



STATE OF NORTH CAROLINA
 DEPARTMENT OF CRIME CONTROL AND PUBLIC SAFETY
 OFFICE OF THE ADJUTANT GENERAL
 NORTH CAROLINA NATIONAL GUARD



JAMES B. HUNT JR.
 GOVERNOR

RICHARD H. MOORE
 SECRETARY

February 6, 1998

GERALD A. RUDISILL, JR.
 MAJOR GENERAL, NCARNG
 ADJUTANT GENERAL

Engineering Office

SUBJECT: OMS #8 UST Closure Report

NCDENR
 Groundwater Section
 ATTN: Cameron Weaver
 585 Waughtown Street
 Winston-Salem, NC 27107

RECEIVED
 N.C. Dept. of ENR

FEB 09 1998

Winston-Salem
 Regional Office

Dear Mr. Weaver:

Enclosed is the closure report you requested. If you have any questions, please contact me at 919-664-6392.

TODD PREDDY
 Environmental Projects Coordinator

FEB 09 1998

Winston-Salem
Regional Office

SPATCO

UNDERGROUND STORAGE TANK CLOSURE REPORT

The closure report should contain, at a minimum, the following information. Any other information that is pertinent to the site should be included.

I. General Information

A. Ownership of UST(s)

1. Name of UST owner:

North Carolina Army National Guard

2. Owner address and telephone number:

4105 Reedy Creek Road
Raleigh, NC 27607-6410
(919) 664-6410

B. Facility Information

1. Facility name:

High Point National Guard

2. Facility ID #:

0-033137

3. Facility address, telephone number and county:

3515 Armory Drive
High Point, North Carolina 27264
Guilford County
(910) 889-4256



C. Contacts

1. Name, address, telephone number and job title of primary contact person:

Mr. Todd Preddy
Environmental Projects Coordinator
Office of the Adjutant General
4105 Reedy Creek Road
Raleigh, North Carolina 27607-6410
(919) 664-6392

2. Name, address and telephone number of closure contractor:

SPATCO Environmental, Incorporated
130 Penmarc Drive Suite 112
Raleigh, North Carolina 27603
(919) 832-2535

3. Name, address and telephone number of primary consultant:

Michael D. Shaw
3100-A Timberbrook Drive
Charlotte, North Carolina 28208
(704) 391-7443

4. Name, address, telephone number, and State certification number of laboratory:

Hydrologic, Incorporated
2500 Gateway Centre Blvd. Suite 900
Morrisville, North Carolina 27560
(919) 380-9699
Certification Number: 399

D. UST Information

Tank no.	Installation dates	Size in Gallons	Tank Dimensions	Last Contents	Previous Contents (if any)
1	1977	3,000	5'4" x 18'0"	Diesel fuel	Unknown
2	1977	2,000	5'4" x 12'0"	Diesel fuel	Unknown

E. Site Characteristics**1. Describe any past releases at this site:**

None known at this time.

2. Is the facility active or inactive at this time? If the facility is inactive note the last time the USTs were in operation:

The High Point Armory is currently active as a maintenance and storage facility. There are no longer any USTs located on this site.

3. Describe surrounding property use (for example, residential, commercial, farming, etc.)

The surrounding area is primarily commercial.

4. Describe site geology/hydrogeology:

Based on the 1985 Geologic Map of North Carolina, the site is underlain by metamorphosed gabbro and diorite. Bedrock was encountered at eight feet during the excavation. Water was not encountered in the UST excavation.

The site is located at approximately 800 feet above sea level and surficial flow appears to be generally to the west. A stream passes 300 feet west of the site and drains into Richland Creek, which eventually discharges into Deep River. Regional surficial flow is to the southeast.

II. Closure Procedures

- A. Describe preparations for closure including the steps taken to notify authorities, permits obtained and the steps taken to clean and purge the tanks.**

Prior to UST removal, a Notification of Intent for Permanent Closure (GW/UST-3) was filed with the North Carolina Department of Environmental Health and Natural Resources Winston-Salem Regional Office by the North Carolina Army National Guard. The local fire department was notified and proper permits were obtained prior to UST removal.

- B. Note the amount of residual material pumped from the tank(s):**

The 3,000-gallon diesel fuel UST (UST-1) contained 300 gallons of product that was removed utilizing a product pump and placed in six 55-gallon drums. Approximately 90 gallons of product were removed from the 2,000-gallon diesel UST (UST-2) and placed in two 55-gallon drums.

- C. Describe the storage, sampling and disposal of the residual material:**

SPATCO Environmental, Incorporated removed the residual product before excavating the USTs and later transported the eight resulting 55-gallon drums to Southern Pump and Tank Company, Incorporated, where they are currently awaiting proper disposal by Noble Oil.

Both USTs were cleaned, transported, and properly disposed of by Southern Tank and Environmental, Incorporated of Indian Trail, North Carolina.

- D. Excavation**

Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" on limiting excavations. The Trust Fund will not pay for excessive excavation unless it is justified and verified by laboratory results.

- 1. Describe excavation procedures noting the condition of the soils and the dimensions of the excavation in relation to the tanks, piping and/or pumps:**

A backhoe was used to remove the fill material over and around the USTs. The dimensions of the UST-1 excavation were 8' x 25' x 9'. The dimensions of the UST-2 excavation were 7' x 17' x 7'. The USTs were purged with dry ice and removed after the oxygen levels in the tanks were lower than 8%.

Oxygen levels inside the USTs were measured with a Neotronics Exotox 40 Portable Gas Monitor.

2. Note the depth of tank burial(s) (from land surface to top of tank):

The tops of UST-1 was approximately 2 feet below land surface (bls) while UST-2 was approximately 1 foot bls.

3. Quantity of soil removed:

There was no soil excavated from this site.

4. Describe soil type(s):

The soil encountered during the removal activities was a rocky sand.

5. Type and source of backfill used:

The backfill was supplied by Long Brothers of Summerfield, Incorporated of Kernersville, North Carolina. Approximately 18 cubic yards of ABC stone was used to backfill the UST-1 excavation and 12 cubic yards of ABC stone was used to backfill the UST-2 excavation.

E. Contaminated Soil

Note: Suspected contaminated soil should be segregated from soil that appears to be uncontaminated and should be treated as contaminated until proven otherwise. It should not be used as backfill.

1. Describe how it was determined to what extent to excavate the soil:

No soil was excavated at this site due to low OVA readings obtained during soil screening.

2. Describe method of temporary storage, sampling and treatment/disposal of soil:

Not applicable.

III. Site investigation**A. Provide information on field screening and observations, include methods used to calibrate field screening instrument(s):**

Soil samples were collected and divided into two representative portions. The first portion of each sample was placed in a polyethylene bag for a minimum of five minutes to allow any petroleum hydrocarbons to volatilize. An organic vapor analyzer (OVA) was used to screen the headspace of the bagged sample for volatile hydrocarbons. OVA readings were all less than or equal to 10 parts per million (ppm). Table 1 presents the OVA reading results.

B. Describe soil sampling points and sampling procedures used, including:

Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" for information about sampling requirements.

Two soil samples were collected from beneath the bases of each UST utilizing a backhoe bucket. Samples HP-1 and HP-2, from UST-1 excavation, were taken at a depth of nine feet below ground surface (bgs). Samples from UST-2 excavation, HP-3 and HP-4, were collected from a depth of seven feet bgs. The dispenser island was located above the UST excavation, therefore no additional samples were required.

C. Describe groundwater or surface water sampling procedures used, including:

Note: Refer to the "Groundwater Section Guidelines for the Investigation and Remediation of Soils and Groundwater" for information about sampling requirements.

Not applicable. Groundwater was not encountered during the UST removal activities.

D. Quality control measures

Samples were immediately placed in laboratory supplied glass containers, sealed with Teflon lined caps, and placed in an iced cooler. Samples were maintained at 4°C and submitted under chain-of-custody procedures to Hydrologic, Incorporated for laboratory analysis.

Samples HP-1 through HP-4 were collected from the UST excavation on April 6, 1995 between 2:00 and 2:15 and submitted for laboratory analysis on April 12, 1995.

E. Investigation results

All samples were below NCDEM Reportable Concentrations for TPH when analyzed by EPA Method 8015 with a 3550/5030 sample preparation.

A Site Sensitivity Evaluation (SSE) was not performed due to the results of all samples being below NCDEM Reportable Concentrations.

IV. Conclusions and Recommendations

Analytical results from all samples collected at this site were below NCDEM Reportable Concentrations. Based on these results, no further assessment is recommended for this site.

V. Signature of Professional Engineer or Licensed Geologist

Professional Engineer Registration #:
Licensed Geologist License #: 1338



Michael D. Shaw
3310-A Timberbrook Drive
Charlotte, NC 28208



5-25-95

Date

VI. Enclosures**A. Figures**

1. Area Map(s) (can be USGS Topographic Quadrangle) showing:
 - Adjacent streets, roads, highways with names and numbers
 - Buildings
 - Known distance to public water supply well(s)
 - Distance to known private water supply well(s)
 - Surface water bodies
 - Groundwater flow direction (if available)
 - Scale
 - North arrow

2. Site map of UST excavation area drawn to scale, showing:
 - Buildings
 - Underground utilities such as sewer lines and other conduits
 - Orientation of UST(s), pumps, and product lines
 - Length, diameter and volume of USTs
 - Type of material(s) stored in USTs (currently and previously)
 - Sample locations (identified by letter or number)
 - Final limits of excavation
 - North arrow
 - Scale

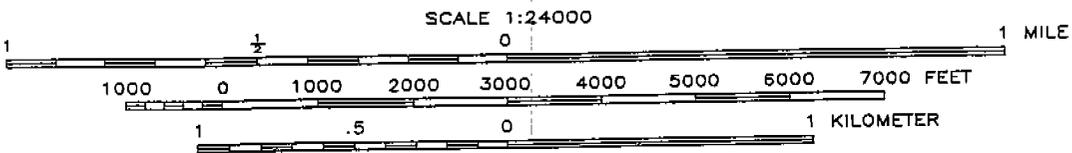
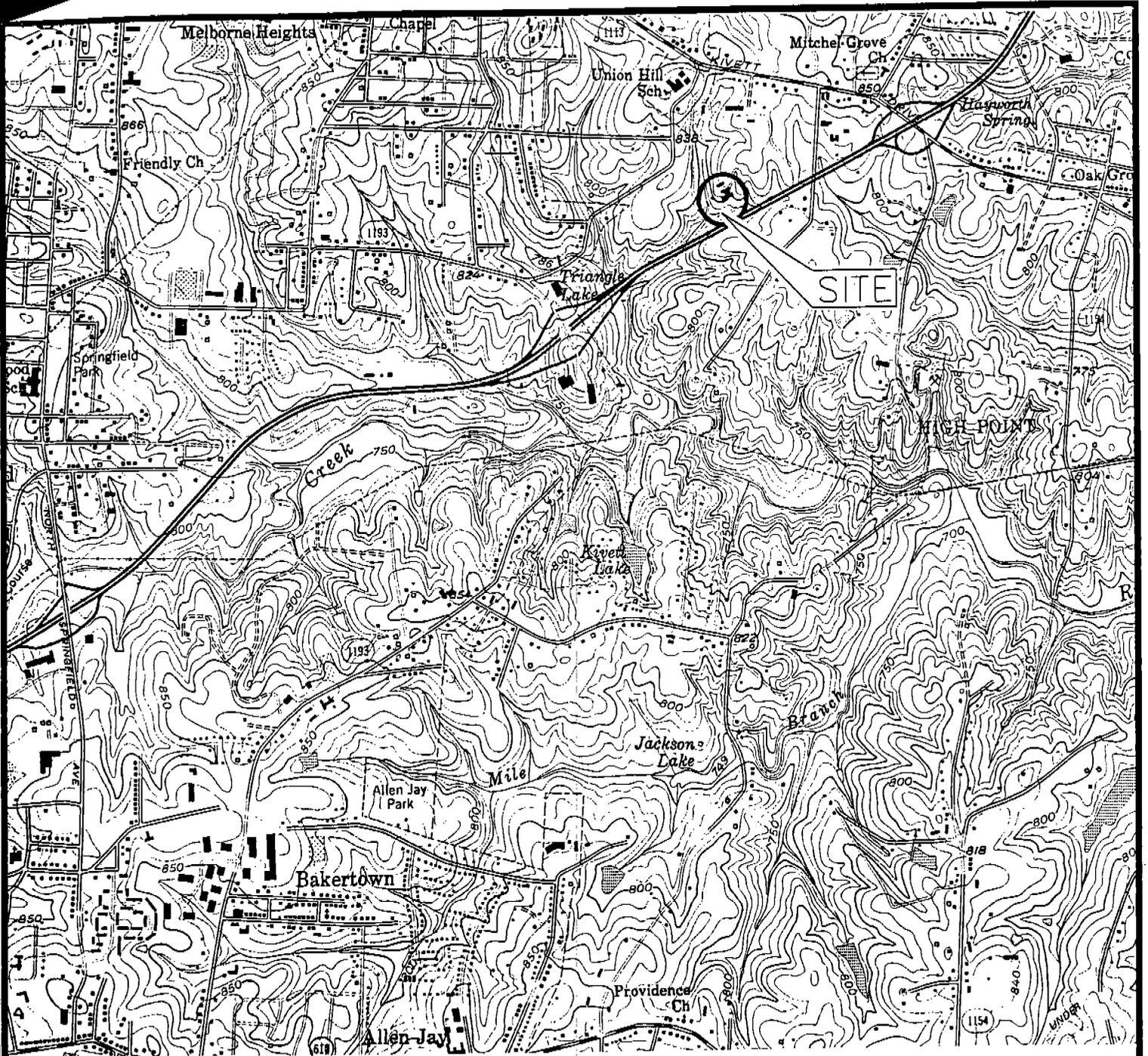
3. Maps depicting analytical results, to include:
 - Orientation of UST(s), pumps, and product lines
 - Sample locations, depths, and identifications
 - Analytical results
 - Final limits of excavation(s)

B. Tables

1. Field screening results
2. Sample identifications with depths and analyses (Included in Table 1)
3. Sample identifications with results and dates that samples were taken (Included in Table 1)

C. Appendices

- Appendix A: Notification of intent to close (GW/UST-3)
- Appendix B: Site Investigation Report for Permanent Closure or Change-in-Service of UST (GW/UST-2)
- Appendix C: Certificate of tank disposal
- Appendix D: Soil, water, sludge disposal manifests
- Appendix E: Complete chain-of-custody records
- Appendix F: Copy of all laboratory analytical records
- Appendix G: Site Sensitivity Evaluation (SSE) (Not Applicable)
- Appendix H: Photographs of Closure Activities (Not Applicable)
- Appendix I: Geologic logs for excavation (Not Applicable)



QUADRANGLE LOCATION

HIGH POINT EAST, N. C.

N3552.5-W7952.5/7.5

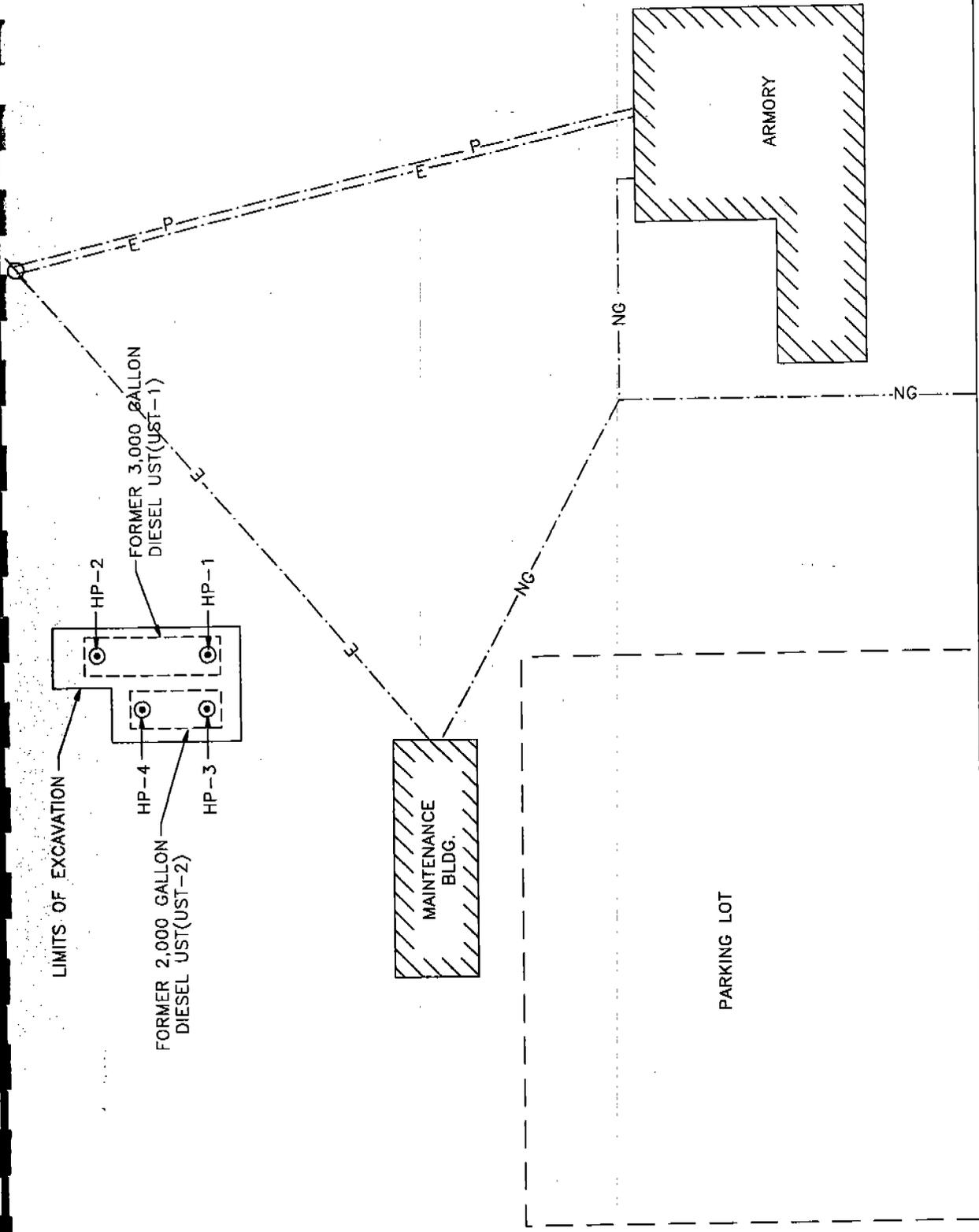
1950
PHOTOREVISED 1982
DMA 5055 IV NW-SERIES V842

SPATCO environmental

FIGURE 1: USGS QUADRANGLE MAP
HIGH POINT NATIONAL GUARD
3515 ARMY DRIVE
HIGH POINT, NORTH CAROLINA

WO #: 9-6043

DATE: 10/12/93
DRAWN BY: JCY



SPATCO Environmental, Inc.

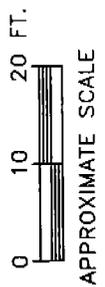
FIGURE 2: SITE MAP
 HIGH POINT NATIONAL GUARD
 3515 ARMORY DR.
 HIGH POINT, NC

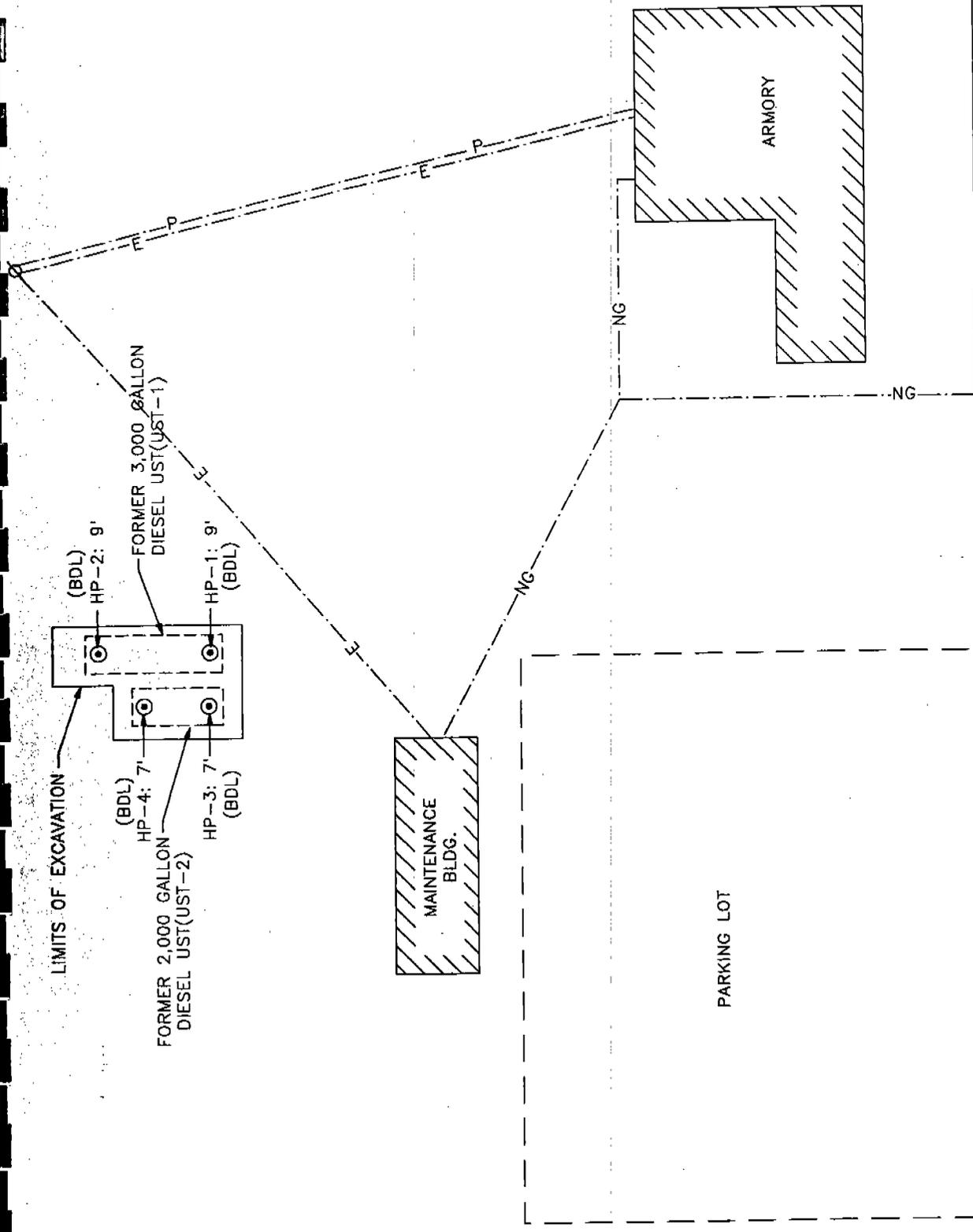
WO #9-6043
 DWG #HP6043F2

DATE: 5/15/95
 DRAWN BY: JCJ

ARMORY DRIVE

- LEGEND:
- ⊙ SOIL SAMPLE LOCATION
 - UTILITY LINES,
 E= ELECTRIC, P= PHONE, NG= NATURAL GAS

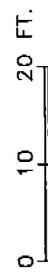




LEGEND:

- ⊙ SOIL SAMPLE LOCATION
- (XXX) LOW BOILING POINT AND HIGH BOILING POINT HYDROCARBON CONCENTRATIONS (ppm)
- BDL= BELOW DETECTION LIMITS
- UTILITY LINES,
E= ELECTRIC, P= PHONE, NG= NATURAL GAS

ARMORY DRIVE



APPROXIMATE SCALE

SPATCO Environmental, Inc.

FIGURE 3: SITE MAP
HIGH POINT NATIONAL GUARD
3515 ARMORY DR.
HIGH POINT, NC

WO #9-6043 DATE: 5/15/95
DWG #HP6043F3 DRAWN BY: JCJ

TABLE 1

Soil Sample Analytical Summary High Point National Guard 3515 Armory Drive High Point, North Carolina SPATCO Project Number 9-6043					
Sample ID	Date Sampled	Depth (feet)	OVA Screening Results (ppm)	EPA Method 3550 Results (mg/kg)	EPA Method 5030 Results (mg/kg)
HP-1	4/6/95	9	10	BDL	BDL
HP-2	4/6/95	9	3	BDL	BDL
HP-3	4/6/95	7	1	BDL	BDL
HP-4	4/6/95	7	1	BDL	BDL
North Carolina DEM Reportable Concentration				40	10

ppm - parts per million
 mg/kg - milligrams per kilogram
 BDL - below detection limits

SPATCO

APPENDIX A

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

FOR TANKS IN NC

Return Completed Form To:
The appropriate DEM Regional Office according to the county of the facility's location. [SEE REVERSE SIDE OF OWNER'S COPY (PINK) FOR REGIONAL OFFICE ADDRESS].

State Use Only
I. D. Number _____
Date Received _____

INSTRUCTIONS

Complete and return thirty (30) days prior to closure or change-in-service.

I. OWNERSHIP OF TANK(S)		II. LOCATION OF TANK(S)	
Tank Owner Name: <u>NC Army National Guard</u> <small>(Corporation, Individual, Public Agency, or Other Entity)</small> Street Address: <u>4105 Reedy Creek Road</u>		Facility Name or Company: <u>OMS #8</u>	
County: <u>Wake</u>		Facility ID # (if available): <u>0-033137</u>	
City: <u>Raleigh</u> State: <u>NC</u> Zip Code: <u>27607-6410</u>		Street Address or State Road: <u>3515 Armory Drive</u>	
Tel. No. (Area Code): <u>919/664-6392</u>		County: <u>Forsyth</u> City: <u>NC</u> Zip Code: <u>27264</u>	
		Tel. No. (Area Code): <u>910/884-5752</u>	

III. CONTACT PERSON

Name: Todd Preddy Job Title: Environmental Projects Coordinator Telephone Number: (919) 664-6392

IV. TANK REMOVAL, CLOSURE IN PLACE, CHANGE-IN-SERVICE

- | | | |
|--|---|---|
| <ol style="list-style-type: none"> Contact Local Fire Marshall. Plan the entire closure event. Conduct Site Soil Assessments. If Removing Tanks or Closing in Place refer to API Publications 2015 "Cleaning Petroleum Storage Tanks" & 1604 "Removal & Disposal of Used | <ol style="list-style-type: none"> Underground Petroleum Storage Tanks". Provide a sketch locating piping, tanks and soil sampling locations. Fill out form GW/UST-2 "Site Investigation Report for Permanent Closure" and return within 30 days following the site investigation. | <ol style="list-style-type: none"> The site assessment portion of the tank closure must be conducted under the supervision of a Professional Engineer or Licensed Geologist. After January 1, 1994, all closure site assessment reports must be signed and sealed by a P.E. or L.G. Keep closure records for 3 years. |
|--|---|---|

V. WORK TO BE PERFORMED BY:

(Contractor) Name: SPATCO
Address: 130 Penmarc Dr., Unit 112 State: NC Zip Code: 27603
Contact: David Broughton Phone: 919/832-2535
Primary Consultant: _____ Phone: _____

VI. TANK(S) SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE

TANK ID#	TANK CAPACITY	LAST CONTENTS	PROPOSED ACTIVITY		
			CLOSURE		CHANGE-IN-SERVICE
			Removal	Abandonment in Place	New Contents Stored
<u>001</u>	<u>2000</u>	<u>Gasoline</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
<u>002</u>	<u>2000</u>	<u>Diesel</u>	<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"/>	

VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

Print name and official title: Todd Preddy Environmental Projects Coordinator *Scheduled Removal Date: April 10, 1995
Signature: Todd Preddy Date Submitted: April 4, 1995

*If scheduled work date changes, notify your appropriate DEM Regional Office 48 hours prior to originally scheduled date.

SPATCO

APPENDIX B

SPATCO

APPENDIX C

SOUTHERN TANK & ENVIRONMENTAL, INC.

CERTIFICATE OF DISPOSAL

FEDERAL/CERTIFICATE # 56-1669418/10211 DATE 4/10/95

CONTRACTOR

SPATCO Environmental, Inc.
130 Penmarc Dr. Suite 112
Raleigh, N.C. 27603

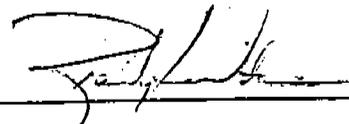
LOCATION

National Guard
3515 Armory Dr
High Point, NC

TYPE OF TANK	SIZE	CONTENT IN GAL.	TANK ID#
<u>UST 3,000 gallon</u>	<u>STD</u>	<u>Less than 1%</u>	<u>STDS-4287</u>
<u>UST 2,000 gallon</u>	<u>STD</u>	<u>Less than 1%</u>	<u>STDS-4288</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

Southern Tank & Environmental, Inc. certifies that the above mentioned tanks have been properly disposed of at 319 Lawyers Rd., Indian Trail, NC, and the contents and sludges processed in full compliance with Local, State and Federal regulations.

Southern Tank & Environmental, Inc.



Randy L. Williams

SPATCO 

APPENDIX D

SPATCO

CERTIFICATE OF DISPOSAL

SPATCO Environmental Services
130 Penmarc Drive, Suite 112
Raleigh, North Carolina 27603
(919) 832-2535

Product Type: Diesel Fuel

Product Type: Diesel Fuel

Amount of Product: 90 gallons

Amount of Product: 300 gallons

Former Tank Location:

NCARNG High Point

3515 Armory Drive

High Point, NC 27264

This is to certify that on April 07, 1995 the above product was transported to Southern Pump and Tank Company, Incorporated and will be disposed of through Petroleum Reclamation.

Certified by: *Dawn Kujat*

Date: 5/17/95

Notarized: *Mary R. Byers*

Date: 5-17-95

(Notary Stamp)

SPATCO ▾

APPENDIX E

SPATCO

APPENDIX F

April 17, 1995

REPORTING:

HydroLogic-Morris., Inc.
2500 Gateway Centre
Suite #900
Morrisville, NC 27560

Attention: Pomeroy Smith

INVOICING:

HydroLogic-Morris., Inc.
2500 Gateway Centre
Suite #900
Morrisville, NC 27560

PROJECT NUMBER: FL956468

DATE COMPLETED: April 17, 1995

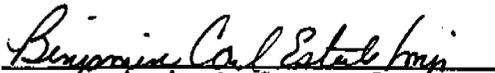
DATE RECEIVED: April 12, 1995

PROJECT DESCRIPTION:

Spatco Env./National Guard High Point #9-6043-4 soil samples analyzed for 3550/5030.

Enclosed is the laboratory report for the project described above. If you have any questions or if we can be of further assistance, please feel free to contact Jamie Fore. We appreciate your business and look forward to serving you again soon.

Respectfully,


Benjamin Carl Esterle
Laboratory Director

COMPANY NAME: HydroLogic-Morris., Inc.
 COMPANY PROJECT NUMBER: Spatco Env./National Guard High Point #9-6043

 HYDROLOGIC PROJECT NUMBER: FL956468
 HYDROLOGIC SAMPLE NUMBER: 956468
 HYDROLOGIC LAB I.D. #: 399
 SAMPLE IDENTIFICATION: HP-1
 DATE SAMPLED: 4/6/95
 DATE EXTRACTED: 4/12/95
 DATE/TIME ANALYZED: 4/17/95 4/14/95

METHOD TPH 3550/5030

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Diesel		1.3	BDL
Gasoline		2.0	BDL

BDL = Below Sample Detection Limit
 SDL = Sample Detection Limit

COMMENTS: _____

H Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
COMPANY PROJECT NUMBER: Spatco Env./National Guard High Point #9-6043
HYDROLOGIC PROJECT NUMBER: FL956468
HYDROLOGIC SAMPLE NUMBER: 956469
HYDROLOGIC LAB I.D. #: 399
SAMPLE IDENTIFICATION: HP-2
DATE SAMPLED: 4/6/95
DATE EXTRACTED: 4/12/95
DATE/TIME ANALYZED: 4/17/95 4/14/95

METHOD TPH 3550/5030

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Diesel		1.3	BDL
Gasoline		2.0	BDL

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

Y D R O L O G I C , I N C .

COMPANY NAME: HydroLogic-Morris., Inc.
 COMPANY PROJECT NUMBER: Spatco Env./National Guard High Point #9-6043
 HYDROLOGIC PROJECT NUMBER: FL956468
 HYDROLOGIC SAMPLE NUMBER: 956470
 HYDROLOGIC LAB I.D. #: 399
 SAMPLE IDENTIFICATION: HP-3
 DATE SAMPLED: 4/6/95
 DATE EXTRACTED: 4/12/95
 DATE/TIME ANALYZED: 4/17/95 4/14/95

METHOD TPH 3550/5030

<u>ANALYSIS</u>	<u>CAS NO.</u>	<u>SDL</u> (mg/kg)	<u>RESULT</u> (mg/kg)
Diesel		1.2	BDL
Gasoline		2.0	BDL

BDL = Below Sample Detection Limit
 SDL = Sample Detection Limit

COMMENTS: _____