<MDL

**TABLE 4: GROUNDWATER ANALYTICAL SUMMARY**  
**FY11 HEATING OIL TANK REMOVALS/REPLACEMENTS**  
**BUILDING C-8727 MOTOR POOL**  
**FORT BRAGG, CUMBERLAND COUNTY, NORTH CAROLINA**

NS - No Applicable Standard  
 MTBE - Methyl tert butyl ether  
 RDL - Reporting Detection Limit

Results in micrograms per liter (ug/L)  
 VPH - Volatile Petroleum Hydrocarbons  
 J - Indicates the result is between the MDL and RDL

<MDL - less than method detection limit  
 EPH - Extractable Petroleum Hydrocarbons  
 Bolded - Parameter above NC Groundwater Protection Standards

Sample Location	Sample ID	Date	Aliphatic (C5-C8)	Aliphatic (C9 to C18)	Aliphatic (C19-C36)	Aromatic (C9 to C22)	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	Acetone	Naphthalene	n-Butylbenzene	n-Propylbenzene	sec-Butylbenzene	tert-Butylbenzene	Isopropylbenzene	n-Propylbenzene	
MW-1	C-8727-MW-1	12/6/2011	<MDL	<b>8,350</b>	1,480	<b>7,192</b>	109	<MDL	98.6	233	<MDL	<MDL	229	15.2	17.4	<MDL	<MDL	22.8	<MDL	<MDL
NC Groundwater Protection Standards (2L)			420	4,200	42,000	210	1	1,000	550	530	200	700	21	70	70	70	70	70	70	70,000
Surface Water Standards (Human Health)			NS	NS	NS	NS	51.00	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Gross Contamination Levels for Groundwater			NS	NS	NS	NS	5,000	257,500	29,000	87,500	NR	700,000	15,500	6,900	30,000	8,500	15,000	25,000	30,000	30,000

Sample Location	Sample ID	Date	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	4-Isopropyltoluene	Methylene Chloride	Chloroform	Acenaphthene	2-Methyl-naphthalene	Pentachlorophenol	Diethyl Phthalate	Di-n-butyl Phthalate	Fluoranthene	Phenanthrene	Fluorene	Indeno(1,2,3-cd)pyrene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene
MW-1	C-8727-MW-1	12/6/2011	129	35.4	15.6	<MDL	>MDL	14.4	<b>319</b>	<MDL	<MDL	<MDL	1.09 J	25.7	16.0	1.75 J	<MDL	<MDL	<MDL
NC Groundwater Protection Standards (2L)			350	350	NS	4.60	70	80	14	0.29	5,000	700	280	210	280	0.047	24	170	1
Surface Water Standards (Human Health)			NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Gross Contamination Levels for Groundwater			28,500	25,000	NS	5,000	190	2,120	12,500	NS	NS	NS	280	410	950	31	72,500	61,500	39,500

Sample Location	Sample ID	Date	Tetrachloro-ethene	Chlorobenzene	Carbazole	3/4-Methylphenol	Chloroethane	Chloromethane	Anthracene	Phenol	Benzo (a)anthracene	Benzo (a)pyrene	Benzo (b)fluoranthene	Benzo (g,h,i)perylene	Benzo (k)fluoranthene	Bis(2-Ethylhexyl)phthalate	Chrysene	Dibenzofuran	Pyrene
MW-1	C-8727-MW-1	12/6/2011	<MDL	<MDL	26.9	<MDL	<MDL	<MDL	<MDL	<MDL	0.410 J	2.77 J	<MDL	1.98 J	<MDL	0.565 J	<MDL	9.10 J	1.25 J
NC Groundwater Protection Standards (2L)			1	50	NS	3.5	2,800	2.6	2,100	300	0.05	0	0.05	210	0.48	2.5	5	28	210
Surface Water Standards (Human Health)			3.30	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Gross Contamination Levels for Groundwater			700	NS	NS	NS	NS	2,600	2,100	NS	22	1.5	0.6	210	0.47	2,500	5	28,000	210