

## **ORPHAN UNDERGROUND STORAGE TANK CLOSURE REPORT**

**Parcel 173, 1551 Piney Green Road  
Onslow County, North Carolina  
State Project U-3810  
WBS Element # 35801.1.1**

North Carolina Department of Transportation  
Geotechnical Engineering Unit  
1589 Mail Service Center  
Raleigh, North Carolina 27699-1589

January 18, 2012

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CLOSURE REPORT**

**Parcel 173, 1551 Piney Green Road  
Onslow County, North Carolina  
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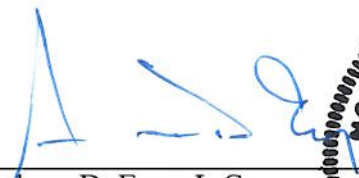
Appendices

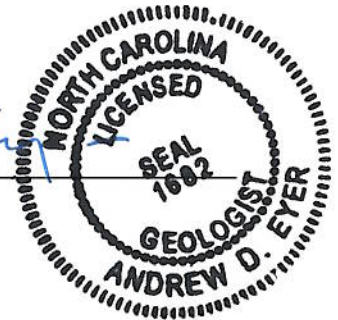
- I Photographs
- II Copies of Manifests

## Signature Page

This document, entitled "Orphan Underground Storage Tank Closure Report," has been prepared for the North Carolina Department of Transportation-Geotechnical Engineering Unit-GeoEnvironmental Section. It has been prepared by Mr. Andrew D. Eyer, L.G. as a supplemental task for State Project U-3810, WBS Element No. 35801.1.1, and is intended for the exclusive use of the North Carolina Department of Transportation.

GEL ENGINEERING OF NC, INC.  
*an Affiliate of The GEL Group, Inc.*

  
\_\_\_\_\_  
Andrew D. Eyer, L.G.  
Senior Project Manager



01-18-12

\_\_\_\_\_  
Date

# **ORPHAN UNDERGROUND STORAGE TANK CLOSURE REPORT**

**Parcel 173, 1551 Piney Green Road  
Onslow County, North Carolina  
State Project U-3810, WBS Element No. 35801.1.1**

## Executive Summary

On November 9, 2011, GEL Engineering of NC, Inc. (GEL) supervised the removal of one orphan underground storage tank (UST) located at 1551 Piney Green Road in Onslow County, North Carolina at the request of the North Carolina Department of Transportation (NCDOT). The UST was a heating oil tank used by the former residence at the site. The tank was approximately 550 gallons in capacity. Approximately 91 gallons of a heating oil/water mixture (almost all water) was removed from the UST prior to removal. The UST was removed and disposed off site at D. H. Griffin Scrap Metals in Greensboro, North Carolina. No stained soil, measureable organic vapors, or petroleum odors were observed during the removal of the UST.

Since heating oil USTs are non-regulated USTs under the North Carolina Department of Environment and Natural resources (NCDENR) UST Regulations, and because there was no evidence that there had been a release from the UST, no closure soil samples were collected and there was no overexcavation of soil performed. GEL has concluded that there has been no impact to soil or potential impact to groundwater resulting from a release from the former UST, and no further action is recommended.

# ORPHAN UNDERGROUND STORAGE TANK CLOSURE REPORT

**6355 Ramsey Street  
Fayetteville, North Carolina  
State Project X-0002CB, WBS Element No. 35196.3.20  
Cumberland County**

## **1.0 General Information**

### 1.1 Facility Information

The site is located at 1551 Piney Green Road (SR 1406) in Onslow County, North Carolina. Figure 1 is a site location map. Figure 2 shows site layout and the location of the former heating oil underground storage tank (UST). The site was a former residence that was demolished in October 2011. During the demolition activities, the North Carolina Department of Transportation (NCDOT) demolition contractor notified NCDOT that a heating oil UST had been observed during demolition of the onsite structure. NCDOT requested GEL Engineering of NC, Inc. (GEL) to properly remove and dispose the UST

### 1.2 Contacts

The following is a list of relevant contacts related to this project:

Primary Contact:	Mr. Terry Fox, L.G. NCDOT-Geotechnical Engineering Unit 1589 Mail Service Center Raleigh, NC 27699-1589
Closure Contractor:	Mr. Tim Parker A & D Environmental Services, Inc. Post Office Box 484 High Point, NC 27261 (336) 434-7750
Primary Consultant:	Mr. Andrew D. Eyer, L.G. GEL Engineering of NC, Inc. P.O. Box 14262 Research Triangle Park, North Carolina 27709 (919) 323-8828

### 1.3 Project Background

GEL Engineering of NC, Inc. (GEL) was contacted by NCDOT on October 25, 2011, with a request to remove one orphan heating oil UST that had been observed by NCDOT's demolition contractor while demolishing the residence at Parcel 173, 1551 Piney Green Road in Onslow County, North Carolina. GEL was authorized to proceed with the UST removal on October 25, 2011.

### 1.4 Site Characteristics

The site is located at the intersection near the intersection of Piney Green Road and Victoria Road in Onslow County, North Carolina, as shown on Figure 1, excerpt from the USGS 7.5-minute Quadrangle for Camp Lejeune, North Carolina.

Parcel 173 is in a developed area in Onslow County, North Carolina. Surrounding land uses include residential and commercial activities. The site is located approximately 6 miles east of the center of Jacksonville, North Carolina. This area is located in the Coastal Plain physiographic province of North Carolina. The land surface of the area is characterized by nearly level, and gently sloping, well drained soils. Coastal Plain geology in the vicinity of the site is characterized by undifferentiated post-Miocene interbedded sand and clay terrace deposits overlain by aqueous and aeolian deposits of marine and non-marine origin (USGS, 1955).

The United States Department of Agriculture's *Soil Survey of Onslow County, North Carolina* (1992) maps the area as Goldsboro-Urban Land Complex (GpB), typically composed of fine sandy loam grading to sandy clay loam with depth. The soils encountered at the site during the preliminary site assessment consisted predominantly of orange/brown/tan sandy silt and sandy clay to a depth of 4 feet below land surface (bls).

Water encountered at the bottom of the UST excavation during removal was most likely perched water resulting from recent rainfall. Based on the results of preliminary site assessments conducted within 1000 feet of the site in 2010, the water table in the vicinity of the site is encountered at approximately 7 to 8 feet bls. Based on the USGS topographic map presented as Figure 1, the site is located approximately 30 feet above mean sea level (MSL). The topography in Figure 1 indicates that groundwater in the vicinity of Parcel 173 most likely flows in a southerly direction towards Little Northeast Creek.

## 2.0 Closure Procedures

### 2.1 Pre-Closure Activities

Since heating oil USTs are non-regulated USTs, the North Carolina Department of Environment and Natural Resources (NCDENR) was not notified of the planned closure of the UST at Parcel 173. The City of Jacksonville Fire Marshal stated that a UST removal permit issued by his office was not required because the property is located outside of the city limits of Jacksonville.

### 2.2 Closure of Heating Oil UST

The heating oil UST was discovered in October 2011 by NCDOT's contractor during the demolition of the residence at the site. It was located adjacent to a concrete slab near the north corner of the former foundation of the residence. On November 9, 2011, Andrew Eyer, L.G. of GEL proceeded to the site to supervise the removal of the UST. Tank removal operations were performed by A & D Environmental Services, Inc. (A & D) of High Point, North Carolina. Photographs of the UST removal operations are shown in Appendix I.

The UST had an approximate capacity of 550 gallons. Its dimensions were 3 feet in diameter and 5 feet in length. Approximately 91 gallons of a heating oil/water mixture (almost all water) was removed with a vacuum truck prior to UST's removal, as shown in Photograph 1 in Appendix I. Appendix II includes a copy of the disposal manifest for the liquid.

The UST was removed, cleaned of overburden soil, and loaded onto a trailer for off-site disposal. The UST was constructed of steel. No holes or pitting were observed in the tank surface. No piping was encountered during the removal of the UST.

Neither stained soil nor petroleum odors were observed in the UST excavation after the UST was removed. In addition, no measureable levels of organic vapors were observed in grab samples of soil collected near the bottom of the excavation using a photoionization detector (PID). Therefore, no additional excavation was performed at the location. Perched water from recent rainfalls was observed in the bottom of the excavation, but there was no evidence of a petroleum sheen.

The UST excavation was backfilled by A&D with clean fill material from an offsite source, then compacted using the backhoe. The removed UST was transported off site by A & D and ultimately disposed at D.H. Griffin Recycling in Greensboro, North Carolina. Appendix II includes a copy of the disposal manifest for the UST.

### **3.0 Conclusions and Recommendations**

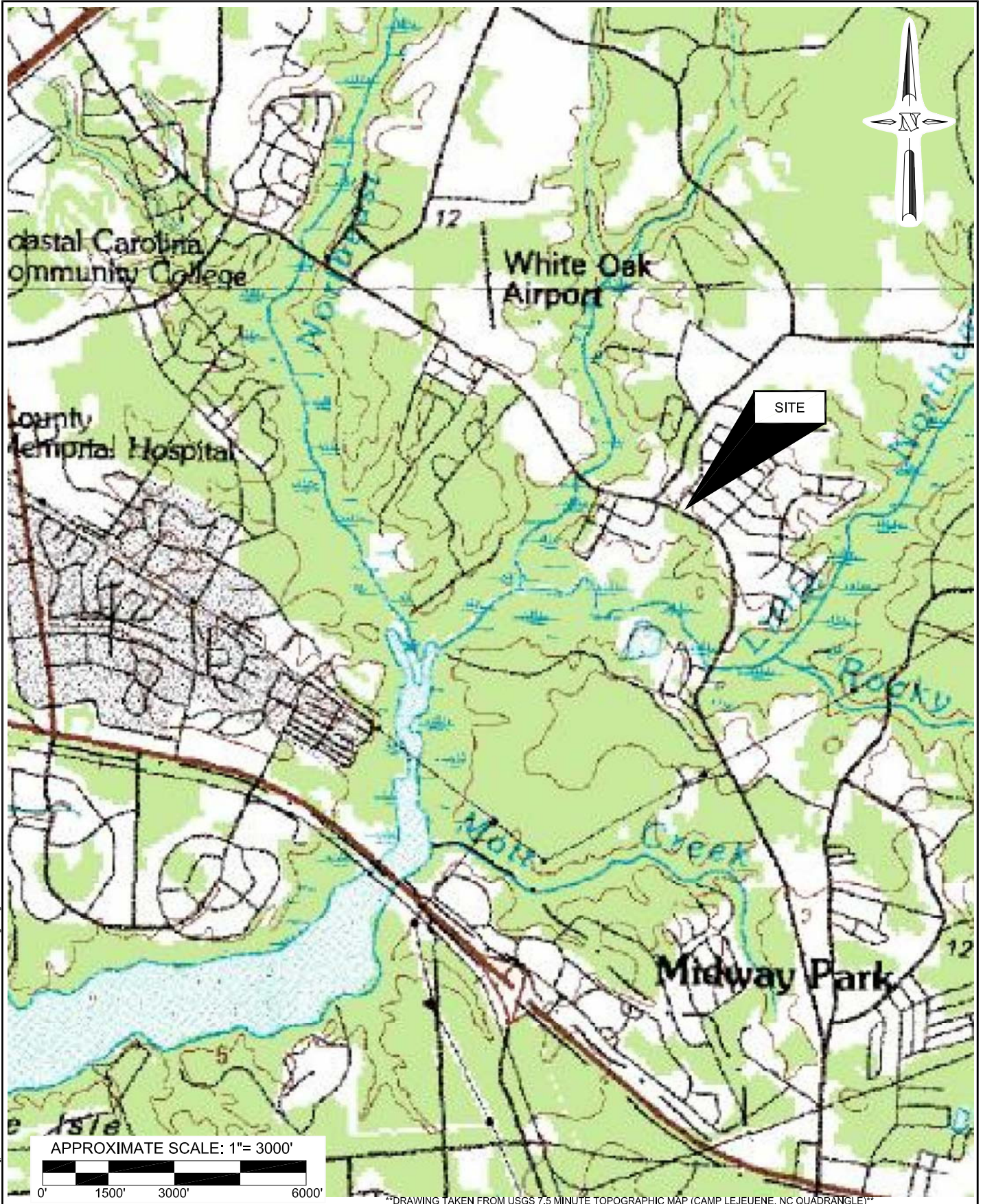
On November 9, 2011, GEL supervised the removal of one abandoned orphan heating oil UST discovered at 1551 Piney Green Road in Onslow County, North Carolina. The UST was used to provide heating oil for the former residence at the site. The tank was approximately 550 gallons in capacity.

The UST was removed and disposed off site at D.H. Griffin Recycling in Greensboro, North Carolina. No stained soil was observed in the excavation of the UST, and no petroleum odors, measureable organic vapors, or petroleum sheens were observed.

Based on the absence of any evidence of soil or potential groundwater impact from a release from the UST, no further action is recommended.



## **FIGURES**



PLOTTED: Jan 11, 2012 - 3:35pm BY: tjp FILE LOCATION: G:\P\N\ncet\ncet0071\ncet0071\Fig\ldwg\_LAYOUT TAB: 173



**Engineering of NC Inc.**

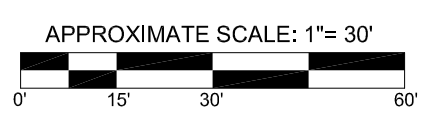
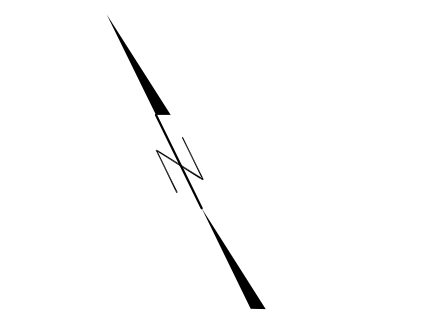
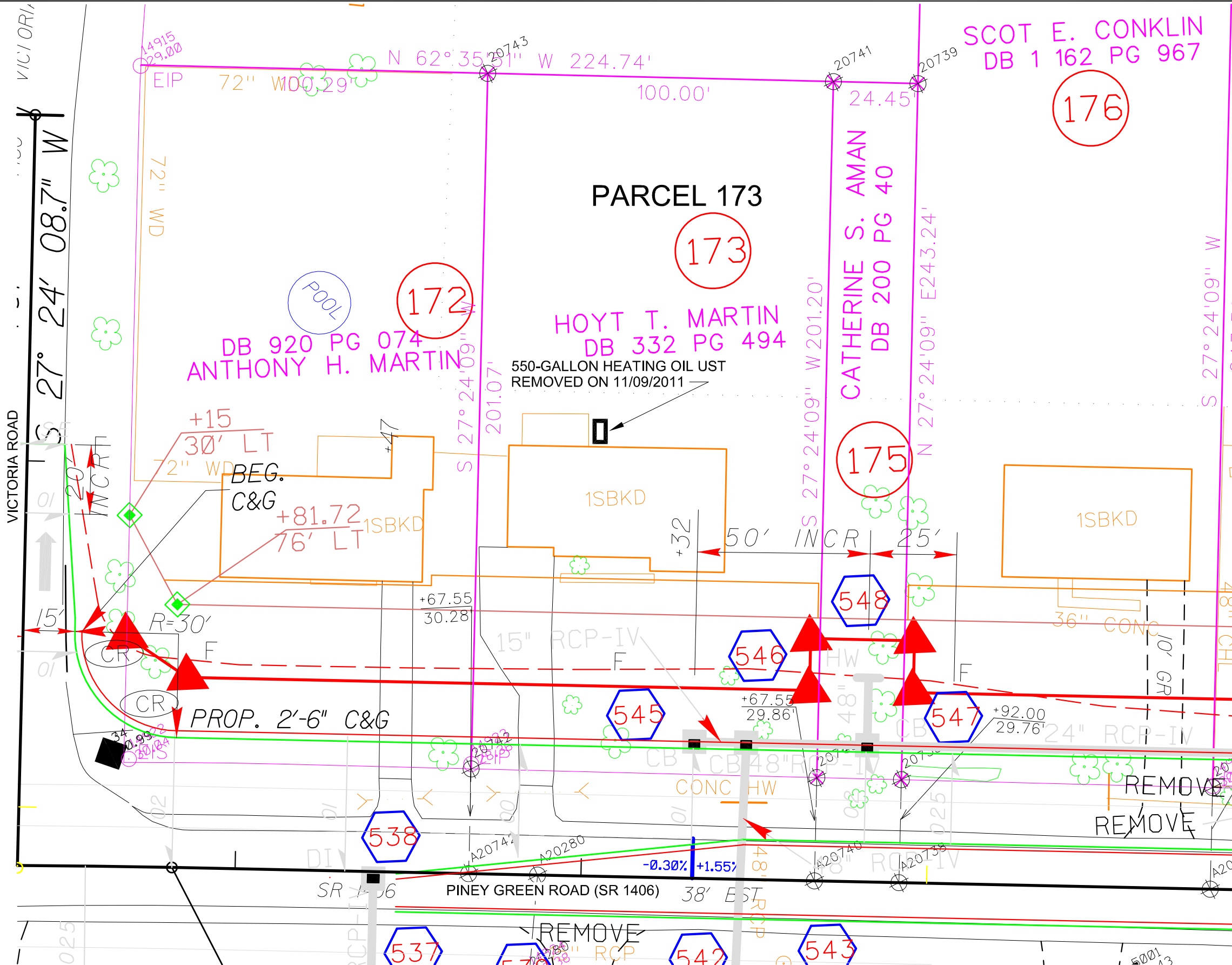
an Affiliate of THE GEL GROUP INC

Post Office Box 14262  
 Research Triangle Park, NC 27709  
 P 919-544-1100  
 F 919-406-1807  
 www.gel.com

problem solved

PROJECT: ncd100711	HEATING OIL UST CLOSURE REPORT PARCEL 173, 1551 PINEY GREEN ROAD ONSLOW COUNTY, NORTH CAROLINA STATE PROJECT U-3810, WBS# 35801.1.1	USGS TOPOGRAPHIC LOCATION MAP	FIGURE 1
DATE: January 3, 2012	DRAWN BY: TJP	APPRV. BY: ADE	

PLOTTED: Jan 18, 2012 - 10:23am By: t.jp FILE LOCATION: G:\P\N\ncdt\ncdt00711\03810\_rdy\_parcel173.dwg LAYOUT: TAB: 173 Fig2



**GEL** Engineering of NC Inc.  
 an Affiliate of THE GEL GROUP INC

Post Office Box 14262  
 Research Triangle Park, NC 27709  
 P 919-544-1100  
 F 919-406-1807  
 www.gel.com

PROJECT: ncdt00711  
 HEATING OIL UST CLOSURE REPORT  
 PARCEL 173, 1551 PINEY GREEN ROAD  
 ONSLOW COUNTY, NORTH CAROLINA  
 STATE PROJECT U-3810, WBS# 35801.1.1  
 DATE: January 16, 2012

SITE MAP SHOWING LOCATION OF  
 FORMER HEATING OIL UST  
 DRAWN BY: TJP  
 APPRV. BY: ADE

FIGURE  
 2

problem solved

**APPENDIX I**  
**PHOTOGRAPHS**



Photograph 1: Withdrawal of UST contents through hole created by contractor prior to UST removal.



Photograph 2: View looking east at heating oil UST following removal.



Photograph 3: View looking south at UST excavation following backfilling and compaction.

**APPENDIX II**  
**COPIES OF MANIFESTS**



# A&D Environmental Services

# Bill of Lading / Material Manifest

A&D Job No: 17708 Generator ID Number: \_\_\_\_\_ Page 1 of \_\_\_\_\_ Emergency Response Phone: **800-434-7750** Tracking Number: **15405**

Generator's Name and Mailing Address: NCDOT 1551 Pinney Grove Rd, Jacksonville 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 NCD98623221	<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 liquids N.O.S</u> <u>Petroleum water</u>	<u>1</u>	<u>77</u>	<u>91</u>	<u>G</u>	

Petroleum Products for Recycle		No.	Type	QTY	Wt/Vol	Profile Number
X	NA1993, Diesel fuel, 3, III		ERG# 128			
X	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III		ERG# 128			
X	UN1203, Gasoline, 3, II		ERG# 128			
X	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
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III	ERG# 172 Mercury Containing Articles	
X					RQ, UN2809, Mercury, 8, III	ERG# 172 Mercury	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	ERG# 171 TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III	ERG# 154 Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III	ERG# 154 Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III	ERG# 154 Wet NiCad Batteries	
X					UN3090, Lithium batteries, 9, II	ERG# 138 Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	ERG# 154 Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	ERG# 154 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/Offor's Printed/Typed Name <u>ANDREW EYER (FOR NCDOT)</u>	Signature <u>[Signature]</u>	Month <u>11</u>	Day <u>9</u>	Year <u>11</u>
Transporter 1 Printed/Typed Name <u>Redney Robinson</u>	Signature <u>[Signature]</u>	Month <u>11</u>	Day <u>9</u>	Year <u>11</u>
Transporter 2 Printed/Typed Name	Signature	Month	Day	Year

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	Signature	Month	Day	Year
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# 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 NC DOT  
ISSI Piny Green Rd  
Jacksonville NC

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>
<u>1</u>	<u>550</u>	<u>#2 Fuel oil</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.

ANDREW E. FR (FOR NCDOT) [Signature] 11/9/11  
 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 Reinertsen [Signature] 11-9-11  
 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: \_\_\_\_\_

\_\_\_\_\_  
 Printed/Typed Name Signature Month/Day/Year