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Site Name (Subject): USA RESERVE XVIII AIRBORNE CORPS

Site ID (Document ID): NC6210022046

Document Name (DocType): Preliminary Assessment/Site Inspection (PA/SI)

Report Segment:

Description: Preliminary Assessment II (PA II)

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North Carolina Department of Environment and Natural Resources

Dexter R. Matthews, Director

Division of Waste Management

Michael F. Easley, Governor
William G. Ross Jr., Secretary

December 29, 2005

Ms. Jennifer Wendel
Superfund Site Evaluation Section
US EPA Region IV Waste Division
61 Forsyth Street SW, 11th Floor
Atlanta, GA 30303

Subject: Preliminary Assessment II (PA II)
USA Reserve XVIII Airborne Corps.-Albemarle
Albemarle, Stanly County, NC
US EPA ID: NC6 210 022 046

Dear Ms. Wendel:

Enclosed is the Preliminary Assessment II (PA II), completed by the North Carolina Department of Environment and Natural Resources (NCDENR), Superfund Section for the USA Reserve XVIII Airborne Corps-Albemarle Site located just east of downtown Albemarle alongside East Albemarle Elementary School, Stanly County, NC. The NC Superfund Section recommends that this site be assigned a No Further Remedial Action Planned status under CERCLIS.

Under the authority of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), and the Superfund Amendments and Reauthorization Act of 1986 (SARA), the North Carolina Superfund Section conducted this PA II to evaluate updated data regarding environmental conditions at the site in order to determine the need for any further CERCLA action. Information about the site was obtained through the review of available file documents and interviews with US Army personnel and contractors who manage the site.

The USA Reserve XVIII Airborne Corps Site (AKA Jesse F. Niven USAR Center) in Albemarle, NC is located at 1816 East Main Street, Albemarle, NC 28001. This location is about 1.6 miles east of the central business district of downtown Albemarle at the northwest corner of the intersection with Highway 740 (Ref. 1). The site is offset from the road by a driveway that parallels the entrance to the East Albemarle Elementary School. Corresponding geographic coordinates for the facility are 35.3506 north latitude and 80.1665 west longitude (Ref. 1). This site consists of a 3.9-acre parcel with an approximate 11,000 square foot training and assembly building, and a 2,600 square foot vehicle maintenance shop (Refs. 2 & 3). The immediate surrounding area is

mostly commercial. A shopping center is located to the south of the site and a school is located west of the site. Residential areas are found north and east of the site beyond the adjacent commercial areas (Ref. 1).

This center has been active since its construction in 1958. Vehicle maintenance procedures such as oil changes, antifreeze changes, axle lubrication, and battery replacements were reportedly performed at this site. No major spills were reported for this center. This center uses city water and city sewers (Ref. 2). A Preliminary Assessment was completed in August of 1990 (Ref. 4). A request for updated information was submitted by EPA in order to complete the revised Hazard Ranking System in August of 1991 (Ref. 5). This PA II is intended to serve as the response to that request.

Documents regarding the site's regulatory history were found dating back to about 1985. This center is classified as a conditionally exempt small quantity generator by the NC Hazardous Waste Section. All spent petroleum products are temporarily stored on the premises and are removed by a commercial contractor and transported off-site for reclamation. This center is periodically inspected by a contractor of the Department of the Army to insure compliance with the military's Environmental Regulation regarding the storage and proper disposal of hazardous waste (Ref. 3).

A 500-gallon heating oil underground storage tank was excavated and removed in September of 1994 from outside the northeast wall of the vehicle maintenance building (Refs. 3, Fig. 2; Ref. 6). Post-excavation sampling at a depth of 6 feet below land surface (bls) beneath the northern end of the tank revealed Total Petroleum Hydrocarbons (TPH) in the range of 1,340 ppm. This exceeds the 80 ppm action limit established by the NC Underground Storage Tank Section (NC USTS). The calculated Site Sensitivity Evaluation of the Closure Report revealed a risk-based clean-up level of 640 ppm TPH (Ref. 6). Levels of naphthalene in all soils were all below the detection limit of 360-370 ppb. Several composite soil samples were collected from soils to the sides of the tank. The four BTEX volatiles in all soils were below the detection limit of 5-11 ppb. The depth to groundwater was estimated at 30 feet bls. This was based on the depth to the waters of the nearest creek (0.5 miles east of site). The NC USTS has assigned this site a status of low priority for a Limited Site Assessment. No other incidents or regulatory actions are currently known regarding this site.

Current information indicates that the site's operations have been limited to the generation of small quantities of spent petroleum products. Residual petroleum compounds (1,340 ppm TPH) remain in the soils at the north end of the location of the former fuel oil tank. Due to the estimated 30 foot depth to the groundwater, it is unlikely that groundwater has been affected. There are no known groundwater users in the immediate vicinity. The nearest ground users are located 0.5 miles southeast of the site.

Ms. Wendel
December 29, 2005
Page 3

Based on these known facts, the NC Superfund Section recommends that this site be assigned a No Further Remedial Action Planned status under CERCLIS. If you have any questions about this PA II, please call Serafino Franch at (919) 508-8455, or by email at serafino.franch@ncmail.net.

Sincerely,



Serafino Franch
Environmental Chemist
NC Superfund Section



Jim Bateson, Head
Site Evaluation and Removal Branch
NC Superfund Section

cc: File
Charlotte Jesneck (letter only)

Attachments: APA Checklist
NCDENR GIS Topo Map Viewer: Address Locator (1998 aerial) (Reference 1)
Memorandum dated May 16, 2005 with Email Attachment (Reference 2)
Excerpts from Notification of an Inactive Substance or Waste Disposal Site (Reference 3)
Letter dated August 11, 1990 (Reference 4)
Letter dated August 27, 1991 (Reference 5)
Excerpts from UST Tank Abandonment/Closure Report (Reference 6)

ABBREVIATED PRELIMINARY ASSESSMENT CHECKLIST

This checklist can be used to help the site investigator determine if an Abbreviated Preliminary Assessment (APA) is warranted. This checklist should document the rationale for the decision on whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

Checklist Preparer:	Serafino Franch, Environmental Chemist	Aug 8, 2005
	Name/Title	Date
	NCDENR-Superfund Section	919-508-8455
	Address	Phone
	serafino.franch@ncmail.net	
	E-mail Address	

Site Name:	USA-Reserve XVIII Airborne Corps-Albemarle
Previous Names (if any):	
EPA ID #	NC6 210 022 046
Site Location:	1816 East Main Street, Albemarle, Stanly County, NC
Latitude:	35.3506° N
	Longitude: 80.1665° W

Describe the release (or potential release) and its probable nature:

Part 1 - Superfund Eligibility Evaluation

If all answers are no go on to Part 2, otherwise proceed to Part 3.

	YES	NO
1. Is the site currently in CERCLIS or an alias of another site?	X	
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?	X	
3. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?	X	
4. Are the hazardous substances potentially released at the site excluded by policy considerations (i.e., deferred to RCRA corrective action)?		X
5. Is there sufficient documentation to demonstrate that no potential for a release that could cause adverse environmental or human health impacts exists (e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, previous HRS score determined, or an EPA approved risk assessment completed)?		X

Please explain all yes answers.

1. The site was added to CERCLIS based on a potential for accidental spills of petroleum-based hazardous substances and the potential to impact nearby human and environmental targets.
2. The site is under the supervision of the NC Underground Storage Tank Section (NC USTS). Further assessment is planned through A Limited Site Assessment.
3. A small release from a 500-gallon underground storage tank containing heating oil resulted in petroleum soil contamination. Soil below the north end of the former tank location was found to contain 1,340 ppm TPH. No naphthalene or BTEX volatile levels above detection limit were found. The NC USTS assigned the site a status of low priority for a Limited Site Assessment.

Part 2 - Initial Site Evaluation

Use Exhibit 1 of the APA fact sheet to make site assessment decisions based on the answers below:

	YES	NO
1. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		X
2. Is there an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site?		X
3. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (e.g., targets within 1 mile)?		X
4. Is there no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site?		X
5. Does the site lack documented on-site, adjacent, or nearby targets?		X
6. Does the site lack releases or potential to release?	X	
7. Does the site lack uncontained sources containing CERCLA eligible substances are present on site?	X	

Please explain all yes answer(s).

- 6. Documented on-site sub-surface contamination consisting of 1340 ppm TPH is regulated under a statutory exclusion. No known CERCLA eligible substances have been released.
- 7. Based on known releases, the hazardous substances released at the site are regulated under a statutory exclusion (petroleum products). The release consisted of heating oil that resulted in residual soil contamination.

Part 3 - State Site Assessment Recommendation

Check the box that applies based on the conclusions of the APA:		
<input checked="" type="checkbox"/>	NFRAP	
<input type="checkbox"/>	Higher Priority SI	
<input type="checkbox"/>	Lower Priority SI	
<input type="checkbox"/>	Defer to RCRA Subtitle C	
<input type="checkbox"/>	Defer to NRC	
<input type="checkbox"/>	Refer to Removal Program - further site assessment needed	
<input type="checkbox"/>	Refer to Removal Program - NFRAP	
<input type="checkbox"/>	Site is being addressed as part of another CERCLIS site	
<input type="checkbox"/>	Other:	
State Reviewer: <u>Serafino Franch</u>		12/30/05
Print Name/Signature		Date

USA Reserve XVIII Airborne Corps-Albemarle
NC6 210 022 046

Map for 1816 E Main St 28001

Location of 1816 E Main St 28001



VICINITY MAP

1:4,000

1998 AERIAL

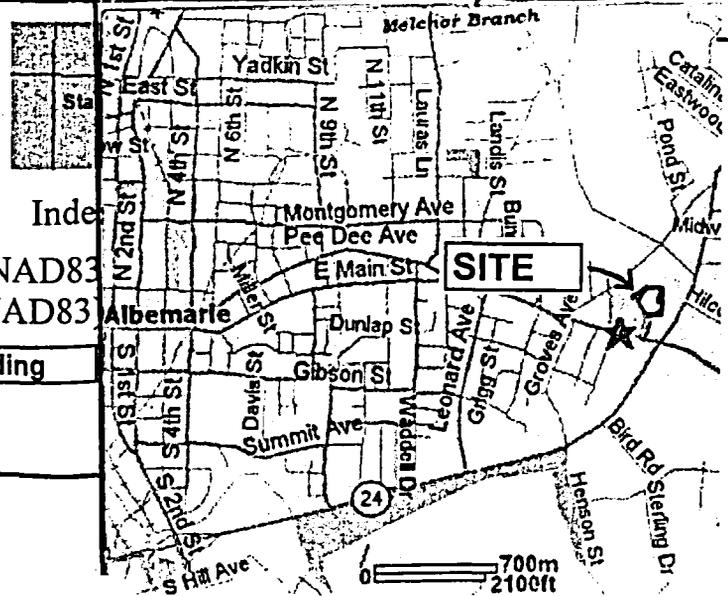
Albemarle

7.5-minute Quadrangle

NC SPCS E: 503589.0, N:178179.0 meters (NAD83)

Long: -80.1664627 W, Lat: 35.3506136 N (NAD83)

Site reference point: Southernmost corner of Main Building



MEMORANDUM

TO: File

FROM: S. Franch, Environmental Chemist, NC Superfund Section

DATE: May 16, 2005 *S. Franch*

SUBJECT: Status of U.S. Army Reserve Centers in North Carolina

SITE: USA Reserves XVIII Airborne Corps Sites in North Carolina (see attached email, dated 5-12-05, with list of sites)

Summary from telecommunications of April 7 and May 5, 2005 with Michelle Hook (803 751-6757). She is the Environmental Manager that oversees the reserve centers in both North and South Carolina. Ms. Hook is a contractor to the US Army 81st Regional Readiness Command (RRC), Installation Management, employed by Bregman & Company and based in Fort Jackson, SC. The RRC's environmental division chief is Mr. Steven Francis (205 912-6957) who is based in Alabama.

Michelle Hook has visited all of the NC sites in the capacity of an environmental auditor. She has been in this position since 1999 and doesn't have many records prior to 1992. Prior to 1992, military bases were not required to comply with local environmental regulations or keep records of spent solvents, nor did they have an Environmental Program. They did have guidelines on handling of hazardous substances such as Army Regulations 200-1 and 200-2. The Federal Facilities Compliance act was passed in 1992 that required the military to abide by local regulations and keep records of spent chemicals. All of these reserve centers are conditionally exempt from RCRA.

As auditor she examines the sites for dead vegetation, inquires about any spills, reviews handling procedures for various solvents and reviews their recycling program. The Defense Reutilization Marketing Office (DRMO) manages recycleable and non-recycled generated products at military installations. This program selects a contractor to retrieve and redistribute for reprocessing or reuse as a fuel additive in boilers elsewhere. All spent solvents (used oil, antifreeze, lubricants, and batteries) are collected by a contractor (Safety Kleen) and transported off site. The contractor also removes such items as any leftover paint cans, oil soaked vermiculite, and greasy rags.

The original administrator of these centers --Director of Engineering and Housing-- was based under the 18th Airborne Corps at Fort Bragg. None of the reserve centers have gasoline pumps on site. Fuel is obtained at nearby civilian gas stations and nearby military installations. All of the centers had heating oil tanks, mainly above

ground. These have been removed during the conversion to natural gas. Both the Hickory (NC6 210 021 626) and the Wilmington (NC0 210 021 929) centers had underground storage tanks for heating oil. Contractors that removed the oil tanks would determine whether samples should be obtained if they saw any suspected leaks or soil discoloration. Several of the centers have only administration buildings with no facilities for vehicle maintenance. None of the centers were on well water. Because the reserve centers are mostly located within the city, all are connected to city sewers.

Two of the centers are in the process/or have been sold. These are the Greenville center (NC8 210 022 044) and the Durham Center (NC9 210 022 787) on Foster Street. The Greenville center is undergoing an EBS (Environmental Baseline Study) prior to being sold. The Durham Center on Foster Street has been sold to the City of Durham. A Durham Reserve Center still remains on Carol Street (NC4 210 021 891).

The Rocky Mount center (NC8 210 021 624) had a non-reportable quantity spill of hydraulic fluid. The Morehead City Reserve center (NC5 210 022 906) has been undergoing a site investigation. This was initiated since there had been construction plans to add more piers to accommodate additional landing boats. This project has been delayed following September 2001. This harbor area had been used for shipbuilding periodically since the 1860s.

Attachment: Email from Michelle Cook dated 5-12-05 (USA Reserve Centers in NC).

Subject: Status of NC USAR Centers listed on CERCLIS
From: "Hook, Michelle Ms 81 RRC INSTL MGMT" <michelle.hook@usar.army.mil>
Date: Thu, 12 May 2005 15:50:36 -0400
To: <serafino.franch@ncmail.net>

Mr. Franch,

Below is a brief description of NC USAR facilities you inquired about. Some of the facilities are administrative facilities only and have never had any vehicle maintenance activities conducted on site. Some of the facilities have small vehicle maintenance shops that handle minor maintenance activities and there is one that is a larger vehicle maintenance shop which handles minor and major maintenance activities. With reference to the administrative-only facilities, I cannot explain the rationale of the Environmental Manager before me obtaining EPA ID numbers for these sites since these facilities do not generate any HW. However, the paperwork was submitted to NCDENR and EPA ID numbers were generated for these facilities. Please note all USAR Centers in NC are classified as CESQG.

The 81st RRC has an Environmental Regulation in place that details how HM items should be stored and how HW items are to be properly disposed. Facility personnel are also required to inform the Environmental Division of any spills of petroleum products. You had asked for copies of Preliminary Assessments for each of these facilities yet I was only able to locate the PA for one, NC6210022905. This is the location of the larger vehicle maintenance shop and I assume the person that held my position during that time period understood the requirement to only involve that type of facility and not facilities that have the smaller vehicle maintenance shops or the administrative-only facilities.

1. NC6210022046. The Jesse F. Niven USAR Center, constructed in 1958, is situated on a 3.92-acre parcel located at 1816 East Main Street, Albemarle NC 28001. The center consists of a 11,392 ft² training and assembly building and a 2,619 ft² vehicle maintenance shop. Minor maintenance activities such as oil changes are conducted at the maintenance shop. Numerous internal inspections have been conducted at the facility dating back to 1992 that indicate no signs of contamination. One 500-gallon heating oil UST was removed on 28 September 1994 by Environmental Technology of North America, Inc. The Closure Report was submitted to the NCDENR 27 December 1994. Heating oil USTs are not regulated in the state of North Carolina and no additional documentation from the state is available. No Preliminary Assessment was completed for this facility.

2. NC4210020042. The Walter Hatch Lee USAR Center, constructed in 1950, is situated on a 9-acre parcel located at 224 Louisiana Avenue, Asheville NC 28806. The center consists of a 29,164 ft² training and assembly building and a 2,300 ft² vehicle maintenance shop. Minor maintenance activities such as oil changes are conducted at the vehicle maintenance shop. Numerous internal inspections have been conducted at the facility dating back to 1992 that indicate no signs of contamination. No Preliminary Assessment was completed for this facility.

3. NC7210022045. The Miller Duckett USAR Center, constructed in 1959, is situated on a 4.06-acre parcel located at 306 East French Broad Avenue, Brevard NC 28712. The center consists of a 4,316 ft² training and assembly building, a 4,000 ft² utility building used for training and supply storage and a 1325 ft² vehicle maintenance shop. No maintenance activities are conducted in the maintenance shop, the building is used for storage. No Preliminary Assessment was completed for this facility.

4. NC6210022905. The Charlotte USAR Center and Area Maintenance Support Activity (AMSA) 122(G) is situated on a 14-acre parcel located at 1330 Westover Street, Charlotte NC 28205. The USAR Center consists of three training and assembly buildings; a 28,402 ft² two story building, a 23,287 ft² two story building, and an 8,180 ft² one story building. There is also a 7,598 ft² vehicle maintenance shop that is utilized by the AMSA 122(G). The AMSA 122(G) performs minor and major vehicle maintenance activities on military equipment. Numerous internal inspections have been conducted at the facility dating back to 1992 that indicate no signs of contamination. Attached is a copy of the 14 June 1990 Preliminary

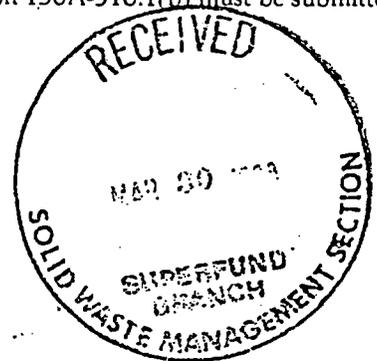
N.C. Department of Human Resources
Division of Health Services

For Agency Use Only
SITE #
REFERENCE 3

SECTION A
NOTIFICATION OF AN INACTIVE HAZARDOUS SUBSTANCE
OR WASTE DISPOSAL SITE

North Carolina General Statutes Section 130A-310 provides for protection of the public from inactive hazardous substance or waste disposal sites. Notification information, required by North Carolina General Statutes Section 130A-310.1(b) must be submitted to:

Superfund Unit
Division of Health Services
P.O. Box 2091
Raleigh, NC 27602-2091



Please read instructions before completing.

Please type or print in black ink.

A. SITE NAME AND PERSON REQUIRED TO NOTIFY:

1. Site Name Jesse F. Niven USARC - Albemarle NC6210022046
(One site per form)

2. Person Completing Form:
Name Stephen J. Macknall
Mailing Address 18th Airborne Corps & Ft. Bragg
Directorate of Engineering & Housing AF2A-DE-D
City Ft Bragg State NC Zip Code 28307-5000
Telephone (919) 396-8207/3372

Present Owner
Past Owner
Present Operator
Past Operator
Other
(specify) _____

3. Present Owner:
Name U.S. Army
Mailing Address same as above
City _____ State _____ Zip Code _____
Telephone () _____

Corporation
Partnership
Individual
Other Responsible Party
(specify) U.S. Army

4. Other _____
Mailing Address _____
City _____ State _____ Zip Code _____
Telephone () _____

Past Owner
Present Operator
Past Operator
Other Responsible Party
(specify) _____

5. Other _____
Mailing Address _____
City _____ State _____ Zip Code _____
Telephone () _____

Past Owner
Present Operator
Past Operator
Other Responsible Party
(specify) _____

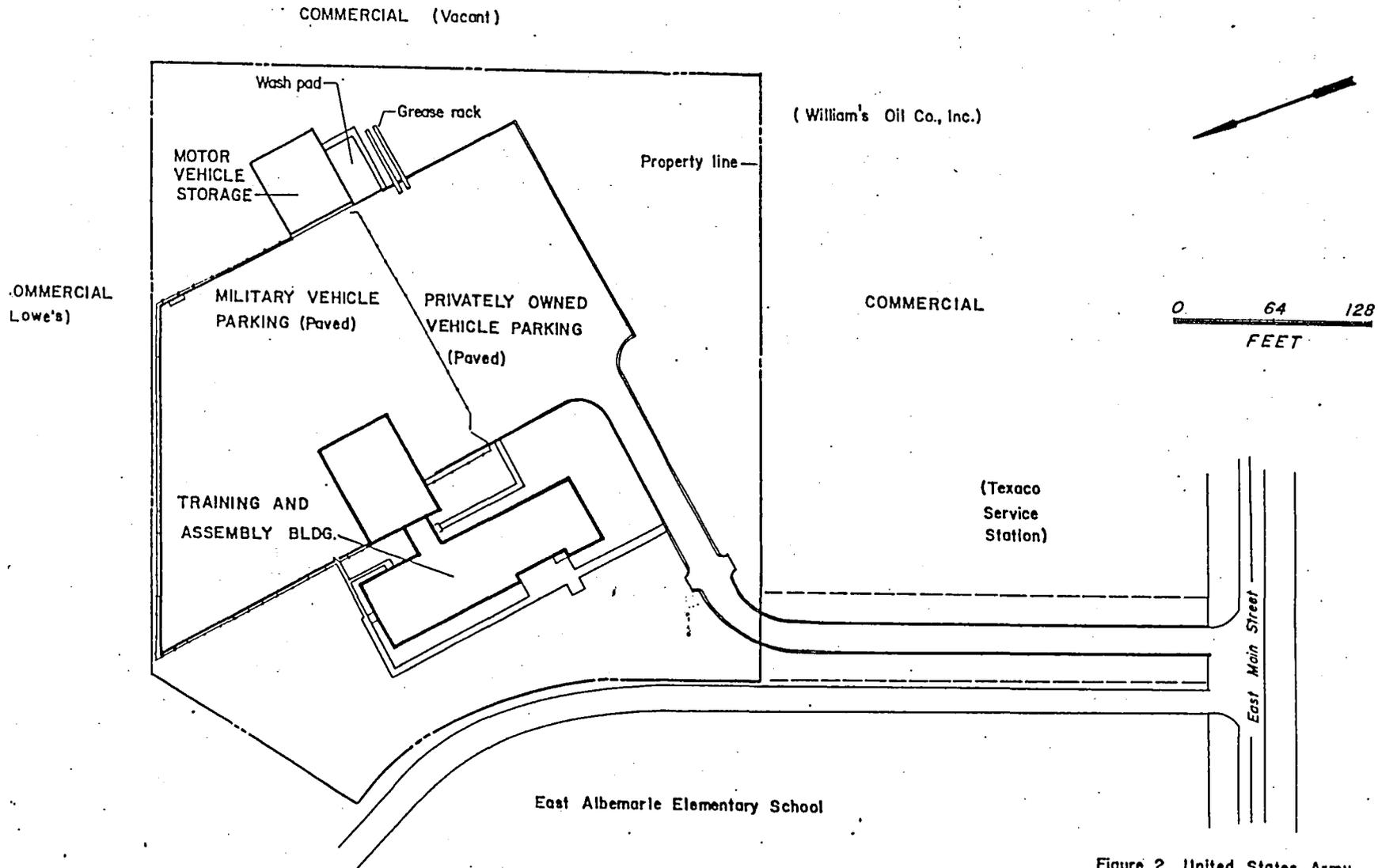


Figure 2. United States Army
Reserve Center, Albemarle,
North Carolina.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



REFERENCE 4

REGION IV

345 COURTLAND STREET
ATLANTA, GEORGIA 30365

AUG 1 9 30 AM

RECEIVED

SUPERFUND SECTION

4WD-RCRA & FF

Colonel K.W. Crissman
Director of Engineering & Housing
Headquarters, XVIII Airborne Corps & Fort Bragg
Fort Bragg, North Carolina 28307-5000

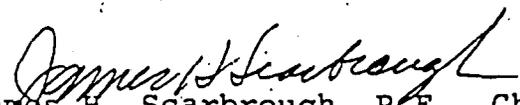
Re: Preliminary Assessments
U.S. Army Reserve Centers in North Carolina

Dear Colonel Crissman:

The Preliminary Assessment forms for potential hazardous waste sites at U.S. Army Reserve Centers in North Carolina, submitted by letter of June 21, 1990, have been reviewed by the U.S. Environmental Protection Agency. Based upon the information submitted and a telephone verification by Mr. William A. Kern of your Directorate, we have concluded that no further action is needed at this time.

If any releases of hazardous substances to the environment should occur in the future or any information on any past releases should be found, these should be reported to EPA. If you have questions concerning this review, please contact Mr. J.C. Meredith, P.E., Remedial Project Manager, at (404) 347-3016.

Sincerely yours,


James H. Scarbrough, P.E., Chief
RCRA & Federal Facilities Branch
Waste Management Division

cc: Lee Crosby, NCDEHNR



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

REFERENCE 5

AUG 27 1991

WD-RCRA & FF

Certified Mail
Return Receipt Requested

RECEIVED

SEP 09 1991

HAZARDOUS WASTE SECTION

Commander
Directorate of Engineering and Housing
Attention: AFZA-DE-RJ (Mr. Robert Turner)
Fort Bragg, NC 28307

RE: Updating Preliminary Assessments for the Revised
Hazard Ranking System
U. S. Army Reserve Centers

Dear Sir:

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires the U.S. Environmental Protection Agency (EPA) to establish a Federal Agency Hazardous Waste Compliance Docket to provide information on the status and compliance of federal facilities that may have releases of hazardous substances. Section 120 specifically addresses federal agency compliance with requirements on response actions, site evaluations, and hazard ranking procedures for facilities on the Docket. The U. S. Army Reserve Centers on the enclosed list are on the Docket.

EPA Region IV is currently contacting each federal facility on the Docket but not on the National Priorities List (NPL) to request updated information required by the revised Hazard Ranking System (HRS2) of the National Contingency Plan (NCP), which became effective March 14, 1991. Our records indicate that a Preliminary Assessment (PA) report or its equivalent was submitted previously for the reserve centers and that it was determined that no further action was needed at that time. We are writing to request updated information on any releases of hazardous substances that may have occurred or been discovered since that time.

We are enclosing the basic guidelines for a Preliminary Assessment. If the EPA determines from the updated PA information that a release has occurred or there is a potential for release, we may require further investigation later in the form of a Site Inspection (SI). We are also enclosing guidelines on the requirements of HRS2, generally to be utilized following an SI; however, we are not requesting that level of investigation at this time. Both PA and SI are defined in the NCP (40 CFR 300).

We are requesting submittal of the updated PA information within 60 days of receipt of this letter. If that is not feasible, we request submittal of a timetable for compliance within 30 days of receipt of this letter.

If you have questions regarding the updating of PA information, please contact Mr. J. C. Meredith of this office at (404) 347-3016.

Sincerely yours,

James H. Scarbrough
James H. Scarbrough, P.E., Chief
RCRA & Federal Facilities Branch
Waste Management Division

Enclosure

cc: Mr. William L. Meyer, Director
Division of Solid Waste Management
North Carolina Department of Environment,
Health & Natural Resources
Post Office Box 27687
Raleigh, NC 27611-7687

Commander
U. S. Army Toxic & Hazardous Materials Agency
CETHA-IR-S (Conrad Swann)
Aberdeen Proving Ground, MD 21010-5401

cc: Jack Butler
Superfund

N.C. DEPT. OF
ENVIRONMENT, HEALTH,
& NATURAL RESOURCES

MAR 30 1995

DIVISION OF ENVIRONMENTAL MANAGEMENT
MOORESVILLE REGIONAL OFFICE

Underground Storage Tank Tank Abandonment / Closure Report

Site: United States Army Reserve Center
Albemarle, North Carolina

To: North Carolina Department of Environment,
Health & Natural Resources
Division of Environmental Management
 Mooresville Regional Office
919 Main Street
 Mooresville, North Carolina 28115-0950
(704) 663-1699

From: U.S Army Corps of Engineers
Charleston District
Low Country Resident Office
1050 Remount Road, Building 3238
North Charleston, South Carolina 29406
(803) 743-9454
(803) 743-9469 (fax)

Prepared By: ENVIRONMENTAL TECHNOLOGY OF
NORTH AMERICA, INC.
311-J South Westgate Drive
Greensboro, North Carolina 27407
(910) 299-9998
(910) 299-0655 (fax)

Date: Revised March 29, 1995



1.0 EXECUTIVE SUMMARY

On September 28, 1994, Environmental Technology of North America, Inc. (ETI) inerted, excavated, and removed a 500 gallon abandoned underground storage tank (UST) located at United States Army Reserve Center, 1816 East Main Street, Albemarle, North Carolina. (See Figure 1.) Approximately 20 cubic yards of soil was removed from the excavation with a maximum depth of approximately six feet. Two (2) grab soil samples were collected from the bottom of the excavation, one (1) composite soil sample was collected from the side walls, and one (1) composite soil sample was collected from the stockpiled soils. In addition, one (1) background soil sample was collected approximately ten (10) feet from the edge of the excavation. All soil samples were submitted to James H. Carr & Associates, Inc., a North Carolina state-certified laboratory, for analysis of Total Petroleum Hydrocarbons (TPH) utilizing TPH method 3550, naphthalene (method 8270), and BTEX. Laboratory analyses indicated that one TPH concentration in the excavation is above the North Carolina Division of Environmental Management (DEM) final clean-up level established by a site sensitivity evaluation (SSE). All other analyses indicate below detectable concentrations of the target analytes. The excavation pit was backfilled with the excavated soils and some additional offsite borrow required to fill the void once occupied by the UST.

After removal, the UST was marked according to all applicable regulations and immediately transported by Southern Tank and Environmental, Inc. to their facility in Charlotte, North Carolina where the tanks were properly disposed and certificates of destruction were provided to ETI. The UST certificate of disposal is located in Appendix B.

The removal and disposal of the UST and its contents as well as all sampling was performed in accordance with all applicable Environmental Protection Agency (EPA) regulations (40 CFR 280), North Carolina Department of Environment, Health and Natural Resources (DEM) requirements, and the U.S. Army Corps of Engineers (COE) contract specifications.

2.0 PROJECT BACKGROUND

Environmental Technology of North America, Inc. (ETI) was awarded delivery order #0014 of contract DACA21-92-D-0001 by the U.S. Army Corps of Engineers, Savannah District, to remove one (1) 500 gallon underground storage tank (UST) at the Army Reserve Center, Charleston, South Carolina. The tank was previously used for the storage of heating fuel for the Army Reserve Center Maintenance Building. The contract is unit price based which includes all related work such as transportation and disposal of tank contents, transportation and disposal of USTs, collecting samples, transportation and disposal of contaminated soils, backfilling excavations, site restoration, and preparation of tank abandonment/closure reports.

sample media, and the North Carolina Department of Environment, Health and Natural Resources action limits for contaminated soil.

TABLE 1

Required Analytical Parameters and Sample Media

Petroleum Constituent	Analytical Parameter(s)	Established Action Limit (ppm)	Sample Media
Gasoline Range	TPH (5030)	40.0	4 oz. glass jar
Diesel Range	TPH (3550)	80.0	4 oz. glass jar
	TPH (5030)	1.0	
Used Oil Heavy Oil	Oil & Grease (9071)	250.0	4 oz. glass jar

At the bottom of each tank excavation, two or three grab soil samples were collected based upon the UST length. Grab samples were collected at the most likely location of the contamination. For a tank equal to or less than twenty (20) feet long two (2) soil samples are taken; one (1) under each end of the tank, below the tank in the native (undisturbed) material. For a tank greater than twenty (20) feet long, three (3) soil samples are taken below the tank in the native (undisturbed) material; one (1) sample under each end of the tank, and one (1) in the middle of the tank. Due to safety concerns, all bottom samples are typically obtained utilizing the backhoe/trackhoe bucket.

A composite soil sample was collected from each of the walls of the excavation in the native (undisturbed) material. If the excavation was exceedingly large, additional samples may be collected based upon the judgement of the supervising field geologist. Again, due to safety concerns, all wall samples were typically obtained utilizing the backhoe/trackhoe bucket. Composite soil samples were also collected from the stockpiled soil utilizing a decontaminated stainless steel four (4) inch hand auger.

For each soil sample collected, dedicated disposable gloves were worn. Soils were placed in a clean, laboratory-grade four (4) ounce glass jar and sealed with a Teflon lid. Each jar was filled with soil, labeled accordingly, and properly stored in a cooler at four (4) degrees Celsius. Samples were transported to the designated laboratory. A chain-of-custody was included indicating sample number, location, time, date, and analytical parameters. Sample numbers and locations were clearly recorded in a site log and sketched on a scaled site map. For quality assurance and quality control (QA/QC),

every tenth sample collected was split and sent to the Corps of Engineers, South Atlantic Division Lab in Marietta, Georgia. In addition, one (1) field blank per sampling day and one (1) trip blank for each cooler were prepared. All samples were properly packaged to prevent breakage.

2.5 UST DISPOSAL PROCEDURES

The UST was transported by Southern Tank and Environmental, Inc. to their facility in Charlotte, North Carolina where the tank was properly disposed and certificate of destruction was provided to ETI. The certificate of disposal is found in Appendix B.

3.0 FIELD INVESTIGATION

ETI mobilized equipment, tools, supplies, and manpower to the Army Reserve Center, Albemarle, North Carolina on September 28, 1994 at approximately 8:00 AM. The scope of work was reviewed and a safety meeting was held. Meter calibration records for the organic vapor analyzer (OVA) and the combustible gas indicator (CGI) were reviewed to assure recent calibration (see Appendix C). The UST was sounded prior to removing and contained 70 gallons of product. Remaining product was pumped and transported by Energy Recovery Resources Inc., P.O. Box 5651, Charlotte, North Carolina 28225.

Prior to excavating any soils, the CGI was used to ensure that no explosive gas mixture existed within the tank. At approximately 8:20 AM, soil staging areas were set up utilizing ten (10) mil polyliner and excavation began. Excavated soils were screened for petroleum odors utilizing the OVA. OVA readings and visual inspections did not indicate the presence of hydrocarbons in the soils. Approximately 20 cubic yards of soil (red clay) was removed with the maximum excavation depth approximately six feet. Groundwater was not encountered.

At approximately 9:00 AM, the UST was removed from the excavation and placed on ten (10) mil polyliner. The overall condition of the tank was good and was labeled accordingly noting tank contents, "vapor free", UST location, "not for human consumption", and the date pulled. No holes or leaks were noted during visual inspection of the tank. In accordance with Corps of Engineer requirements, photographic documentation was maintained during the removal process. Prior to transport, the CGI was again utilized to ensure that no explosive gas mixture existed within the tank. It was then loaded and hauled on a flat bed trailer for destruction at Southern Tank and Environmental, Inc.. The certificate of disposal is found in Appendix B.

At approximately 9:20 AM, ETI began collecting soil samples from the excavation pit. Two (2) grab soil samples were collected from the bottom of the excavation, one (1) composite sample was taken from the walls of the excavation, and one (1) composite soil sample was collected from the stockpiles. In addition, one (1) background soil sample was collected approximately ten (10) feet from the edge of the excavation. Samples were collected in accordance to the procedures specified in Section 2.3 above (see Appendix D). At approximately 11:45 AM, the site was backfilled and restored.

4.0 LABORATORY ANALYSIS

All soil samples collected were transported to James H. Carr & Associates, Inc. for analysis of Total Petroleum Hydrocarbons (TPH) 3550, Naphthalene 8270 and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) 8020. Carr & Associates, Inc. is a North Carolina state-certified laboratory located at 919 True Street, Columbia, SC 29290. The laboratory results and chain of custody form can be found in Appendix A.

Table 2 summarizes the sample location, sample numbers, and analytical results for all soil samples collected.

TABLE 2
Soil Sample Analytical Summary

Sample Location	Sample Number	*TPH 3550 (ppm)	Naphthalene 8270 (ppb)	BTEX 8020 (ppb)			
				Benzene	Toluene	Ethylbenzene	Xylenes
Background	SS-6	109.0	BDL	BDL	BDL	BDL	BDL
North Bottom	SS-7	1,340.0	BDL	BDL	BDL	BDL	BDL
South Bottom	SS-8	88.9	BDL	BDL	BDL	BDL	BDL
Wall Composite	SS-9	49.2	BDL	BDL	BDL	BDL	BDL
Stockpile	SS-10	33.9	BDL	BDL	BDL	BDL	BDL

*SSE established final clean-up level of 640 ppm.

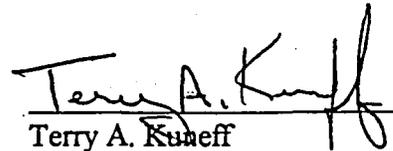
5.0 DISCUSSION

Laboratory analytical results of the soil samples were received from Carr & Associates, Inc. on October 31, 1994. As is illustrated in Table 2, all BTEX and naphthalene concentrations were reported below detection. However, one TPH 3550 concentration in the excavation was reported above the final clean-up level established by the Site Sensitivity Evaluation (SSE)(see Appendix G). The excavation was backfilled using excavated soils and additional offsite backfill to fill the void once occupied by the UST.

6.0 CONCLUSIONS

The removal of the UST and its contents as well as all sampling was performed in accordance with all applicable Environmental Protection Agency (EPA) regulations (40 CFR 280), DEM guidelines, and the U.S. Army Corps of Engineers (COE) contract specifications. Laboratory analyses indicated one TPH 3550 concentration in the excavation above the final SSE clean-up level. BTEX and naphthalene concentrations were reported below detection.

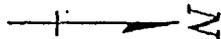

Eric K. Lintz, P.G.
Senior Geologist


Terry A. Kueff
Staff Scientist

ENVIRONMENTAL TECHNOLOGY OF
NORTH AMERICA, INC.

311-J SOUTH WESTGATE DRIVE
GREENSBORO, NORTH CAROLINA

120TH ARCOM



Project Manager

MJA

Job Number: 886-SC-08

ARMY RESERVE
CENTER
ALBEMARLE, NC

Technician

EKL

Scale: as shown

Reviewer

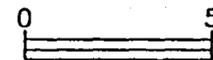
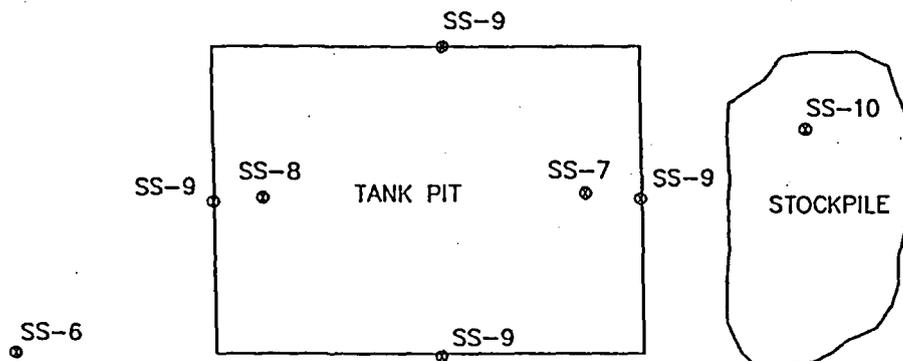
MJL

By:

TAK

SAMPLING LOCATION MAP

U.S. ARMY RESERVE
MAINTENANCE BUILDING



SCALE

CONTINUATION OF DATA FOR SAMPLE NUMBER 2138

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FA
SURROGATE NITROBENZENE-D5	86.4 % Recovery		10/10/94	10/14/94	8270	

SAMPLE ID- SS-6
 LOCATION- Back Ground
 SAMPLE NUMBER- 2139
 SAMPLE MATRIX- SOIL

DATE SAMPLED- 09/29/94
 TIME SAMPLED- 0930
 DATE RECEIVED- 10/01/94

TIME RECEIVED- 1110
 DELIVERED BY- Fed. Express
 RECEIVED BY- NS
 SAMPLER- CLIENT

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FAC
% SOLIDS	90.6 %	0.01		10/06/94		
TOTAL PETROLEUM HYDROCARBONS TPH-DIESEL RANGE	109. mg/Kg	11.0	10/05/94	10/06/94	3550/8015	
SURROGATE PENTACOSANE	98 % Recovery					

UST BTEX COMPOUNDS

BENZENE <5.52 ug/Kg 5.52
 TOLUENE <5.52 ug/Kg 5.52
 ETHYL BENZENE <5.52 ug/Kg 5.52
 TOTAL XYLENES <11.0 ug/Kg 11.0

SURROGATE 12-DICHLOROETHANE 113 % Recovery
 SURROGATE TOLUENE-D8 110 % Recovery
 SURROGATE BROMOFLUOROBENZENE 111 % Recovery

NAPHTHALENE <364. ug/Kg 364. 10/10/94 10/14/94 8270
 SURROGATE NITROBENZENE-D5 76.3 % Recovery 10/10/94 10/14/94 8270

SAMPLE ID- SS-7
 LOCATION- North UST
 SAMPLE NUMBER- 2140
 SAMPLE MATRIX- SOIL

DATE SAMPLED- 09/29/94
 TIME SAMPLED- 0935
 DATE RECEIVED- 10/01/94

TIME RECEIVED- 1110
 DELIVERED BY- Fed. Express
 RECEIVED BY- NS
 SAMPLER- CLIENT

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FACTO
% SOLIDS	91.5 %	0.01		10/06/94		
TOTAL PETROLEUM HYDROCARBONS TPH-DIESEL RANGE	1340 mg/Kg	10.9	10/05/94	10/06/94	3550/8015	
SURROGATE PENTACOSANE	91 % Recovery					

UST BTEX COMPOUNDS

BENZENE <5.46 ug/Kg 5.46 10/11/94 8260

CONTINUATION OF DATA FOR SAMPLE NUMBER 2140

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FACTOR
TOLUENE	<5.46 ug/Kg	5.46				
ETHYL BENZENE	<5.46 ug/Kg	5.46				
TOTAL XYLENES	<10.9 ug/Kg	10.9				
SURROGATE 12-DICHLOROETHANE	83.0 % Recovery					
SURROGATE TOLUENE-D8	89.2 % Recovery					
SURROGATE BROMOFLUOROBENZENE	107 % Recovery					
NAPHTHALENE	<361 ug/Kg	361	10/10/94	10/14/94	8270	
SURROGATE NITROBENZENE-D5	85.0 % Recovery		10/10/94	10/14/94	8270	

SAMPLE ID- SS-8

LOCATION- South UST

SAMPLE NUMBER- 2141

SAMPLE MATRIX- SOIL

DATE SAMPLED- 09/29/94

TIME SAMPLED- 0940

DATE RECEIVED- 10/01/94

TIME RECEIVED- 1110

DELIVERED BY- Fed. Express

RECEIVED BY- NS

SAMPLER- CLIENT

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FACTOR
SOLIDS	88.9 %	0.01		10/06/94		
TOTAL PETROLEUM HYDROCARBONS			10/05/94	10/06/94	3550/8015	
TPH-DIESEL RANGE	88.9 mg/Kg	11.2				
SURROGATE PENTACOSANE	91.0 % Recovery					
UST BTEX COMPOUNDS				10/11/94	8260	
BENZENE	<5.62 ug/Kg	5.62				
TOLUENE	<5.62 ug/Kg	5.62				
ETHYL BENZENE	<5.62 ug/Kg	5.62				
TOTAL XYLENES	<11.2 ug/Kg	11.2				
SURROGATE 12-DICHLOROETHANE	74.4 % Recovery					
SURROGATE TOLUENE-D8	89.4 % Recovery					
SURROGATE BROMOFLUOROBENZENE	87.2 % Recovery					
NAPHTHALENE	<371. ug/Kg	371.	10/10/94	10/14/94	8270	
SURROGATE NITROBENZENE-D5	61.8 % Recovery		10/10/94	10/14/94	8270	

SAMPLE ID- SS-9
 LOCATION- Wall Comp
 SAMPLE NUMBER- 2142
 SAMPLE MATRIX- SOIL

TIME RECEIVED- 1110
 DATE SAMPLED- 09/29/94 DELIVERED BY- Fed. Express
 TIME SAMPLED- 0945 RECEIVED BY- NS
 DATE RECEIVED- 10/01/94 SAMPLER- CLIENT

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FACTOR
% SOLIDS	89.4 %	0.01		10/06/94		
TOTAL PETROLEUM HYDROCARBONS			10/05/94	10/06/94	3550/8015	
TPH-DIESEL RANGE	49.2 mg/Kg	11.2				
SURROGATE PENTACOSANE	95.0 % Recovery					
UST BTEX COMPOUNDS				10/22/94	8260	
BENZENE	<5.59 ug/Kg	5.59				
TOLUENE	<5.59 ug/Kg	5.59				
ETHYL BENZENE	<5.59 ug/Kg	5.59				
TOTAL XYLENES	<11.2 ug/Kg	11.2				
SURROGATE 12-DICHLOROETHANE	112 % Recovery					
SURROGATE TOLUENE-D8	99.4 % Recovery					
SURROGATE BROMOFLUOROBENZENE	104 % Recovery					
NAPHTHALENE	<369. ug/Kg	369.	10/10/94	10/14/94	8270	
SURROGATE NITROBENZENE-D5	85.2 % Recovery		10/10/94	10/14/94	8270	

SAMPLE ID- SS-10
 LOCATION- Stockpile
 SAMPLE NUMBER- 2143
 SAMPLE MATRIX- SOIL

TIME RECEIVED- 1110
 DATE SAMPLED- 09/29/94 DELIVERED BY- Fed. Express
 TIME SAMPLED- 0950 RECEIVED BY- NS
 DATE RECEIVED- 10/01/94 SAMPLER- CLIENT

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FACTOR
% SOLIDS	90.5 %	0.01		10/06/94		
TOTAL PETROLEUM HYDROCARBONS			10/05/94	10/06/94	3550/8015	
TPH-DIESEL RANGE	33.9 mg/Kg	11.0				
SURROGATE PENTACOSANE	87.0 % Recovery					
UST BTEX COMPOUNDS				10/22/94	8260	
BENZENE	<5.52 ug/Kg	5.52				
TOLUENE	<5.52 ug/Kg	5.52				
ETHYL BENZENE	<5.52 ug/Kg	5.52				
TOTAL XYLENES	<11.0 ug/Kg	11.0				
SURROGATE 12-DICHLOROETHANE	125 % Recovery					
SURROGATE TOLUENE-D8	101 % Recovery					
SURROGATE BROMOFLUOROBENZENE	103 % Recovery					
NAPHTHALENE	<365 ug/Kg	365	10/10/94	10/14/94	8270	

CONTINUATION OF DATA FOR SAMPLE NUMBER 2143

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FACTOR
SURROGATE NITROBENZENE-D5	89.4 % Recovery		10/10/94	10/14/94	8270	

SAMPLE ID- FB-27
 LOCATION- Field Blank
 SAMPLE NUMBER- 2144
 SAMPLE MATRIX- GROUNDWATER

DATE SAMPLED- 09/27/94
 TIME SAMPLED- NA
 DATE RECEIVED- 10/01/94

TIME RECEIVED- 1110
 DELIVERED BY- Fed. Express
 RECEIVED BY- NS
 SAMPLER- CLIENT

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FACTOR
BTEX COMPOUNDS				10/22/94	8260	

BENZENE	< 5 ug/L	5				
TOLUENE	< 5 ug/L	5				
ETHYL BENZENE	< 5 ug/L	5				
TOTAL XYLENES	< 5 ug/L	5				
SURROGATE 12-DICHLOROETHANE	101 % Recovery					
SURROGATE TOLUENE-D8	87.6 % Recovery					
SURROGATE BROMOFLUOROBENZENE	82.8 % Recovery					
NAPHTHALENE	< 10 ug/L	10	10/06/94	10/17/94	8270	
SURROGATE NITROBENZENE-D5	96.0 % Recovery		10/06/94	10/17/94	8270	

SAMPLE ID- FB-29
 LOCATION- Field Blank
 SAMPLE NUMBER- 2145
 SAMPLE MATRIX- GROUNDWATER

DATE SAMPLED- 09/29/94
 TIME SAMPLED- NA
 DATE RECEIVED- 10/01/94

TIME RECEIVED- 1110
 DELIVERED BY- Fed. Express
 RECEIVED BY- NS
 SAMPLER- CLIENT

ANALYSIS	RESULT UNITS	DET. LIMIT	DATE PREPARED	DATE ANALYZED	METHOD	DIL. FACTOR
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BTEX COMPOUNDS				10/22/94	8260	
BENZENE	< 5 ug/L	5				
TOLUENE	< 5 ug/L	5				
ETHYL BENZENE	< 5 ug/L	5				
TOTAL XYLENES	< 5 ug/L	5				
SURROGATE 12-DICHLOROETHANE	102 % Recovery					
SURROGATE TOLUENE-D8	95.4 % Recovery					
SURROGATE BROMOFLUOROBENZENE	86.8 % Recovery					
NAPHTHALENE	< 10 ug/L	10	10/06/94	10/17/94	8270	
SURROGATE NITROBENZENE-D5	121 % Recovery		10/06/94	10/17/94	8270	

Environmental Technology, Inc.
 311-J South Westgate Drive
 Greensboro, North Carolina 27407
 Phone: (910) 299-9998
 Fax: (910) 299-0655

BAT 365

35

CHAIN OF CUSTODY RECORD

No 6126

PROJECT NO.		PROJECT NAME				NO. OF CONTAINERS	METHODS					REMARKS
886-551-08		ARCOM 10/94					TPH 8550	TPH 5030	EPA 602 (Modified)	EPA 610	USE W/STEX	
SAMPLERS: (Signature) Mark of Augustyniak												
STA. NO.	DATE	TIME	COMP	GRAB	STATION LOCATION							
SS-1	9/27	1515	/	/	E. BOTTOM	/	/	/	/	/	/	HEATING FUEL 2134
SS-2	"	1520	/	/	W. BOTTOM	/	/	/	/	/	/	" 2135
SS-3	"	1525	/	/	WALL COMP.	/	/	/	/	/	/	" 2136
SS-4	"	1530	/	/	BACKGROUND	/	/	/	/	/	/	" 2137
SS-5	"	1535	/	/	STOCKPILE	/	/	/	/	/	/	" 2138
SS-6	9/29	930	/	/	BACKGROUND	/	/	/	/	/	/	" 2139
SS-7	"	935	/	/	N. BOTTOM	/	/	/	/	/	/	" 2140
SS-8	"	940	/	/	S. BOTTOM	/	/	/	/	/	/	" 2141
SS-9	"	945	/	/	WALL COMP.	/	/	/	/	/	/	" 2142
SS-10	"	950	/	/	STOCKPILE	/	/	/	/	/	/	" 2143
FB-27	9/27				FIELD BLANK-27	3	/	/	/	/	/	" 2144
FB-29	9/29				FIELD BLANK-29	3	/	/	/	/	/	" 2145
TRIPBL	"				TRIP BLANK	3	/	/	/	/	/	" 2146
TEMP.	"				TEMPERATURE LOG	1						= 0.9°C, ice visible, no C.O.C. seals
* No bottles rec'd for						3500/8015						
RELINQUISHED BY: (Signature) Mark Augustyniak		DATE / TIME 9/30/94		RECEIVED BY: (Signature)		RELINQUISHED BY: (Signature)		DATE / TIME		RECEIVED BY: (Signature)		
RELINQUISHED BY: (Signature)		DATE / TIME		RECEIVED BY: (Signature)		RELINQUISHED BY: (Signature)		DATE / TIME		RECEIVED BY: (Signature)		
RELINQUISHED BY: (Signature) Federal Express		DATE / TIME 10/1/94 11:10		RECEIVED for Laboratory BY: (Signature) Nancy Hoke		DATE / TIME 10/1/94 11:10		REMARKS:				

0815 LEL = 0% O₂ = 17%
 0820 BEGIN EXCAVATION
 3' x 5' CONCRETE PAD
 OVER TANK
 BETA

845 OVA = 0 UNITS

900 TANK OUT OF HOLE

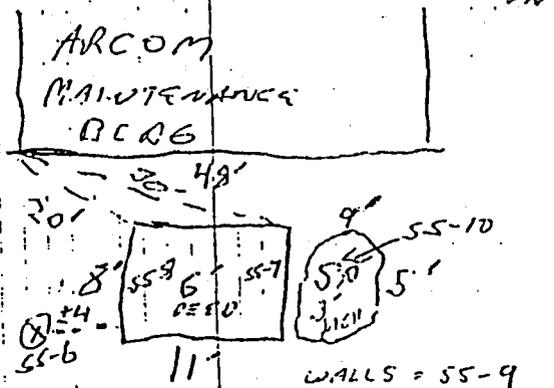
910 CHUCK WHEELER ARRIVES ON
 SITE

920 VST LOADED ON COMPTRUCK

SS-6	930	BACKGROUND
SS-7	935	BOTTOM N
SS-8	940	BOTTOM S
SS-9	945	WALLS COMPLETE
SS-10	950	STACKPILE 11

1000 BEGIN BACKFILLING HOLE

1145 REMOVE CONCRETE LOAD ON TRUCK
 SCT FILL OCCURRED TO SITE



60 MILES SOUTHERN TANK → ALBEMARLE
 130 MILES ALBEMARLE → FAYETTEVILLE