GEL Engineering of NC INC
an affiliate of The GEL Group INC
problem solved

HYDRAULIC LIFT AND HYDRAULIC FLUID UNDERGROUND STORAGE TANK CLOSURE REPORT

1381 Piney Green Road, Parcel #149
TIP # U-3810, WBS Element #35801.1.1
Onslow County

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

February 24, 2012

PO Box 14262, Research Triangle Park, NC 27709 5611 NC Hwy. 55, Durham, NC 27312 P 919.544.1100 F 919.237.9177 www.gel.com

HYDRAULIC LIFT AND HYDRULIC FLUID
UNDERGROUND STORAGE TANK CLOSURE REPORT

1381 Piney Green Road, Parcel 149
TIP # U-3810, WBS Element # 34799.3.2
Onslow County

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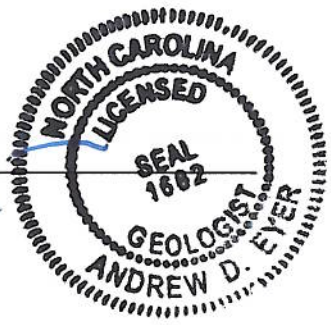
Signature Page

This document, entitled *Hydraulic Lift and Hydraulic Fluid 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. for the exclusive use of the North Carolina Department of Transportation. It has been prepared in accordance with accepted quality control practices and has been reviewed by the undersigned.

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



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

02-24-12

Date

HYDRAULIC LIFT AND HYDRULIC FLUID
UNDERGROUND STORAGE TANK CLOSURE REPORT

1381 Piney Green Road, Parcel 149
TIP # U-3810, WBS Element # 34799.3.2
Onslow County

Executive Summary

On January 12-13, 2012, GEL supervised the removal and closure of two hydraulic fluid USTs and three hydraulic lifts from the location of a demolished auto repair facility (Piney Road Tire & Auto) at 1381 Pine Green Road in Onslow County, North Carolina. Since neither the USTs nor the three lifts were regulated USTs, there was no requirement for closure in accordance with North Carolina Department of Environment and Natural Resources (NCDENR) UST closure regulations.

The two USTs and two of the hydraulic lifts (Lift 1 and Lift 2) did not indicate any evidence of a release, and all four units were undamaged. Therefore, no soil samples were collected for analysis. Stained soil was observed surrounding the top of the Lift 3 in-ground cylinder, so all visibly stained soil (approximately 12 tons) was removed and transported to a North Carolina licensed offsite facility for disposal. Soil samples were collected from the four sidewalls and bottom of the excavation and analyzed for diesel range organics (DRO).

The detected DRO concentrations in all five confirmation soil samples exceed the NCDENR action level of 10 milligrams per kilogram (mg/kg). Therefore, impacted soil remains in the former location of Lift 3, based on the detected DRO concentrations. It is our understanding that this area will undergo construction as part of NCDOT's planned right-of-way expansion. GEL recommends that remaining impacted soil in the vicinity of the former location of Lift 3 be removed at that time, and that confirmation samples be collected for analysis of DRO to confirm removal of the impacted soil.

HYDRAULIC LIFT AND HYDRULIC FLUID
UNDERGROUND STORAGE TANK CLOSURE REPORT

1381 Piney Green Road, Parcel 149
TIP # U-3810, WBS Element # 34799.3.2
Onslow County

1.0 INTRODUCTION

An abandoned structure located on the property at 1381 Piney Green Road (Parcel 149) in Onslow County, North Carolina (formerly Piney Green Tire & Auto, as shown in Photograph 1 in Appendix I) was being demolished by the North Carolina Department of Transportation's (NCDOT's) contractor in November 2011 as part of NCDOT's planned widening of Piney Green Road. The contractor encountered three in-ground hydraulic lifts during the demolition. Two of the lifts (Lift 1 and Lift 2) appeared to have been used when the facility was in operation, and the third lift (Lift 3) was an older, single cylinder lift that had apparently been abandoned and plugged. The three lifts are shown in Photograph 2. Following the removal of the structure, GEL Engineering of NC, Inc. (GEL) was requested by NCDOT to remove the three hydraulic lifts and a hydraulic fluid underground storage (UST) that was suspected to be present near the lifts.

1.1 Project Background

Prior to the hydraulic lift and UST removal activities at the site, GEL contacted the Wilmington Regional Office of the North Carolina Department of Environment and Natural Resources (NCDENR) to inquire about procedures to follow in closing a hydraulic fluid UST. NCDENR stated that hydraulic fluid USTs are non-regulated USTs and, therefore, not required to be closed in accordance with NCDENR UST closure regulations. However, if evidence of a release from the UST is observed, NCDENR indicated that soil surrounding the UST must be overexcavated and confirmation soil samples must be collected for analysis of diesel range organics (DRO).

As discussed in Section 1.4 below, two hydraulic fluid USTs were removed from the site by GEL's subcontractor, and there was no evidence of a release from either UST or its piping. Two of the hydraulic lifts (Lift 1 and Lift 2) were removed, and they also

showed no evidence of a release. However, soil staining was observed beneath the pad of Lift 3, surrounding lift's subsurface cylinder, near the top of the cylinder.

GEL notified NCDENR's Wilmington Regional Office of the observed release and actions taken to address the release. NCDENR requested GEL to submit a report to NCDENR's UST Section at the Wilmington Regional Office summarizing the lift removal and soil remediation activities.

1.2 Site Characteristics

The former lifts and hydraulic fluid USTs at the site were located wholly within the NCDOT newly acquired right-of-way (ROW) at Parcel 149, along the north side of Piney Green Road in Onslow County, North Carolina, as shown on Figure 1, an excerpt from the USGS 7.5-minute Quadrangles for Kellum and Camp Lejeune, North Carolina.

The site is in an unincorporated, developed area in Onslow County. Surrounding land uses consist primarily of light commercial development and single family and residences. Based on Figure 1, the elevation of the site is approximately 20 feet above mean sea level (MSL).

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, and Craven Fine Sandy Loam (CrC), which is typically composed of fine sandy loam interstratified with clay. The soils encountered at the site during the hydraulic lift and hydraulic fluid UST closures consisted predominantly of tan/orange/brown clayey, silty sand and sandy clay to depths of 6 feet below land surface (bls).

Based on Figure 1, the elevation of the site is approximately 20 feet above mean sea level (MSL). The nearest perennial surface water body to the site is an unnamed tributary of Little Northeast Creek, which is located approximately 500 feet northwest of the site. Based on the topographic map in Figure 1, the groundwater flow direction underlying the area in the vicinity of the site is most likely northwesterly towards the unnamed tributary of Northeast Creek.

2.0 CLOSURE ACTIVITIES

Hydraulic fluid USTs #001 and #002 were removed from the locations shown in Figure 2 and in Photograph 2 on January 12, 2012. The exposed tops of both tanks were identified during GEL's reconnaissance of the area in the vicinity of Lifts 1, 2, and 3 (see Photograph 3). Each UST was approximately 5 feet long and 1.2 feet in diameter (40-gallon capacity), and constructed of metal encased with fiberglass, as shown in Photograph 4. Prior to removal of the USTs, approximately 15 gallons of a hydraulic fluid/water mixture was removed from each tank using a vacuum truck. No indications of a release or damage to either UST were noted when they were removed. Therefore, no soil samples were collected for analysis.

Lift 1 and Lift 2 were removed from the locations shown in Figure 2 and Photograph 2 on January 12, 2012. Each lift consisted of two in-ground, enclosed steel telescoping cylinders, approximately 8 feet long (collapsed) and 1 foot in diameter (see Photograph 5). Prior to removal of Lift 1 and Lift 2, a total of approximately 140 gallons of a hydraulic fluid/water mixture was removed from the four cylinders using a vacuum truck, as shown in Photograph 5. No indications of a release or damage to the cylinders for either hydraulic lift were noted when they were removed. Therefore, no soil samples were collected for analysis.

Lift 3 (see Photographs 6 and 7) was an in-ground, enclosed steel, single telescoping cylinder that was plugged at the surface of the cylinder and probably no longer in use when the facility was operating prior to demolition. It was approximately 8 feet long and 1 foot in diameter. Prior to removal of Lift 3, approximately 20 gallons of hydraulic fluid was removed from the cylinder using a vacuum truck. Stained soil was

observed near the top of the cylinder as it was being excavated, as shown in Photograph 7. However, there were no indications of damage or leaks from the cylinder. All visibly stained soil was excavated to a depth of approximately 4 feet below land surface and loaded onto a dump truck for offsite disposal.

2.1 Offsite Disposal of Removed Lifts and USTs, Residual Liquids, and Excavated Soil

Following their removal, Lifts 1, 2, and 3, and USTs #001 and #002 were transported to A&D Environmental's facility in High Point, North Carolina for recycling. A copy of the manifest for the lifts and USTs is provided in Appendix II.

A total of 187 gallons of hydraulic fluid and water was removed from UST#001, UST #002, and Lifts 1, 2, and 3 using a vacuum truck. The liquids were transported to A&D Environmental's facility in High Point, North Carolina for disposal. A copy of the manifest for the residual liquids disposal is provided in Appendix II.

A total of 11.88 tons of impacted soil was excavated during removal of Lift 3 and disposed off site. The soil was transported to Oak Hill Farms in Autryville, North Carolina for disposal by A&D Environmental. A copy of the manifest for the soil disposal is provided in Appendix II.

2.2 Soil Sampling and Analysis

A sample of the stained soil excavated during the removal of Lift 3 was collected on January 12, 2012, and analyzed by SGS Laboratories in Wilmington, North Carolina for diesel range organics (DRO) using EPA Method 3550. In addition, soil samples were collected from each sidewall and the bottom of the excavation on January 13, 2012, following the removal of all visibly stained soil. All five samples were analyzed for DRO by EPA Method 3550.

The analytical results for the analyzed soil samples are provided in Appendix III. DRO was detected at a concentration of 25,400 milligrams per kilogram (mg/kg) in the sample of stained soil ("Stockpile") collected from excavated soil removed from Lift 3.

DRO was detected in the post-excavation soil samples collected from the Lift 3 excavation at the following concentrations:

Soil Sample ID	Concentration (mg/kg)
S-1 (bottom of excavation)	129
S-2 (north sidewall)	102
S-3 (east sidewall)	135
S-4 (south sidewall)	66.3
S-5 (west sidewall)	141

3.0 CONCLUSIONS AND RECOMMENDATIONS

On January 12-13, 2012, GEL supervised the removal and closure of two hydraulic fluid USTs and three hydraulic lifts from the location of a demolished auto repair facility (Piney Road Tire & Auto) at 1381 Pine Green Road in Onslow County, North Carolina. Since neither the USTs nor the three lifts were regulated USTs, there was no requirement for closure in accordance with NCDENR UST closure regulations.

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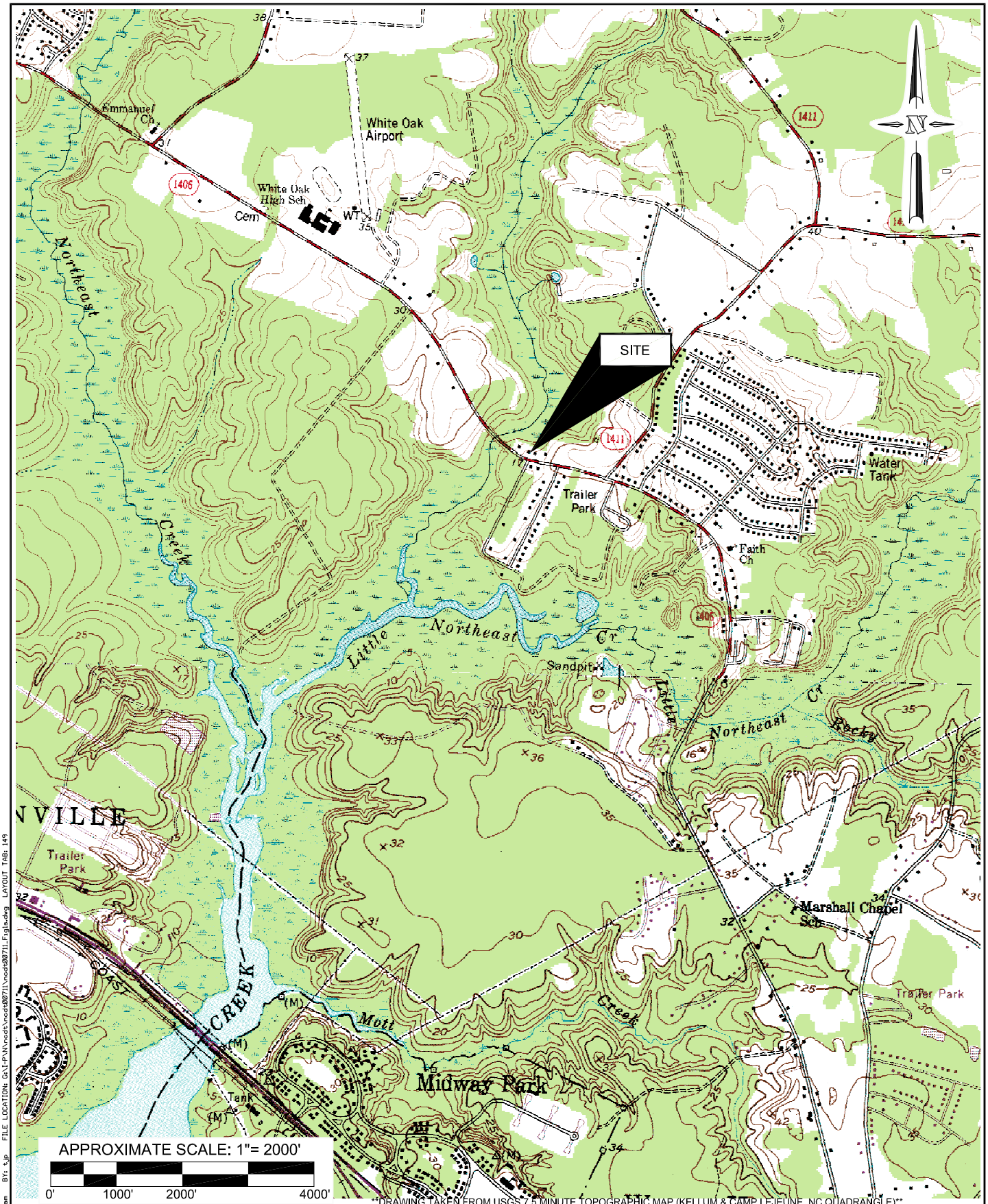
FIGURES



DRAWING TAKEN FROM USGS 7.5 MINUTE TOPOGRAPHIC MAP (KELLUM & CAMP LEJEUNE, NC QUADRANGLE)

PLOTTED: Feb 21, 2012 - 8:29am BY: tJP FILE LOCATION: G:\1-PVN\ncdt\ncdt00711\ncdt00071LFigIs.dwg LAYOUT TAB: 149

GEL Engineering of NC Inc.
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Research Triangle Park, NC 27709
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F 919-406-1807
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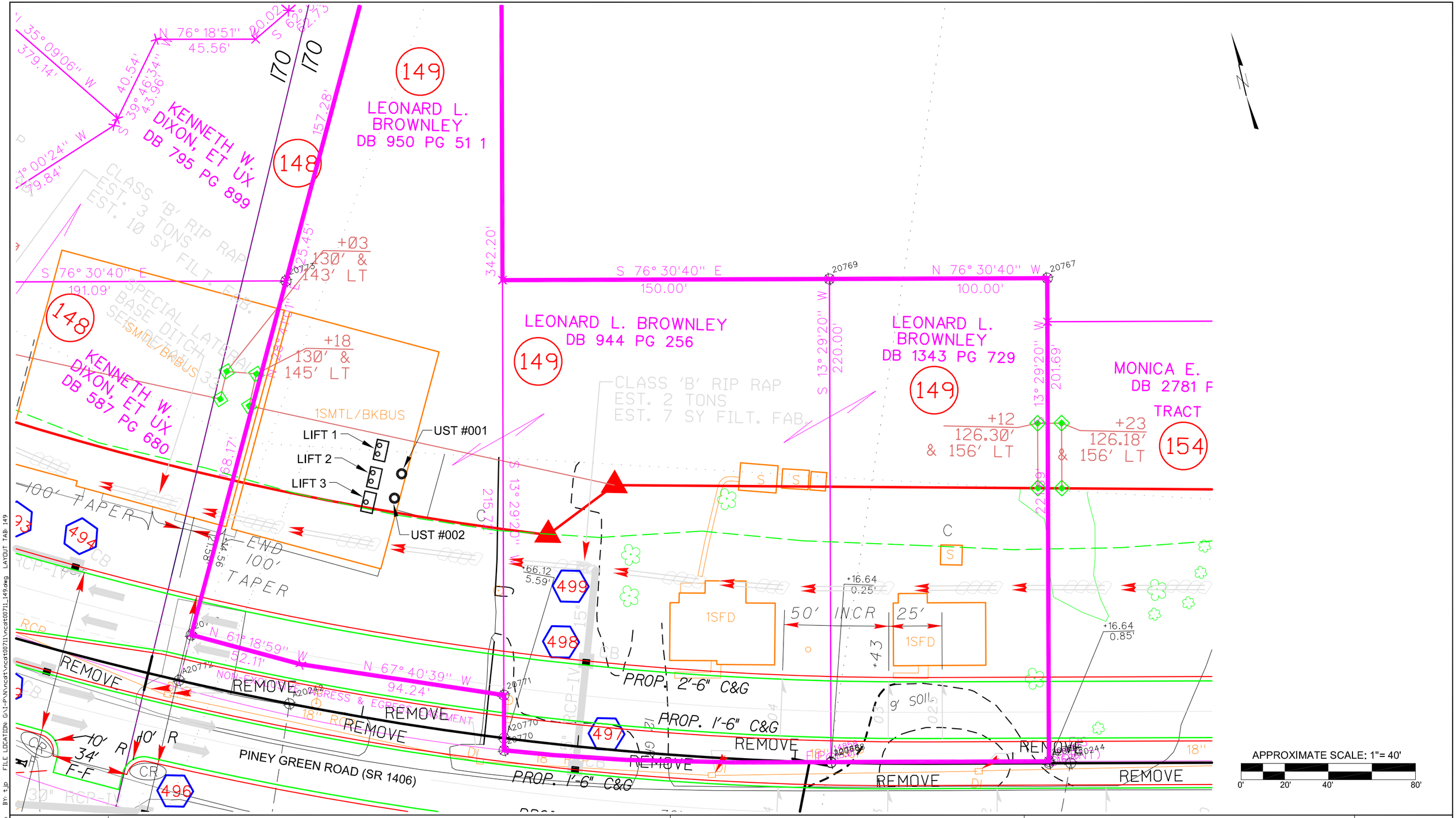
PROJECT: ncdt00711		
HYDRAULIC LIFT AND HYDRAULIC FLUID UST CLOSURE REPORT 1381 PINEY GREEN ROAD, PARCEL 149 ONSLOW COUNTY, NORTH CAROLINA STATE PROJECT U-3810, WBS #35801.1.1	USGS TOPOGRAPHIC LOCATION MAP	FIGURE 1
DATE: February 20, 2012	DRAWN BY: TJP / APPRV. BY: ADE	



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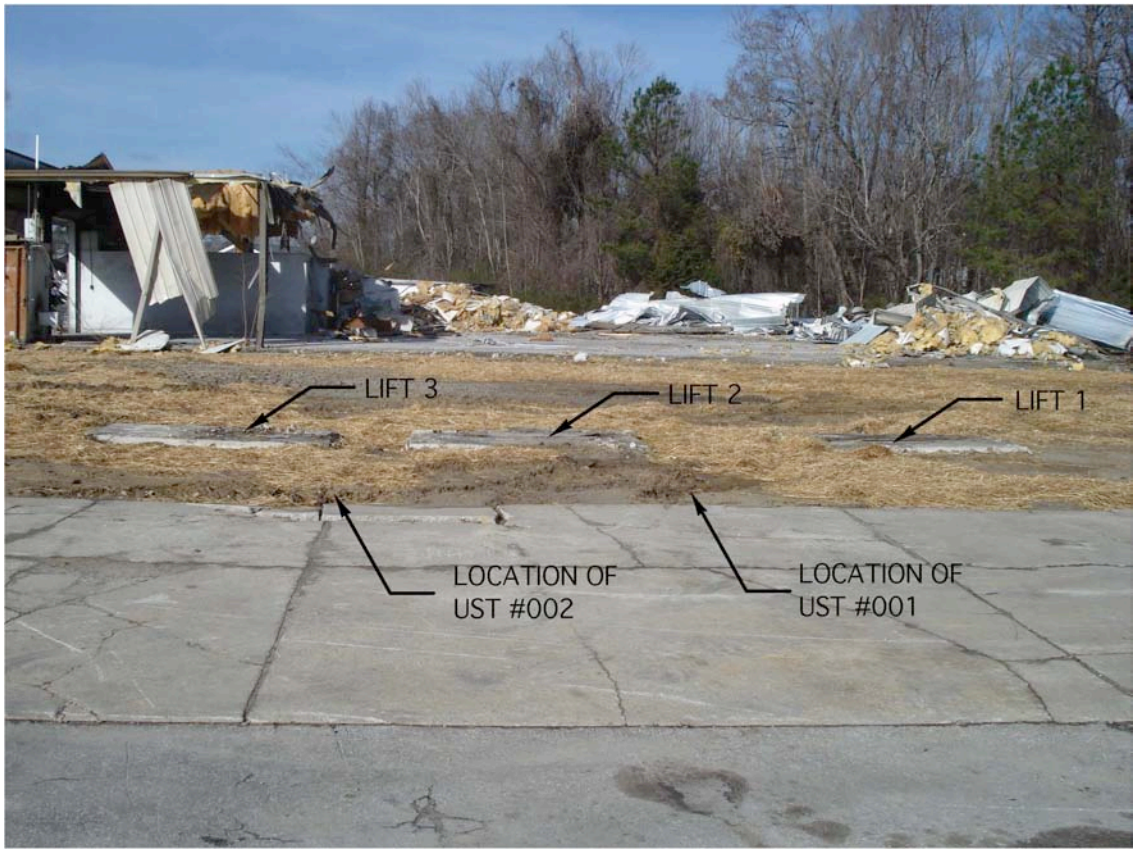
HYDRAULIC LIFT AND HYDRAULIC FLUID UST CLOSURE REPORT 1381 PINEY GREEN ROAD, PARCEL 149 ONSLOW COUNTY, NORTH CAROLINA STATE PROJECT U-3810, WBS #35801.1.1	SITE MAP SHOWING LOCATIONS OF HYDRAULIC LIFTS AND HYDRAULIC FLUID USTS REMOVED ON JANUARY 12-13, 2012	FIGURE 2
DATE: February 21, 2012	DRAWN BY: TJP APPRV. BY: ADE	

PLOTTED: Feb 22, 2012 - 2:48pm BY: tjp FILE LOCATION: G:\-PVN\ncdt\ncdt00711\ncdt00711_149.dwg LAYOUT TAB: 149

APPENDIX I

PHOTOGRAPHS

Photograph 1: View looking northwest at Parcel 149 in November 2010 when facility was in operation.



Photograph 2: View looking west at hydraulic Lift 1, Lift 2, and Lift 3, and locations of hydraulic fluid USTs #001 and #002 prior to removal and after demolition of Piney Green Tire & Auto building.

Photograph 3: View looking northeast at UST #001 prior to removal.

Photograph 4: View looking northwest at UST #002 during removal.

Photograph 5: View looking north at removal of liquid contents in one of two cylinders in Lift 1.

Photograph 6: View looking down at Lift 3 prior to removal.

Photograph 7: View looking northwest at Lift 3 during removal. Sidewalls show stained soil.

Photograph 8: View looking north at backfilled and compacted hydraulic lift and hydraulic fluid UST removal area.

APPENDIX II

Manifests

A&D 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 N.C. DOT
1381 Piney Green Rd.
Jacksonville, N.C.

2) **Tank Owner/Authorized Representative:** Contact _____
Phone#: _____

3) **Description Of Tanks:**

Tank No.	Capacity	Previous Contents	Comments
1	150gal	Hydraulic oil	
2	150 gal	Hydraulic oil	

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 Eyer for NCDOT — 01/13/12
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.

Guy Summers — Guy Summers — 011312
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: A+D Environmental

Eric D. McManus — E. D. McManus — 1-16-12
Printed/Typed Name — *Signature* — *Month/Day/Year*

A&D Environmental Services — Bill of Lading / Material Manifest

A&D Job No:	Generator ID Number	Page 1 of	Emergency Response Phone	Tracking Number
64240		1	800-434-7750	15817

Generator's Name and Mailing Address: NC DOT site
1381 Piney Green Rd
Jacksonville, Rd.

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
A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	**A&D Environmental Services, Inc.** 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	**A&D Environmental Services (SC), LLC** 1915 Brentwood Street High Point, NC 27260 336-882-8000 NCR000002501	**A&D Environmental Services (SC), LLC** 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	**A&D Environmental Services (SC), LLC** 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
	NON Hazardous materials Hydraulic lifts & Scrap Metal	D-6	DT	5		

	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/Offeror's Printed/Typed Name	Signature	Month	Day	Year
Andrew E-Ee for NCDOT		01	13	12
Transporter 1 Printed/Typed Name	**Signature**	**Month**	**Day**	**Year**
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	Signature	Month	Day	Year
F. O McManus	E. O McManus	1	16	12

A&D Environmental Services — Bill of Lading / Material Manifest

A&D Job No:	Generator ID Number	Page 1 of	Emergency Response Phone	Tracking Number
64240		1	800-434-7750	15816

Generator's Name and Mailing Address
GEL Engineering of NC
P.O. Box 14262 Research Triangle Park
NC. 27709

Generator's site address (if different from mailing address)
1381 Piney Green Rd
Jacksonville, NC

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**

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HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	Non Haz Liquids: Hydraulic oil/water NOS	1	TT	187	G	

	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	
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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	
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					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	
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Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
ANDREW EYER FOR NCDOT		1	12	12
Transporter 1 Printed/Typed Name	**Signature**	**Month**	**Day**	**Year**
Joseph Simmons		1	12	12
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	Signature	Month	Day	Year
Eric D. McManus				

DESIGNATED FACILITY TO GENERATOR

OAK HILL FARMS

LOAD # 1

TRUCK # LAB PT522

9018 Rays Landing Road
P.O. Box 220
Autryville, NC 28318
Telephone: (910) 531-3800
Permit # SRU600039

NORTH CAROLINA
PUBLIC WEIGHMASTER
LICENSE EXPIRES JUNE 30, 2013
BRIAN A HERRING 28102
INVALID UNLESS SIGNED

NON-HAZARDOUS WASTE MANIFEST

ENVR CONSULTANT: GEL Engineering — CONTACT: Andrew Eyer — PHONE: (919)-544-1100

GENERATOR: N.C. Department of Transportation Jacksonville, N.C. — CONTACT: — PHONE:

TRANSPORTER: A&D Environmental Highpoint, N.C. — CONTACT: Tim parker — PHONE: (336) 434-7750

DESTINATION: OAK HILL FARMS, 9018 Rays Landing Road, Autryville, NC 28318 — CONTACT: OAK HILL FARMS — PHONE: (910) 531-4489

WASTE DESCRIPTION: Oil contaminated soil

WASTE ORIGINATION POINT (complete address): Piney Green Rd. Jacksonville, N.C.

NORTH CAROLINA PUBLIC WEIGHMASTER

LICENSE EXPIRES: 6/30/2012 CERT. #: 28102

WEIGHED BY: B. Herring

GROSS WEIGHT: 47020 lb 14:30 01/13/12

TARE WEIGHT: 23260 lb 14:36 01/13/12

NET WEIGHT: BAH 28102 23760 11.88 tons

GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of HAZARDOUS WASTE. I am also aware that plastic, trash, piping, concrete, asphalt and rock exceeding 3" could result in a $3.00 per ton per truck surcharge.

PRINTED/TYPED NAME, TITLE: ANDREW EYER FOR NCDOT

SIGNATURE:

DATE JOB STARTED: 1/12/12

TRUCK DRIVER'S SIGNATURE (acknowledgment of receipt of material):

DATE: 1/12/12

NOTED DISCREPANCIES:

INSPECTED & ACCEPTED (except as noted above:)

BY: OAK HILL FARMS

SIGNED BY: B. Herring

DATE: 1/12/12

WHITE – OHF Billing to Generator • CANARY – OHF Files • PINK – Transporter • GOLDENROD – Jobsite

APPENDIX III

CERTIFICATES OF ANALYSIS AND CHAIN OF CUSTODY RECORD FOR SOIL SAMPLES

Laboratory Report of Analysis

To: Andrew Eyer
GEL Engineering of NC, Inc.
PO Box 14262
RTP, NC 27709

Report Number: **31200109**

Client Project: **Parcel 149, U-3810**

Dear Andrew Eyer,

Enclosed are the results of the analytical services performed under the referenced project for the received samples and associated QC as applicable. The samples are certified to meet the requirements of the National Environmental Laboratory Accreditation Conference Standards. Copies of this report and supporting data will be retained in our files for a period of five years in the event they are required for future reference. All results are intended to be used in their entirety and SGS is not responsible for use of less than the complete report. Any samples submitted to our laboratory will be retained for a maximum of thirty (30) days from the date of this report unless other arrangements are requested.

If there are any questions about the report or services performed during this project, please call Michael D. Page at (910) 350-1903. We will be happy to answer any questions or concerns which you may have.

Thank you for using SGS North America Inc. for your analytical services. We look forward to working with you again on any additional analytical needs.

Sincerely,
SGS North America Inc.

Michael D. Page Date
Project Manager
michael.page@sgs.com

SGS North America Inc.
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t 910.350.1903 f 910.350.1557 www.us.sgs.com
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Laboratory Qualifiers

Report Definitions

DL	Method, Instrument, or Estimated Detection Limit per Analytical Method
CL	Control Limits for the recovery result of a parameter
LOQ	Reporting Limit
DF	Dilution Factor
RPD	Relative Percent Difference
LCS(D)	Laboratory Control Spike (Duplicate)
MS(D)	Matrix Spike (Duplicate)
MB	Method Blank

Qualifier Definitions

*	Recovery or RPD outside of control limits
B	Analyte was detected in the Lab Method Blank at a level above the LOQ
U	Undetected (Reported as ND or < DL)
V	Recovery is below quality control limit. The data has been validated based on a favorable signal-to-noise and detection limit
A	Amount detected is less than the Lower Method Calibration Limit
J	Estimated Concentration.
O	The recovery of this analyte in the OPR is above the Method QC Limits and the reported concentration in the sample may be biased high
E	Amount detected is greater than the Upper Calibration Limit
S	The amount of analyte present has saturated the detector. This situation results in an underestimation of the affected analyte(s)
Q	Indicates the presence of a quantitative interference. This situation may result in an underestimation of the affected analyte(s)
I	Indicates the presence of a qualitative interference that could cause a false positive or an overestimation of the affected analyte(s)
DPE	Indicates the presence of a peak in the polychlorinated diphenylether channel that could cause a false positive or an overestimation of the affected analyte(s)
TIC	Tentatively Identified Compound
EMPC	Estimated Maximum possible Concentration due to ion ratio failure
ND	Not Detected
K	Result is estimated due to ion ratio failure in High Resolution PCB Analysis
P	RPD > 40% between results of dual columns
D	Spike or surrogate was diluted out in order to achieve a parameter result within instrument calibration range

Samples requiring manual integrations for various congeners and/or standards are marked and dated by the analyst. A code definition is provided below:

M1	Mis-identified peak
M2	Software did not integrate peak
M3	Incorrect baseline construction (i.e. not all of peak included; two peaks integrated as one)
M4	Pattern integration required (i.e. DRO, GRO, PCB, Toxaphene and Technical Chlordane)
M5	Other - Explained in case narrative

Note Results pages that include a value for "Solids (%)" have been adjusted for moisture content.

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Sample Summary

Client Sample ID	Lab Sample ID	Collected	Received	Matrix
Stockpile	31200109001	01/12/2012 14:20	01/14/2012 09:30	Soil-Solid as dry weight
S-1	31200109002	01/13/2012 09:45	01/14/2012 09:30	Soil-Solid as dry weight
S-2	31200109003	01/13/2012 09:50	01/14/2012 09:30	Soil-Solid as dry weight
S-3	31200109004	01/13/2012 09:55	01/14/2012 09:30	Soil-Solid as dry weight
S-4	31200109005	01/13/2012 10:00	01/14/2012 09:30	Soil-Solid as dry weight
S-5	31200109006	01/13/2012 10:05	01/14/2012 09:30	Soil-Solid as dry weight

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Results of **Stockpile**

Client Sample ID: **Stockpile**
Client Project ID: **Parcel 149, U-3810**
Lab Sample ID: 31200109001-A
Lab Project ID: 31200109

Collection Date: 01/12/2012 14:20
Received Date: 01/14/2012 09:30
Matrix: Soil-Solid as dry weight
Solids (%): 87.60

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**25400**		675	mg/kg	100	01/18/2012 12:23
Surrogates						
o-Terphenyl	NA	D	40.0-140	%	100	01/18/2012 12:23

Batch Information

Analytical Batch: **XGC1849**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **01/18/2012 12:23**

Prep Batch: **XXX2154**
Prep Method: **SW-846 3541**
Prep Date/Time: **01/17/2012 10:05**
Prep Initial Wt./Vol.: **33.81 g**
Prep Extract Vol: **10 mL**

Print Date: 01/19/2012

N.C. Certification # 481

Results of **S-1**

Client Sample ID: **S-1**
Client Project ID: **Parcel 149, U-3810**
Lab Sample ID: 31200109002-A
Lab Project ID: 31200109

Collection Date: 01/13/2012 09:45
Received Date: 01/14/2012 09:30
Matrix: Soil-Solid as dry weight
Solids (%): 89.10

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**129**		7.01	mg/kg	1	01/17/2012 19:29
Surrogates						
o-Terphenyl	83.3		40.0-140	%	1	01/17/2012 19:29

Batch Information

Analytical Batch: **XGC1848**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **01/17/2012 19:29**

Prep Batch: **XXX2154**
Prep Method: **SW-846 3541**
Prep Date/Time: **01/17/2012 10:05**
Prep Initial Wt./Vol.: **32.01 g**
Prep Extract Vol: **10 mL**

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Results of **S-2**

Client Sample ID: **S-2**
Client Project ID: **Parcel 149, U-3810**
Lab Sample ID: 31200109003-A
Lab Project ID: 31200109

Collection Date: 01/13/2012 09:50
Received Date: 01/14/2012 09:30
Matrix: Soil-Solid as dry weight
Solids (%): 88.40

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**102**		6.88	mg/kg	1	01/17/2012 19:57
Surrogates						
o-Terphenyl	83.3		40.0-140	%	1	01/17/2012 19:57

Batch Information

Analytical Batch: **XGC1848**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **01/17/2012 19:57**

Prep Batch: **XXX2154**
Prep Method: **SW-846 3541**
Prep Date/Time: **01/17/2012 10:05**
Prep Initial Wt./Vol.: **32.87 g**
Prep Extract Vol: **10 mL**

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Results of **S-3**

Client Sample ID: **S-3**
Client Project ID: **Parcel 149, U-3810**
Lab Sample ID: 31200109004-A
Lab Project ID: 31200109

Collection Date: 01/13/2012 09:55
Received Date: 01/14/2012 09:30
Matrix: Soil-Solid as dry weight
Solids (%): 88.50

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**135**		6.68	mg/kg	1	01/17/2012 20:25
Surrogates						
o-Terphenyl	76.9		40.0-140	%	1	01/17/2012 20:25

Batch Information

Analytical Batch: **XGC1848**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **01/17/2012 20:25**

Prep Batch: **XXX2154**
Prep Method: **SW-846 3541**
Prep Date/Time: **01/17/2012 10:05**
Prep Initial Wt./Vol.: **33.84 g**
Prep Extract Vol: **10 mL**

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Results of **S-4**

Client Sample ID: **S-4**
Client Project ID: **Parcel 149, U-3810**
Lab Sample ID: 31200109005-A
Lab Project ID: 31200109

Collection Date: 01/13/2012 10:00
Received Date: 01/14/2012 09:30
Matrix: Soil-Solid as dry weight
Solids (%): 90.90

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**66.3**		6.72	mg/kg	1	01/17/2012 20:53
Surrogates						
o-Terphenyl	81.7		40.0-140	%	1	01/17/2012 20:53

Batch Information

Analytical Batch: **XGC1848**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **01/17/2012 20:53**

Prep Batch: **XXX2154**
Prep Method: **SW-846 3541**
Prep Date/Time: **01/17/2012 10:05**
Prep Initial Wt./Vol.: **32.78 g**
Prep Extract Vol: **10 mL**

Results of **S-5**

Client Sample ID: **S-5**
Client Project ID: **Parcel 149, U-3810**
Lab Sample ID: 31200109006-A
Lab Project ID: 31200109

Collection Date: 01/13/2012 10:05
Received Date: 01/14/2012 09:30
Matrix: Soil-Solid as dry weight
Solids (%): 89.10

Results by **SW-846 8015C DRO**

Parameter	Result	Qual	LOQ/CL	Units	DF	Date Analyzed
Diesel Range Organics (DRO)	**141**		6.85	mg/kg	1	01/17/2012 21:21
Surrogates						
o-Terphenyl	88.0		40.0-140	%	1	01/17/2012 21:21

Batch Information

Analytical Batch: **XGC1848**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**
Analytical Date/Time: **01/17/2012 21:21**

Prep Batch: **XXX2154**
Prep Method: **SW-846 3541**
Prep Date/Time: **01/17/2012 10:05**
Prep Initial Wt./Vol.: **32.77 g**
Prep Extract Vol: **10 mL**

Print Date: 01/19/2012

N.C. Certification # 481

SGS

CHAIN OF CUSTODY RECORD
SGS North America Inc.

Locations Nationwide
- Alaska
- New Jersey
- North Carolina
- Maryland
- New York
- Ohio

www.us.sgs.com

312001091 1/6/12

106767

(1)

CLIENT: GEL ENG. OF NC, INC

CONTACT: A. EYER PHONE NO:(919) 323-8828

PROJECT: PARCEL 149, U-3810 SITE/PWSID#: WBS#35801.1.1

REPORTS TO: A. EYER
ade@gel.com FAX NO.:(919) 237-9188

INVOICE TO: NCDOT QUOTE #: ONSLOW COUNTY P.O. NUMBER:

SGS Reference: 312001091

PAGE 1 OF 1

(2)

LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX	No CONTAINERS	SAMPLE TYPE C= COMP G= GRAB	Preservatives Used	Analysis Required (3) DRO	% MOISTURE	REMARKS
	STOCKPILE	1/12/12	1420	SOIL	1	G		✓	✓	
	S-1	1/13/12	0945	SOIL	1	G		✓	✓	
	S-2	1/13/12	0950	SOIL	1	G		✓	✓	
	S-3	1/13/12	0955	SOIL	1	G		✓	✓	
	S-4	1/13/12	1000	SOIL	1	G		✓	✓	
	S-5	1/13/12	1005	SOIL	1	G		✓	✓	

(5)

Collected/Relinquished By:(1)	Date	Time	Received By:
	1/13/12	1615	
Relinquished By: (2)	Date	Time	Received By:
	1/14/12	9:30	
Relinquished By: (3)	Date	Time	Received By:
Relinquished By: (4)	Date	Time	Received By:

(4)

Shipping Carrier:

Shipping Ticket No:

Samples Received Cold? (Circle) YES NO

Temperature°C: 2.1

Special Deliverable Requirements:

Chain of Custody Seal: (Circle)
INTACT BROKEN ABSENT

Special Instructions:

Requested Turnaround Time:
☐ RUSH _____ Date Needed ☑ STD

☐ 200 W. Potter Drive **Anchorage, AK 99518** Tel: (907) 562-2343 Fax: (907) 561-5301
☐ 5500 Business Drive **Wilmington, NC 28405** Tel: (910) 350-1903 Fax: (910) 350-1557

White - Retained by Lab
Pink - Retained by Client

SGS North America Inc.

Sample Receipt Checklist (SRC)

Client: **NCDOT-GEL** Work Order No.: **31200109**

1. _X_ Shipped
   ___ Hand Delivered

2. _X_ COC Present on Receipt
   ___ No COC
   ___ Additional Transmittal Forms

3. ___ Custody Tape on Container
   _X_ No Custody Tape

4. _X_ Samples Intact
   ___ Samples Broken / Leaking

5. _X_ Chilled on Receipt Actual Temp.(s) in °C: 2.1
   ___ Ambient on Receipt
   ___ Walk-in on Ice; Coming down to temp.
   ___ Received Outside of Temperature Specifications

6. _X_ Sufficient Sample Submitted
   ___ Insufficient Sample Submitted

7. ___ Chlorine absent
   ___ HNO3 < 2
   ___ HCL < 2
   ___ Additional Preservatives verified (see notes)

8. _X_ Received Within Holding Time
   ___ Not Received Within Holding Time

9. _X_ No Discrepancies Noted
   ___ Discrepancies Noted
   ___ NCDENR notified of Descrepancies*

10. ___ No Headspace present in VOC vials
    ___ Headspace present in VOC vials >6mm

Notes:

Comments:

Inspected and Logged in by: JJ

Date: Mon-1/16/12 00:00

*NCDENR must be notified when collection, holding time or preservation requirements are not met. MI_11.6