# PRELIMINARY SITE ASSESSMENT

**WINCOR PROPERTIES – PARCEL 004**
**THE TIRE SHOP**
**3453 RAY ROAD**
**SPRING LAKE, HARNETT COUNTY, NORTH CAROLINA**
**STATE PROJECT: U-3465**
**WBS ELEMENT: 39017.1.1**
**OCTOBER 23, 2012**

**Report prepared for:**

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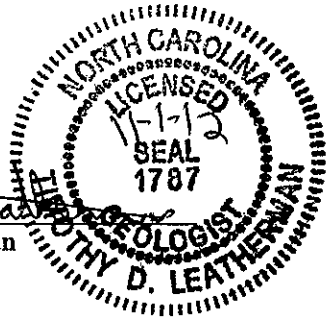


**Timothy D. Leatherman**
**Project Manager**

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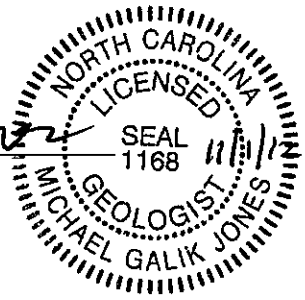


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**SPRING LAKE, HARNETT COUNTY, NORTH CAROLINA**

# 1.0 Introduction

Pyramid Environmental & Engineering P.C. (Pyramid) has prepared this Preliminary Site Assessment (PSA) report documenting background information, field activities, assessment activities, findings, conclusions, and recommendations for the Wincor Properties Property (Parcel 004). The property (Parcel 004) is owned by Wincor Properties and contains an active tire and auto repair business located at 3453 Ray Road, Spring Lake, Harnett County, North Carolina. Previously, the property was called Ryan's Grocery, and the former service station had a UST system. This preliminary site assessment was conducted on behalf of the North Carolina Department of Transportation (NCDOT) in accordance with Pyramid's August 17, 2012 technical proposal.

The purpose of this assessment was to determine the presence or absence of underground storage tanks (USTs) and impacted soils at the subject property in the proposed right-of-way and construction easement areas related to the widening of Ray Road (State Project U-3465). The location of the subject site is shown on **Figure 1**, and a site map is presented as **Figure 2**. **Figure 3** presents a scaled out perspective of the entire Parcel showing property boundaries, property owner name, and station number/alignment, from the NCDOT engineering files provided to Pyramid.

## 1.1 Background Information

Based on the NCDOT's July 23, 2012, *Request for Technical and Cost Proposal*, the PSA was conducted within the NCDOT right of way (ROW), easements, or proposed utility easements. The PSA included the following:

- Research the property for past uses and possible petroleum releases.
- Conduct a preliminary geophysical site assessment and limited soil assessment in the proposed ROW and easements.
- Investigate the depth to groundwater and obtaining one groundwater sample for the site for laboratory analysis by installing a temporary monitoring well.

## 1.2 Project Information

On September 4, 2012, Pyramid personnel talked with the tenants of Parcel 004 and received access to the property to complete the PSA field work. Prior to field activities, a Health and Safety Plan was prepared. Prior to drilling activities, the public underground utilities were located and marked by the North Carolina One-Call Service. A private utility locator, Northstate Utility Locating Incorporated of Colfax, North Carolina was used to mark the on site private, buried utilities.

The Wincor Properties Property (Parcel 004) contains an active tire and auto repair business. Site observations indicated a former pump island and former UST system is located east of the subject property building, between the building and Ray Road. According to the NCDENR UST Registration database, the former UST system was comprised of two (2) 6,000-gallon gasoline USTs and two (2) 1,000-gallon gasoline USTs. The Facility ID number for the site is 0-026491.

Pyramid also completed PSAs for an additional six properties along Ray Road (Parcel #'s 009, 019, 021, 022, 038, and 069). As requested by the NCDOT, Pyramid prepared separate PSA reports for each property.

# 2.0 Site History

Pyramid completed a records review, NCDENR file review, interviewed NCDNER personnel, and reviewed aerial photographs in order to determine past uses of the property. Pyramid reviewed the 1938, 1955, 1964, 1971, 1983, 1993, 1999, and 2010 aerial photographs for past uses. The 1955, 1964, 1971, and 1983 aerial photographs are included in **Appendix A**. Historical information reviewed as part of the PSA indicated that the subject site was first developed for commercial use between 1964 and 1971. The earliest aerial to show the building was the 1971 aerial. The 1938 air photo shows the property to be undeveloped wooded land. The 1955 and 1964 aerial photographs indicate the land was most likely used for residential and agricultural purposes.

On September 7, 2012, Pyramid interviewed Mr. James Brown, the incident manager for Harnett County with the NCDENR UST Section. Mr. Brown stated, according to the NCDENR Incident Database, a UST release had occurred at the site (Incident # 12015). Pyramid requested a NCDNER file review from the Fayetteville Regional Office. On September 11, 2012, Pyramid completed the NCDENR file review for the Wincor Properties site (Parcel 004). The file review indicated the two 6,000-gallon gasoline USTs, and two 1,000-gallon USTs were closed by excavation and removal on December 20 and 21, 1993. The file review indicated a release had occurred from the former UST. Portions of the *UST Closure and Site Check Report* dated January 1994 are included in **Appendix B**.

As part of the PSA, a background review to identify onsite and potential off-site sources of environmental contamination was performed. The background review included Federal and Non-Federal database searches. FirstSearch Technology Corporation, a commercially available database service was used for the search. Pyramid ordered a road corridor search for the Ray Road sites. The database search indicated the site (Parcel 004) was on the NCDENR UST Registered tank database, and the NCDENR Leaking UST Incident database (# 12015). The Environmental FirstSearch Report is included in **Appendix C**.

# 3.0 Geophysical Investigation

Geophysical investigation results at the property using a combination of electromagnetic (EM61) and Ground Penetrating Radar (GPR) methods indicate **no USTs in the proposed DOT Right of Way or nearby areas surveyed.**

GPR scans were performed and data viewed in real time across all EM61 anomalies that could not be attributed to visible objects at the ground surface, such as metal sign posts, the Tire Shop building itself, and storm drains. The GPR scans did not indicate the presence of any metallic USTs at the site. The anomaly centered at coordinates X=90, Y=250 exhibited characteristics that were consistent with a buried utility such as a water supply line. The orientation of the anomaly was directed towards an old well house to the southeast, further confirming that this feature was likely a utility line. No GPR responses were observed for the remaining EM61 anomalies, suggesting they are the result of isolated areas of buried metallic debris that is not attenuated by the GPR signal.

The geophysical investigation suggests that the area containing the proposed ROW and easement at Parcel 004 does not contain metallic USTs. Also, no evidence of monitoring wells was noted during the investigation. The full details of the geophysical investigation are included in the Geophysical Investigation Report as **Appendix D**.

# 4.0 Soil Sampling Activities & Results

## 4.1 Soil Assessment Field Activities

On September 14, 2012, Pyramid mobilized to the site to drill soil borings, install a temporary monitoring well, and collect the proposed soil samples and groundwater sample for the PSA. The soil borings and temporary well were completed using a track mounted Geoprobe® Direct-Push rig. Six (6) soil borings were advanced on the subject property within the proposed NCDOT ROW and Easement. Soil borings 4-1 and 4-3 were installed in the former UST basin, and soil boring 4-2 was installed at the former pump island location. Soil boring 4-4 was installed between the former UST system and Ray Road, and soil boring 4-5 was down-gradient of the former UST system. Soil boring 4-6 was near the southeast corner of the building in the proposed NCDOT ROW and easement. The selected locations were chosen for sampling near the former UST system, and the sampling locations were also chosen to avoid public utilities along Ray Road and private buried utilities. The locations of the borings are shown on **Figure 2**.

Soil samples were continuously collected in five foot long disposable sleeves from each boring for geologic description, and visual examination for signs of contamination. Soil

recovered from each sleeve was field screened using a Photo-Ionization Detector (PID) every 2 to 2.5 feet depending on the soil recovery of each sleeve. In general, the soil sample with the highest PID readings was selected from each boring for laboratory analysis. The soil boring logs with the soil descriptions, visual examination, and PID screening results are included in **Appendix E**. The PID field screening results are summarized in **Table 1**.

In order to prevent cross contamination, new disposable nitrile gloves were worn by the sampling technician during the sampling activities, and were changed between samples. The soil samples selected for laboratory analyses were placed in laboratory prepared containers and shipped to SGS Laboratories in Wilmington, NC. The selected soil samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline range organics (GRO) by EPA Method 8015C/5035 and diesel range organics (DRO) by EPA Method 8015C/3541.

## 4.2 Soil Sample Analytical Results

The laboratory results for soil samples 4-1(8-10) and 4-3(13-15) detected TPH-DRO at concentrations ranging from 12.3 mg/kg to 27 mg/kg, and the TPH-GRO concentrations were below laboratory detection limits (<3.62 mg/kg). The soil sample depths ranged from 8 to 10 feet bls. The NCDENR Action Levels for TPH-DRO and TPH-GRO is 10 mg/kg. The laboratory results for soil sample 4-3(3-5) detected TPH-DRO concentration above laboratory detection limit, but below the NCDENR Action Level of 10 mg/kg for TPH-DRO at 3 to 5 feet bls. The laboratory results for soil samples 4-2(7.5-10), 4-4(3-5), 4-5(7.5-10), and 4-6(3-5) did not detect any TPH-DRO or TPH-GRO above laboratory detection limits. The soil sample laboratory results are summarized in **Table 2**. A copy of the laboratory report and chain-of-custody is included in **Appendix F**.

## 4.3 Temporary Monitoring Well Installation

On September 14, 2012, Pyramid converted soil boring 4-5 into a 1-inch diameter temporary monitoring well. Soil boring 4-5 was completed to a total depth of 31 feet bls. The temporary well was constructed with 21 feet of 1-inch diameter of schedule 80 PVC casing and 10 feet of 1-inch diameter of schedule 80 PVC slotted screen. The temporary well was set in the boring with 10 feet of slotted screen at the bottom of the well.

On September 14, 2012, temporary monitoring well 4-5 was gauged using a properly decontaminated electric water level probe. The depth-to-groundwater was gauged at 21.03 feet bls. The temporary monitoring well was sampled using a new 1-inch disposal bailer. After the well was gauged and sampled, the temporary monitoring well was properly abandoned by the drillers by removing all the casing, and filling the bore hole with bentonite chips and portland cement.

### 4.4 Groundwater Analytical Results

The groundwater sample 4-5(TW) was placed in laboratory prepared containers for analysis of volatile organic compounds (VOCs) by EPA Method 6200B, and the sample was shipped to SGS Laboratories in Wilmington, NC. The laboratory results detected compounds n-Butylbenzene (2.74 µg/l), chloromethane (1.84 µg/l), isopropylbenzene (Cumene) (0.26 µg/l), n-Propylbenzene (0.3 µg/l), sec-Butylbenzene (1.35 µg/l), 1,2,4-Trimethylbenzene (3.44 µg/l), 1,3,5-Trimethylbenzene (0.99 µg/l), and 4-Isopropyltoluene (1.94 µg/l) above laboratory detection limits, but below the NCAC 2L Groundwater Standards for each compound. No other compounds were detected above laboratory limits. The groundwater results for sample 4-5(TW) are summarized in **Table 3**. A copy of the laboratory report and chain-of-custody is included in **Appendix F**.

# 5.0 Conclusions and Recommendations

As requested by NCDOT, Pyramid has completed a PSA at Parcel 004 located 3453 Ray Road, Harnett County, Spring Lake, NC. Site observations indicated a former pump island and former UST system located east of the subject property building, between the building and Ray Road. According to the NCDENR UST Registration database, the former UST system was comprised of two (2) 6,000-gallon gasoline USTs and two (2) 1,000-gallon gasoline USTs. Pyramid completed the NCDENR file review for the Parcel 004 site. The file review indicated the two 6,000-gallon gasoline USTs, and two 1,000-gallon USTs were closed by excavation and removal on December 20 and 21, 1993. The file review indicated a release had occurred from the former UST. The following is a summary of the assessment activities and results.

### 5.1 Geophysical Investigation

GPR scans performed across all anomalies not clearly associated with metallic objects at the ground surface provided no evidence of metallic USTs. GPR scans across the anomaly centered at X=90, Y=250 indicate this feature is likely the result of a buried utility (water supply) line that extends to the southeast to an old well house. No other GPR responses were observed at the locations of the remaining EM61 anomalies. The geophysical investigation suggests that the proposed ROW and easement areas at the property do not contain metallic USTs.

### 5.2 Limited Soil Assessment

Soil borings 4-1 and 4-3 were installed in the former UST basin, and soil boring 4-2 was installed at the form pump island location. Soil boring 4-4 was installed between the former UST system and Ray Road, and soil boring 4-5 was down-gradient of the former UST system. Soil boring 4-6 was near the southeast corner of the building in the proposed NCDOT ROW and easement.

The laboratory results for soil samples 4-1(8-10) and 4-3(13-15) detected TPH-DRO at concentrations ranging from 12.3 mg/kg to 27 mg/kg, and the TPH-GRO concentrations were below laboratory detection limits (<3.62 mg/kg). The soil sample depths ranged from 8 to 10 feet bls. The NCDENR Action Levels for TPH-DRO and TPH-GRO is 10 mg/kg. The laboratory results for soil sample 4-3(3-5) detected TPH-DRO concentration above laboratory detection limit, but below the NCDENR Action Level of 10 mg/kg for TPH-DRO at 3 to 5 feet bls. The laboratory results for soil samples 4-2(7.5-10), 4-4(3-5), 4-5(7.5-10), and 4-6(3-5) did not detect any TPH-DRO or TPH-GRO above laboratory detection limits. Two soil samples were obtained in soil boring 4-3 due to its proximity to a former UST pit, where shallow and deep contamination may exist.

The UST closure and site check report reviewed by Pyramid indicated a petroleum release from the former UST system. The limited soil assessment completed by Pyramid and discussed in this PSA confirmed a petroleum release from the former UST system.

**5.3 Limited Groundwater Assessment**

Soil boring 4-5 was converted to a 1-inch diameter temporary monitoring well to a total depth of 31 feet bls. The depth-to-groundwater was gauged at 21.03 feet bls. The laboratory results for groundwater sample 4-5(TW) detected compounds n-Butylbenzene (2.74 µg/l), chloromethane (1.84 µg/l), isopropylbenzene (Cumene) (0.26 µg/l), n-Propylbenzene (0.3 µg/l), sec-Butylbenzene (1.35 µg/l), 1,2,4-Trimethylbenzene (3.44 µg/l), 1,3,5-Trimethylbenzene (0.99 µg/l), and 4-Isopropyltoluene (1.94 µg/l) above laboratory detection limits, but below the NCAC 2L Groundwater Standards for each compound. No other compounds were detected above laboratory limits.

**5.4 Recommendations**

During road construction activities, it is possible the NCDOT may encounter petroleum impacted soil over the NCDENR Action Levels near soil borings 4-1 and 4-3.

Pyramid estimates approximately 115 cubic yards of petroleum impacted soil between 0 to 5 feet bls at the former UST basin. If the impacted soil is excavated at the former UST basin (soil borings 4-1 and 4-3) to an additional depth of 5 to 10 feet bls, an additional estimate of roughly 115 cubic yards of petroleum impacted soil may be encountered. If impacted soil is encountered and removed from the former UST basin, the impacted soil should be managed according to NCDENR DWM UST Section Guidelines and disposed of at a permitted facility.

Petroleum impacted soil from a UST system is considered non-hazardous waste. A list of permitted soil remediation facilities can be found on the NCDENR DWM UST Section web-page (http://portal.ncdenr.org/web/wm/ust/soilsites).

# 6.0 Limitations

The estimated volumes of petroleum contaminated soil are based on the limited data points and soil samples collected by Pyramid for this preliminary investigation. The actual amount of petroleum impacted/contaminated soil may vary depending on the actual grading and excavation plan for the project within the affected ROW and easement.

The results of this preliminary investigation are limited to the boring locations completed during this limited assessment and presented in this report. Additional petroleum impacted soil may be present on the subject property as well as underneath the existing ROW and Ray Road. The laboratory results only reflect the current conditions at the locations sampled on the date this Preliminary Site Assessment was performed.

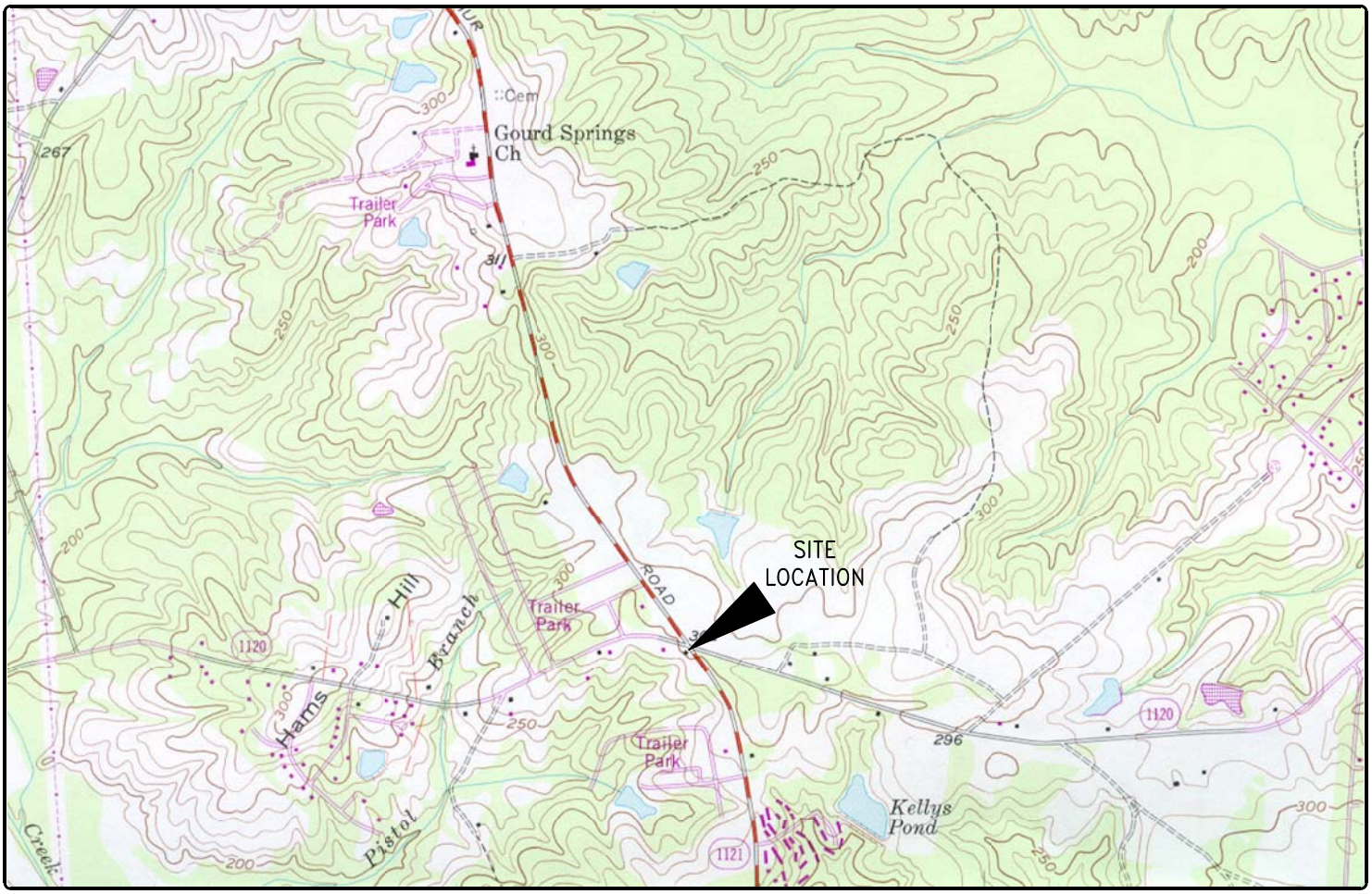
# 7.0 Closure

This report was prepared for, and is available solely for use by NCDOT and their designees. The contents thereof may not be used or relied upon by any other person without the express written consent and authorization of Pyramid Environmental & Engineering, P.C. (Pyramid). The observations, conclusions, and recommendations documented in this report are based on site conditions and information reviewed at the time of Pyramid's investigation. Pyramid appreciates the opportunity to provide this environmental service.

# FIGURES

# USGS TOPOGRAPHIC MAP

SITE: 3453 RAY ROAD LOCATION: SPRING LAKE, NORTH CAROLINA




## USGS IDENTIFICATION

| | |
|---|---|
| USGS 7.5 MINUTE MAP | ANDERSON CREEK, NC |
| ORIGINAL DATE: | 1956 |
| PHOTOREVISION DATE: | 1981 |

| | |
|---|---|
| | PRIMARY HIGHWAY, HARD SURFACE |
| | SECONDARY HIGHWAY, HARD SURFACE |
| | LIGHT-DUTY ROAD HARD OR IMPROVED SURFACE |
| | UNIMPROVED ROAD |
| | STATE ROAD |
| | U.S. ROUTE |
| | INTERSTATE ROUTE |

## SCALES

MILES: 1/2 0 1

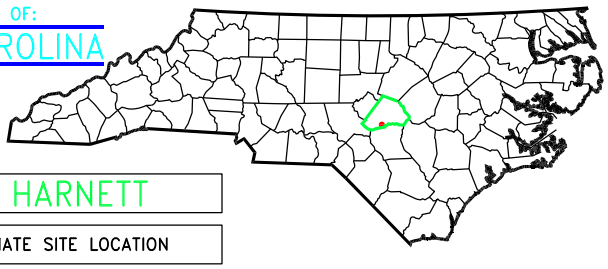
FEET: 1000 0 2000 4000 6000

1" = 2000'

NOTES:
- TOPOGRAPHICAL CONTOUR INTERVAL = 10 FEET
- PHOTOREVISIONS DENOTED IN PURPLE

MAGNETIC NORTH

COUNTY MAP OF: NORTH CAROLINA



COUNTY: HARNETT

APPROXIMATE SITE LOCATION

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

| | |
|---|---|
| CLIENT: | NC DOT U-3465 |
| PROPERTY NAME: | 3453 RAY RD. PARCEL 004 |
| CITY: | SPRING LAKE |
| STATE: | NORTH CAROLINA |
| TITLE: | TOPOGRAPHIC MAP |
| SCALE: | 1"=2000' |
| DATE: | 9/19/12 |
| DRAWING NAME: | USGSTOPO |
| DRAWN BY: | KAM |
| CHECK BY: | TDL |
| JOB NO.: | 2012-228 |
| TYPE: | PHASE II |
| FIGURE NUMBER: | 1 |

NOTES

TOPOGRAPHIC MAP USED IN THIS GRAPHIC IS MAPPED, EDITED, AND PUBLISHED BY THE UNITED STATES GEOLOGIC SURVEY, DEPARTMENT OF THE INTERIOR, RESTON VIRGINIA.

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS.

B 004-1(8-10')
(12.3)
[<3.35]

B 004-3(3-5'), (13-15')
(8.21), (27)
[<2.83], (<3.62)

B 004-4(3-5')
(<7.42)
[<3.68]

B 004-5(7.5-10')
(<7.52)
[<3.13]

B 004-2(7.5-10')
(<6.95)
[<3.29]

B 004-6(3-5')
(<6.80)
[<3.40]

## LEGEND

- PROPOSED UTILITY EASEMENT
- EXISTING ROW
- EXISTING PROPERTY BOUNDARY
- PROPOSED ROW
- PROPOSED CONST. EASEMENT
- PROP. DRAINAGE UTIL. EASEMENT
- PROPOSED SS CUT LINE
- PROPOSED SS FILL LINE
- PROPOSED SS TRANSITION LINE
- PROPOSED DRAINAGE PIPING
- PROPOSED DRAINAGE EASEMENT
- PROPOSED CATCH BASIN
- SOIL SAMPLE BORING LOCATION
- BORING CONVERTED TO MW
- AREA OF CONTAMINATION (>BDL, <10 PPM)
- AREA OF CONTAMINATION (>10 PPM)
- POSSIBLE UST
- PROBABLE UST

(<6.1) TPH-DRO concentration (mg/kg)
[<6.1] TPH-GRO concentration (mg/kg)

0 50 100
FEET

TITLE
SOIL BORING LOCATIONS AND ESTIMATED AREA OF CONTAMINATION

PROJECT
NCDOT ROW PROJECT U-3465 (3907.1.1)
WINCOR PROPERTIES - PARCEL 004
RAY ROAD, HARNETT COUNTY, NORTH CAROLINA

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| | |
|---|---|
| DATE: 9-19-12 | REVISION NO. 0 |
| PYRAMID PROJECT NO. 2012-228 | FIGURE NO. 2 |

## LEGEND

- PROPOSED UTILITY EASEMENT (PUE)
- EXISTING ROW
- EXISTING PROPERTY BOUNDARY
- PROPOSED ROW
- PROPOSED CONST. EASEMENT (E)
- PROP. DRAINAGE UTIL. EASEMENT (DUE)
- PROPOSED SS CUT LINE
- PROPOSED SS FILL LINE
- PROPOSED SS TRANSITION LINE
- PROPOSED DRAINAGE PIPING
- PROPOSED DRAINAGE EASEMENT (PDE)
- PROPOSED CATCH BASIN
- SOIL SAMPLE BORING LOCATION
- BORING CONVERTED TO MW
- AREA OF CONTAMINATION (>BDL, <10 PPM)
- AREA OF CONTAMINATION (>10 PPM)
- POSSIBLE UST
- PROBABLE UST
- (<6.1) TPH-DRO concentration (mg/kg)
- [<6.1] TPH-GRO concentration (mg/kg)
- PARCEL 004 BOUNDARY

N

0 50 100

FEET

| | |
|---|---|
| TITLE | PARCEL BOUNDARIES AND OWNER/STATION INFORMATION |
| PROJECT | NCDOT ROW PROJECT U-3465 (3907.1.1)<br>WINCOR PROPERTIES - PARCEL 004<br>RAY ROAD, HARNETT COUNTY, NORTH CAROLINA |

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| | |
|---|---|
| DATE: 9-19-12 | REVISION NO. 0 |
| PYRAMID PROJECT NO. 2012-228 | FIGURE NO. 3 |

# TABLES

# TABLE 1

## Summary of PID Screening Results

**NCDOT Project U-3465**

**3453 Ray Road - Parcel 004**

**Harnett County, Spring Lake, North Carolina**

| SOIL BORING | SAMPLE ID | DEPTH (feet bgs) | PID READINGS (PPM) |
|---|---|---|---|
| **4-1** | 4-1(3-5) | 3 to 5 | 0 |
| | 4-1(8-10) | 8 to10 | **5** |
| **4-2** | 4-2(3-5) | 3 to 5 | 25 |
| | 4-2(5-7.5) | 5 to 7.5 | 30 |
| | 4-2(7.5-10) | 7.5 to 10 | **45** |
| **4-3** | 4-3(3-5) | 3 to 5 | **30** |
| | 4-3(8-10) | 8 to10 | 15 |
| | 4-3(13-15) | 13 to 15 | **25** |
| **4-4** | 4-4(3-5) | 3 to 5 | **35** |
| | 4-4(5-7.5) | 5 to 7.5 | 25 |
| | 4-4(7.5-10) | 7.5 to 10 | 10 |
| **4-5** | 4-5(3-5) | 3 to 5 | 25 |
| | 4-5(5-7.5) | 5 to 7.5 | **45** |
| | 4-5(7.5-10) | 7.5 to 10 | 35 |
| | 4-5(13-15) | 13 to 15 | 30 |
| **4-6** | 4-6(3-5) | 3 to 5 | **45** |
| | 4-6(8-10) | 8 to 10 | 40 |

**bgs= below ground surface**

**PID= photo-ionization detector**

**PPM= parts-per-million**

# TABLE 2

## Summary of Soil Sample Analytical Results

**NCDOT Project U-3465**
**3453 Ray Road - Parcel 004**
**Harnett County, Spring Lake, North Carolina**

| SAMPLE ID | DATE | DEPTH (feet) | PID (ppm) | EPA Method 3550 DRO (mg/kg) | EPA Method 5035 GRO (mg/kg) |
|---|---|---|---|---|---|
| 4-1(8-10) | 9/14/2012 | 8 to 10 | 5 | **12.3** | <3.35 |
| 4-2(7.5-10) | 9/14/2012 | 7.5 to 10 | 45 | <6.95 | <3.29 |
| 4-3(3-5) | 9/14/2012 | 3 to 5 | 30 | 8.21 | <2.83 |
| 4-3(13-15) | 9/14/2012 | 13 to 15 | 25 | **27** | <3.62 |
| 4-4(3-5) | 9/14/2012 | 3 to 5 | 35 | <7.42 | <3.68 |
| 4-5(7.5-10) | 9/14/2012 | 5 to 7.5 | 45 | <7.52 | <3.13 |
| 4-6(3-5) | 9/14/2012 | 3 to 5 | 45 | <6.80 | <3.40 |
| **NC Initial Cleanup Level - UST Section for 5035/5030-GRO; 3550-DRO** | | | | 10 | 10 |

PID= photo-ionizaton detector
PPM= parts-per-million
GRO= Gasoline Range Organics
DRO= Diesel Range Organics
mg/kg= micograms-per-kilogram

# TABLE 3

## Summary of Groundwater Analytical Results

**NCDOT Project U-3465**

**3453 Ray Road - Parcel 004**

**Harnett County, Spring Lake, North Carolina**

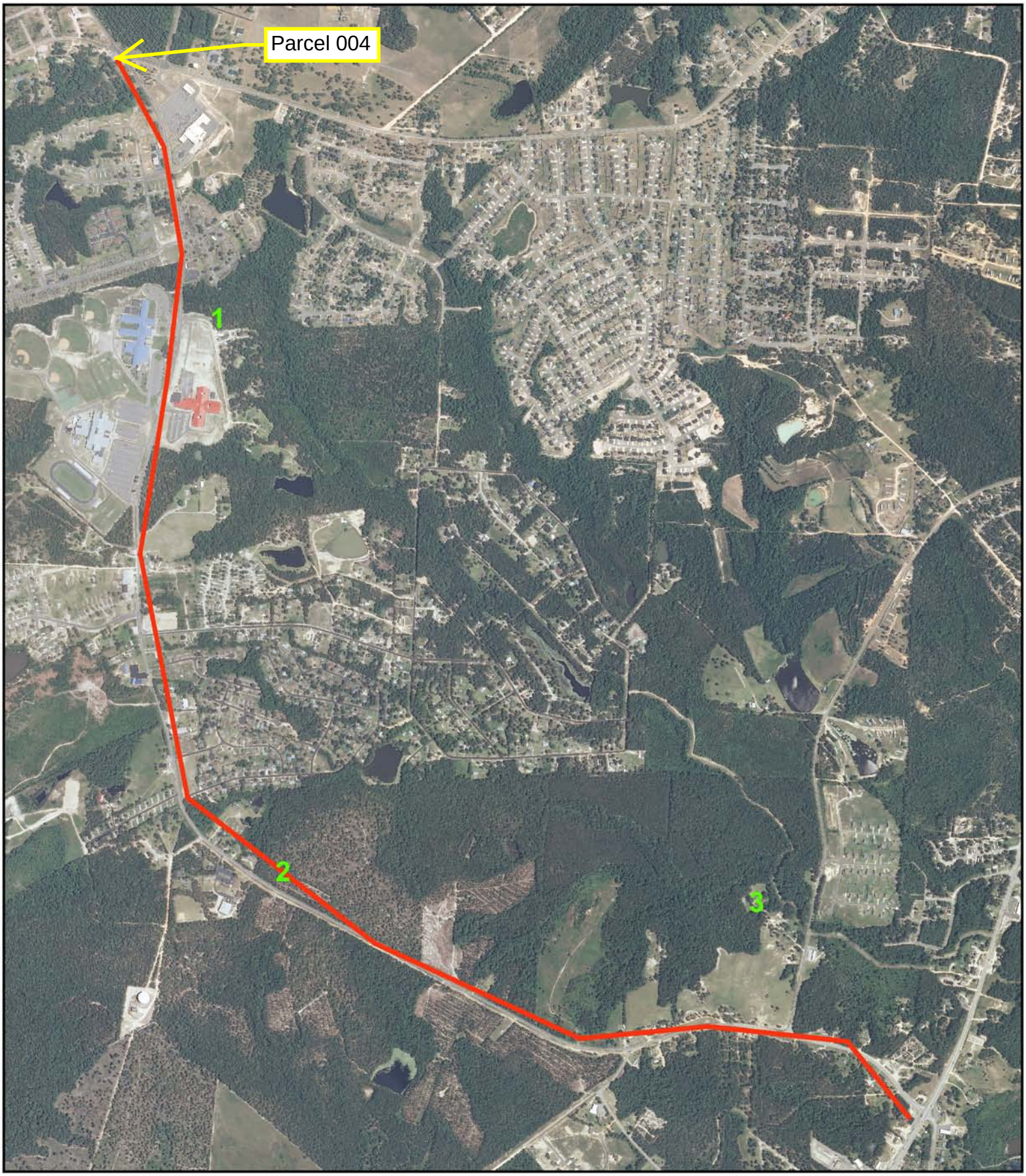
| PARAMETER | UNITS | SAMPLE ID | NCAC 2L GROUNDWATER STANDARD |
|---|---|---|---|
| | | 4-5(TW) | |
| **EPA Method 6200B; Sample Collection Date: 9/14/12** | | | |
| Benzene | ug/L | ND | 1 |
| n-Butylbenzene | ug/L | 2.74 | 70 |
| Chloroform | ug/L | ND | 70 |
| Chloromethane | ug/L | 1.84 | 3 |
| Diisopropyl Ether (IPE) | ug/L | ND | 70 |
| Ethyl Benzene | ug/L | ND | 600 |
| Isopropylbenzene (Cumene) | ug/L | 0.260 | 70 |
| Naphthalene | ug/L | ND | 6 |
| Styrene | ug/L | ND | 70 |
| Toluene | ug/L | ND | 600 |
| Total Xylenes | ug/L | ND | 500 |
| n-Propylbenzene | ug/L | 0.3 | 70 |
| sec-Butylbenzene | ug/L | 1.35 | 70 |
| tert-Butyl methyl ether (MTBE) | ug/L | ND | 20 |
| tert-Butylbenzene | ug/L | ND | 70 |
| 1,2,4-Trimethylbenzene | ug/L | 3.44 | 400 |
| 1,2-Dichloroethane | ug/L | ND | 0.4 |
| 1,3,5-Trimethylbenzene | ug/L | 0.99 | 400 |
| 4-Isopropyltoluene | ug/L | 1.94 | 25 |
| | | | |
| ***All Other Parameters*** | ug/L | ND | NA |

ug/L= micrograms-per-liter

ND= Not Detected

NA= Not Applicable

# APPENDIX A




Historical Aerial Photo

2010 - REFERENCE MOSAIC

**SR 1121 FROM NC 210 TO SR 1120**

**SPRING LAKE, NC 28390**

Target Site: 35.240729, -78.953625; Job Number: 2012-228

FIRSTSEARCH

N

W E

S

**1 inch equals 1,416 feet**


Historical Aerial Photo

2010 - SECTION 1

**SR 1121 FROM NC 210 TO SR 1120**

**SPRING LAKE, NC 28390**

Target Site: 35.240729, -78.953625; Job Number: 2012-228

FIRSTSEARCH

N

W E

S

**1 inch equals 750 feet**


Historical Aerial Photo
1999 - SECTION 1
**SR 1121 FROM NC 210 TO SR 1120**
**SPRING LAKE, NC 28390**

FIRSTSEARCH

Target Site: 35.240729, -78.953625; Job Number: 2012-228

N
W E
S

**1 inch equals 750 feet**

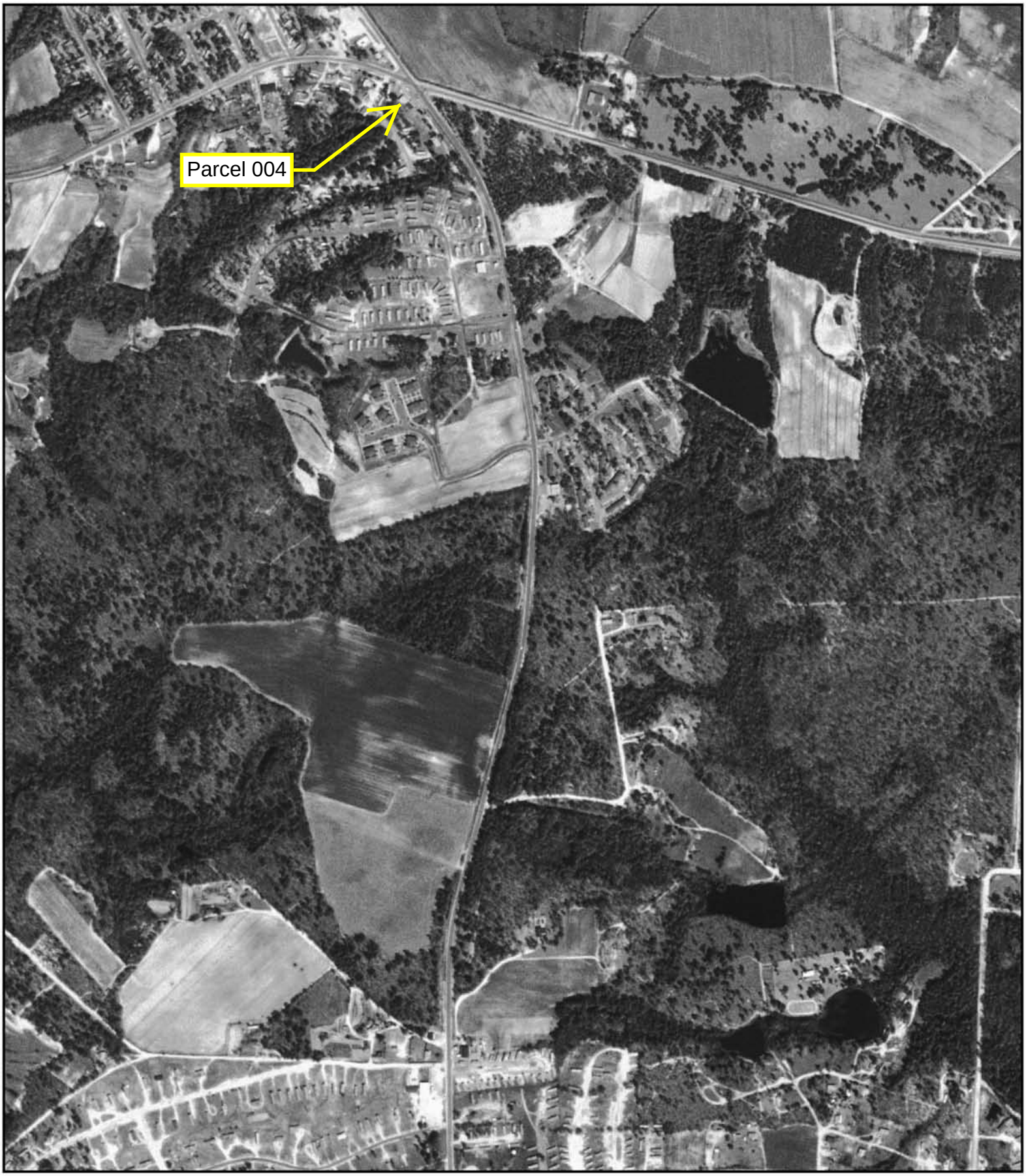

Historical Aerial Photo
1993 - SECTION 1
**SR 1121 FROM NC 210 TO SR 1120**
**SPRING LAKE, NC 28390**

Target Site: 35.240729, -78.953625; Job Number: 2012-228

FIRSTSEARCH

N
W E
S

**1 inch equals 750 feet**



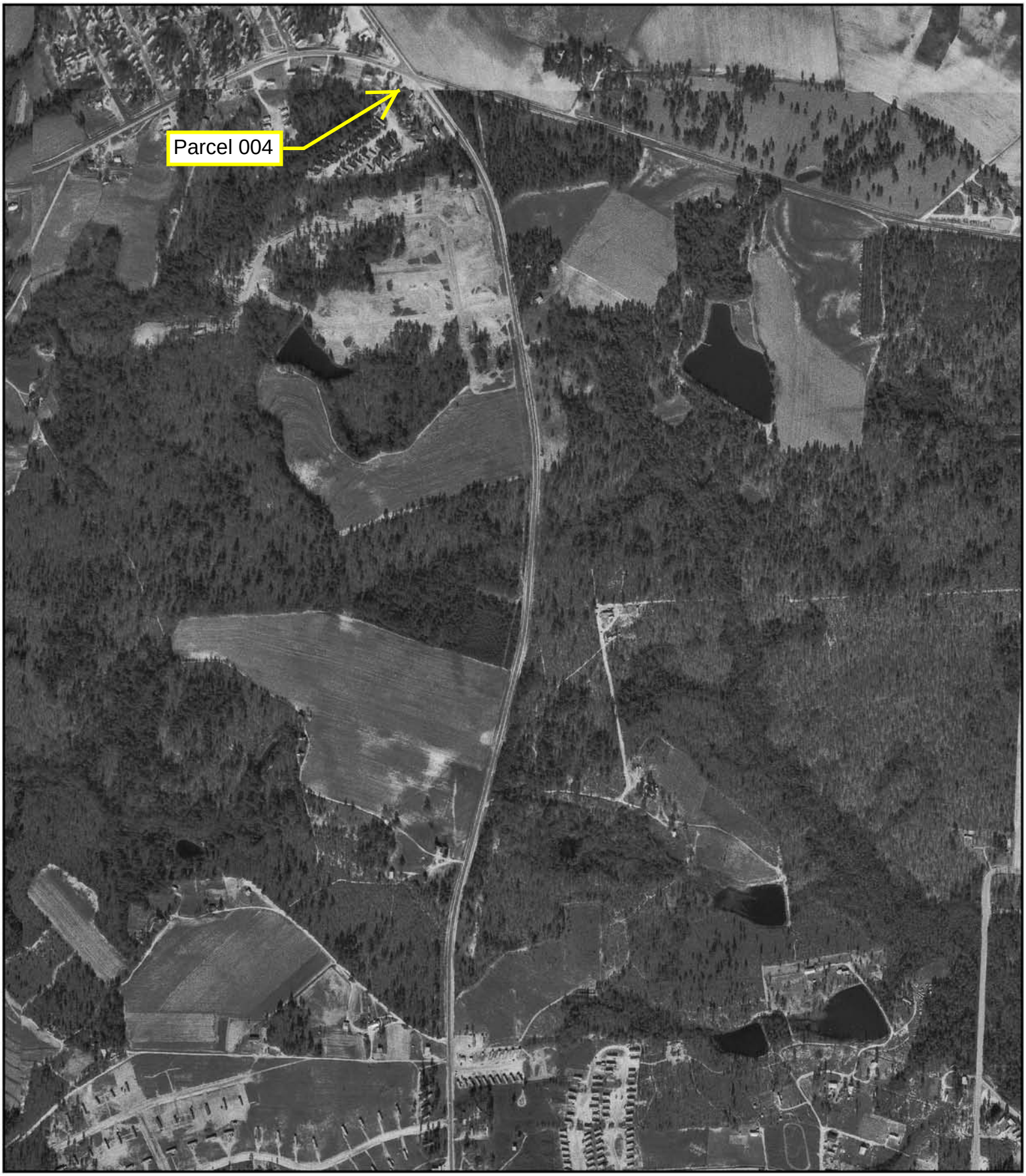

Historical Aerial Photo
1983 - SECTION 1
**SR 1121 FROM NC 210 TO SR 1120**
**SPRING LAKE, NC 28390**

FIRSTSEARCH

Target Site: 35.240729, -78.953625; Job Number: 2012-228

N
W E
S

**1 inch equals 750 feet**




Historical Aerial Photo
1971 - SECTION 1
**SR 1121 FROM NC 210 TO SR 1120**
**SPRING LAKE, NC 28390**

Target Site: 35.240729, -78.953625; Job Number: 2012-228

FIRSTSEARCH

N
W E
S

**1 inch equals 750 feet**


Historical Aerial Photo
1964 - SECTION 1
**SR 1121 FROM NC 210 TO SR 1120**
**SPRING LAKE, NC 28390**

FIRSTSEARCH

Target Site: 35.240729, -78.953625; Job Number: 2012-228

N
W E
S

**1 inch equals 750 feet**


Historical Aerial Photo
1955 - SECTION 1
**SR 1121 FROM NC 210 TO SR 1120**
**SPRING LAKE, NC 28390**

FIRSTSEARCH

Target Site: 35.240729, -78.953625; Job Number: 2012-228

N
W E
S

**1 inch equals 750 feet**


FIRSTSEARCH

Historical Aerial Photo
1938 - SECTION 1
**SR 1121 FROM NC 210 TO SR 1120**
**SPRING LAKE, NC 28390**

Target Site: 35.240729, -78.953625; Job Number: 2012-228

N
W E
S

**1 inch equals 750 feet**

# APPENDIX B

(5)

RECEIVED
JAN 17 2007
DIVISION OF WASTE MANAGEMENT
FAYETTEVILLE REGIONAL OFFICE

# UST CLOSURE AND SITE CHECK REPORT

## RYAN'S GROCERY
## 7939 RAY ROAD
## SPRING LAKE, NORTH CAROLINA

**Prepared For:**

**Ms. Christine Ryan**
**Rt. 3, Box 599A**
**Spring Lake, NC 28390**

**January, 1994**
**TEC Project No. 04293**

TURNER ENVIRONMENTAL CONSULTANTS, P.C.
110 WEST MAIN STREET • SUITE 2-M • CARRBORO, NC 27510 • PHONE 919-932-1590 • FAX 919-932-1594

## 1.0 INTRODUCTION

From December 20 to 21, 1993, Turner Environmental Consultants, P.C. (TEC) closed four (4) underground storage tanks (USTs) by excavation at Ryan's Grocery in Spring Lake, NC (Figure 1). Two (2) 6,000 gallon and two (2) 1,000 gallon gasoline USTs were removed. Pertinent information regarding the USTs is included in Table 1. A representative of TEC was present during the UST closure operation to observe site conditions and collect confirmation soil samples as required by Title 15A NCAC 2N regulations. This report describes the UST closure procedures, summarizes site conditions, and presents the results of the site check required by Subchapter 2N regulations.

TABLE 1

UST DATA

| TANK | SIZE (Gal.) | DIMENSIONS | CONTENTS |
|---|---|---|---|
| T1 | 6,000 | 8' x 16' | Gasoline |
| T2 | 6,000 | 8' x 16' | Gasoline |
| T3 | 1,000 | 50" x 10' | Gasoline |
| T4 | 1,000 | 50" x 10' | Gasoline |

Information obtained during the UST closure

## 2.0 UST CLOSURE PROCEDURES

The USTs at Ryan's Grocery were closed by excavation (Figure 2). The excavation contractor was Charlie Miller, Inc. of Youngsville, NC. The USTs were transported off-site by Day Services of Raleigh, NC for disposal in accordance with DEM

| TABLE 2<br>SOIL SAMPLING ANALYTICAL DATA | | |
|---|---|---|
| SAMPLE | DEPTH (Ft.) | TPH 5030 (Gas) |
| T-1N (2) | 13 | BDL |
| T-1S (2) | 13 | BDL |
| T-2N (2) | 13 | BDL |
| T-2S (2) | 13 | BDL |
| T-3N (2) | 9 | 758 |
| T-3S (2) | 9 | BDL |
| T-4N (2) | 9 | BDL |
| T-4S (2) | 9 | BDL |
| PI-1 (1.5) | 1.5 | BDL |
| PI-2 (1.5) | 1.5 | BDL |
| All results in parts per million = ppm<br>Depth in feet below grade<br>Shading denotes results above SSE score | | |

## 5.0 FREE PRODUCT CHECK

Free product was not encountered in the UST excavation during the course of the UST closure. Depth to the shallow water table is unknown but estimated to be within 20' of the surface. A potable well located directly behind the site was gauged and the water level was recorded at approximately 16' below grade. According to a representative at the site, this potable well is no longer used because a county water system serves the site.

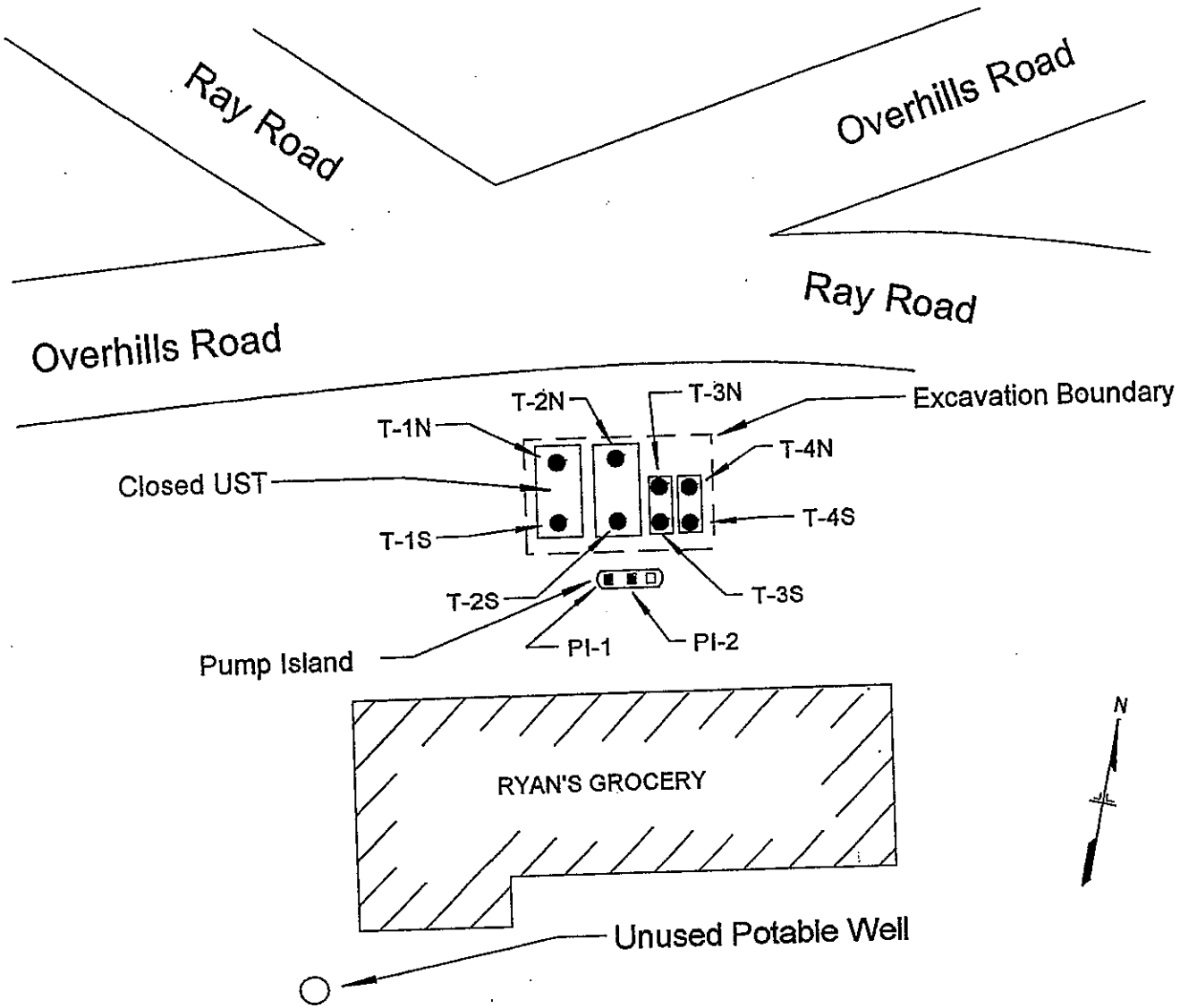
## 6.0 CONCLUSIONS / RECOMMENDATIONS

Analytical data indicates that petroleum hydrocarbons as gasoline above the DEM action limit of 10 ppm remain at the site. Sample T-3N (2) contained TPH concentration of 758 ppm. As required by DEM guidelines, a site sensitivity evaluation (SSE) was completed for the site based upon information obtained during the UST closure. A site characteristics score of 105 was determined from the site information. From this, an initial clean-up level of 40 ppm was calculated for the site. Due to the presence of potable wells in the immediate vicinity and the public water supply system, the site was assigned a Category D status. From this, a final clean-up level of 80 ppm was calculated.

Due to the presence of petroleum impacted soil above the clean-up level of 80 ppm, additional site assessment is required. An initial site characterization report should be completed for the facility which details soil and groundwater quality in more detail. Completion of this report would involve the installation of several auger borings to define the horizontal and vertical extent of soil contamination. In addition, one or more groundwater monitoring wells should be installed in the vicinity of the former UST pit to ascertain groundwater quality.

## 7.0 LIMITATIONS

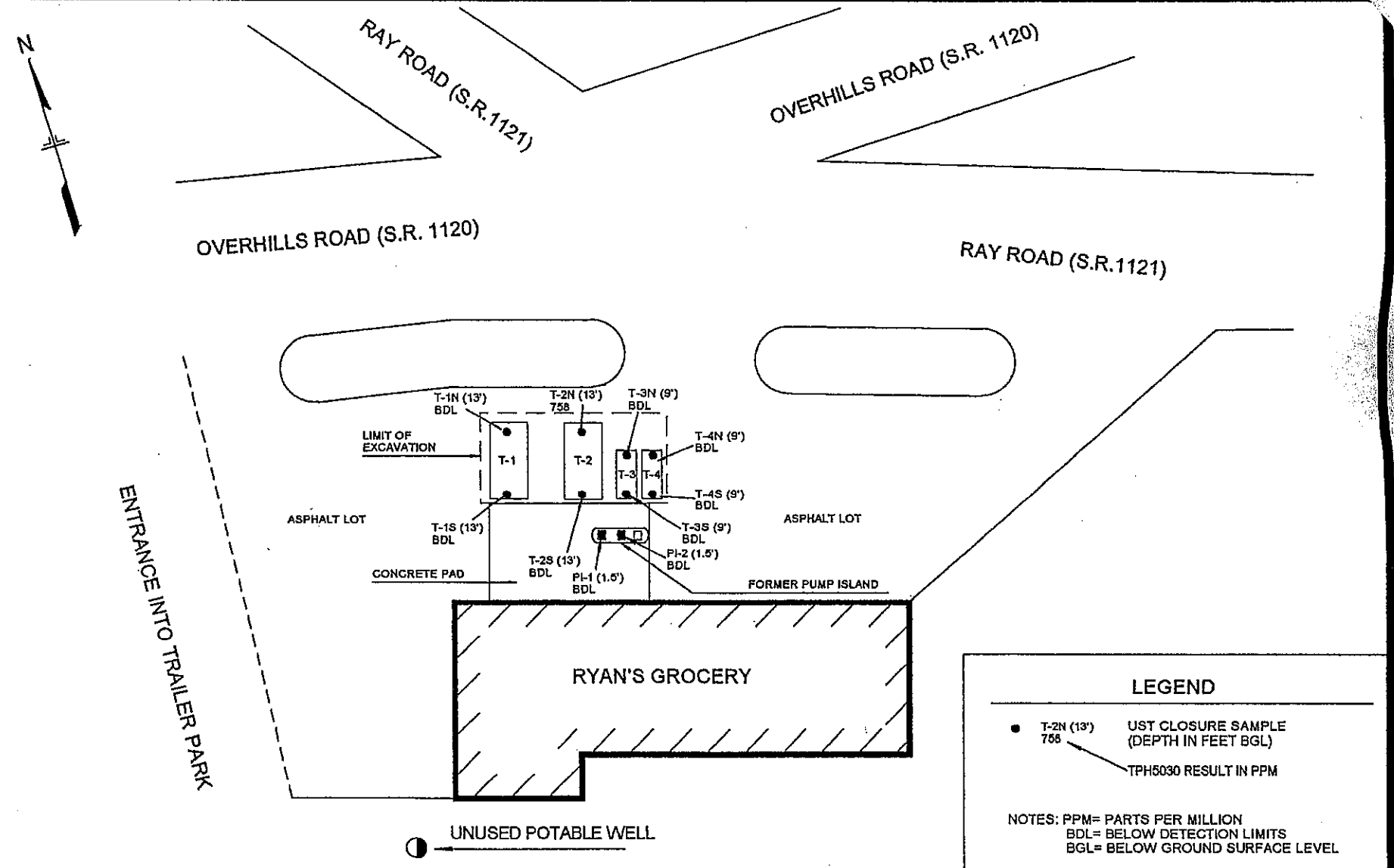
This report is limited to the investigation of only petroleum hydrocarbons as gasoline and does not imply that other unforeseen adverse impacts to the environment are not present at the facility. Furthermore, the subsurface conditions, particularly groundwater flow, elevations, and water quality may vary through time. The opinions and conclusions arrived at in this report are in accordance with industry-accepted geologic and hydrogeologic practices at this time and location. No warranty is implied or intended.




SAMPLE LOCATION MAP
Ryan's Grocery Facility
7939 Ray Road
Spring Lake, NC

TURNER ENVIRONMENTAL CONSULTANTS, P.C.
CARRBORO, NC

| | |
|---|---|
| PROJECT NO. 04293 | FIGURE NO. 2 |
| CHECKED BY: RDT | SCALE: 1"=30' |
| DRAWN BY: MB | DATE: 1/8/94 |




## LEGEND

- T-2N (13') 758 — UST CLOSURE SAMPLE (DEPTH IN FEET BGL); TPH5030 RESULT IN PPM

NOTES: PPM= PARTS PER MILLION
BDL= BELOW DETECTION LIMITS
BGL= BELOW GROUND SURFACE LEVEL

0' 5' 10' 20' 30' 60'

SCALE: 1" = 30'

# UST CLOSURE SAMPLE LOCATION MAP

RYAN'S GROCERY
7939 RAY ROAD
SPRING LAKE, NORTH CAROLINA

**TURNER ENVIRONMENTAL CONSULTANTS, P.C.**

CARRBORO, NC

| | |
|---|---|
| PROJECT NO. 04293 | FIGURE NO. 3 |
| CHECKED BY: MJB | SCALE: 1" = 30' |
| DRAWN BY: SKP | DATE: 3/2/94 |

(GW/UST-2) Site Investigation Report For 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 MAP ON REVERSE SIDE OF OWNER'S COPY (PINK) FOR REGIONAL OFFICE ADDRESS].

State Use Only
I.D. Number
Date Received

## INSTRUCTIONS

Complete and return within (30) days following completion of site investigation.

## I. Ownership of Tank(s)

Christine Ryan
Owner Name (Corporation, Individual, Public Agency, or Other Entity)
Route 3, Box 599A
Street Address
Harnett
County
Spring Lake, NC 28390
City State Zip Code
910-497-1125
Area Code Telephone Number

## II. Location of Tank(s)

Ryan's Grocery
Facility Name or Company
0-026491
Facility ID # (if available)
7939 Ray Road
Street Address or State Road
Harnett, Spring Lake 28390
County City Zip Code
910-497-4305
Area Code Telephone Number

## III. Contact Person

Christine Ryan (Name) owner (Job Title) 910-497-1125 (Telephone No. (Area Code))

Closure Contractor (Name) Turner Environmental, 110 W. Main St., Suite 2M, Carrboro, NC (Address) 919-932-1590 (Telephone No. (Area Code))

Lab (Name) Hydrologic 1003 Twilight Trail, Frankfurt, KY (Address) 800-728-2251 (Telephone No. (Area Code))

## IV. U.S.T. Information / V. Excavation Condition

| Tank No. | Size in Gallons | Tank Dimensions | Last Contents | Water In Excavation Yes | Water In Excavation No | Free Product Yes | Free Product No | Notable Odor or Visible Soil Contamination Yes | Notable Odor or Visible Soil Contamination No |
|---|---|---|---|---|---|---|---|---|---|
| T1 | 6,000 | 8'X16' | Gasoline | | x | | x | | x |
| T2 | 6,000 | 8'X16' | Gasoline | | x | | x | | x |
| T3 | 1,000 | 4'2"X10' | Gasoline | | x | | x | x | |
| T4 | 1,000 | 4'2"X10' | Gasoline | | x | | x | x | |
| | | | | | | | | | |
| | | | | | | | | | |

## VI. Additional Information Required

See reverse side of pink copy (owner's copy) for additional information required by N.C. - DEM in the written report and sketch.

## VII. Check List

Check the activities completed.

- [x] Contact local fire marshall
- [x] Notify DEM Regional Office before abandonment.
- [ ] Drain & flush piping into tank.
- [x] Remove all product and residuals from tank
- [x] Excavate down to tank.
- [x] Clean and inspect tank.
- [x] Remove drop tube, fill pipe, gauge pipe, vapor recovery tank connections, submersible pumps and other tank fixtures.
- [ ] Cap or plug all lines except the vent and fill lines.
- [x] Purge tank of all product & flammable vapors.
- [ ] Cut one or more large holes in the tanks.
- [x] Backfill the area.

Date Tank(s) Permanently closed: 12/21/93
Date of Change-in-Service:

**ABANDONMENT IN PLACE**

- [ ] Fill tank until material overflows tank opening;
- [ ] Plug or cap all openings;.
- [ ] Disconnect and cap or remove vent line
- [ ] Solid inert material used - specify:

**REMOVAL**

- [ ] Create vent hole
- [ ] Label tank
- [x] Dispose of tank in approved manner.

Final tank destination: Day Services, Inc.

## VIII. Certification (Read and Sign)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete.

| Print name and official title of owner or owner's authorized representative | Signature | Date Signed |
|---|---|---|
| Ryan D. Turner, P.G. President - TEC | | 1/8/94 |

GW/UST-2 Rev.7/29/91 White Copy - Regional Office Yellow Copy - Central Office Pink Copy - Owner

# KELLY & WEST

ATTORNEYS AT LAW
900 S. MAIN STREET
POST OFFICE BOX 1118
LILLINGTON, NORTH CAROLINA 27546-1118

REGINALD B. KELLY
J. THOMAS WEST
J. DAVID LEWIS

(910) 893-8183
FAX (910) 893-5814

E-MAIL
info@kelly-west.com

INTERNET
http://www.kelly-west.com


February 16, 2007

Mr. Allen Westbrook
P.O. Box 160
Dunn, NC 28335

Re: Problems with NC Dept. of Environmental Natural Resources and Christine Ryan
Our File Number: 970023691

Dear Mr. Westbrook:

Ms. Christine Ryan has retained me to assist her in resolving the matter she has with the NC Dept. of Environmental Natural Resources (NCDENR). A copy of the most recent letter dated December 7, 2006 from NCDENR is enclosed.

Ms. Ryan informs me that the property that is the subject matter of that letter was purchased by you from her in early 1997. You purchased the property "As Is" and you were aware of the specific problem of prior leakage from the underground storage tanks.

Each year, since the sale of the property, Ms. Ryan has received a letter from NCDENR about the site and the needed final clean up. She further states that she has talked with you as recently as January 4, 2007, and each time she has talked with you, you have indicated that you would get the matter straightened out.

It has now been 10 years. It has come to the point that it is worrying Ms. Ryan too much and she wants you to get the matter concluded. Since she no longer owns the property, she cannot go in and do the things that the NCDENR would like done. Also, she has limited financial resources to get the work done.

This letter is to formally request that you meet with Ms. Ryan and work out a plan of action to take to conclude this matter with the NCDENR. As you know, Ms. Ryan has limited financial resources, but she is willing to do whatever she can financially to get this matter cleared up. Please contact Ms. Ryan directly at (910) 497-1125 within the next two weeks.

KELLY & WEST, P.A.
ATTORNEYS AT LAW



If you have any questions, please feel free to contact me.

Best regards.

Sincerely yours,

COPY

Reginald B. Kelly

RBK/cb
cc:
Ms. Christine Ryan

North Carolina Department of Environment and Natural Resources

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

Division of Waste Management
Underground Storage Tank Section

Dexter R. Matthews, Director

May 27, 2008

**CERTIFIED MAIL 7001 2510 0000 6683 4452**
**RETURN RECEIPT REQUESTED**
Christine Ryan
709 John Ryan Lane
Spring Lake, NC 28390

Re: Notice of Violation of 15A NCAC 2L .0400
Risk-based Assessment and Corrective Action for
Petroleum Underground Storage Tanks
Ryan's Grocery
7939 Ray Road
Cumberland County
Incident Number:12015
Risk Classification: Unknown

Dear Ms Ryan:

Information received by this office on December 21, 1993, confirms a release or discharge from a petroleum underground storage tank (UST) system at the above-referenced location. Records indicate that you are the owner or operator of this UST system. This letter explains the violation(s) and associated corrective action(s) you must take as a result of the release or discharge in accordance with North Carolina statutes and rules. The Division of Waste Management, UST Section administers the state's rules for USTs and the required response for petroleum releases. Those rules are located in Title 15A, Subchapter 2L and Title 15A, Subchapter 2N of the North Carolina Administrative Code (NCAC).

**VIOLATION 1:**
Failure to submit a Limited Site Assessment Report in accordance with Title 15A NCAC 2L .0405 to the UST Section within 120 days of discovery of a discharge or a release.

**REQUIRED CORRECTIVE ACTION:**
Please submit a Limited Site Assessment Report in accordance with Title 15A NCAC 2L .0405 and the most recent version of the *UST Section Guidelines for Assessment and Corrective Action* containing information needed by the Department to classify the level of risk to human health and the environment posed by the discharge or release. The Limited Site Assessment Report must be received by this office within 30 days of receipt of this notice. Based on a review of the information submitted in the Limited Site Assessment, the Department will classify the risk of the discharge or release as high, intermediate, or low. At that time, the Department will also classify the land use of the site as either residential or industrial/commercial. You will be notified of the risk and land use classifications once review of your Limited Site Assessment Report is completed.

Please take the corrective action(s) for the above violation(s) as necessary to bring the site into compliance. Corrective actions must be taken and reported to the Fayetteville Regional Office, within

days from the date of this notice, unless otherwise noted in the above corrective actions, to avoid recommendation of civil penalties for continuing violations.

Penalties may be assessed for the violation(s) described within this Notice of Violation. Your prompt attention to the items described herein is required. Failure to comply with the State's rules, in the manner and time specified, may result in the assessment of additional civil penalties and/or the use of other enforcement mechanisms available to the State. Each day that a violation continues may be considered a separate violation.

Please note that performing assessment and cleanup work that is not required under 15A NCAC 2L .0400 is not reimbursable from the Commercial or Noncommercial Leaking Petroleum Underground Storage Tank Cleanup Funds.

If you have any questions regarding the actions that must be taken or the rules mentioned in this letter, please contact me at the address or telephone number listed below. If you have any questions regarding trust fund eligibility or reimbursement, please contact the UST Section Trust Fund Branch at (919) 733-8486.

Sincerely,

James W. Brown
Hydrogeologist
Fayetteville Regional Office

cc: Cumberland County Health Department
Cumberland County Manager
FRO File 12015

UST Regional Offices

**Asheville (ARO)** – 2090 US Highway 70, Swannanoa, NC 28778 **(828) 296-4500**

**Fayetteville (FAY)** – 225 Green Street, Suite 714, Systel Building, Fayetteville, NC 28301 **(910) 433-3300**

**Mooresville (MOR)** – 610 East Center Avenue, Suite 301, Mooresville, NC 28115 **(704) 663-1699**

**Raleigh (RRO)** – 1628 Mail Service Center, Raleigh, NC 27699 **(919) 791-4200**

**Washington (WAS)** – 943 Washington Square Mall, Washington, NC 27889 **(252) 946-6481**

**Wilmington (WIL)** – 127 Cardinal Drive Extension, Wilmington, NC 28405 **(910) 796-7215**

**Winston-Salem (WS)** – 585 Waughtown Street, Winston-Salem, NC 27107 **(336) 771-5000**

**Guilford County Environmental Health**, 1203 Maple Street, Greensboro, NC 27405, **(336) 641-3771**

FTP: REPORT failure NOV0307.dot

# APPENDIX C

FIRSTSEARCH

# ENVIRONMENTAL FIRSTSEARCH REPORT

## TARGET PROPERTY:

**NCDOT PROJECT U-3465**

**SR 1121 - NC 210 - SR 1120**

**SPRING LAKE, NC 28390**

**JOB NUMBER: 2012-228**

**PREPARED FOR:**

**Pyramid Environmental & Engineering, PC**

503 Industrial Ave.

Greensboro, NC 27406

September 6, 2012

# Environmental FirstSearch
# Search Summary Report

**Target Site:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

## FirstSearch Summary

| Database | Sel | Updated | Radius | Site | 1/8 | 1/4 | 1/2 | 1/2> | ZIP | TOTALS |
|---|---|---|---|---|---|---|---|---|---|---|
| NPL | Y | 07-09-12 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NPL Delisted | Y | 07-09-12 | 0.50 | 0 | 0 | 0 | 0 | - | 0 | 0 |
| CERCLIS | Y | 08-01-12 | 0.50 | 0 | 0 | 0 | 0 | - | 0 | 0 |
| NFRAP | Y | 08-01-12 | 0.50 | 0 | 0 | 0 | 0 | - | 0 | 0 |
| RCRA COR ACT | Y | 07-10-12 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| RCRA TSD | Y | 07-10-12 | 0.50 | 0 | 0 | 0 | 0 | - | 0 | 0 |
| RCRA GEN | Y | 07-10-12 | 0.25 | 0 | 0 | 0 | - | - | 0 | 0 |
| Federal Brownfield | Y | 07-15-12 | 0.25 | 0 | 0 | 0 | - | - | 0 | 0 |
| ERNS | Y | 07-05-12 | 0.12 | 0 | 0 | - | - | - | 1 | 1 |
| Tribal Lands | Y | 12-15-08 | 1.00 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| State/Tribal Sites | Y | 06-08-12 | 1.00 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| State Spills 90 | Y | 06-01-12 | 0.12 | 3 | 0 | - | - | - | 0 | 3 |
| State/Tribal SWL | Y | 05-26-11 | 0.50 | 0 | 0 | 0 | 0 | - | 0 | 0 |
| State/Tribal LUST | Y | 06-01-12 | 0.50 | 2 | 1 | 0 | 2 | - | 2 | 7 |
| State/Tribal UST/AST | Y | 06-01-12 | 0.25 | 5 | 0 | 0 | - | - | 1 | 6 |
| State/Tribal EC | Y | NA | 0.25 | 0 | 0 | 0 | - | - | 0 | 0 |
| State/Tribal IC | Y | 06-08-12 | 0.25 | 0 | 0 | 0 | - | - | 0 | 0 |
| State/Tribal VCP | Y | 07-30-07 | 0.50 | 0 | 0 | 0 | 0 | - | 0 | 0 |
| State/Tribal Brownfields | Y | 08-10-12 | 0.50 | 0 | 0 | 0 | 0 | - | 0 | 0 |
| Federal IC/EC | Y | 06-13-12 | 0.50 | 0 | 0 | 0 | 0 | - | 0 | 0 |
| -TOTALS- | | | | 10 | 1 | 0 | 2 | 0 | 5 | 18 |

## Notice of Disclaimer

Due to the limitations, constraints, and inaccuracies and incompleteness of government information and computer mapping data currently available to FirstSearch Technology Corp., certain conventions have been utilized in preparing the locations of all federal, state and local agency sites residing in FirstSearch Technology Corp.'s databases. All EPA NPL and state landfill sites are depicted by a rectangle approximating their location and size. The boundaries of the rectangles represent the eastern and western most longitudes; the northern and southern most latitudes. As such, the mapped areas may exceed the actual areas and do not represent the actual boundaries of these properties. All other sites are depicted by a point representing their approximate address location and make no attempt to represent the actual areas of the associated property. Actual boundaries and locations of individual properties can be found in the files residing at the agency responsible for such information.

## Waiver of Liability

Although FirstSearch Technology Corp. uses its best efforts to research the actual location of each site, FirstSearch Technology Corp. does not and can not warrant the accuracy of these sites with regard to exact location and size. All authorized users of FirstSearch Technology Corp.'s services proceeding are signifying an understanding of FirstSeaarch Technology Corp.'s searching and mapping conventions, and agree to waive any and all liability claims associated with search and map results showing incomplete and or inaccurate site locations.

# Environmental FirstSearch
# Site Information Report

| | | | |
|---|---|---|---|
| **Request Date:** | 09-06-12 | **Search Type:** | LINEAR |
| **Requestor Name:** | Brett Higgins | | 3.499 mile(s) |
| **Standard:** | ASTM-05 | **Job Number:** | 2012-228 |
| | | Filtered Report | |

**Target Site:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

## *Demographics*

| | | | | | |
|---|---|---|---|---|---|
| **Sites:** | 18 | **Non-Geocoded:** | 5 | **Population:** | NA |

**Radon:** 0 PCI/L

**Fire Insurance Map Coverage:** No (>350 Ft. From Coverage)

## *Site Location*

| | Degrees (Decimal) | Degrees (Min/Sec) | | UTMs |
|---|---|---|---|---|
| **Longitude:** | -78.953625 | -78:57:13 | **Easting:** | 686206.771 |
| **Latitude:** | 35.240729 | 35:14:27 | **Northing:** | 3901460.421 |
| **Elevation:** | 213 | | **Zone:** | 17 |

## *Comment*

**Comment:**

## *Additional Requests/Services*

**Adjacent ZIP Codes:**

| ZIP Code | City Name | ST | Dist/Dir | Sel |
|---|---|---|---|---|

**Services:**

| | Requested? | Date |
|---|---|---|
| Fire Insurance Maps | No | |
| Aerial Photographs | Yes | 09-06-12 |
| Historical Topos | No | |
| City Directories | No | |
| Title Search | No | |
| Municipal Reports | No | |
| Liens | No | |
| Historic Map Works | No | |
| Online Topos | No | |

# Environmental FirstSearch
# Target Site Summary Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

**TOTAL:** 18 **GEOCODED:** 13 **NON GEOCODED:** 5 **SELECTED:** 0

| Map ID | DB Type | Site Name/ID/Status | Address | Dist/Dir | ElevDiff | Page No. |
|---|---|---|---|---|---|---|
| 1 | SPILLS | RYAN S GROCERY<br>12015/CURRENT RECORD | 7939 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 106 | 1 |
| 1 | UST | RYAN S GROCERY<br>0-026491/TEMPORARILY CLOSED | 7939 RAY RD<br>SPRINGLAKE NC 28390 | 0.00 -- | + 106 | 2 |
| 1 | UST | RYAN S GROCERY<br>FA-675/UNKNOWN | 7939 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 106 | 5 |
| 1 | LUST | RYAN S GROCERY<br>NCI-012015/RESPONSE | 7939 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 106 | 7 |
| 2 | SPILLS | DALTON HOLDER STORE<br>17793/CURRENT RECORD | 6701 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 81 | 8 |
| 2 | UST | DATON HOLDER<br>0-017886/PERM CLOSED REMOVED | 6701 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 81 | 9 |
| 2 | LUST | DALTON HOLDER STORE<br>NCI-017793/RESPONSE | 6701 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 81 | 12 |
| 3 | SPILLS | HOLDERS GROCERY<br>85611/CURRENT RECORD | UNKNOWN<br>SPRING LAKE NC 28390 | 0.00 -- | + 13 | 13 |
| 4 | UST | MATTHEWS GENERAL STORE<br>0-002736/CURRENTLY OPERATIONAL | 7100 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 64 | 14 |
| 5 | UST | SHORT STOP FOOD MARTS 8<br>0-021508/CURRENTLY OPERATIONAL | 7925 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 105 | 17 |

# Environmental FirstSearch
# Sites Summary Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

**TOTAL:** 18 **GEOCODED:** 13 **NON GEOCODED:** 5 **SELECTED:** 0

| Map ID | DB Type | Site Name/ID/Status | Address | Dist/Dir | ElevDiff | Page No. |
|---|---|---|---|---|---|---|
| 1 | SPILLS | RYAN S GROCERY<br>12015/CURRENT RECORD | 7939 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 106 | 1 |
| 1 | UST | RYAN S GROCERY<br>0-026491/TEMPORARILY CLOSED | 7939 RAY RD<br>SPRINGLAKE NC 28390 | 0.00 -- | + 106 | 2 |
| 1 | UST | RYAN S GROCERY<br>FA-675/UNKNOWN | 7939 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 106 | 5 |
| 1 | LUST | RYAN S GROCERY<br>NCI-012015/RESPONSE | 7939 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 106 | 7 |
| 2 | SPILLS | DALTON HOLDER STORE<br>17793/CURRENT RECORD | 6701 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 81 | 8 |
| 2 | UST | DATON HOLDER<br>0-017886/PERM CLOSED REMOVED | 6701 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 81 | 9 |
| 2 | LUST | DALTON HOLDER STORE<br>NCI-017793/RESPONSE | 6701 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 81 | 12 |
| 3 | SPILLS | HOLDERS GROCERY<br>85611/CURRENT RECORD | UNKNOWN<br>SPRING LAKE NC 28390 | 0.00 -- | + 13 | 13 |
| 4 | UST | MATTHEWS GENERAL STORE<br>0-002736/CURRENTLY OPERATIONAL | 7100 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 64 | 14 |
| 5 | UST | SHORT STOP FOOD MARTS 8<br>0-021508/CURRENTLY OPERATIONAL | 7925 RAY RD<br>SPRING LAKE NC 28390 | 0.00 -- | + 105 | 17 |
| 6 | LUST | HOLDERS GROCERY<br>NCI-085611/ASSESSMENT | 1899 RAY RD<br>SPRING LAKE NC | 0.11 SW | + 53 | 20 |
| 7 | LUST | LEWIS OIL CO.<br>NCI-005466/ | 0 HIGHWAY 210<br>MANCHESTER NC | 0.27 SE | + 4 | 21 |
| 8 | LUST | LEWIS OIL GROCERY STORE<br>NCI-014732/RESPONSE | 0 NC 210 & SR 1600<br>SPRING LAKE NC 28390 | 0.38 SE | - 53 | 22 |

# Environmental FirstSearch
# Sites Summary Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

**TOTAL:** 18 **GEOCODED:** 13 **NON GEOCODED:** 5 **SELECTED:** 0

| Map ID | DB Type | Site Name/ID/Status | Address | Dist/Dir | ElevDiff | Page No. |
|---|---|---|---|---|---|---|
| | ERNS | BETWEEN THE TOWNS SPRING LAKE<br>NRC-554942/FIXED | AND SANFORD ON HWY<br>SPRING LAKE NC | NON GC | N/A | N/A |
| | UST | STEWARTS OF SPRING LAKE<br>0-036564/PERM CLOSED REMOVED | SR 2045 AND SR 2048<br>SPRING LAKE NC | NON GC | N/A | N/A |
| | LUST | DEVON S GROCERY<br>NCI-015437/RESPONSE | ROUTE 1, BOX 425, SR2048<br>SPRING LAKE NC 28390 | NON GC | N/A | N/A |
| | LUST | LONG VALLEY FARM<br>NCI-012016/CLOSED OUT | MANCHESTER ROAD<br>SPRING LAKE NC 28390 | NON GC | N/A | N/A |
| | TRIBALLA | BUREAU OF INDIAN AFFAIRS CONTACT I<br>BIA-28390/ | UNKNOWN<br>NC 28390 | NON GC | N/A | N/A |

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## SPILLS

**SEARCH ID:** 18 **DIST/DIR:** 0.00 -- **ELEVATION:** 319 **MAP ID:** 1

**NAME:** RYAN S GROCERY
**ADDRESS:** 7939 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:**
**SOURCE:** NCDENR

**REV:** 9/23/11
**ID1:** 12015
**ID2:** FA-675
**STATUS:** CURRENT RECORD
**PHONE:**

SITE INFORMATION

OWNER/OPERATOR: CHRISTINE RYAN

RT. 3, BOX 599-A
SPRING LAKE NC 28390

DATE OF RELEASE: 12/21/1993
DATE SUBMITTED: 4/11/1994
DESCRIPTION OF INCIDENT: A LEAK WAS DISCOVERED WHEN USTS WERE RMEOVED

CONTAMINATION INFORMATION
GROUNDWATER CONTAMINATED?: Y
MAJOR SOIL CONTAMINATION?: N

MATERIAL INVOLVED (1): GASOLINE
AMOUNT LOST (1):
AMOUNT RECOVERED (1):

MATERIAL INVOLVED (2):
AMOUNT LOST (2):
AMOUNT RECOVERED (2):

MATERIAL INVOLVED (3):
AMOUNT LOST (3):
AMOUNT RECOVERED (3):

NUMBER OF WELLS AFFECTED: 0
NAME(S) OF CONTAMINATED WELLS:

PRIORITY INFORMATION:
RISK SITE?: H
SITE PRIORITY: 085B
PRIORITY CODE: H
PRIORITY UPDATE: 4/15/1998

STATUS INFORMATION:
LAST MODIFIED:
INCIDENT PHASE: RESPONSE
NOV ISSUED:
NORR ISSUED:
45 DAY REPORT:
CORRECTIVE ACTION PLAN:
CLOSURE REQ DATE:
CLOSE-OUT REPORT:

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 4 **DIST/DIR:** 0.00 -- **ELEVATION:** 319 **MAP ID:** 1

**NAME:** RYAN S GROCERY
**ADDRESS:** 7939 RAY RD
SPRINGLAKE NC 28390
HARNETT
**CONTACT:** CHRISTINE RYAN
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-026491
**ID2:** 00-0-0000026491
**STATUS:** TEMPORARILY CLOSED
**PHONE:**

SITE INFORMATION

TOTAL NUMBER OF TANKS: 5

CONTACT INFORMATION: CHRISTINE RYAN
7939 RAY ROAD
SPRINGLAKE NC 28390

TANK NUMBER: 1
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 6000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:4
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:
COMMERCIAL TANK:YES
REGULATED TANK:YES

TANK NUMBER: 2
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 6000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:4
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:
COMMERCIAL TANK:YES
REGULATED TANK:YES

TANK NUMBER: 3
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 1000
TANK CONSTRUCTION:3

- Continued on next page -

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 4 **DIST/DIR:** 0.00 -- **ELEVATION:** 319 **MAP ID:** 1

**NAME:** RYAN S GROCERY
**ADDRESS:** 7939 RAY RD
SPRINGLAKE NC 28390
HARNETT
**CONTACT:** CHRISTINE RYAN
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-026491
**ID2:** 00-0-0000026491
**STATUS:** TEMPORARILY CLOSED
**PHONE:**

PIPE CONSTRUCTION:4
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:
COMMERCIAL TANK:NO
REGULATED TANK:YES

TANK NUMBER: 4
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 1000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:4
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:
COMMERCIAL TANK:NO
REGULATED TANK:YES

TANK NUMBER: 5
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 500
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:4
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:
COMMERCIAL TANK:NO
REGULATED TANK:YES

ARCHIVED INFORMATION AS OF 2011

TANK NUMBER: 1
INSTALLATION DATE: 19841231
CLOSED DATE: 19931221
STATUS: PERMANENTLY CLOSED
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 6000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL

- Continued on next page -

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 4 **DIST/DIR:** 0.00 -- **ELEVATION:** 319 **MAP ID:** 1

**NAME:** RYAN S GROCERY
**ADDRESS:** 7939 RAY RD
SPRINGLAKE NC 28390
HARNETT
**CONTACT:** CHRISTINE RYAN
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-026491
**ID2:** 00-0-0000026491
**STATUS:** TEMPORARILY CLOSED
**PHONE:**

INTERIOR: UNKNOWN
EXTERIOR: UNKNOWN
CORROSION PROTECTION:
LEAK DETECTION:
PIPING MATERIAL: STEEL
PIPE CORROSION PROTECTION:
PIPE LEAK DETECTION:
OVERFLOW PROTECTION:
FINANCIAL RESPONSIBILITY:
CERTIFICATION TYPE:
GPS SITING CONFIRMED:N
PERSON CONFIRMING:

TANK NUMBER: 2
INSTALLATION DATE: 19841231
CLOSED DATE: 19931221
STATUS: PERMANENTLY CLOSED
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 6000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: UNKNOWN
EXTERIOR: UNKNOWN
CORROSION PROTECTION:
LEAK DETECTION:
PIPING MATERIAL: STEEL
PIPE CORROSION PROTECTION:
PIPE LEAK DETECTION:
OVERFLOW PROTECTION:
FINANCIAL RESPONSIBILITY:
CERTIFICATION TYPE:
GPS SITING CONFIRMED:N
PERSON CONFIRMING:

TANK NUMBER: 3
INSTALLATION DATE: 19701231
CLOSED DATE: 19931221
STATUS: PERMANENTLY CLOSED
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 1000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: UNKNOWN
EXTERIOR: UNKNOWN
CORROSION PROTECTION:
LEAK DETECTION:
PIPING MATERIAL: STEEL

- More Details Exist For This Site; Max Page Limit Reached -

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 5 **DIST/DIR:** 0.00 -- **ELEVATION:** 319 **MAP ID:** 1

**NAME:** RYAN S GROCERY
**ADDRESS:** 7939 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** CHRISTINE RYAN
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** FA-675
**ID2:**
**STATUS:** UNKNOWN
**PHONE:**

SITE INFORMATION

REGIONAL UST DATA

UST NUMBER:FA-675
INCIDENT NUMBER:12015
CD NUMBER:0
REEL NUMBER:0
REGIONAL CONTACT:JWB
REGIONAL OFFICE:FAY
DATE OCCURRED:12/21/1993

RESPONSIBLE COMPANY:

790 JOHN RYAN LANE
SPRING LAKE ,NC , 28390

SOURCE:LEAK, UST
PETROLEUM TYPE:PETROLEUM
COMMERCIAL/NONCOMMERCIAL:COMMERCIAL
REGULATED:REGULATED
REGULATORY REQUIREMENT:9/28/2001
VIOLATION:

PHASE REQUIRED:
SITE PRIORITY:085B
RISK:H
RISK OF INCIDENT:L
INTERMEDIATE CONDITION:
LAND USE:

CORRECTIVE ACTION PLAN:
RBCA:
CLOSED REVIEW REQUESTED:
CASE CLOSED:
CONTAMINATION:GROUNDWATER/BOTH
SUPPLY WELLS:
MTBE IN WELL:
MTBE IN GROUNDWATER:UNKNOWN

LEAK DISCOVERED:0
LAND USE RESTRICTION FILED:
CLEAN UP:12/21/1993
CURRENT STATUS:CURRENT RECORD

RBCA GROUNDWATER:
POLLUTANT TYPE:GASOLINE/DIESEL/KEROSENE
CD NUMBER:0
RESPONSIBLE OWNER:0

- Continued on next page -

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 5 **DIST/DIR:** 0.00 -- **ELEVATION:** 319 **MAP ID:** 1

| | | | |
|---|---|---|---|
| **NAME:** | RYAN S GROCERY | **REV:** | 6/1/12 |
| **ADDRESS:** | 7939 RAY RD | **ID1:** | FA-675 |
| | SPRING LAKE NC 28390 | **ID2:** | |
| | HARNETT | **STATUS:** | UNKNOWN |
| **CONTACT:** | CHRISTINE RYAN | **PHONE:** | |
| **SOURCE:** | NCDENR | | |

RESPONSIBLE OPERATOR:0
RESPONSIBLE LANDOWNER:0
COMMENTS:

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## LUST

**SEARCH ID:** 9 **DIST/DIR:** 0.00 -- **ELEVATION:** 319 **MAP ID:** 1

**NAME:** RYAN S GROCERY
**ADDRESS:** 7939 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** CHRISTINE RYAN
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** NCI-012015
**ID2:** 12015
**STATUS:** RESPONSE
**PHONE:**

REGIONAL UST DATA

UST NUMBER:FA-675
INCIDENT NUMBER:12015
CD NUMBER:0
REEL NUMBER:0
REGIONAL CONTACT:JWB
REGIONAL OFFICE:FAY
DATE OCCURRED:12/21/1993

RESPONSIBLE COMPANY:

790 JOHN RYAN LANE
SPRING LAKE ,NC , 28390

SOURCE:LEAK, UST
PETROLEUM TYPE:PETROLEUM
COMMERCIAL/NONCOMMERCIAL:COMMERCIAL
REGULATED:REGULATED
REGULATORY REQUIREMENT:9/28/2001
VIOLATION:

PHASE REQUIRED:
SITE PRIORITY:085B
RISK:H
RISK OF INCIDENT:L
INTERMEDIATE CONDITION:
LAND USE:

CORRECTIVE ACTION PLAN:
RBCA:
CLOSED REVIEW REQUESTED:
CASE CLOSED:
CONTAMINATION:GROUNDWATER/BOTH
SUPPLY WELLS:
MTBE IN WELL:
MTBE IN GROUNDWATER:UNKNOWN

LEAK DISCOVERED:0
LAND USE RESTRICTION FILED:
CLEAN UP:12/21/1993
CURRENT STATUS:CURRENT RECORD

RBCA GROUNDWATER:
POLLUTANT TYPE:GASOLINE/DIESEL/KEROSENE
CD NUMBER:0
RESPONSIBLE OWNER:0
RESPONSIBLE OPERATOR:0
RESPONSIBLE LANDOWNER:0

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## SPILLS

**SEARCH ID:** 1 **DIST/DIR:** 0.00 -- **ELEVATION:** 294 **MAP ID:** 2

**NAME:** DALTON HOLDER STORE
**ADDRESS:** 6701 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:**
**SOURCE:** NCDENR

**REV:** 9/23/11
**ID1:** 17793
**ID2:** FA-934
**STATUS:** CURRENT RECORD
**PHONE:**

SITE INFORMATION

OWNER/OPERATOR: GORDON MASON

6701 RAY ROAD
SPRING LAKE NC 28390

DATE OF RELEASE: 8/28/1997
DATE SUBMITTED: 9/16/1997
DESCRIPTION OF INCIDENT: RECEIVED CLOSURE REPORT; SOIL ANALYTICAL RESULTS SHOWED TPH>10PPM FOR ALL SAMPLES COLLECTED AROUND TANKS; GROUNDWATER WAS NOT ENCOUNTERED DURING TK REMOVAL

CONTAMINATION INFORMATION
GROUNDWATER CONTAMINATED?: Y
MAJOR SOIL CONTAMINATION?: N

MATERIAL INVOLVED (1): GASOLINE
AMOUNT LOST (1):
AMOUNT RECOVERED (1): UNKNOWN

MATERIAL INVOLVED (2):
AMOUNT LOST (2):
AMOUNT RECOVERED (2):

MATERIAL INVOLVED (3):
AMOUNT LOST (3):
AMOUNT RECOVERED (3):

NUMBER OF WELLS AFFECTED: 0
NAME(S) OF CONTAMINATED WELLS:

PRIORITY INFORMATION:
RISK SITE?: U
SITE PRIORITY: 10E
PRIORITY CODE: E
PRIORITY UPDATE:

STATUS INFORMATION:
LAST MODIFIED:
INCIDENT PHASE: RESPONSE
NOV ISSUED:
NORR ISSUED:
45 DAY REPORT:
CORRECTIVE ACTION PLAN:
CLOSURE REQ DATE:
CLOSE-OUT REPORT:

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 7 **DIST/DIR:** 0.00 -- **ELEVATION:** 294 **MAP ID:** 2

**NAME:** DATON HOLDER
**ADDRESS:** 6701 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** GORDON A MASON
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-017886
**ID2:** 00-0-0000017886
**STATUS:** PERM CLOSED REMOVED
**PHONE:**

SITE INFORMATION

TOTAL NUMBER OF TANKS: 3

CONTACT INFORMATION: GORDON A MASON
6701 B RAY RD
SPRING LAKE NC 28390

TANK NUMBER: 1
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 3000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:4
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:
COMMERCIAL TANK:YES
REGULATED TANK:YES

TANK NUMBER: 2
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 3000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:4
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:
COMMERCIAL TANK:YES
REGULATED TANK:YES

TANK NUMBER: 3
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 3000
TANK CONSTRUCTION:3

- Continued on next page -

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 7 **DIST/DIR:** 0.00 -- **ELEVATION:** 294 **MAP ID:** 2

**NAME:** DATON HOLDER
**ADDRESS:** 6701 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** GORDON A MASON
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-017886
**ID2:** 00-0-0000017886
**STATUS:** PERM CLOSED REMOVED
**PHONE:**

PIPE CONSTRUCTION:4
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:
COMMERCIAL TANK:YES
REGULATED TANK:YES

REGIONAL UST DATA

UST NUMBER:FA-934
INCIDENT NUMBER:17793
CD NUMBER:0
REEL NUMBER:0
REGIONAL CONTACT:JWB
REGIONAL OFFICE:FAY
DATE OCCURRED:8/28/1997

RESPONSIBLE COMPANY:

6701 RAY ROAD
SPRING LAKE ,NC , 28390

SOURCE:LEAK, UST
PETROLEUM TYPE:PETROLEUM
COMMERCIAL/NONCOMMERCIAL:COMMERCIAL
REGULATED:REGULATED
REGULATORY REQUIREMENT:
VIOLATION:

PHASE REQUIRED:
SITE PRIORITY:
RISK:L
RISK OF INCIDENT:L
INTERMEDIATE CONDITION:
LAND USE:RES

CORRECTIVE ACTION PLAN:
RBCA:
CLOSED REVIEW REQUESTED:
CASE CLOSED:
CONTAMINATION:GROUNDWATER/BOTH
SUPPLY WELLS:0
MTBE IN WELL:0
MTBE IN GROUNDWATER:UNKNOWN

LEAK DISCOVERED:0
LAND USE RESTRICTION FILED:
CLEAN UP:8/27/1997
CURRENT STATUS:CURRENT RECORD

- Continued on next page -

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 7 **DIST/DIR:** 0.00 -- **ELEVATION:** 294 **MAP ID:** 2

| | | | |
|---|---|---|---|
| **NAME:** | DATON HOLDER | **REV:** | 6/1/12 |
| **ADDRESS:** | 6701 RAY RD | **ID1:** | 0-017886 |
| | SPRING LAKE NC 28390 | **ID2:** | 00-0-0000017886 |
| | HARNETT | **STATUS:** | PERM CLOSED REMOVED |
| **CONTACT:** | GORDON A MASON | **PHONE:** | |
| **SOURCE:** | NCDENR | | |

RBCA GROUNDWATER:
POLLUTANT TYPE:GASOLINE/DIESEL/KEROSENE
CD NUMBER:0
RESPONSIBLE OWNER:0
RESPONSIBLE OPERATOR:0
RESPONSIBLE LANDOWNER:0
COMMENTS:

ARCHIVED INFORMATION AS OF 2011

TANK NUMBER: 1
INSTALLATION DATE: 19740420
CLOSED DATE: 19970728
STATUS: PERMANENTLY CLOSED
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 3000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: NONE
EXTERIOR: PAINT
CORROSION PROTECTION:
LEAK DETECTION:
PIPING MATERIAL: STEEL
PIPE CORROSION PROTECTION:
PIPE LEAK DETECTION:
OVERFLOW PROTECTION:
FINANCIAL RESPONSIBILITY:
CERTIFICATION TYPE:
GPS SITING CONFIRMED:N
PERSON CONFIRMING:

TANK NUMBER: 2
INSTALLATION DATE: 19740420
CLOSED DATE: 19970728
STATUS: PERMANENTLY CLOSED
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 3000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: NONE
EXTERIOR: PAINT
CORROSION PROTECTION:
LEAK DETECTION:
PIPING MATERIAL: STEEL
PIPE CORROSION PROTECTION:
PIPE LEAK DETECTION:

- More Details Exist For This Site; Max Page Limit Reached -

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## LUST

**SEARCH ID:** 8 **DIST/DIR:** 0.00 -- **ELEVATION:** 294 **MAP ID:** 2

**NAME:** DALTON HOLDER STORE
**ADDRESS:** 6701 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** GORDON MASON
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** NCI-017793
**ID2:** 17793
**STATUS:** RESPONSE
**PHONE:** 9104978229

REGIONAL UST DATA

UST NUMBER:FA-934
INCIDENT NUMBER:17793
CD NUMBER:0
REEL NUMBER:0
REGIONAL CONTACT:JWB
REGIONAL OFFICE:FAY
DATE OCCURRED:8/28/1997

RESPONSIBLE COMPANY:

6701 RAY ROAD
SPRING LAKE ,NC , 28390

SOURCE:LEAK, UST
PETROLEUM TYPE:PETROLEUM
COMMERCIAL/NONCOMMERCIAL:COMMERCIAL
REGULATED:REGULATED
REGULATORY REQUIREMENT:
VIOLATION:

PHASE REQUIRED:
SITE PRIORITY:
RISK:L
RISK OF INCIDENT:L
INTERMEDIATE CONDITION:
LAND USE:RES

CORRECTIVE ACTION PLAN:
RBCA:
CLOSED REVIEW REQUESTED:
CASE CLOSED:
CONTAMINATION:GROUNDWATER/BOTH
SUPPLY WELLS:0
MTBE IN WELL:0
MTBE IN GROUNDWATER:UNKNOWN

LEAK DISCOVERED:0
LAND USE RESTRICTION FILED:
CLEAN UP:8/27/1997
CURRENT STATUS:CURRENT RECORD

RBCA GROUNDWATER:
POLLUTANT TYPE:GASOLINE/DIESEL/KEROSENE
CD NUMBER:0
RESPONSIBLE OWNER:0
RESPONSIBLE OPERATOR:0
RESPONSIBLE LANDOWNER:0

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## SPILLS

**SEARCH ID:** 2 **DIST/DIR:** 0.00 -- **ELEVATION:** 226 **MAP ID:** 3

**NAME:** HOLDERS GROCERY
**ADDRESS:** UNKNOWN
SPRING LAKE NC 28390
HARNETT
**CONTACT:**
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 85611
**ID2:** FA-85611
**STATUS:** CURRENT RECORD
**PHONE:**

SITE INFORMATION

OWNER/OPERATOR: HOPPER-PRESIDENT, RICK
H&H CABLE CONTRACTORS, INC.
1092 PONDEROSA ROAD
CAMERON 9194991130

DATE OF RELEASE: 6/4/2000
DATE SUBMITTED: 4/12/2001
DESCRIPTION OF INCIDENT:

CONTAMINATION INFORMATION
GROUNDWATER CONTAMINATED?: Y
MAJOR SOIL CONTAMINATION?:

MATERIAL INVOLVED (1):
AMOUNT LOST (1):
AMOUNT RECOVERED (1):

MATERIAL INVOLVED (2):
AMOUNT LOST (2):
AMOUNT RECOVERED (2):

MATERIAL INVOLVED (3):
AMOUNT LOST (3):
AMOUNT RECOVERED (3):

NUMBER OF WELLS AFFECTED: 0
NAME(S) OF CONTAMINATED WELLS:

PRIORITY INFORMATION:
RISK SITE?:
SITE PRIORITY:
PRIORITY CODE: B
PRIORITY UPDATE:

STATUS INFORMATION:
LAST MODIFIED: 5/9/2002
INCIDENT PHASE: ASSESSMENT
NOV ISSUED:
NORR ISSUED:
45 DAY REPORT:
CORRECTIVE ACTION PLAN: 5/9/2002
CLOSURE REQ DATE:
CLOSE-OUT REPORT:

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 3 **DIST/DIR:** 0.00 -- **ELEVATION:** 277 **MAP ID:** 4

**NAME:** MATTHEWS GENERAL STORE
**ADDRESS:** 7100 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** FOSTER . MATTHEWS
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-002736
**ID2:** 00-0-0000002736
**STATUS:** CURRENTLY OPERATIONAL
**PHONE:**

SITE INFORMATION

TOTAL NUMBER OF TANKS: 3

CONTACT INFORMATION: FOSTER . MATTHEWS
1863 WILL LUCAS RD
LINDEN NC 28356-8523

TANK NUMBER: 001
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 6000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:1
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:NO
COMMERCIAL TANK:YES
REGULATED TANK:YES

TANK NUMBER: 002
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 6000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:1
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:NO
COMMERCIAL TANK:YES
REGULATED TANK:YES

TANK NUMBER: 003
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 6000
TANK CONSTRUCTION:3

- Continued on next page -

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 3 **DIST/DIR:** 0.00 -- **ELEVATION:** 277 **MAP ID:** 4

**NAME:** MATTHEWS GENERAL STORE
**ADDRESS:** 7100 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** FOSTER . MATTHEWS
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-002736
**ID2:** 00-0-0000002736
**STATUS:** CURRENTLY OPERATIONAL
**PHONE:**

PIPE CONSTRUCTION:1
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:NO
COMMERCIAL TANK:YES
REGULATED TANK:YES

ARCHIVED INFORMATION AS OF 2011

TANK NUMBER: 001
INSTALLATION DATE: 19940504
CLOSED DATE:
STATUS: CURRENTLY OPERATIONAL
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 6000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: UNKNOWN
EXTERIOR: UNKNOWN
CORROSION PROTECTION: IMPRESSED CURRENT
LEAK DETECTION:
PIPING MATERIAL: UNKNOWN
PIPE CORROSION PROTECTION: IMPRESSED CURRENT
PIPE LEAK DETECTION:
OVERFLOW PROTECTION: CATCHMENT BASIN
FINANCIAL RESPONSIBILITY:
CERTIFICATION TYPE:
GPS SITING CONFIRMED:Y
PERSON CONFIRMING:KCC

TANK NUMBER: 002
INSTALLATION DATE: 19940504
CLOSED DATE:
STATUS: CURRENTLY OPERATIONAL
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 6000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: UNKNOWN
EXTERIOR: UNKNOWN
CORROSION PROTECTION: IMPRESSED CURRENT
LEAK DETECTION:
PIPING MATERIAL: UNKNOWN
PIPE CORROSION PROTECTION: IMPRESSED CURRENT
PIPE LEAK DETECTION:
OVERFLOW PROTECTION: CATCHMENT BASIN
FINANCIAL RESPONSIBILITY:

- Continued on next page -

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 3 **DIST/DIR:** 0.00 -- **ELEVATION:** 277 **MAP ID:** 4

**NAME:** MATTHEWS GENERAL STORE
**ADDRESS:** 7100 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** FOSTER . MATTHEWS
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-002736
**ID2:** 00-0-0000002736
**STATUS:** CURRENTLY OPERATIONAL
**PHONE:**

CERTIFICATION TYPE:
GPS SITING CONFIRMED:Y
PERSON CONFIRMING:KCC

TANK NUMBER: 003
INSTALLATION DATE: 19940504
CLOSED DATE:
STATUS: CURRENTLY OPERATIONAL
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 6000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: UNKNOWN
EXTERIOR: UNKNOWN
CORROSION PROTECTION: IMPRESSED CURRENT
LEAK DETECTION:
PIPING MATERIAL: UNKNOWN
PIPE CORROSION PROTECTION: IMPRESSED CURRENT
PIPE LEAK DETECTION:
OVERFLOW PROTECTION: CATCHMENT BASIN
FINANCIAL RESPONSIBILITY:
CERTIFICATION TYPE:
GPS SITING CONFIRMED:Y
PERSON CONFIRMING:KCC

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 6 **DIST/DIR:** 0.00 -- **ELEVATION:** 318 **MAP ID:** 5

| | | | |
|---|---|---|---|
| **NAME:** | SHORT STOP FOOD MARTS 8 | **REV:** | 6/1/12 |
| **ADDRESS:** | 7925 RAY RD | **ID1:** | 0-021508 |
| | SPRING LAKE NC 28390 | **ID2:** | 00-0-0000021508 |
| | HARNETT | **STATUS:** | CURRENTLY OPERATIONAL |
| **CONTACT:** | LI L THRIFT FOOD MARTS, INC. | **PHONE:** | |
| **SOURCE:** | NCDENR | | |

SITE INFORMATION

TOTAL NUMBER OF TANKS: 3

CONTACT INFORMATION: LI L THRIFT FOOD MARTS, INC.
1007 ARSENAL AVENUE
FAYETTEVILLE NC 28305-5329

TANK NUMBER: 1
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 6000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:3
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:NO
COMMERCIAL TANK:YES
REGULATED TANK:YES

TANK NUMBER: 2
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 6000
TANK CONSTRUCTION:3
PIPE CONSTRUCTION:3
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:NO
COMMERCIAL TANK:YES
REGULATED TANK:YES

TANK NUMBER: 3
ROOT TANK ID:
TANK STATUS:
INSTALLATION DATE:
PERM CLOSED:
CONTENTS: Gasoline, Gas Mix
CAPACITY IN GALLONS: 4000
TANK CONSTRUCTION:3

- Continued on next page -

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 6 **DIST/DIR:** 0.00 -- **ELEVATION:** 318 **MAP ID:** 5

**NAME:** SHORT STOP FOOD MARTS 8
**ADDRESS:** 7925 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** LI L THRIFT FOOD MARTS, INC.
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-021508
**ID2:** 00-0-0000021508
**STATUS:** CURRENTLY OPERATIONAL
**PHONE:**

PIPE CONSTRUCTION:3
MAIN TANK:NO
COMPARTMENT TANK:NO
MANIFOLD TANK:NO
COMMERCIAL TANK:YES
REGULATED TANK:YES

ARCHIVED INFORMATION AS OF 2011

TANK NUMBER: 1
INSTALLATION DATE: 19731003
CLOSED DATE:
STATUS: CURRENTLY OPERATIONAL
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 6000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: INTERNAL LINING
EXTERIOR: CATHODIC PROTECTION
CORROSION PROTECTION: INTERNAL LINING
LEAK DETECTION: PERIODIC TANK TIGHTNESS TESTING
PIPING MATERIAL: FRP
PIPE CORROSION PROTECTION: FRP TANK/PIPING
PIPE LEAK DETECTION: AUTOMATIC LINE LEAK DETECTORS
OVERFLOW PROTECTION: CATCHMENT BASIN
FINANCIAL RESPONSIBILITY:
CERTIFICATION TYPE:
GPS SITING CONFIRMED:Y
PERSON CONFIRMING:KCC

TANK NUMBER: 2
INSTALLATION DATE: 19731003
CLOSED DATE:
STATUS: CURRENTLY OPERATIONAL
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 6000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: INTERNAL LINING
EXTERIOR: CATHODIC PROTECTION
CORROSION PROTECTION: INTERNAL LINING
LEAK DETECTION: PERIODIC TANK TIGHTNESS TESTING
PIPING MATERIAL: FRP
PIPE CORROSION PROTECTION: FRP TANK/PIPING
PIPE LEAK DETECTION: AUTOMATIC LINE LEAK DETECTORS
OVERFLOW PROTECTION: CATCHMENT BASIN
FINANCIAL RESPONSIBILITY:

- Continued on next page -

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## UST

**SEARCH ID:** 6 **DIST/DIR:** 0.00 -- **ELEVATION:** 318 **MAP ID:** 5

**NAME:** SHORT STOP FOOD MARTS 8
**ADDRESS:** 7925 RAY RD
SPRING LAKE NC 28390
HARNETT
**CONTACT:** LI L THRIFT FOOD MARTS, INC.
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** 0-021508
**ID2:** 00-0-0000021508
**STATUS:** CURRENTLY OPERATIONAL
**PHONE:**

CERTIFICATION TYPE:
GPS SITING CONFIRMED:Y
PERSON CONFIRMING:KCC

TANK NUMBER: 3
INSTALLATION DATE: 19861001
CLOSED DATE:
STATUS: CURRENTLY OPERATIONAL
CONTENTS: GASOLINE, GASOLINE MIXTURE
CAPACITY IN GALLONS: 4000
COMMENTS:
CONSTRUCTION MATERIAL: STEEL
INTERIOR: INTERNAL LINING
EXTERIOR: CATHODIC PROTECTION
CORROSION PROTECTION: INTERNAL LINING
LEAK DETECTION: PERIODIC TANK TIGHTNESS TESTING
PIPING MATERIAL: FRP
PIPE CORROSION PROTECTION: FRP TANK/PIPING
PIPE LEAK DETECTION: AUTOMATIC LINE LEAK DETECTORS
OVERFLOW PROTECTION: CATCHMENT BASIN
FINANCIAL RESPONSIBILITY:
CERTIFICATION TYPE:
GPS SITING CONFIRMED:Y
PERSON CONFIRMING:KCC

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## LUST

**SEARCH ID:** 10 **DIST/DIR:** 0.11 SW **ELEVATION:** 266 **MAP ID:** 6

| | | | |
|---|---|---|---|
| **NAME:** | HOLDERS GROCERY | **REV:** | 10/1/01 |
| **ADDRESS:** | 1899 RAY RD | **ID1:** | NCI-085611 |
| | SPRING LAKE NC | **ID2:** | |
| | HARNETT | **STATUS:** | ASSESSMENT |
| **CONTACT:** | RICK HOPPER-PRESIDENT | **PHONE:** | 9194991130 |
| **SOURCE:** | | | |

OWNER/OPERATOR: RICK HOPPER-PRESIDENT
H&H CABLE CONTRACTORS, INC.
1092 PONDEROSA ROAD
CAMERON NORT 28326

DATE OF RELEASE: 6/4/2000
DATE SUBMITTED: 4/12/2001
DESCRIPTION OF INCIDENT:

CONTAMINATION INFORMATION
GROUNDWATER CONTAMINATED?: Y
MAJOR SOIL CONTAMINATION?:

MATERIAL INVOLVED (1):
AMOUNT LOST (1):
AMOUNT RECOVERED (1):

MATERIAL INVOLVED (2):
AMOUNT LOST (2):
AMOUNT RECOVERED (2):

MATERIAL INVOLVED (3):
AMOUNT LOST (3):
AMOUNT RECOVERED (3):

NUMBER OF WELLS AFFECTED: 0
NAME(S) OF CONTAMINATED WELLS:

PRIORITY INFORMATION:
RISK SITE?:
SITE PRIORITY: 160
PRIORITY CODE: B
PRIORITY UPDATE:

STATUS INFORMATION:
LAST MODIFIED:
INCIDENT PHASE: ASSESSMENT
NOV ISSUED:
NORR ISSUED:
45 DAY REPORT:
CORRECTIVE ACTION PLAN: 5/9/2002
CLOSURE REQ DATE:
CLOSE-OUT REPORT:

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## LUST

**SEARCH ID:** 11 **DIST/DIR:** 0.27 SE **ELEVATION:** 217 **MAP ID:** 7

**NAME:** LEWIS OIL CO.
**ADDRESS:** 0 HIGHWAY 210
MANCHESTER NC
HARNETT
**CONTACT:**
**SOURCE:**

**REV:** 10/1/01
**ID1:** NCI-005466
**ID2:**
**STATUS:**
**PHONE:**

OWNER/OPERATOR:

DATE OF RELEASE:
DATE SUBMITTED: 3/12/1990
DESCRIPTION OF INCIDENT:

CONTAMINATION INFORMATION
GROUNDWATER CONTAMINATED?: NOD
MAJOR SOIL CONTAMINATION?:

MATERIAL INVOLVED (1):
AMOUNT LOST (1):
AMOUNT RECOVERED (1):

MATERIAL INVOLVED (2):
AMOUNT LOST (2):
AMOUNT RECOVERED (2):

MATERIAL INVOLVED (3):
AMOUNT LOST (3):
AMOUNT RECOVERED (3):

NUMBER OF WELLS AFFECTED: 0
NAME(S) OF CONTAMINATED WELLS:

PRIORITY INFORMATION:
RISK SITE?:
SITE PRIORITY: 0
PRIORITY CODE: E
PRIORITY UPDATE:

STATUS INFORMATION:
LAST MODIFIED:
INCIDENT PHASE:
NOV ISSUED:
NORR ISSUED:
45 DAY REPORT:
CORRECTIVE ACTION PLAN:
CLOSURE REQ DATE:
CLOSE-OUT REPORT:

# Environmental FirstSearch
# Site Detail Report

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

## LUST

**SEARCH ID:** 12 **DIST/DIR:** 0.38 SE **ELEVATION:** 160 **MAP ID:** 8

**NAME:** LEWIS OIL GROCERY STORE
**ADDRESS:** 0 NC 210 & SR 1600
SPRING LAKE NC 28390
CUMBERLAND
**CONTACT:** STEWART LEWIS
**SOURCE:** NCDENR

**REV:** 6/1/12
**ID1:** NCI-014732
**ID2:** 14732
**STATUS:** RESPONSE
**PHONE:**

REGIONAL UST DATA

UST NUMBER:FA-797
INCIDENT NUMBER:14732
CD NUMBER:0
REEL NUMBER:0
REGIONAL CONTACT:JWB
REGIONAL OFFICE:FAY
DATE OCCURRED:10/18/1995

RESPONSIBLE COMPANY:

STUART LEWIS OIL CO.
HWY 210 N.
SPRING LAKE ,NC , 28390

SOURCE:LEAK, UST
PETROLEUM TYPE:PETROLEUM
COMMERCIAL/NONCOMMERCIAL:COMMERCIAL
REGULATED:REGULATED
REGULATORY REQUIREMENT:
VIOLATION:

PHASE REQUIRED:
SITE PRIORITY:090B
RISK:H
RISK OF INCIDENT:L
INTERMEDIATE CONDITION:
LAND USE:

CORRECTIVE ACTION PLAN:
RBCA:
CLOSED REVIEW REQUESTED:
CASE CLOSED:
CONTAMINATION:GROUNDWATER/BOTH
SUPPLY WELLS:
MTBE IN WELL:
MTBE IN GROUNDWATER:UNKNOWN

LEAK DISCOVERED:0
LAND USE RESTRICTION FILED:
CLEAN UP:10/18/1995
CURRENT STATUS:CURRENT RECORD

RBCA GROUNDWATER:
POLLUTANT TYPE:GASOLINE/DIESEL/KEROSENE
CD NUMBER:0
RESPONSIBLE OWNER:0
RESPONSIBLE OPERATOR:0
RESPONSIBLE LANDOWNER:0

# Environmental FirstSearch Descriptions

NPL: EPA NATIONAL PRIORITY LIST - The National Priorities List is a list of the worst hazardous waste sites that have been identified by Superfund. Sites are only put on the list after they have been scored using the Hazard Ranking System (HRS), and have been subjected to public comment. Any site on the NPL is eligible for cleanup using Superfund Trust money. A Superfund site is any land in the United States that has been contaminated by hazardous waste and identified by the Environmental Protection Agency (EPA) as a candidate for cleanup because it poses a risk to human health and/or the environment.FINAL - Currently on the Final NPLPROPOSED - Proposed for NPL

NPL DELISTED: EPA NATIONAL PRIORITY LIST Subset - Database of delisted NPL sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.DELISTED - Deleted from the Final NPL

CERCLIS: EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM (CERCLIS)- CERCLIS is a database of potential and confirmed hazardous waste sites at which the EPA Superfund program has some involvement. It contains sites that are either proposed to be or are on the National Priorities List (NPL) as well as sites that are in the screening and assessment phase for possible inclusion on the NPL.PART OF NPL- Site is part of NPL siteDELETED - Deleted from the Final NPLFINAL - Currently on the Final NPLNOT PROPOSED - Not on the NPLNOT VALID - Not Valid Site or IncidentPROPOSED - Proposed for NPLREMOVED - Removed from Proposed NPLSCAN PLAN - Pre-proposal SiteWITHDRAWN - Withdrawn

NFRAP: EPA COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY INFORMATION SYSTEM ARCHIVED SITES - database of Archive designated CERCLA sites that, to the best of EPA's knowledge, assessment has been completed and has determined no further steps will be taken to list this site on the National Priorities List (NPL). This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.NFRAP – No Further Remedial Action PlanP - Site is part of NPL siteD - Deleted from the Final NPLF - Currently on the Final NPLN - Not on the NPLO - Not Valid Site or IncidentP - Proposed for NPLR - Removed from Proposed NPLS - Pre-proposal SiteW – Withdrawn

RCRA COR ACT: EPA RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.RCRAInfo facilities that have reported violations and subject to corrective actions.

RCRA TSD: EPA RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM TREATMENT, STORAGE, and DISPOSAL FACILITIES. - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.Facilities that treat, store, dispose, or incinerate hazardous waste.

RCRA GEN: EPA/MA DEP/CT DEP RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM GENERATORS - Database of hazardous waste information contained in the Resource Conservation and Recovery Act Information (RCRAInfo), a national program management and inventory system about hazardous waste handlers. In general, all generators, transporters, treaters, storers, and disposers of hazardous waste are required to provide information about their activities to state environmental agencies. These agencies, in turn pass on the information to regional and national EPA offices. This regulation is governed by the Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Amendments of 1984.Facilities that generate or transport hazardous waste or meet other RCRA requirements.LGN - Large Quantity GeneratorsSGN - Small Quantity GeneratorsVGN – Conditionally Exempt Generator.Included are RAATS (RCRA Administrative Action Tracking System) and CMEL (Compliance Monitoring & Enforcement List) facilities. CONNECTICUT HAZARDOUS WASTE MANIFEST – Database of all shipments of hazardous waste within, into or from Connecticut. The data includes date of shipment, transporter and TSD info, and material shipped and quantity. This data is appended to the details of existing generator records. MASSACHUSETTES HAZARDOUS WASTE GENERATOR – database of generators that are regulated under the MA DEP. VQN-MA = generates less than 220 pounds or 27 gallons per month of hazardous waste or waste oil.SQN-MA = generates 220 to 2,200 pounds or 27 to 270 gallons per month of waste oil.LQG-MA = generates greater than 2,200 lbs of hazardous waste or waste oil per month.

Fed Brownfield: EPA BROWNFIELD MANAGEMENT SYSTEM (BMS) - database designed to assist EPA in collecting, tracking, and updating information, as well as reporting on the major activities and accomplishments of the various Brownfield grant Programs./n  CLEANUPS IN MY COMMUNITY (subset) -  Sites, facilities and properties that have been contaminated by hazardous materials and are being, or have been, cleaned up under EPA's brownfield's program.

ERNS: EPA/NRC EMERGENCY RESPONSE NOTIFICATION SYSTEM (ERNS) - Database of incidents reported to the National Response Center. These incidents include chemical spills, accidents involving chemicals (such as fires or explosions), oil spills, transportation accidents that involve oil or chemicals, releases of radioactive materials, sightings of oil sheens on bodies of water, terrorist incidents involving chemicals, incidents where illegally dumped chemicals have been found, and drills intended to prepare responders to handle these kinds of incidents. Data since January 2001 has been received from the National Response System database as the EPA no longer maintains this data.

Tribal Lands: DOI/BIA INDIAN LANDS OF THE UNITED STATES - Database of areas with boundaries established by treaty, statute, and (or) executive or court order, recognized by the Federal Government as territory in which American Indian tribes have primary governmental authority. The Indian Lands of the United States map layer shows areas of 640 acres or more, administered by the Bureau of Indian Affairs. Included are Federally-administered lands within a reservation which may or may not be considered part of the reservation.BUREAU OF INDIAN AFFIARS CONTACT - Regional contact information for the Bureau of Indian Affairs offices.

State/Tribal Sites: NCDENR STATE INACTIVE HAZARDOUS SITES LIST - database of sites and Facilities that are being investigated due to reported releases of Hazardous substances. Included within this Inactive Hazardous Waste Sites Inventory database are the following classifications: Inactive Hazardous Waste Sites (IHS), No Further Action Sites (NFA), Duplicate Sites (DS), Inactive Hazardous Waste Sites Priority List Sites (SPL)

State Spills 90: NCDENR INCIDENT MANAGEMENT DATA (UST and Groundwater) - database of possible releases/spills of contaminants. The data includes media effected, material released, source and site priority.

State/Tribal SWL: NCDENR ALL PERMITTED SOLID WASTE FACILITIES - database of C&D Landfill, Compost, House Hold Hazardous Waste landfill, Incinerator (Industrial) Landfill, Incinerator (Medical) Landfill, Industrial Landfill, Land Clearing and Inert Debris Landfill, Mixed Waste Processing Landfill, Municipal Solid Waste Landfill, Tire Treatment and Processing Landfill, and Transfer and Processing Stations.

State/Tribal LUST: NCDENR INCIDENT MANAGEMENT DATA (UST and Groundwater) - database of leaking underground storage tanks. This database is a subset of the Incident Management Data (UST and Groundwater) where the source is a leaking ust. This data is concerned with petroleum storage systems and includes facilities and/or locations that have reported the possible release of contaminants. This database also includes State Spill Sites. REGIONAL UST DATABASE (SUBSET) - database of information obtained from the Regional Offices in which an incident has occurred. It provides a more detailed explanation of current and historic activity for individual sites, as well as what was previously found in the Incident Management Database.

State/Tribal UST/AST: NCDENR/EPA REGISTERED TANKS and FACILITY DATABASE - database of underground storage tanks registered with the North Carolina Department of Environment and Natural Resources. Inclusion on this list indicates the presence of underground petroleum storage tanks and therefore the potential for environmental problems. It does not necessarily indicate existing problems.TRIBAL LAND UNDERGROUND STORAGE TANKS - database of underground storage tanks that are reported to be on Native American lands.REGIONAL UST DATABASE - database of information obtained from the Regional Offices. It provides a more detailed explanation of current and historic activity for individual sites, as well as what was previously found in the Incident Management Database.

State/Tribal IC: NCDENR STATE INACTIVE HAZARDOUS SITES LIST SUBSET - database of sites and Facilities that have land use restrictions and are being investigated due to reported releases of Hazardous substances. Included within this Inactive Hazardous Waste Sites Inventory database are the following classifications: Inactive Hazardous Waste Sites (IHS), No Further Action Sites (NFA), Duplicate Sites (DS), Inactive Hazardous Waste Sites Priority List Sites (SPL)

State/Tribal VCP: NCDENR STATE INACTIVE HAZARDOUS SITES LIST SUBSET- database of sites and Facilities that are being investigated due to reported releases of Hazardous substances and have a voluntary cleanup aggreement. Included within this Inactive Hazardous Waste Sites Inventory database are the following classifications: Inactive Hazardous Waste Sites (IHS), No Further Action Sites (NFA), Duplicate Sites (DS), Inactive Hazardous Waste Sites Priority List Sites (SPL)

State/Tribal Brownfields: NCDENR BROWNFIELD PROJECTS INVENTORY - database of Active Eligible Sites, Projects Pending Eligibility, and Finalized Brownfields Agreements.

Federal IC / EC: EPA FEDERAL ENGINEERING AND INSTITUTIONAL CONTROLS- Superfund sites that have either an engineering or an institutional control. The data includes the control and the media contaminated. RESOURCE CONSERVATION AND RECOVERY INFORMATION SYSTEM SITES (RCRA) – RCRA site the have institutional controls.

# Environmental FirstSearch Database Sources

NPL: EPA Environmental Protection Agency

Updated quarterly

NPL DELISTED: EPA Environmental Protection Agency

Updated quarterly

CERCLIS: EPA Environmental Protection Agency

Updated quarterly

NFRAP: EPA Environmental Protection Agency.

Updated quarterly

RCRA COR ACT: EPA Environmental Protection Agency.

Updated quarterly

RCRA TSD: EPA Environmental Protection Agency.

Updated quarterly

RCRA GEN: EPA/MA DEP/CT DEP Environmental Protection Agency, Massachusetts Department of Environmental Protection, Connecticut Department of Environmental Protection

Updated quarterly

Fed Brownfield: EPA Environmental Protection Agency

Updated quarterly

ERNS: EPA/NRC Environmental Protection AgencyNational Response Center.

Updated annually

Tribal Lands: DOI/BIA United States Department of the InteriorBureau of Indian Affairs

Updated annually

State/Tribal Sites: NCDENR North Carolina Department of Environment and Natural Resources, Division of Waste Management

Updated quarterly

State Spills 90: NCDENR North Carolina Department of Environment and Natural Resources, Division of Water Quality/Groundwater Section

Updated quarterly

State/Tribal SWL: NCDENR North Carolina Department of Environment and Natural Resources, Division of Waste Management

Updated annually

State/Tribal LUST: NCDENR North Carolina Department of Environment and Natural Resources, Division of Water Quality/Groundwater Section

Updated quarterly

State/Tribal UST/AST: NCDENR/EPA North Carolina Department of Environment and Natural Resources, Division of Waste ManagementEnvironmental Protection Agency

Updated quarterly

State/Tribal IC: NCDENR North Carolina Department of Environment and Natural Resources, Division of Waste Management

Updated quarterly

State/Tribal VCP: NCDENR North Carolina Department of Environment and Natural Resources, Division of Waste Management

Updated quarterly

State/Tribal Brownfields: NCDENR North Carolina Department of Environment and Natural Resources

Updated quarterly

Federal IC / EC: EPA Environmental Protection Agency

Updated quarterly

# Environmental FirstSearch
## Street Name Report for Streets within .25 Mile(s) of Target Property

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

| Street Name | Dist/Dir | Street Name | Dist/Dir |
|---|---|---|---|
| Alan Parker Cir | 0.19 NE | Leeks Ln | 0.25 SE |
| Andrew Cox Ln | 0.00-- | Leopard Ln | 0.01 NW |
| Appaloosa Dr | 0.25 SE | Little M Dr | 0.00-- |
| Aspen Ave | 0.04 NW | Loblolly | 0.19 NW |
| Astor Pl | 0.05 NW | Lous Chapel Rd | 0.00-- |
| Austin Ave | 0.24 SE | Lynx Ln | 0.08 NW |
| Azalea Dr | 0.00-- | Mckay Dr | 0.00-- |
| Balsom Pl | 0.09 NW | Mcneil Cemetery Rd | 0.00-- |
| Bluegill Ln | 0.00-- | Misty Cove Ln | 0.00-- |
| Burro Ln | 0.03 SE | Narcissus Pl | 0.03 NW |
| Burro Rd | 0.03 SE | Narcissys | 0.02 NW |
| Camellia Ln | 0.00-- | Nc Highway 210 S | 0.00-- |
| Canopy Ln | 0.07 SW | Northpoint Cir | 0.05 NE |
| Capital Dr | 0.25 SE | Oakdale Dr | 0.02 NW |
| Capitol Dr | 0.22 SE | Old Farms Maple St | 0.14 NW |
| Carnation Cir | 0.25 NE | Orchid | 0.13 NE |
| Cedar Dr | 0.25 NE | Orchid Dr | 0.13 NE |
| Chestnutt | 0.21 NW | Pansey Cir | 0.08 NE |
| Citron Pl | 0.08 NW | Pansy Cir | 0.08 NE |
| Clove Ln | 0.09 NW | Panther Ln | 0.05 NW |
| Connie Ct | 0.14 NE | Peonie Pl | 0.21 NW |
| Cooper Ave | 0.00-- | Pete Mason Dr | 0.14 NW |
| Creeksville Church Rd | 0.09 SE | Pinecrest Dr | 0.06 NE |
| Daffodil Pl | 0.09 NW | Primrose | 0.21 NW |
| Daisy Cir | 0.1 NE | Primrose St | 0.14 NW |
| Dandelion Pl | 0.13 NW | Pvt Rd | 0.00-- |
| Dogwood Dr | 0.16 NW | Rachel Rd | 0.03 SE |
| Dove Ridge Ln | 0.18 NE | Ray Rd | 0.00-- |
| E Northpoint St | 0.00-- | Rolling Springs Dr | 0.00-- |
| Elm St | 0.22 NW | Rosebud St | 0.1 NE |
| Elma Black Ln | 0.09 NW | Ruby Clara Ln | 0.00-- |
| Erica Ln | 0.18 SE | S and S Ln | 0.00-- |
| Eugene Ln | 0.03 NE | Sandclay Rd | 0.00-- |
| FROM NC 210 TO SR 1120 | 0.00-- | Secondary Road 1121 | 0.00-- |
| Gardenia Cir | 0.16 NE | Secondary Road 1122 | 0.00-- |
| Gena Ln | 0.17 NW | Secondary Road 1123 | 0.09 SE |
| Gerber Ln | 0.00-- | Secondary Road 1142 Rd | 0.00-- |
| Gordon Ln | 0.01 NW | Secondary Road 1151 | 0.22 SE |
| Helen Matthews Dr | 0.00-- | Secondary Road 1160 | 0.00-- |
| Holly St | 0.18 NW | Secondary Road 1161 | 0.1 NE |
| Honey Dr | 0.14 NW | Secondary Road 1162 | 0.00-- |
| Jde St | 0.00-- | Secondary Road 1163 | 0.08 NE |
| Jeff St | 0.13 NE | Secondary Road 1165 | 0.25 NE |
| John Ryan Ln | 0.00-- | Secondary Road 1166 | 0.25 NE |
| Killdeer Dr | 0.16 NW | Secondary Road 2051 | 0.03 SE |
| Killdeer Ln | 0.00-- | Shady Dr | 0.04 NE |
| Lake Ave | 0.00-- | Slate Dr | 0.15 NW |
| Lakeview Dr | 0.22 SE | Sring Valley Dr | 0.15 NW |

# Environmental FirstSearch
## Street Name Report for Streets within .25 Mile(s) of Target Property

**Target Property:** SR 1121 - NC 210 - SR 1120
SPRING LAKE, NC 28390

**JOB:** 2012-228

| Street Name | Dist/Dir | Street Name | Dist/Dir |
|---|---|---|---|
| Stallion Ln | 0.00-- | | |
| State Hwy 210 | 0.00-- | | |
| Stone Cross Dr | 0.07 NE | | |
| Sweet Ln | 0.11 NW | | |
| Tommy Dr | 0.00-- | | |
| Tommys Dr | 0.00-- | | |
| Twin Lake Rd | 0.00-- | | |
| W Northpoint Rd | 0.00-- | | |
| Ward Ln | 0.15 NE | | |
| Wedgewood Dr | 0.01 NE | | |
| White Pine Pl | 0.02 NW | | |
| Woodbridge Dr | 0.25 NE | | |
| Zena Ln | 0.1 NW | | |

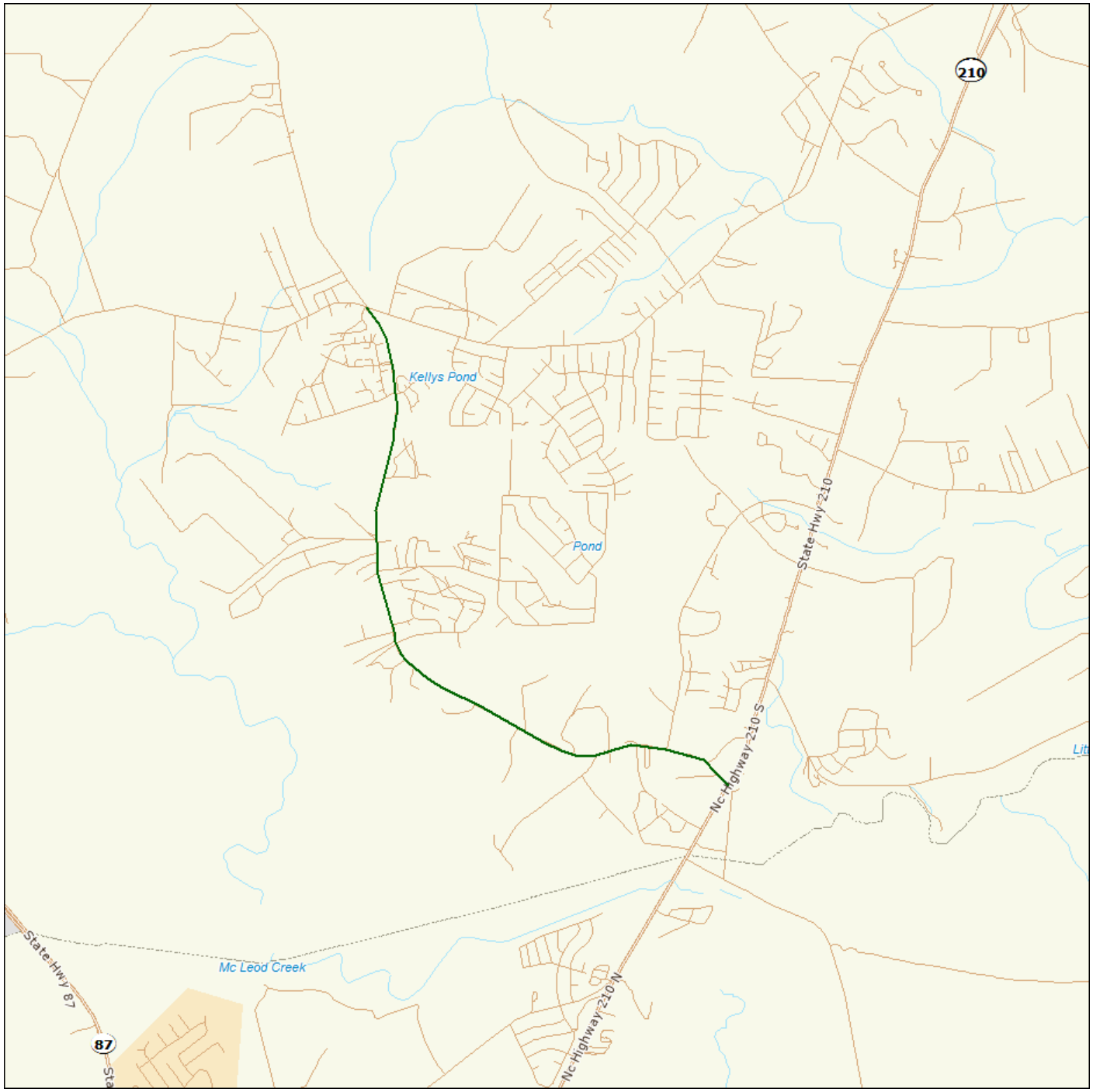
# Environmental FirstSearch

1 Mile Radius from Line

ASTM Map: NPL, RCRACOR, STATE Sites

FIRSTSEARCH

SR 1121 - NC 210 - SR 1120 , SPRING LAKE, NC 28390




Source: Tele Atlas

Linear Search Line .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

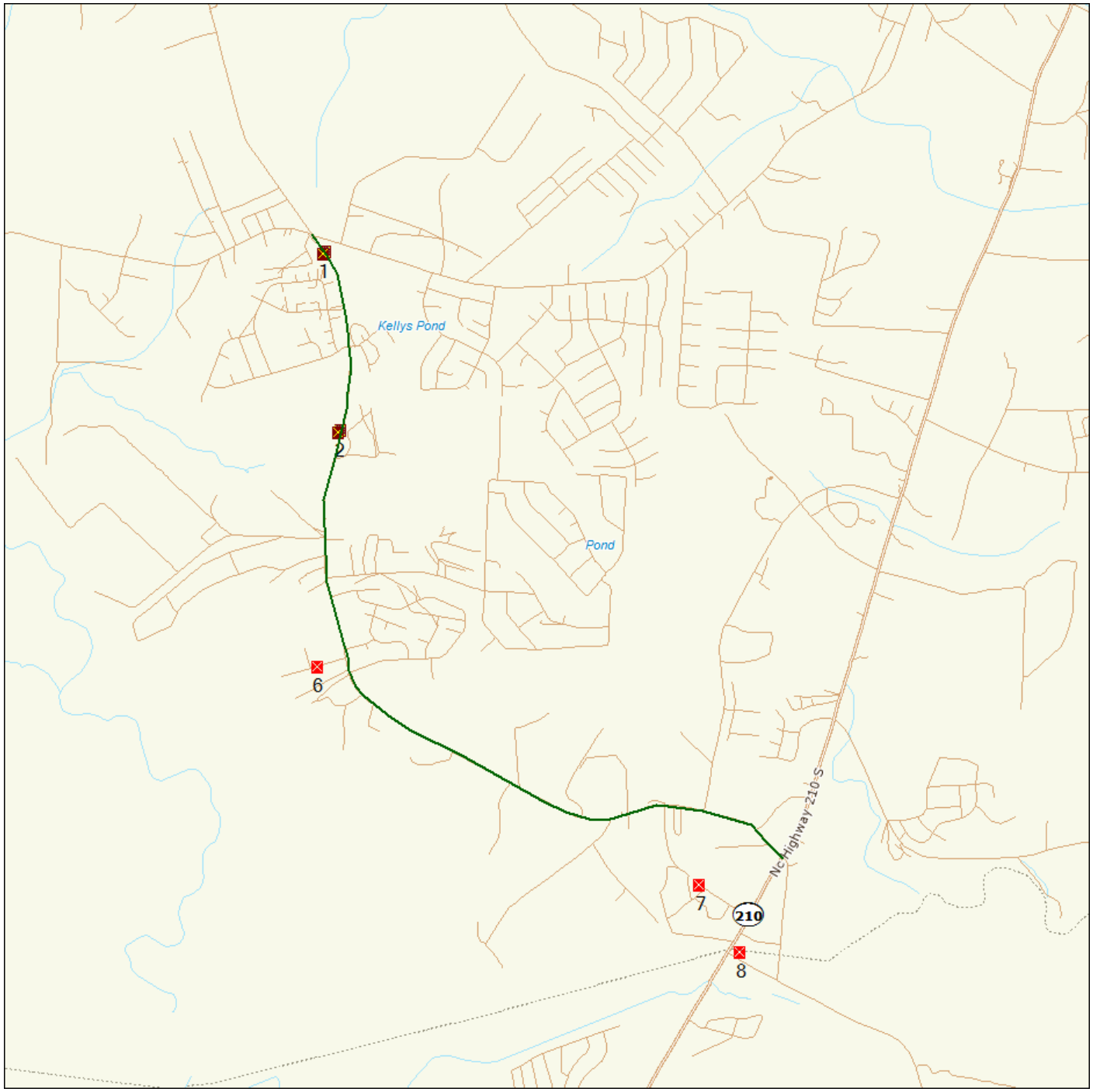
# Environmental FirstSearch

.5 Mile Radius from Line

ASTM Map: CERCLIS, RCRATSD, LUST, SWL

FIRSTSEARCH

SR 1121 - NC 210 - SR 1120 , SPRING LAKE, NC 28390




Source: Tele Atlas

Linear Search Line .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

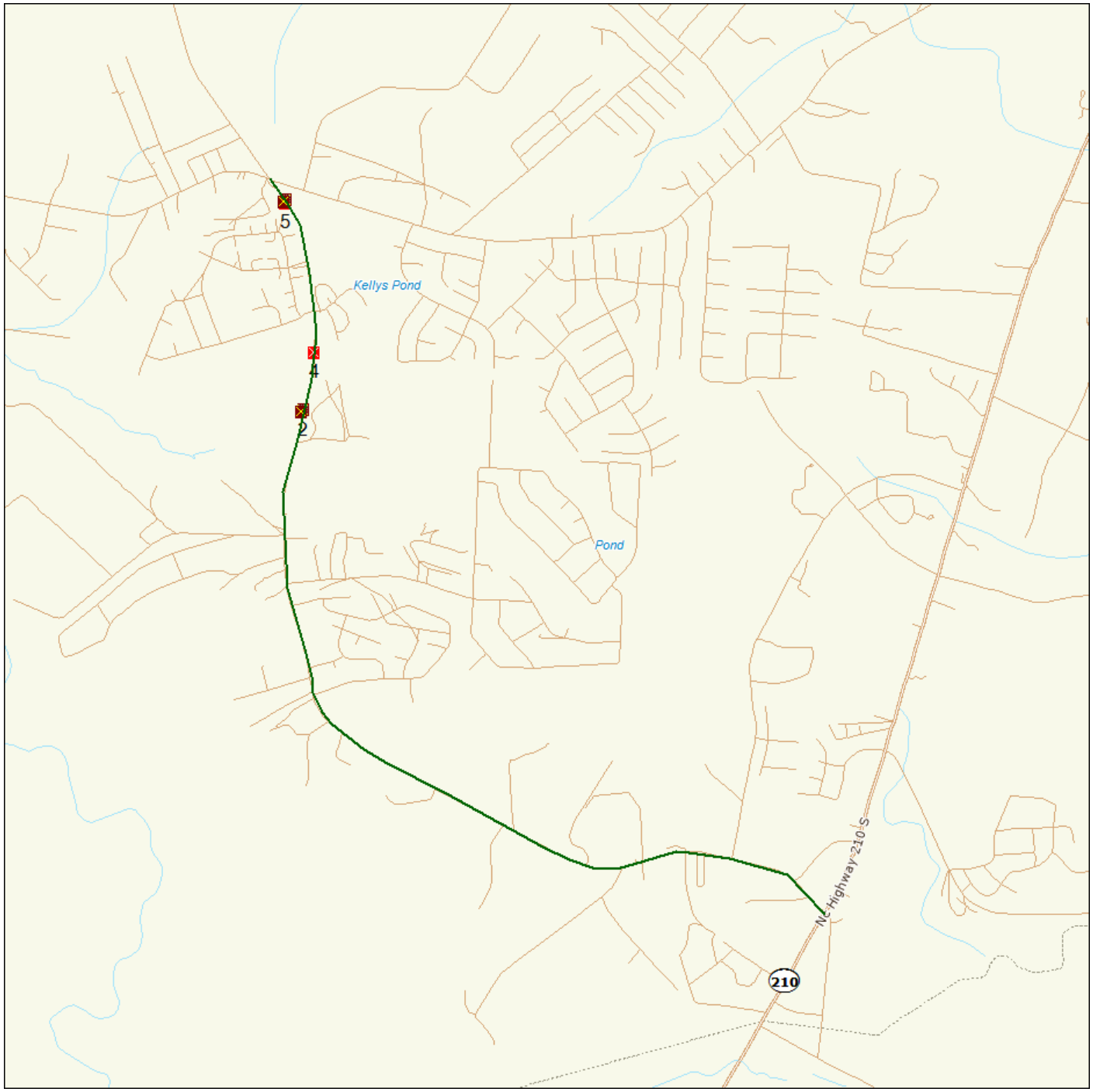
# Environmental FirstSearch

.25 Mile Radius from Line

ASTM Map: RCRAGEN, ERNS, UST, FED IC/EC, METH LABS

FIRSTSEARCH

SR 1121 - NC 210 - SR 1120 , SPRING LAKE, NC 28390




Source: Tele Atlas

Linear Search Line .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

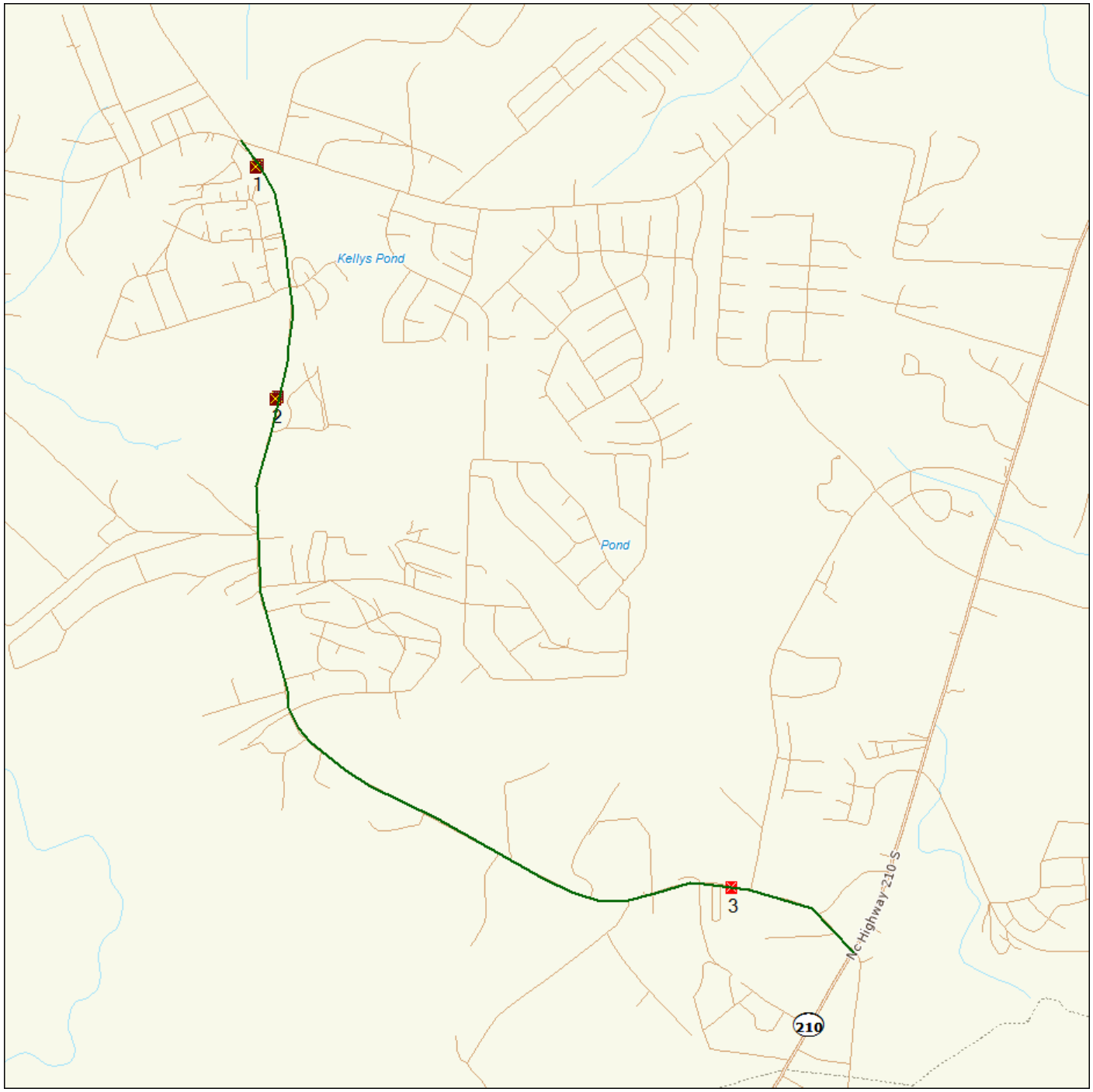
# Environmental FirstSearch

.12 Mile Radius from Line

Non-ASTM Map: Spills 90

FIRSTSEARCH

SR 1121 - NC 210 - SR 1120 , SPRING LAKE, NC 28390




Source: Tele Atlas

Linear Search Line .....

Identified Site, Multiple Sites, Receptor .....

NPL, DELNPL, Brownfield, Solid Waste Landfill (SWL), Hazardous Waste

Triballand.....

National Historic Sites and Landmark Sites .....

Black Rings Represent 1/4 Mile Radius; Red Ring Represents 500 ft. Radius

# APPENDIX D

Pyramid Project # 2012-228

# GEOPHYSICAL INVESTIGATION REPORT

*EM61 & GPR SURVEYS*

**NCDOT ROW PROJECT**
**THE TIRE SHOP, 3453 RAY ROAD, SPRING LAKE, NC (PARCEL 004)**
**NCDOT Project U-3465 (39017.1.1)**
**Harnett County, North Carolina**

**October 11, 2012**

**Report prepared for:** **Mr. Gordon Box**
**North Carolina Department of Transportation**
**GeoEnvironmental Project Manager**
**Geotechnical Engineering Unit**
**GeoEnvironmental Section**
**1589 Mail Service Center**
**Raleigh, North Carolina 27699-1589**

**Prepared by:** _____
**Eric C. Cross, P.G.**
**NC License #2181**

**Reviewed by:** _____
**Douglas A. Canavello, P.G.**
**NC License #1066**

**PYRAMID ENVIRONMENTAL & ENGINEERING, P.C.**
**P.O. Box 16265**
**GREENSBORO, NC 27416-0265**
**(336) 335-3174**

NCDOT Contract 700012300
PO# 6300031797

NC Board for Licensing of Geologists C-257
NC Board of Examiners for Engineers & Surveyors C-1251

**NCDOT – Geotechnical Engineering Unit**
**NCDOT ROW PROJECT**
**THE TIRE SHOP, 3453 RAY ROAD, SPRING LAKE, NC (PARCEL 004)**
**NCDOT Project U-3465 (39017.1.1)**
**Harnett County, North Carolina**

TABLE OF CONTENTS PAGE



FIGURES

## 1.0 INTRODUCTION

Pyramid Environmental & Engineering, PC (Pyramid) conducted a geophysical investigation for the North Carolina Department of Transportation (NCDOT) across the proposed right-of way (ROW) and easement areas of the Tire Shop (Parcel 004) located at 3453 Ray Road, Spring Lake, NC. The NCDOT survey area spanned from approximately 60 feet south of the Tire Shop building to approximately 80 feet north of the building, and extended from Ray Road to the west approximately 120 feet at its maximum width. Conducted on September 7 and 8, 2012, the geophysical investigation was performed as part of the North Carolina Department of Transportation (NCDOT) ROW expansion project to determine if unknown, metallic underground storage tanks (USTs) were present beneath the proposed ROW areas of the site.

The area of the site surveyed was predominantly a concrete and asphalt parking lot, with some open grassy area to the south of the building. The NCDOT-defined geophysical survey area had a maximum width (east/west) of approximately 120 feet and a maximum length (north/south) of approximately 240 feet. It should be noted that the boundaries of Parcel 004 extend farther to the west, outside of the survey area. However, based on the site history and review of historical aerial photographs, there was no indication or evidence of possible USTs in that section of the Parcel, and thus the survey was concentrated in the area surrounding the Tire Shop building. Photographs of the site are shown in **Figure 1**.

## 2.0 FIELD METHODOLOGY

Prior to conducting the geophysical investigation, a 10-foot by 10-foot survey grid was established across the geophysical survey area using measuring tapes and water-based marking paint. These grid marks were used as X-Y coordinates for location control when collecting the geophysical data and establishing base maps for the geophysical results.

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection surveys and ground penetrating radar (GPR) surveys. The EM survey was performed on September 7, 2012,

using a Geonics EM61-MK2 metal detection instrument. According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be detected to a maximum depth of 4 to 5 feet. All of the EM61 data were digitally collected at approximately 0.8 foot intervals along north-south trending, parallel survey lines spaced five feet apart. All of the data were downloaded to a computer and reviewed in the field and office using the Geonics DAT61MK2 and Surfer for Windows Version 7.0 software programs.

GPR data were acquired on September 8, 2012, across selected EM61 differential anomalies using a GSSI SIR-3000 unit equipped with a 400 MHz antenna. Data were collected generally from east to west and north to south across specific EM61 anomalies. All of the GPR data were viewed in real time using a vertical scan of 512 samples, at a rate of 48 scans per second. GPR data were viewed down to a maximum depth of approximately 8 feet, based on an estimated two-way travel time of 8 nanoseconds per foot. Due to the lack of any GPR response related to possible metallic USTs, GPR image files were not saved, and only the real-time data collection was used to confirm the nature of the anomalies.

Preliminary geophysical results were emailed to Gordon Box on September 28, 2012.

## 3.0 DISCUSSION OF RESULTS

Contour plots of the EM61 bottom coil and differential results obtained across the proposed ROW and easement areas at the property are presented in **Figures 2 and 3,** respectively. The bottom coil results represent the most sensitive component of the EM61 instrument and detect metal objects regardless of size. The bottom coil response can be used to delineate metal conduits or utility lines, small, isolated metal objects, and areas containing insignificant metal debris. The differential results are obtained from the difference between the top and bottom coils of the EM61 instrument. The differential results focus on the larger metal objects such as drum and UST-size objects and ignore the smaller insignificant metal objects.

The majority of the EM61 anomalies mapped along the east side of the survey area were the result of the presence of metal sign posts, storm drains, and/or utilities running parallel to Ray Road. Several additional EM61 anomalies were recorded throughout the survey area that could not be attributed to visible objects at the ground surface, many of which were observed on both the bottom coil and differential response contour maps. However, GPR surveys across all of the differential anomalies (see discussion below) did not indicate the presence of any USTs associated with the EM61 responses. Figures 2 and 3 provide annotations for the majority of the anomalies and the interpreted cause of the EM61 response (i.e. buried metallic debris, utility, guy wire, building, etc.). These figures can be referred to for additional descriptions of the subsurface objects that are creating the EM61 response.

As stated above, GPR scans were performed and data viewed in real time across all EM61 anomalies that could not be attributed to visible objects at the ground surface, such as metal sign posts, the Tire Shop building itself, and storm drains. The GPR scans did not indicate the presence of any metallic USTs at the site. The anomaly centered at coordinates X=90, Y=250 exhibited characteristics that were consistent with a buried utility such as a water supply line. The orientation of the anomaly was directed towards an old well house to the southeast, further confirming that this feature was likely a utility line. No GPR responses were observed for the remaining EM61 anomalies, suggesting they are the result of isolated areas of buried metallic debris that is not attenuated by the GPR signal.

The geophysical investigation suggests that the area containing the proposed ROW and easement at Parcel 004 does not contain metallic USTs.

In accordance with the scope of work provided to Pyramid by the NCDOT, we also searched the property for any signs of monitor wells or groundwater wells within the proposed ROW or easement areas. No wells were observed at the time of our inspection.

## 4.0 SUMMARY & CONCLUSIONS

Our evaluation of the EM61 and GPR data collected across the proposed ROW area at the NCDOT Tire Shop property (Parcel 004) located in Spring Lake, Harnett County, North Carolina provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the geophysical survey area.

- The majority of the EM61 anomalies located along the east side of the survey area were the result of metallic objects visible at the land surface such as metal sign posts and storm drains. The remaining EM61 anomalies were primarily the result of likely areas of isolated buried metallic debris, the presence of the Tire Shop building, or other visible metallic objects at the ground surface (see Figures 2 and 3).

- GPR scans performed across all anomalies not clearly associated with metallic objects at the ground surface provided no evidence of metallic USTs. GPR scans across the anomaly centered at X=90, Y=250 indicate this feature is likely the result of a buried utility (water supply) line that extends to the southeast to an old well house. No other GPR responses were observed at the locations of the remaining EM61 anomalies.

- The geophysical investigation suggests that the proposed ROW and easement areas at the property do not contain metallic USTs.

- Site observations did not indicate the presence of any monitor wells or groundwater wells at the time of our inspection.

## 5.0 LIMITATIONS

EM61 and GPR surveys have been performed and this report prepared for the NCDOT in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR surveys are non-unique and may not represent

actual subsurface conditions. The EM61 and GPR results obtained for this project have not conclusively determined that metallic USTs do not lie within the proposed ROW and easement area of the Harnett County property, but that none were detected.

# FIGURES


**Photograph of portion of survey area, facing approximately south**


**Photograph of portion of survey area, facing approximately west**

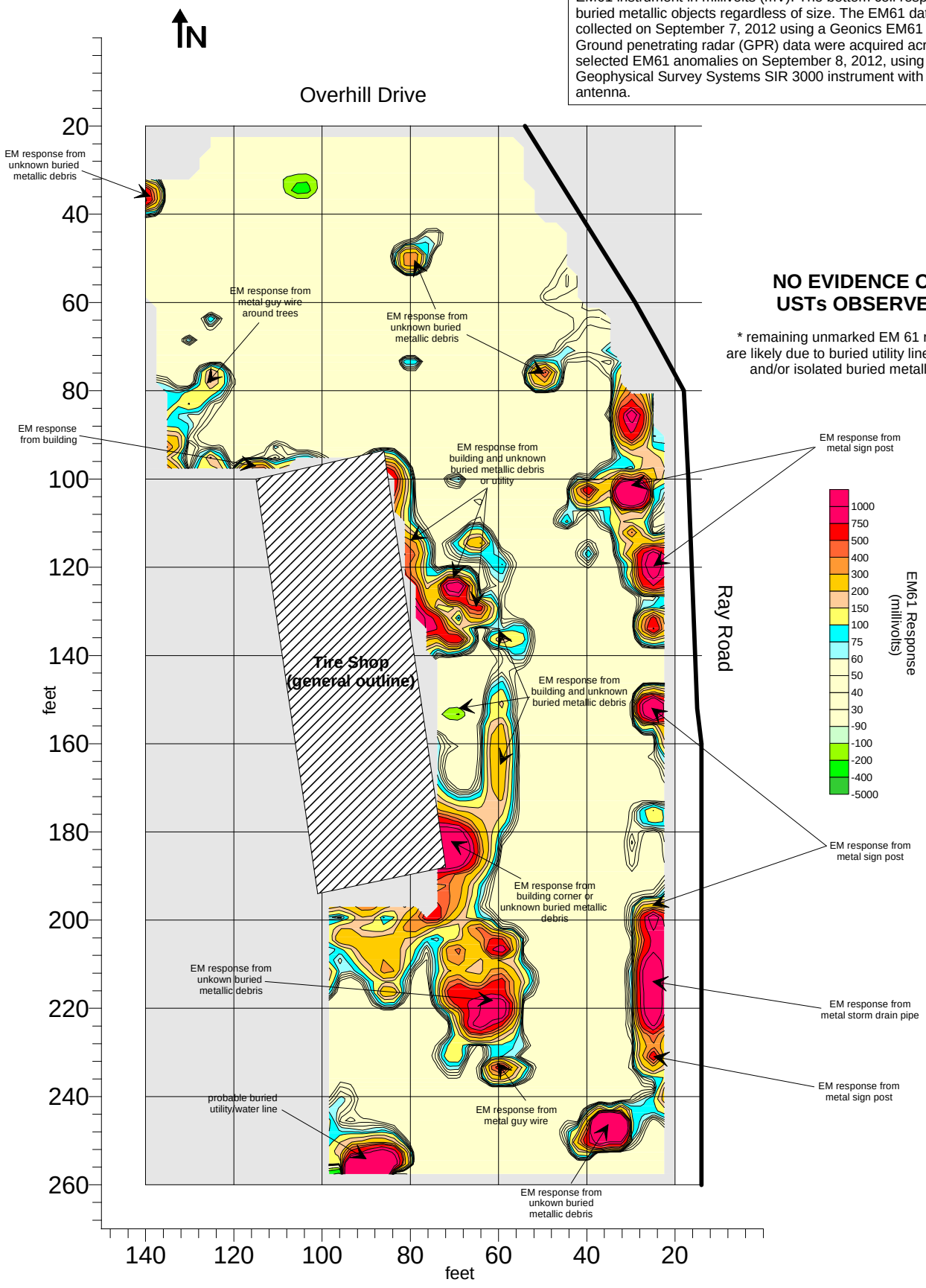
PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | | DATE | 09/07/12 | DRWN ECC |
| SITE | NCDOT PROJECT U-3465 - PARCEL 004 | | LAY | | CHKD |
| CITY | SPRING LAKE | STATE NORTH CAROLINA | DWG | | |
| TITLE | GEOPHYSICAL RESULTS | | JNO | 2012-228 | FIGURE |

SITE PHOTOGRAPHS

FIGURE 1

The contour plot shows the bottom coil (most sensitive) results of the EM61 instrument in millivolts (mV). The bottom coil response shows buried metallic objects regardless of size. The EM61 data were collected on September 7, 2012 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired across selected EM61 anomalies on September 8, 2012, using a Geophysical Survey Systems SIR 3000 instrument with a 400 MHz antenna.




**NO EVIDENCE OF USTs OBSERVED**

* remaining unmarked EM 61 responses are likely due to buried utility lines, concrete, and/or isolated buried metallic debris

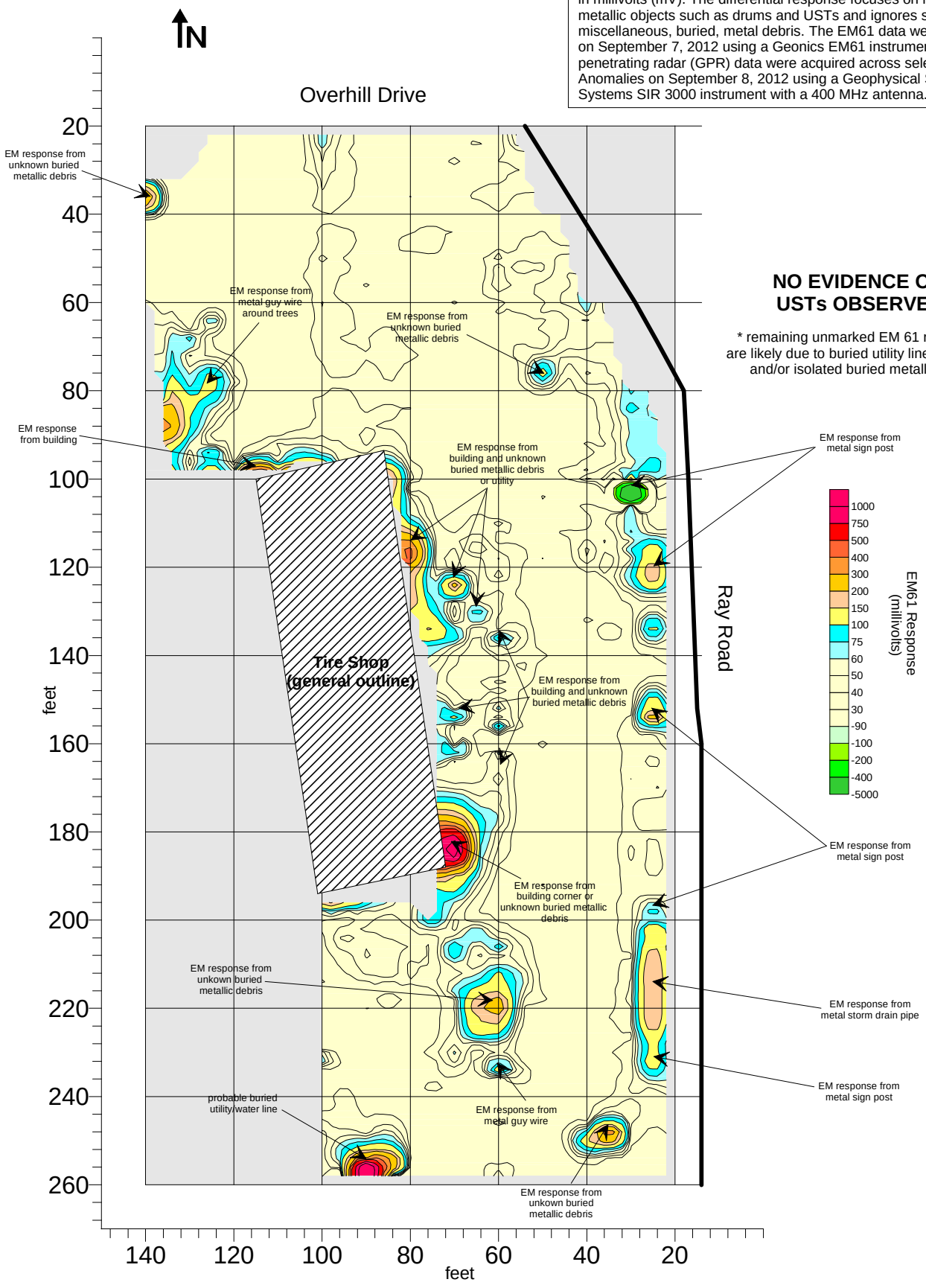
PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | | DATE | 09/07/12 | DRWN ECC |
| SITE | NCDOT PROJECT U-3465 - PARCEL 004 | | LAY | | CHKD |
| CITY | SPRING LAKE | STATE NORTH CAROLINA | DWG | | |
| TITLE | GEOPHYSICAL RESULTS | | JNO | 2012-228 | FIGURE |

EM61 BOTTOM COIL RESPONSE CONTOURS

FIGURE 2

The contour plot shows the differential results of the EM61instrument in millivolts (mV). The differential response focuses on larger, buried metallic objects such as drums and USTs and ignores smaller miscellaneous, buried, metal debris. The EM61 data were collected on September 7, 2012 using a Geonics EM61 instrument. Ground penetrating radar (GPR) data were acquired across selected EM61 Anomalies on September 8, 2012 using a Geophysical Survey Systems SIR 3000 instrument with a 400 MHz antenna.




**NO EVIDENCE OF USTs OBSERVED**

* remaining unmarked EM 61 responses are likely due to buried utility lines, concrete, and/or isolated buried metallic debris

PYRAMID
ENVIRONMENTAL & ENGINEERING, P.C.

| | | | | | |
|---|---|---|---|---|---|
| CLIENT | NORTH CAROLINA DEPARTMENT OF TRANSPORTATION | | DATE | 09/07/12 | DRWN ECC |
| SITE | NCDOT PROJECT U-3465 - PARCEL 004 | | LAY | | CHKD |
| CITY | SPRING LAKE | STATE NORTH CAROLINA | DWG | | |
| TITLE | GEOPHYSICAL RESULTS | | JNO | 2012-228 | FIGURE |

EM61 DIFFERENTIAL RESPONSE CONTOURS

FIGURE 3

# APPENDIX E

# Pyramid Environmental & Engineering, P.C.

## FIELD DRILLING RECORD

| | | | |
|---|---|---|---|
| **PROJECT NAME:**<br>**PROJECT NUMBER:** | NC DOT U-3465<br>Harnett County, Ray Road,<br>Spring Lake / 2012-228 | **BORING/WELL NO:** | 4-1 |
| **SITE LOCATION:** | 3453 Ray Road - Parcel 004<br>Harnett County | **BORING/WELL LOCATION:** | Parcel 004 - Near Former UST System & Ray Road |
| **START DATE:** | 9/14/12 | **COMPLETED:** | 9/14/12 |
| **GEOLOGIST:** | T. Leatherman | **DRILLER:** | AEDI |
| **DRILL METHOD:** | Geoprobe | **SAMPLE METHOD:** | Maco-core |
| **BORING DIA:** | 2-inch | **CASING DIA:** | None |
| **TOTAL DEPTH:** | 10 feet | **CASING DEPTH:** | None |

| **DEPTH (ft.)** | **VISUAL MANUAL SOIL CLASSIFICATION<br>COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.** | **OVA RESULTS<br>PERCENT RECOVERY<br>BLOW COUNTS** |
|---|---|---|
| | | |
| 0 to 10' | Brown to tan, clayey-sand to sandy-clay (SC to CL), moist, no odor | PID=4-1(3-5'): 0 PPM |
| | | PID=4-1(8-10'): 5 PPM |
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## MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

# Pyramid Environmental & Engineering, P.C.

## FIELD DRILLING RECORD

| | | | |
|---|---|---|---|
| **PROJECT NAME:**<br>**PROJECT NUMBER:** | NC DOT U-3465<br>Harnett County, Ray Road,<br>Spring Lake / 2012-228 | **BORING/WELL NO:** | 4-2 |
| **SITE LOCATION:** | 3453 Ray Road - Parcel 004<br>Harnett County | **BORING/WELL LOCATION:** | Parcel 004 - Near Former UST System & Ray Road |
| **START DATE:** | 9/14/12 | **COMPLETED:** | 9/14/12 |
| **GEOLOGIST:** | T. Leatherman | **DRILLER:** | AEDI |
| **DRILL METHOD:** | Geoprobe | **SAMPLE METHOD:** | Maco-core |
| **BORING DIA:** | 2-inch | **CASING DIA:** | None |
| **TOTAL DEPTH:** | 10 feet | **CASING DEPTH:** | None |

| **DEPTH (ft.)** | **VISUAL MANUAL SOIL CLASSIFICATION<br>COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.** | **OVA RESULTS<br>PERCENT RECOVERY<br>BLOW COUNTS** |
|---|---|---|
| | | |
| 0 to 5' | Brown to tan, clayey-sand (SC), moist, no odor | PID=4-2(3-5'): 25 PPM |
| | | |
| 5 to 10' | Brown to tan, clayey-sand (SC), moist, no odor | PID=4-2(5-7.5'): 30 PPM |
| | | PID=4-2(7.5-10'): 45 PPM |
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## MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

# Pyramid Environmental & Engineering, P.C.

## FIELD DRILLING RECORD

| | | | |
|---|---|---|---|
| **PROJECT NAME: PROJECT NUMBER:** | NC DOT U-3465 Harnett County, Ray Road, Spring Lake / 2012-228 | **BORING/WELL NO:** | 4-3 |
| **SITE LOCATION:** | 3453 Ray Road - Parcel 004 Harnett County | **BORING/WELL LOCATION:** | Parcel 004 - In former UST Basin |
| **START DATE:** | 9/14/12 | **COMPLETED:** | 9/14/12 |
| **GEOLOGIST:** | T. Leatherman | **DRILLER:** | AEDI |
| **DRILL METHOD:** | Geoprobe | **SAMPLE METHOD:** | Maco-core |
| **BORING DIA:** | 2-inch | **CASING DIA:** | None |
| **TOTAL DEPTH:** | 15 feet | **CASING DEPTH:** | None |

| **DEPTH (ft.)** | **VISUAL MANUAL SOIL CLASSIFICATION COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.** | **OVA RESULTS PERCENT RECOVERY BLOW COUNTS** |
|---|---|---|
| | | |
| 0 to 10' | Brown to tan, clayey-sand (SC), moist, no odor | PID=4-3(3-5'): 30 PPM |
| | | PID=4-3(8-10'): 15 PPM |
| | | |
| 10 to 15' | Brown to tan, clayey-sand (SC), moist, slight petroleum odor | PID=4-1(13-15'): 25 PPM |
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## MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

# Pyramid Environmental & Engineering, P.C.

## FIELD DRILLING RECORD

| | | | |
|---|---|---|---|
| **PROJECT NAME:**<br>**PROJECT NUMBER:** | NC DOT U-3465<br>Harnett County, Ray Road,<br>Spring Lake / 2012-228 | **BORING/WELL NO:** | 4-4 |
| **SITE LOCATION:** | 3453 Ray Road - Parcel 004<br>Harnett County | **BORING/WELL LOCATION:** | Parcel 004 - Near Former UST System & Ray Road |
| **START DATE:** | 9/14/12 | **COMPLETED:** | 9/14/12 |
| **GEOLOGIST:** | T. Leatherman | **DRILLER:** | AEDI |
| **DRILL METHOD:** | Geoprobe | **SAMPLE METHOD:** | Maco-core |
| **BORING DIA:** | 2-inch | **CASING DIA:** | None |
| **TOTAL DEPTH:** | 10 feet | **CASING DEPTH:** | None |

| **DEPTH (ft.)** | **VISUAL MANUAL SOIL CLASSIFICATION<br>COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.** | **OVA RESULTS<br>PERCENT RECOVERY<br>BLOW COUNTS** |
|---|---|---|
| | | |
| 0 to 5' | Tan, sandy-clay (ML to CL), moist, no odor | PID=4-4(3-5'): 35 PPM |
| | | |
| 5 to 10' | Brown to tan, clayey-sand (SC), moist, no odor | PID=4-4(5-7.5'): 25 PPM |
| | | PID=4-4(7.5-10'): 10 PPM |
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## MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

# Pyramid Environmental & Engineering, P.C.

## FIELD DRILLING RECORD

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|---|---|---|---|
| **PROJECT NAME:**<br>**PROJECT NUMBER:** | NC DOT U-3465<br>Harnett County, Ray Road,<br>Spring Lake / 2012-228 | **BORING/WELL NO:** | 4-5 |
| **SITE LOCATION:** | 3453 Ray Road - Parcel 004<br>Harnett County | **BORING/WELL LOCATION:** | Parcel 004 - Near Ray Road; Down-gradient of Former UST System |
| **START DATE:** | 9/14/12 | **COMPLETED:** | 9/14/12 |
| **GEOLOGIST:** | T. Leatherman | **DRILLER:** | AEDI |
| **DRILL METHOD:** | Geoprobe | **SAMPLE METHOD:** | Maco-core |
| **BORING DIA:** | 2-inch | **CASING DIA:** | 1-inch |
| **TOTAL DEPTH:** | 31 feet | **CASING DEPTH:** | 31 feet |

| DEPTH (ft.) | VISUAL MANUAL SOIL CLASSIFICATION<br>COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC. | OVA RESULTS<br>PERCENT RECOVERY<br>BLOW COUNTS |
|---|---|---|
| | | |
| 0 to 5' | Tan, sandy-clay to clay (ML to CL), firm, moist, no odor | PID=4-5(3-5'): 25 PPM |
| | | |
| | | |
| 5 to 10' | Brown to tan, clayey-sand (SC), moist, no odor | PID=4-5(5-7.5'): 45 PPM |
| | | PID=4-5(7.5-10'): 35 PPM |
| | | |
| 10 to 15' | Tan, sand with a small amount of fines (SP to SW), moist, | PID=4-5(13-15'): 30 PPM |
| | no odor | |
| | | |
| | Geoprobe refusal at 31 feet. | |
| | | |
| | | |
| | | |
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| | | |
| | | |
| | Set 1-inch temporary well at 31 feet with 10 feet of screen. | |
| | Depth-to-Groundwater = 21.03 feet below land surface (BLS) | |
| | | |

## MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) 21 DEPTH (ft) 0-21 DIAMETER (in) 1 MATERIAL PVC.
SCREEN LENGTH (ft) 10 DEPTH (ft) 21-31 DIAMETER (in) 1 MATERIAL PVC.
DEPTH TO TOP OF SAND NA BAGS OF SAND NA.
DEPTH TO TOP SEAL NA BENTONITE USED NA BAGS OF CEMENT USED NA.

# Pyramid Environmental & Engineering, P.C.

## FIELD DRILLING RECORD

| | | | |
|---|---|---|---|
| **PROJECT NAME:**<br>**PROJECT NUMBER:** | NC DOT U-3465<br>Harnett County, Ray Road,<br>Spring Lake / 2012-228 | **BORING/WELL NO:** | 4-6 |
| **SITE LOCATION:** | 3453 Ray Road - Parcel 004<br>Harnett County | **BORING/WELL LOCATION:** | Parcel 004 - Near SE Corner of Building & Ray Road |
| **START DATE:** | 9/14/12 | **COMPLETED:** | 9/14/12 |
| **GEOLOGIST:** | T. Leatherman | **DRILLER:** | AEDI |
| **DRILL METHOD:** | Geoprobe | **SAMPLE METHOD:** | Maco-core |
| **BORING DIA:** | 2-inch | **CASING DIA:** | None |
| **TOTAL DEPTH:** | 10 feet | **CASING DEPTH:** | None |

| **DEPTH (ft.)** | **VISUAL MANUAL SOIL CLASSIFICATION<br>COLOR, TEXTURE, STRUCTURE, CONSISTENCY, ODOR, ETC.** | **OVA RESULTS<br>PERCENT RECOVERY<br>BLOW COUNTS** |
|---|---|---|
| | | |
| 0 to 5' | Brown to tan, clayey-sand (SC), moist, no odor | PID=4-6(3-5'): 45 PPM |
| | | |
| 5 to 10' | Brown to tan, clayey-sand to sandy-clay (SC to CL), moist, no odor | PID=4-6(8-10'): 40 PPM |
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## MONITORING WELL INFORMATION (IF APPLICABLE)

RISER LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
SCREEN LENGTH (ft) ___ DEPTH (ft) _____ DIAMETER (in) ___ MATERIAL _____.
DEPTH TO TOP OF SAND _____ BAGS OF SAND ___.
DEPTH TO TOP SEAL _____ BENTONITE USED _____ BAGS OF CEMENT USED ___.

# APPENDIX F

## Laboratory Report of Analysis

To: Tim Leatherman
Pyramid
PO Box 16265
Greensboro, NC 27416

Report Number: **31202966**

Client Project: **Ray Rd. Parcel 004**

Dear Tim Leatherman,

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 Barbara A. Hager 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.

Barbara A. Hager
2012.09.28 15:16:19 -05'00'

Barbara A. Hager — Date
Project Manager
barbara.hager@sgs.com

Print Date: 09/28/2012 N.C. Certification # 481

ANALYTICAL PERSPECTIVES IS NOW PART OF SGS, THE WORLD'S LEADING INSPECTION, VERIFICATION, TESTING AND CERTIFICATION COMPANY.

## 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 |

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

## Sample Summary

| Client Sample ID | Lab Sample ID | Collected | Received | Matrix |
|---|---|---|---|---|
| 4-1 (8-10) | 31202966001 | 09/14/2012 13:20 | 09/18/2012 10:30 | Soil-Solid as dry weight |
| 4-2 (7.5-10) | 31202966002 | 09/14/2012 13:25 | 09/18/2012 10:30 | Soil-Solid as dry weight |
| 4-3 (3-5) | 31202966003 | 09/14/2012 13:30 | 09/18/2012 10:30 | Soil-Solid as dry weight |
| 4-3 (13-15) | 31202966004 | 09/14/2012 13:35 | 09/18/2012 10:30 | Soil-Solid as dry weight |
| 4-4 (3-5) | 31202966005 | 09/14/2012 13:40 | 09/18/2012 10:30 | Soil-Solid as dry weight |
| 4-5 (5-7.5) | 31202966006 | 09/14/2012 13:55 | 09/18/2012 10:30 | Soil-Solid as dry weight |
| 4-5 (TW) | 31202966007 | 09/14/2012 15:10 | 09/18/2012 10:30 | Water |
| 4-6 (3-5) | 31202966008 | 09/14/2012 14:45 | 09/18/2012 10:30 | Soil-Solid as dry weight |

## Detectable Results Summary

Client Sample ID: **4-1 (8-10)**
Lab Sample ID: 31202966001-C
**SW-846 8015C DRO**

| Parameter | Result | Units | |
|---|---|---|---|
| Diesel Range Organics (DRO) | 12.3 | mg/kg | |

Client Sample ID: **4-3 (3-5)**
Lab Sample ID: 31202966003-C
**SW-846 8015C DRO**

| Parameter | Result | Units | |
|---|---|---|---|
| Diesel Range Organics (DRO) | 8.21 | mg/kg | |

Client Sample ID: **4-3 (13-15)**
Lab Sample ID: 31202966004-C
**SW-846 8015C DRO**

| Parameter | Result | Units | |
|---|---|---|---|
| Diesel Range Organics (DRO) | 27.0 | mg/kg | |

Client Sample ID: **4-5 (TW)**
Lab Sample ID: 31202966007-A
**SM 6200-B**

| Parameter | Result | Units | |
|---|---|---|---|
| 1,2,4-Trimethylbenzene | 3.44 | ug/L | |
| 1,3,5-Trimethylbenzene | 0.990 | ug/L | |
| 4-Isopropyltoluene | 1.94 | ug/L | |
| n-Butylbenzene | 2.74 | ug/L | |
| Chloromethane | 1.84 | ug/L | |
| Isopropylbenzene (Cumene) | 0.260 | ug/L | J |
| n-Propylbenzene | 0.300 | ug/L | J |
| sec-Butylbenzene | 1.35 | ug/L | |

Print Date: 09/28/2012

N.C. Certification # 481

## Results of **4-1 (8-10)**

Client Sample ID: **4-1 (8-10)**
Client Project ID: **Ray Rd. Parcel 004**
Lab Sample ID: 31202966001-A
Lab Project ID: 31202966

Collection Date: 09/14/2012 13:20
Received Date: 09/18/2012 10:30
Matrix: Soil-Solid as dry weight
Solids (%): 86.70

## Results by **SW-846 8015C GRO**

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | U | 3.35 | 3.35 | mg/kg | 1 | 09/25/2012 18:33 |
| **Surrogates** | | | | | | | |
| 4-Bromofluorobenzene | 103 | | | 70.0-130 | % | 1 | 09/25/2012 18:33 |

## Batch Information

Analytical Batch: **VGC2155**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX4044**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/18/2012 16:55**
Prep Initial Wt./Vol.: **6.889 g**
Prep Extract Vol: **5 mL**

Print Date: 09/28/2012

N.C. Certification # 481

## Results of **4-1 (8-10)**

Client Sample ID: **4-1 (8-10)**
Client Project ID: **Ray Rd. Parcel 004**
Lab Sample ID: 31202966001-C
Lab Project ID: 31202966

Collection Date: 09/14/2012 13:20
Received Date: 09/18/2012 10:30
Matrix: Soil-Solid as dry weight
Solids (%): 86.70

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

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | **12.3** | | 7.52 | 7.52 | mg/kg | 1 | 09/22/2012 12:11 |
| **Surrogates** | | | | | | | |
| o-Terphenyl | 93.8 | | | 40.0-140 | % | 1 | 09/22/2012 12:11 |

## Batch Information

Analytical Batch: **XGC2550**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3075**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/20/2012 10:09**
Prep Initial Wt./Vol.: **30.67 g**
Prep Extract Vol: **10 mL**

Print Date: 09/28/2012

N.C. Certification # 481

## v eyulty of 4-1 (80) -Ray

Client Sample ID: **4-1 (80) -Ray**
Client Project ID: **d. P d r 0c. el SWtaa4**
Lab Sample ID: 31202966002-A
Lab Project ID: 31202966

Collection Date: 09/14/2012 13:2R
v eceide8 Date: 09/1M2012 10:30
x atris: Soil-Soli8 ay 8rwg eih( t
Soli8y %) .: M67 20

## v eyulty bw 65 -C4GCaR) O u do

| Parameter | v eyult | Qual | DL | LOQ/CL | Unity | DF | Date Analwze8 |
|---|---|---|---|---|---|---|---|
| Gayoline v anhe Orhanicy %Gv O. | ND | U | 37 29 | 37 29 | mh/kh | 1 | 09/2R/2012 1MRM |
| **6 geet s. BSh** | | | | | | | |
| 4-5 romofluorobenzene | 10M | | | B07 0-130 | ) | 1 | 09/2R/2012 1MRM |

## I . Bn fmit eV . Bt( m

Analwtical 5 atc( : 3 u O1R) )
Analwtical x et( o8: 65 -C4GCaR) O u do
Inytrument: u O8
Analwyt: MDY

Prep 5 atc( : 3 9 9 4a44
Prep x et( o8: 65 -C4G) a/ )
Prep Date/Time: a2:RC:1aR1 RGL) G
Prep Initial Wt7Vol7: 80a) 8 s
Prep Estract Vol: ) V 7

Print Date: 09/2M/2012

N7C7Certification # 4M1

## Results of 4-1 (80) -Ray

Client Sample ID: **4-1 (80) -Ray**
Client Project ID: **d. P d r 0c. el SWta4**
Lab Sample ID: 31202966002-C
Lab Project ID: 31202966

Collection Date: 09/14/2012 13:25
Received Date: 09/18/2012 10:30
Matrix: Soil-Solid as dry weight
Solids (%): 86.20

## Results by 65 -C4D CaR) O 2 d 3

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | U | 6.95 | 6.95 | mg/kg | 1 | 09/24/2012 20:51 |
| **6 ueeog. tSs** | | | | | | | |
| o-Terphenyl | 112 | | | 40.0-140 | % | 1 | 09/24/2012 20:51 |

## B. tl h Infoem. tion

Analytical Batch: **XGO1) ) 4**
Analytical Method: **65 -C4D CaR) O 2 d 3**
Instrument: **GOD**
Analyst: **2 TF**

Prep Batch: **XXX7a9R**
Prep Method: **65 -C4D 7) 4R**
Prep Date/Time: **a9/14/1aR1 RR:78**
Prep Initial Wt./Vol.: **770 7Dg**
Prep Extract Vol: **Ra mL**

Print Date: 09/28/2012

N.C. Certification # 481

Results of **4-1 (1-80**

Client Sample ID: **4-1 (1-80**
Client Project ID: **) Ra ) yd. RPr cel l 4**
Lab Sample ID: 31202966003-A
Lab Project ID: 31202966

Collection Date: 09/14/2012 13:30
Received Date: 09/18/2012 10:30
Matrix: Soil-Solid as dry weight
Solids (%): 9. 700

Results by **SW-645 6l C8G O) u**

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | U | 2783 | 2783 | mg/kg | 1 | 09/2. /2012 19:24 |
| **SoPRgt RscB** | | | | | | | |
| 4-5romofluorobenzene | 101 | | | B070-130 | % | 1 | 09/2. /2012 19:24 |

**h Rsr l rf ngR RsVgf**

Analytical 5atch: **XOG2C88**
Analytical Method: **SW-645 6l C8G O) u**
Instrument: **OGL**
Analyst: **MDY**

Prep 5atch: **X3 3 4l 44**
Prep Method: **SW-645 8l 18**
Prep Date/Time: **l 9/C6/2l C2 C5:85**
Prep Initial Wt7Vol7: **Ldl1C t**
Prep Extract Vol: **8 i 7**

Print Date: 09/28/2012

N7C7Certification # 481

5 exultx of **4-1 (1-80**

Client Sample ID: **4-1 (1-80**
Client Project ID: **) Ra ) yd. RPr cel l 4**
Lab Sample ID: 31202966003-C
Lab Project ID: 31202966

Collection Date: 09/14/2012 13:30
5 eceiRev Date: 09/1d/2012 10:30
8 atriM Soil-Soliv ax vrs y eiwgt
Solivx h( % 9) .00

5 exultx bs **SW-645 6l C8D O) 2**

| Parameter | 5 exult | Qual | DL | LOQ/CL | Unitx | DF | Date Analszev |
|---|---|---|---|---|---|---|---|
| Diexel 5 anwe Orwanicx HD5 O% | **6d8C** | | 6.) 0 | 6.) 0 | mw/Nw | 1 | 09/24/2012 22:1) |
| **SuPRogRtcs** | | | | | | | |
| o-k erpgensl | 112 | | | 40.0-140 | ( | 1 | 09/24/2012 22:1) |

**BRtr h InfoPmRtion**

Analstical Tatcg: **XGD3884**
Analstical 8 etgov: **SW-645 6l C8D O) 2**
Inxtrument: **GD5**
Analsxt: **OTF**

Prep Tatcg: **XXX1l 7C**
Prep 8 etgov: **SW-645 184C**
Prep Date/k ime: **l 79849Bl C3 CC/1:**
Prep Initial B t./Wol.: **13dl 5 g**
Prep VMract Wol: **Cl mL**

Print Date: 09/2d/2012

E.C. Certification # 4d1

## v eyulty of **4-1 (81-80)**

Client Sample ID: **4-1 (81-80)**
Client Project ID: **Ray Rd. Parcel SS4**
Lab Sample ID: 3120296600-A
Lab Project ID: 31202966

Collection Date: 0941-42012 13:3R
v eceide8 Date: 0941M42012 10:30
x atris: SoilASoli8 ay 8rwg eih( t
Soli8y %. .: M9760

## v eyulty bw**W6 -54C 5S80G ORu**

| Parameter | v eyult | Qual | DL | LOQ4CL | Unity | DF | Date / nalwze8 |
|---|---|---|---|---|---|---|---|
| Gayoline v anhe Orhanicy %Gv O. | ND | U | 3762 | 3762 | mh4kh | 1 | 0942R42012 19:-9 |
| **Worrgt aseB** | | | | | | | |
| -A5romofluorobenzene | 10M | | | B070A130 | ) | 1 | 0942R42012 19:-9 |

## h ascl rf rngri asVgf

/ nalwtical 5atc( : **XOG2800**
/ nalwtical x et( o8: **W6 -54C 5S80G ORu**
Inytrument: **OGL**
/ nalwyt: **MDY**

Prep 5atc( : **X3 3 4S44**
Prep x et( o8: **W6 -54C 0S10**
Prep Date4Time: **S9/85/2S82 8C:0L**
Prep Initial Wt7AVol7: **C.8C1 t**
Prep Estract Vol: **0 i 7**

Print Date: 0942M42012

N7C7Certification # - M1

Results of **4-1 (81-80)**

Client Sample ID: **4-1 (81-80)**
Client Project ID: **Ray Rd. Parcel SS4**
Lab Sample ID: 3120296600- /C
Lab Project ID: 31202966

Collection Date: 0941- 42012 13:35
Received Date: 094184 2012 10:30
Matrix: Soil/Solid as dry weight
Solids (%): 89.60

Results by **W6 -54C 5S80D OR2**

| Parameter | Result | Qual | DL | LOQ4CL | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | **3u.S** | | 6.62 | 6.62 | mg4Ng | 1 | 094 2- 42012 22:- 3 |
| **Wbrrgt ase B** | | | | | | | |
| o/k erphenyl | 102 | | | - 0.0/1- 0 | % | 1 | 094 2- 42012 22:- 3 |

**h ascl rf ngri as Ygf**

Analytical Tatch: **7 GD3004**
Analytical Method: **W6 -54C 5S80D OR2**
Instrument: **GDC**
Analyst: **OTF**

Prep Tatch: **7 7 7 1S98**
Prep Method: **W6 -54C 1048**
Prep Date4k ime: **S9/34/3S83 88:1u**
Prep Initial B t.4Vbl.: **11.u1 t**
Prep Vxtract Wbl: **8S i L**

Print Date: 094284 2012

E.C. Certification # - 81

v eyulty of **4-41( -80**

Client Sample ID: **4-41( -80**
Client Project ID: **) Ra1) ydL RPr ce1l l 4**
Lab Sample ID: 3120296600- A
Lab Project ID: 31202966

Collection Date: 0941R42012 13:R0
v eceide8 Date: 0941M42012 10:30
x atris: SoilASoli8 ay 8rwg eih( t
Soli8y %. .: M-720

v eyulty bw **SW-64516l C8G1O) u**

| Parameter | v eyult | Qual | DL | LOQ4CL | Unity | DF | Date / nalwze8 |
|---|---|---|---|---|---|---|---|
| Gayoline v anhe Orhanicy %Gv O. | ND | U | 376M | 376M | mh4kh | 1 | 094 2- 42012 20:1R |
| **SoPRgt RscB** | | | | | | | |
| R45romofluorobenzene | 109 | | | B070A130 | ) | 1 | 094 2- 42012 20:1R |

**h Rsr l 1f rgR RSVgf**

/ nalwtical 5atc( : **XOG2C88**
/ nalwtical x et( o8: **SW-64516l C8G1O) u**
Inytrument: **OGL**
/ nalwyt: **MDY**

Prep 5atc( : **X3 3 4l 44**
Prep x et( o8: **SW-64516l ( 8**
Prep Date4Time: **l 9/C6/2l C211C5:86**
Prep Initial Wt7AVol7: **5q[ L1t**
Prep Estract Vol: **81 7**

Print Date: 0942M42012 N7C7Certification # RM1

v eyulty of **4-41( -80**

Client Sample ID: **4-41( -80**
Client Project ID: **) Ra1) ydL RPr ce1l l 4**
Lab Sample ID: 3120296600- /C
Lab Project ID: 31202966

Collection Date: 0941R42012 13:R0
v eceide8 Date: 0941M42012 10:30
x atris: Soil/Soli8 ay 8rwg eih( t
Soli8y %. .: M-720

v eyulty bw **SW-6451 6l C8D1O) 2**

| Parameter | v eyult | Qual | DL | LOQ4CL | Unity | DF | Date Analwze8 |
|---|---|---|---|---|---|---|---|
| Dieyel v anhe Orhanicy %v O. | k D | U | T7R2 | T7R2 | mh45h | 1 | 0942R42012 23:11 |
| **S3PRuoRgct** | | | | | | | |
| o/Berp( enwl | 9979 | | | R070/1R0 | ) | 1 | 0942R42012 23:11 |

**s Rgr B1l nuFf Rgnal**

Analwtical Watc( : **i GD9884**
Analwtical x et( o8: **SW-6451 6l C8D1O) 2**
Inytrument: **GD5**
Analwyt: **OTF**

Prep Watc( : **i i i ( l XC**
Prep x et( o8: **SW-6451 ( 84C**
Prep Date4Bime: **l X79479l C911CC7( :**
Prep Initial V t74Eol7: **( Cd541o**
Prep Nstract Eol: **Cl f L**

Print Date: 0942M42012

k 7C7Certification # RM1

## v eyulty of **4-1 (1-80l)**

Client Sample ID: **4-1 (1-80l)**
Client Project ID: **Ray Rd0. aPr cel l 4**
Lab Sample ID: 31202966006-A
Lab Project ID: 31202966

Collection Date: 09/14/2012 13:RR
v eceide8 Date: 09/1M2012 10:30
x atris: Soil-Soli8 ay 8rwg eih( t
Soli8y %. .: MR730

## v eyulty bw **SW-645 6l C1G ORu**

| Parameter | v eyult | Qual | DL | LOQ/CL | Unity | DF | Date Analwze8 |
|---|---|---|---|---|---|---|---|
| Gayoline v anhe Orhanicy %Gv O. | ND | U | 3713 | 3713 | mh/kh | 1 | 09/2R/2012 20:39 |
| **SoPRgt ascB** | | | | | | | |
| 4-5romofluorobenzene | 106 | | | B070-130 | ) | 1 | 09/2R/2012 20:39 |

## h asr l rf rngR asWgf

Analwtical 5atc( : **XOG: C11**
Analwtical x et( o8: **SW-645 6l C1G ORu**
Inytrument: **OG8**
Analwyt: **MDY**

Prep 5atc( : **X3 3 4l 44**
Prep x et( o8: **SW-645 1l 91**
Prep Date/Time: **l / 2062 l C: C5L16**
Prep Initial Wt7Vol7: **804/ 1 t**
Prep Estract Vol: **1 i 7**

Print Date: 09/2M2012

N7C7Certification # 4Ml

## v eyulty of **4-1 (1-80l)**

Client Sample ID: **4-1 (1-80l)**
Client Project ID: **Ray Rd0. aPr cel l 4**
Lab Sample ID: 31202966006-C
Lab Project ID: 31202966

Collection Date: 09/14/2012 13:RR
v eceide8 Date: 09/1M2012 10:30
x atris: Soil-Soli8 ay 8rwg eih( t
Soli8y %) .: MR730

## v eyulty bw **SW-645 6l C1D OR2**

| Parameter | v eyult | Qual | DL | LOQ/CL | Unity | DF | Date Analwze8 |
|---|---|---|---|---|---|---|---|
| Dieyel v anhe Orhanicy %v O. | k D | U | T7R2 | T7R2 | mh/5h | 1 | 09/24/2012 23:39 |
| **S3PRuoagct** | | | | | | | |
| o-Berp( enwl | 10T | | | 4070-140 | ) | 1 | 09/24/2012 23:39 |

## s ag B hl nuFf agnl

Analwtical Watc( : i GD/ 114
Analwtical x et( o8: **SW-645 6l C1D OR2**
Inytrument: **GD5**
Analwyt: **OTF**

Prep Watc( : i i i Xl 7C
Prep x et( o8: **SW-645 X14C**
Prep Date/Bime: l 79/ 49/ l C/ CC:X8
Prep Initial V t7Eol7: XC0 o
Prep Nstract Eol: Cl f L

Print Date: 09/2M2012

k 7C7Certification # 4Ml

Results of **4-5 (TW)**

Client Sample ID: **4-5 (TW)**
Client Project ID: **Ray Rd. Parcel 004**
Lab Sample ID: 31202966007-A
Lab Project ID: 31202966

Collection Date: 09/14/2012 15:10
Received Date: 09/18/2012 10:30
Matrix: Water

Results by **SM 6200-B**

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | U | 0.104 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,1,1-Trichloroethane | ND | U | 0.123 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,1,2,2-Tetrachloroethane | ND | U | 0.156 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,1,2-Trichloroethane | ND | U | 0.126 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,1-Dichloroethane | ND | U | 0.165 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,1-Dichloroethene | ND | U | 0.212 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,1-Dichloropropene | ND | U | 0.112 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2,3-Trichlorobenzene | ND | U | 0.110 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2,3-Trichloropropane | ND | U | 0.212 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2,4-Trichlorobenzene | ND | U | 0.0913 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2,4-Trimethylbenzene | **3.44** | | 0.0961 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2-Dibromo-3-chloropropane | ND | U | 0.748 | 5.00 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2-Dibromoethane | ND | U | 0.120 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2-Dichlorobenzene | ND | U | 0.137 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2-Dichloroethane | ND | U | 0.167 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,2-Dichloropropane | ND | U | 0.163 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,3,5-Trimethylbenzene | **0.990** | | 0.113 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,3-Dichlorobenzene | ND | U | 0.103 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,3-Dichloropropane | ND | U | 0.189 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 1,4-Dichlorobenzene | ND | U | 0.130 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 2,2-Dichloropropane | ND | U | 0.393 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 2-Chlorotoluene | ND | U | 0.113 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 4-Chlorotoluene | ND | U | 0.125 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| 4-Isopropyltoluene | **1.94** | | 0.0769 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Benzene | ND | U | 0.113 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Bromobenzene | ND | U | 0.110 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Bromochloromethane | ND | U | 0.211 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Bromodichloromethane | ND | U | 0.110 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Bromoform | ND | U | 0.0974 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Bromomethane | ND | U | 0.237 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| n-Butylbenzene | **2.74** | | 0.0769 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Carbon tetrachloride | ND | U | 0.101 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Chlorobenzene | ND | U | 0.116 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Chloroethane | ND | U | 0.311 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Chloroform | ND | U | 0.139 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Chloromethane | **1.84** | | 0.448 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Dibromochloromethane | ND | U | 0.134 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Dibromomethane | ND | U | 0.168 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Dichlorodifluoromethane | ND | U | 0.171 | 5.00 | ug/L | 1 | 09/19/2012 16:23 |
| cis-1,3-Dichloropropene | ND | U | 0.0767 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| trans-1,3-Dichloropropene | ND | U | 0.0862 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Diisopropyl Ether | ND | U | 0.155 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Ethyl Benzene | ND | U | 0.0877 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |

Print Date: 09/28/2012

N.C. Certification # 481

## Results of **4-5 (TW)**

Client Sample ID: **4-5 (TW)**
Client Project ID: **Ray Rd. Parcel 004**
Lab Sample ID: 31202966007-A
Lab Project ID: 31202966

Collection Date: 09/14/2012 15:10
Received Date: 09/18/2012 10:30
Matrix: Water

## Results by **SM 6200-B**

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF | Date Analyzed |
|---|---|---|---|---|---|---|---|
| Hexachlorobutadiene | ND | U | 0.0792 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Isopropylbenzene (Cumene) | **0.260** | J | 0.0869 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Methylene chloride | ND | U | 0.152 | 5.00 | ug/L | 1 | 09/19/2012 16:23 |
| Naphthalene | ND | U | 0.0855 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Styrene | ND | U | 0.102 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Tetrachloroethene | ND | U | 0.155 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Toluene | ND | U | 0.133 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Trichloroethene | ND | U | 0.125 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Trichlorofluoromethane | ND | U | 0.137 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Vinyl chloride | ND | U | 0.124 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| Xylene (total) | ND | U | 0.269 | 1.50 | ug/L | 1 | 09/19/2012 16:23 |
| cis-1,2-Dichloroethene | ND | U | 0.136 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| m,p-Xylene | ND | U | 0.182 | 1.00 | ug/L | 1 | 09/19/2012 16:23 |
| n-Propylbenzene | **0.300** | J | 0.113 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| o-Xylene | ND | U | 0.0874 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| sec-Butylbenzene | **1.35** | | 0.112 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| tert-Butyl methyl ether (MTBE) | ND | U | 0.144 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| tert-Butylbenzene | ND | U | 0.0855 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| trans-1,2-Dichloroethene | ND | U | 0.223 | 0.500 | ug/L | 1 | 09/19/2012 16:23 |
| **Surrogates** | | | | | | | |
| 1,2-Dichloroethane-d4 | 101 | | | 64.0-140 | % | 1 | 09/19/2012 16:23 |
| 4-Bromofluorobenzene | 99.3 | | | 85.0-115 | % | 1 | 09/19/2012 16:23 |
| Toluene d8 | 106 | | | 82.0-117 | % | 1 | 09/19/2012 16:23 |

## Batch Information

Analytical Batch: **VMS2561**
Analytical Method: **SM 6200-B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX4021**
Prep Method: **SM 6200-B Prep**
Prep Date/Time: **09/19/2012 08:35**
Prep Initial Wt./Vol.: **40 mL**
Prep Extract Vol: **40 mL**

Print Date: 09/28/2012

N.C. Certification # 481

## d eyulty of **4-1 (8-0)**

Client Sample ID: **4-1 (8-0)**
Client Project ID: **Ray Rd. Parcel SS4**
Lab Sample ID: 3120296600-A
Lab Project ID: 31202966

Collection Date: 0941R42012 1RRv
d ecei8eMDate: 0941-42012 10:30
x atris: SoilASoliMay Mrwg eih( t
SoliMy %) .: 9R760

## d eyulty bw **W6 -541 5SC0G ORu**

| Parameter | d eyult | Qual | DL | LOQ4CL | Unity | DF | Date / nalwzeM |
|---|---|---|---|---|---|---|---|
| Gayoline d anhe Orhanicy %Gd O. | ND | U | 37R0 | 37R0 | mh4kh | 1 | 094264 2012 12:2v |
| **Worrgt aseB** | | | | | | | |
| RA5romofluorobenzene | 10v | | | B070A130 | ) | 1 | 094264 2012 12:2v |

## h ascl rf rngri asVgf

/ nalwtical 5atc( : **XOG2C0L**
/ nalwtical x et( oM **W6 -541 5SC0G ORu**
Inytrument: **OGL**
/ nalwyt: **MDY**

Prep 5atc( : **X334S08**
Prep x et( oM **W6 -541 0S80**
Prep Date4Time: **S9/21/2SC2 CS:4L**
Prep Initial Wt7AVol7: **1.2C5 t**
Prep Estract Vol: **0 i 7**

Print Date: 0942-42012

N7C7Certification # R-1

## d eyulty of **4-1 (8-0)**

Client Sample ID: **4-1 (8-0)**
Client Project ID: **Ray Rd. Parcel SS4**
Lab Sample ID: 3120296600- /C
Lab Project ID: 31202966

Collection Date: 0941R42012 1R:Rv
d ecei8eMDate: 0941- 42012 10:30
x atris: Soil/SoliMay Mrwg eih( t
SoliMy %) .: 9R760

## d eyulty bw**W6 -541 5SC0D OR2**

| Parameter | d eyult | Qual | DL | LOQ4CL | Unity | DF | Date Analwze M |
|---|---|---|---|---|---|---|---|
| Dieyel d anhe Orhanicy %)d O. | k D | U | 67- 0 | 67- 0 | mh45h | 1 | 0942v42012 0:0T |
| **W8rruoagpt** | | | | | | | |
| o/Berp( enwl | 110 | | | R070/1R0 | ) | 1 | 0942v42012 0:0T |

## s agcB H nurf agpul

Analwtical Watc( : **i GD9004**
Analwtical x et( oM **W6 -541 5SC0D OR2**
Inytrument: **GD1**
Analwyt: **OTF**

Prep Watc( : **i i i 8SXC**
Prep x et( oM **W6 -541 804C**
Prep Date4Bime: **SX7947 9SC9 CC/8:**
Prep Initial V t74Eol7: **8C.S5 o**
Prep Nstract Eol: **CS f L**

Print Date: 0942- 42012

k 7C7Certification # R- 1

## Batch Summary

Analytical Method: SM 6200-B

Prep Method: SW-846 5030B
Prep Batch: VXX4021
Prep Date: 09/19/2012 08:52

| Client Sample ID | Lab Sample ID | Analysis Date | Analytical Batch | Instrument | Analyst |
|---|---|---|---|---|---|
| LCS for HBN 29035 [VXX/4021] | 90096 | 09/19/2012 10:40 | VMS2561 | MSD8 | BWS |
| LCSD for HBN 29035 [VXX/4021] | 90097 | 09/19/2012 11:04 | VMS2561 | MSD8 | BWS |
| MB for HBN 29035 [VXX/4021] | 90098 | 09/19/2012 11:53 | VMS2561 | MSD8 | BWS |
| 4-5 (TW) | 31202966007 | 09/19/2012 16:23 | VMS2561 | MSD8 | BWS |
| 4-5 (TW)(89998DUP) | 90222 | 09/19/2012 17:12 | VMS2561 | MSD8 | BWS |
| 9-9 (TW)(89985MS) | 90223 | 09/19/2012 17:37 | VMS2561 | MSD8 | BWS |

## Method Blank

Blank ID: MB for HBN 29035 [VXX/4021]
Blank Lab ID: 90098
QC for Samples:
31202966007

Matrix: Water

## Results by **SM 6200-B**

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF |
|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | U | 0.171 | 5.00 | ug/L | 1 |
| Chloromethane | ND | U | 0.448 | 0.500 | ug/L | 1 |
| Vinyl chloride | ND | U | 0.124 | 0.500 | ug/L | 1 |
| Bromomethane | ND | U | 0.237 | 0.500 | ug/L | 1 |
| Chloroethane | ND | U | 0.311 | 0.500 | ug/L | 1 |
| Trichlorofluoromethane | ND | U | 0.137 | 0.500 | ug/L | 1 |
| 1,1-Dichloroethene | ND | U | 0.212 | 0.500 | ug/L | 1 |
| Methylene chloride | ND | U | 0.152 | 5.00 | ug/L | 1 |
| trans-1,2-Dichloroethene | ND | U | 0.223 | 0.500 | ug/L | 1 |
| tert-Butyl methyl ether (MTBE) | ND | U | 0.144 | 0.500 | ug/L | 1 |
| 1,1-Dichloroethane | ND | U | 0.165 | 0.500 | ug/L | 1 |
| Diisopropyl Ether | ND | U | 0.155 | 0.500 | ug/L | 1 |
| 2,2-Dichloropropane | ND | U | 0.393 | 0.500 | ug/L | 1 |
| cis-1,2-Dichloroethene | ND | U | 0.136 | 0.500 | ug/L | 1 |
| Bromochloromethane | ND | U | 0.211 | 0.500 | ug/L | 1 |
| Chloroform | ND | U | 0.139 | 0.500 | ug/L | 1 |
| 1,1,1-Trichloroethane | ND | U | 0.123 | 0.500 | ug/L | 1 |
| Carbon tetrachloride | ND | U | 0.101 | 0.500 | ug/L | 1 |
| 1,1-Dichloropropene | ND | U | 0.112 | 0.500 | ug/L | 1 |
| Benzene | ND | U | 0.113 | 0.500 | ug/L | 1 |
| 1,2-Dichloroethane | ND | U | 0.167 | 0.500 | ug/L | 1 |
| Trichloroethene | ND | U | 0.125 | 0.500 | ug/L | 1 |
| 1,2-Dichloropropane | ND | U | 0.163 | 0.500 | ug/L | 1 |
| Dibromomethane | ND | U | 0.168 | 0.500 | ug/L | 1 |
| Bromodichloromethane | ND | U | 0.110 | 0.500 | ug/L | 1 |
| cis-1,3-Dichloropropene | ND | U | 0.0767 | 0.500 | ug/L | 1 |
| Toluene | ND | U | 0.133 | 0.500 | ug/L | 1 |
| trans-1,3-Dichloropropene | ND | U | 0.0862 | 0.500 | ug/L | 1 |
| 1,1,2-Trichloroethane | ND | U | 0.126 | 0.500 | ug/L | 1 |
| Tetrachloroethene | ND | U | 0.155 | 0.500 | ug/L | 1 |
| 1,3-Dichloropropane | ND | U | 0.189 | 0.500 | ug/L | 1 |
| Dibromochloromethane | ND | U | 0.134 | 0.500 | ug/L | 1 |
| 1,2-Dibromoethane | ND | U | 0.120 | 0.500 | ug/L | 1 |
| Chlorobenzene | ND | U | 0.116 | 0.500 | ug/L | 1 |
| 1,1,1,2-Tetrachloroethane | ND | U | 0.104 | 0.500 | ug/L | 1 |
| Bromoform | ND | U | 0.0974 | 0.500 | ug/L | 1 |
| Bromobenzene | ND | U | 0.110 | 0.500 | ug/L | 1 |
| 1,1,2,2-Tetrachloroethane | ND | U | 0.156 | 0.500 | ug/L | 1 |
| 1,2,3-Trichloropropane | ND | U | 0.212 | 0.500 | ug/L | 1 |
| Ethyl Benzene | ND | U | 0.0877 | 0.500 | ug/L | 1 |
| m,p-Xylene | ND | U | 0.182 | 1.00 | ug/L | 1 |

Print Date: 09/28/2012

N.C. Certification # 481

## Method Blank

Blank ID: MB for HBN 29035 [VXX/4021]
Blank Lab ID: 90098
QC for Samples:
31202966007

Matrix: Water

## Results by **SM 6200-B**

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF |
|---|---|---|---|---|---|---|
| Styrene | ND | U | 0.102 | 0.500 | ug/L | 1 |
| o-Xylene | ND | U | 0.0874 | 0.500 | ug/L | 1 |
| Xylene (total) | ND | U | 0.269 | 1.50 | ug/L | 1 |
| Isopropylbenzene (Cumene) | ND | U | 0.0869 | 0.500 | ug/L | 1 |
| n-Propylbenzene | ND | U | 0.113 | 0.500 | ug/L | 1 |
| 2-Chlorotoluene | ND | U | 0.113 | 0.500 | ug/L | 1 |
| 4-Chlorotoluene | ND | U | 0.125 | 0.500 | ug/L | 1 |
| 1,3,5-Trimethylbenzene | ND | U | 0.113 | 0.500 | ug/L | 1 |
| tert-Butylbenzene | ND | U | 0.0855 | 0.500 | ug/L | 1 |
| 1,2,4-Trimethylbenzene | ND | U | 0.0961 | 0.500 | ug/L | 1 |
| sec-Butylbenzene | ND | U | 0.112 | 0.500 | ug/L | 1 |
| 1,3-Dichlorobenzene | ND | U | 0.103 | 0.500 | ug/L | 1 |
| 4-Isopropyltoluene | ND | U | 0.0769 | 0.500 | ug/L | 1 |
| 1,4-Dichlorobenzene | ND | U | 0.130 | 0.500 | ug/L | 1 |
| 1,2-Dichlorobenzene | ND | U | 0.137 | 0.500 | ug/L | 1 |
| n-Butylbenzene | ND | U | 0.0769 | 0.500 | ug/L | 1 |
| 1,2-Dibromo-3-chloropropane | ND | U | 0.748 | 5.00 | ug/L | 1 |
| 1,2,4-Trichlorobenzene | ND | U | 0.0913 | 0.500 | ug/L | 1 |
| Hexachlorobutadiene | ND | U | 0.0792 | 0.500 | ug/L | 1 |
| Naphthalene | ND | U | 0.0855 | 0.500 | ug/L | 1 |
| 1,2,3-Trichlorobenzene | ND | U | 0.110 | 0.500 | ug/L | 1 |
| **Surrogates** | | | | | | |
| 1,2-Dichloroethane-d4 | 97.5 | | | 64.0-140 | % | 1 |
| Toluene d8 | 102 | | | 82.0-117 | % | 1 |
| 4-Bromofluorobenzene | 101 | | | 85.0-115 | % | 1 |

## Batch Information

Analytical Batch: VMS2561
Analytical Method: SM 6200-B
Instrument: MSD8
Analyst: BWS

Prep Batch: VXX4021
Prep Method: SW-846 5030B
Prep Date/Time: 9/19/2012 8:52:28AM
Prep Initial Wt./Vol.: 40 mL
Prep Extract Vol: 40 mL

Print Date: 09/28/2012

N.C. Certification # 481

## Blank Spike Summary

Blank Spike ID: LCS for HBN 29035 [VXX/4021]
Blank Spike Lab ID: 90096
Date Analyzed: 09/19/2012 10:40

Spike Duplicate ID: LCSD for HBN 29035 [VXX/4021]
Spike Duplicate Lab ID: 90097
Date Analyzed: 09/19/2012 11:04
Matrix: Water

QC for Samples: 31202966007

## Results by **SM 6200-B**

| | Blank Spike (ug/L) | | | Spike Duplicate (ug/L) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Dichlorodifluoromethane | 5.00 | 5.35 | 107 | 5.00 | 5.76 | 115 | 33.0-170 | 7.4 | 30.00 |
| Chloromethane | 5.00 | 5.45 | 109 | 5.00 | 5.62 | 112 | 57.0-132 | 3.1 | 30.00 |
| Vinyl chloride | 5.00 | 4.58 | 92 | 5.00 | 4.76 | 95 | 59.0-138 | 3.9 | 30.00 |
| Bromomethane | 5.00 | 5.92 | 118 | 5.00 | 5.93 | 119 | 51.0-134 | 0.17 | 30.00 |
| Chloroethane | 5.00 | 5.49 | 110 | 5.00 | 5.48 | 110 | 64.0-145 | 0.18 | 30.00 |
| Trichlorofluoromethane | 5.00 | 5.30 | 106 | 5.00 | 5.81 | 116 | 64.0-133 | 9.2 | 30.00 |
| 1,1-Dichloroethene | 5.00 | 5.93 | 119 | 5.00 | 5.44 | 109 | 71.0-128 | 8.6 | 30.00 |
| Methylene chloride | 5.00 | 5.32 | 106 | 5.00 | 5.78 | **116*** | 70.0-113 | 8.3 | 30.00 |
| trans-1,2-Dichloroethene | 5.00 | 5.96 | 119 | 5.00 | 5.86 | 117 | 57.0-138 | 1.7 | 30.00 |
| tert-Butyl methyl ether (MTBE) | 5.00 | 5.79 | 116 | 5.00 | 5.48 | 110 | 47.0-142 | 5.5 | 30.00 |
| 1,1-Dichloroethane | 5.00 | 6.35 | 127 | 5.00 | 6.13 | 123 | 68.0-133 | 3.5 | 30.00 |
| Diisopropyl Ether | 5.00 | 6.52 | 130 | 5.00 | 6.16 | 123 | 66.0-132 | 5.7 | 30.00 |
| 2,2-Dichloropropane | 5.00 | 6.88 | **138*** | 5.00 | 5.91 | 118 | 74.0-125 | 15 | 30.00 |
| cis-1,2-Dichloroethene | 5.00 | 6.55 | **131*** | 5.00 | 5.51 | 110 | 73.0-128 | 17 | 30.00 |
| Bromochloromethane | 5.00 | 5.77 | 115 | 5.00 | 5.66 | 113 | 73.0-128 | 1.9 | 30.00 |
| Chloroform | 5.00 | 6.61 | **132*** | 5.00 | 5.59 | 112 | 74.0-124 | 17 | 30.00 |
| 1,1,1-Trichloroethane | 5.00 | 5.83 | 117 | 5.00 | 5.77 | 115 | 76.0-119 | 1.0 | 30.00 |
| Carbon tetrachloride | 5.00 | 5.89 | 118 | 5.00 | 5.67 | 113 | 75.0-120 | 3.8 | 30.00 |
| 1,1-Dichloropropene | 5.00 | 5.32 | 106 | 5.00 | 5.47 | 109 | 76.0-124 | 2.8 | 30.00 |
| Benzene | 5.00 | 5.53 | 111 | 5.00 | 5.43 | 109 | 76.0-124 | 1.8 | 30.00 |
| 1,2-Dichloroethane | 5.00 | 5.86 | 117 | 5.00 | 5.56 | 111 | 76.0-119 | 5.3 | 30.00 |
| Trichloroethene | 5.00 | 5.25 | 105 | 5.00 | 5.19 | 104 | 74.0-121 | 1.1 | 30.00 |
| 1,2-Dichloropropane | 5.00 | 5.29 | 106 | 5.00 | 5.49 | 110 | 74.0-124 | 3.7 | 30.00 |
| Dibromomethane | 5.00 | 5.07 | 101 | 5.00 | 5.49 | 110 | 71.0-128 | 8.0 | 30.00 |
| Bromodichloromethane | 5.00 | 5.65 | 113 | 5.00 | 5.42 | 108 | 72.0-120 | 4.2 | 30.00 |
| cis-1,3-Dichloropropene | 5.00 | 5.11 | 102 | 5.00 | 4.98 | 100 | 73.0-122 | 2.6 | 30.00 |
| Toluene | 5.00 | 5.12 | 102 | 5.00 | 5.45 | 109 | 75.0-123 | 6.2 | 30.00 |
| trans-1,3-Dichloropropene | 5.00 | 5.30 | 106 | 5.00 | 5.07 | 101 | 70.0-125 | 4.4 | 30.00 |
| 1,1,2-Trichloroethane | 5.00 | 5.71 | 114 | 5.00 | 5.68 | 114 | 76.0-121 | 0.53 | 30.00 |
| Tetrachloroethene | 5.00 | 5.50 | 110 | 5.00 | 5.51 | 110 | 59.0-112 | 0.18 | 30.00 |
| 1,3-Dichloropropane | 5.00 | 5.70 | 114 | 5.00 | 5.59 | 112 | 74.0-120 | 1.9 | 30.00 |
| Dibromochloromethane | 5.00 | 5.65 | 113 | 5.00 | 5.29 | 106 | 67.0-122 | 6.6 | 30.00 |
| 1,2-Dibromoethane | 5.00 | 5.46 | 109 | 5.00 | 5.45 | 109 | 74.0-119 | 0.18 | 30.00 |
| Chlorobenzene | 5.00 | 5.37 | 107 | 5.00 | 5.36 | 107 | 74.0-120 | 0.19 | 30.00 |

Print Date: 09/28/2012

N.C. Certification # 481

## Blank Spike Summary

Blank Spike ID: LCS for HBN 29035 [VXX/4021]
Blank Spike Lab ID: 90096
Date Analyzed: 09/19/2012 10:40

Spike Duplicate ID: LCSD for HBN 29035 [VXX/4021]
Spike Duplicate Lab ID: 90097
Date Analyzed: 09/19/2012 11:04
Matrix: Water

QC for Samples: 31202966007

## Results by **SM 6200-B**

| | Blank Spike (ug/L) | | | Spike Duplicate (ug/L) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| 1,1,1,2-Tetrachloroethane | 5.00 | 5.62 | 112 | 5.00 | 5.43 | 109 | 73.0-119 | 3.4 | 30.00 |
| Bromoform | 5.00 | 5.47 | 109 | 5.00 | 5.43 | 109 | 62.0-127 | 0.73 | 30.00 |
| Bromobenzene | 5.00 | 5.00 | 100 | 5.00 | 5.41 | 108 | 75.0-120 | 7.9 | 30.00 |
| 1,1,2,2-Tetrachloroethane | 5.00 | 5.40 | 108 | 5.00 | 5.20 | 104 | 68.0-129 | 3.8 | 30.00 |
| 1,2,3-Trichloropropane | 5.00 | 5.05 | 101 | 5.00 | 5.19 | 104 | 67.0-126 | 2.7 | 30.00 |
| Ethyl Benzene | 5.00 | 6.02 | 120 | 5.00 | 5.38 | 108 | 76.0-123 | 11 | 30.00 |
| m,p-Xylene | 10.0 | 10.8 | 108 | 10.0 | 9.81 | 98 | 76.0-124 | 9.6 | 30.00 |
| Styrene | 5.00 | 5.43 | 109 | 5.00 | 4.87 | 97 | 76.0-121 | 11 | 30.00 |
| o-Xylene | 5.00 | 6.03 | 121 | 5.00 | 5.03 | 101 | 75.0-124 | 18 | 30.00 |
| Isopropylbenzene (Cumene) | 5.00 | 5.60 | 112 | 5.00 | 5.27 | 105 | 77.0-120 | 6.1 | 30.00 |
| n-Propylbenzene | 5.00 | 5.62 | 112 | 5.00 | 5.07 | 101 | 77.0-123 | 10 | 30.00 |
| 2-Chlorotoluene | 5.00 | 5.52 | 110 | 5.00 | 5.29 | 106 | 74.0-127 | 4.3 | 30.00 |
| 4-Chlorotoluene | 5.00 | 5.52 | 110 | 5.00 | 5.05 | 101 | 77.0-123 | 8.9 | 30.00 |
| 1,3,5-Trimethylbenzene | 5.00 | 5.50 | 110 | 5.00 | 5.20 | 104 | 76.0-122 | 5.6 | 30.00 |
| tert-Butylbenzene | 5.00 | 5.12 | 102 | 5.00 | 5.12 | 102 | 67.0-122 | 0.0 | 30.00 |
| 1,2,4-Trimethylbenzene | 5.00 | 5.32 | 106 | 5.00 | 5.11 | 102 | 76.0-124 | 4.0 | 30.00 |
| sec-Butylbenzene | 5.00 | 5.22 | 104 | 5.00 | 5.03 | 101 | 78.0-121 | 3.7 | 30.00 |
| 1,3-Dichlorobenzene | 5.00 | 5.63 | 113 | 5.00 | 5.54 | 111 | 75.0-120 | 1.6 | 30.00 |
| 4-Isopropyltoluene | 5.00 | 5.12 | 102 | 5.00 | 4.86 | 97 | 77.0-120 | 5.2 | 30.00 |
| 1,4-Dichlorobenzene | 5.00 | 5.10 | 102 | 5.00 | 5.25 | 105 | 70.0-125 | 2.9 | 30.00 |
| 1,2-Dichlorobenzene | 5.00 | 5.51 | 110 | 5.00 | 4.83 | 97 | 76.0-118 | 13 | 30.00 |
| n-Butylbenzene | 5.00 | 4.72 | 94 | 5.00 | 4.49 | 90 | 78.0-118 | 5.0 | 30.00 |
| 1,2-Dibromo-3-chloropropane | 30.0 | 32.9 | 110 | 30.0 | 28.4 | 95 | 62.0-130 | 15 | 30.00 |
| 1,2,4-Trichlorobenzene | 5.00 | 4.73 | 95 | 5.00 | 4.16 | 83 | 72.0-119 | 13 | 30.00 |
| Hexachlorobutadiene | 5.00 | 5.16 | 103 | 5.00 | 4.32 | 86 | 69.0-121 | 18 | 30.00 |
| Naphthalene | 5.00 | 4.48 | 90 | 5.00 | 4.15 | 83 | 67.0-122 | 7.6 | 30.00 |
| 1,2,3-Trichlorobenzene | 5.00 | 5.21 | 104 | 5.00 | 4.69 | 94 | 21.0-193 | 11 | 30.00 |
| **Surrogates** | | | | | | | | | |
| 1,2-Dichloroethane-d4 | | | 96.8 | | | 104 | 64.0-140 | | |
| Toluene d8 | | | 95.6 | | | 98.9 | 82.0-117 | | |
| 4-Bromofluorobenzene | | | 99 | | | 103 | 85.0-115 | | |

Print Date: 09/28/2012

N.C. Certification # 481

## Blank Spike Summary

Blank Spike ID: LCS for HBN 29035 [VXX/4021]
Blank Spike Lab ID: 90096
Date Analyzed: 09/19/2012 10:40

Spike Duplicate ID: LCSD for HBN 29035 [VXX/4021]
Spike Duplicate Lab ID: 90097
Date Analyzed: 09/19/2012 11:04
Matrix: Water

QC for Samples: 31202966007

## Results by **SM 6200-B**

| | Blank Spike (%) | | | Spike Duplicate (%) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |

## Batch Information

Analytical Batch: **VMS2561**
Analytical Method: **SM 6200-B**
Instrument: **MSD8**
Analyst: **BWS**

Prep Batch: **VXX4021**
Prep Method: **SW-846 5030B**
Prep Date/Time: **09/19/2012 08:52**
Spike Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**
Dupe Init Wt./Vol.: **40 mL** Extract Vol: **40 mL**

Print Date: 09/28/2012

N.C. Certification # 481

## Duplicate Sample Summary

Original Sample ID: 31202966007-A
Duplicate Sample ID: 90222

Analysis Date: 09/19/2012 16:23
Analysis Date: 09/19/2012 17:12
Matrix: Water

QC for Samples: 31202966007

Results by **SM 6200-B**

| PARAMETER | Original (ug/L) | Qual | Duplicate (ug/L) | Qual | RPD (%) | RPD CL |
|---|---|---|---|---|---|---|
| 1,1,1,2-Tetrachloroethane | ND | U | ND | U | | 30.00 |
| 1,1,1-Trichloroethane | ND | U | ND | U | | 30.00 |
| 1,1,2,2-Tetrachloroethane | ND | U | ND | U | | 30.00 |
| 1,1,2-Trichloroethane | ND | U | ND | U | | 30.00 |
| 1,1-Dichloroethane | ND | U | ND | U | | 30.00 |
| 1,1-Dichloroethene | ND | U | ND | U | | 30.00 |
| 1,1-Dichloropropene | ND | U | ND | U | | 30.00 |
| 1,2,3-Trichlorobenzene | ND | U | ND | U | | 30.00 |
| 1,2,3-Trichloropropane | ND | U | ND | U | | 30.00 |
| 1,2,4-Trichlorobenzene | ND | U | ND | U | | 30.00 |
| 1,2,4-Trimethylbenzene | 3.44 | | 3.61 | | 4.8 | 30.00 |
| 1,2-Dibromo-3-chloropropane | ND | U | ND | U | | 30.00 |
| 1,2-Dibromoethane | ND | U | ND | U | | 30.00 |
| 1,2-Dichlorobenzene | ND | U | ND | U | | 30.00 |
| 1,2-Dichloroethane | ND | U | ND | U | | 30.00 |
| 1,2-Dichloropropane | ND | U | ND | U | | 30.00 |
| 1,3,5-Trimethylbenzene | 0.990 | | 1.01 | | 2.0 | 30.00 |
| 1,3-Dichlorobenzene | ND | U | ND | U | | 30.00 |
| 1,3-Dichloropropane | ND | U | ND | U | | 30.00 |
| 1,4-Dichlorobenzene | ND | U | ND | U | | 30.00 |
| 2,2-Dichloropropane | ND | U | ND | U | | 30.00 |
| 2-Chlorotoluene | ND | U | ND | U | | 30.00 |
| 4-Chlorotoluene | ND | U | ND | U | | 30.00 |
| 4-Isopropyltoluene | 1.94 | | 1.84 | | 5.3 | 30.00 |
| Benzene | ND | U | ND | U | | 30.00 |
| Bromobenzene | ND | U | ND | U | | 30.00 |
| Bromochloromethane | ND | U | ND | U | | 30.00 |

## Duplicate Sample Summary

Original Sample ID: 31202966007-A
Duplicate Sample ID: 90222

Analysis Date: 09/19/2012 16:23
Analysis Date: 09/19/2012 17:12
Matrix: Water

QC for Samples: 31202966007

Results by **SM 6200-B**

| PARAMETER | Original (ug/L) | Qual | Duplicate (ug/L) | Qual | RPD (%) | RPD CL |
|---|---|---|---|---|---|---|
| Bromodichloromethane | ND | U | ND | U | | 30.00 |
| Bromoform | ND | U | ND | U | | 30.00 |
| Bromomethane | ND | U | ND | U | | 30.00 |
| Carbon tetrachloride | ND | U | ND | U | | 30.00 |
| Chlorobenzene | ND | U | ND | U | | 30.00 |
| Chloroethane | ND | U | ND | U | | 30.00 |
| Chloroform | ND | U | ND | U | | 30.00 |
| Chloromethane | 1.84 | | 1.82 | | 1.1 | 30.00 |
| cis-1,2-Dichloroethene | ND | U | ND | U | | 30.00 |
| cis-1,3-Dichloropropene | ND | U | ND | U | | 30.00 |
| Dibromochloromethane | ND | U | ND | U | | 30.00 |
| Dibromomethane | ND | U | ND | U | | 30.00 |
| Dichlorodifluoromethane | ND | U | ND | U | | 30.00 |
| Diisopropyl Ether | ND | U | ND | U | | 30.00 |
| Ethyl Benzene | ND | U | ND | U | | 30.00 |
| Hexachlorobutadiene | ND | U | ND | U | | 30.00 |
| Isopropylbenzene (Cumene) | 0.260 | J | 0.270 | J | 3.8 | 30.00 |
| m,p-Xylene | ND | U | ND | U | | 30.00 |
| Methylene chloride | ND | U | ND | U | | 30.00 |
| n-Butylbenzene | 2.74 | | 2.33 | | 16 | 30.00 |
| n-Propylbenzene | 0.300 | J | 0.320 | J | 6.5 | 30.00 |
| Naphthalene | ND | U | ND | U | | 30.00 |
| o-Xylene | ND | U | ND | U | | 30.00 |
| sec-Butylbenzene | 1.35 | | ND | U | | 30.00 |
| Styrene | ND | U | ND | U | | 30.00 |
| tert-Butyl methyl ether (MTBE) | ND | U | ND | U | | 30.00 |
| tert-Butylbenzene | ND | U | ND | U | | 30.00 |

## Duplicate Sample Summary

Original Sample ID: 31202966007-A
Duplicate Sample ID: 90222

QC for Samples: 31202966007

Analysis Date: 09/19/2012 16:23
Analysis Date: 09/19/2012 17:12
Matrix: Water

## Results by **SM 6200-B**

| PARAMETER | Original (ug/L) | Qual | Duplicate (ug/L) | Qual | RPD (%) | RPD CL |
|---|---|---|---|---|---|---|
| Tetrachloroethene | ND | U | ND | U | | 30.00 |
| Toluene | ND | U | ND | U | | 30.00 |
| trans-1,2-Dichloroethene | ND | U | ND | U | | 30.00 |
| trans-1,3-Dichloropropene | ND | U | ND | U | | 30.00 |
| Trichloroethene | ND | U | 0.200 | J | | 30.00 |
| Trichlorofluoromethane | ND | U | ND | U | | 30.00 |
| Vinyl chloride | ND | U | ND | U | | 30.00 |
| Xylene (total) | ND | U | ND | U | | |
| **Surrogates** | | | | | | |
| 1,2-Dichloroethane-d4 | 101 | | 105 | | 4.5 | |
| 4-Bromofluorobenzene | 99.3 | | 96.4 | | 3.1 | |
| Toluene d8 | 106 | | 107 | | 1.6 | |

## Batch Information

Analytical Batch: VMS2561
Analytical Method: SM 6200-B
Instrument: MSD8
Analyst: BWS

Prep Batch: VXX4021
Prep Method: SM 6200-B Prep
Prep Date/Time: 09/19/2012 08:35

Print Date: 09/28/2012

N.C. Certification # 481

## Batch Summary

Analytical Method: SW-846 8015C GRO

Prep Method: SW-846 5035
Prep Batch: VXX4044
Prep Date: 09/25/2012 08:52

| Client Sample ID | Lab Sample ID | Analysis Date | Analytical Batch | Instrument | Analyst |
|---|---|---|---|---|---|
| LCS for HBN 29355 [VXX/4044] | 91167 | 09/25/2012 11:21 | VGC2155 | GC7 | MDY |
| LCSD for HBN 29355 [VXX/4044] | 91168 | 09/25/2012 11:46 | VGC2155 | GC7 | MDY |
| MB for HBN 29355 [VXX/4044] | 91169 | 09/25/2012 12:12 | VGC2155 | GC7 | MDY |
| 4-1 (8-10) | 31202966001 | 09/25/2012 18:33 | VGC2155 | GC7 | MDY |
| 4-2 (7.5-10) | 31202966002 | 09/25/2012 18:58 | VGC2155 | GC7 | MDY |
| 4-3 (3-5) | 31202966003 | 09/25/2012 19:24 | VGC2155 | GC7 | MDY |
| 4-3 (13-15) | 31202966004 | 09/25/2012 19:49 | VGC2155 | GC7 | MDY |
| 4-4 (3-5) | 31202966005 | 09/25/2012 20:14 | VGC2155 | GC7 | MDY |
| 4-5 (5-7.5) | 31202966006 | 09/25/2012 20:39 | VGC2155 | GC7 | MDY |
| 4-5 (5-7.5)(89995MS) | 91581 | 09/25/2012 21:04 | VGC2155 | GC7 | MDY |
| 4-5 (5-7.5)(89995MSD) | 91582 | 09/25/2012 21:29 | VGC2155 | GC7 | MDY |

## Method Blank

Blank ID: MB for HBN 29355 [VXX/4044]
Blank Lab ID: 91169
QC for Samples:
31202966001, 31202966002, 31202966003, 31202966004, 31202966005, 31202966006

Matrix: Soil-Solid as dry weight

## Results by **SW-846 8015C GRO**

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF |
|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | U | 4.00 | 4.00 | mg/kg | 1 |
| **Surrogates** | | | | | | |
| 4-Bromofluorobenzene | 101 | | | 70.0-130 | % | 1 |

## Batch Information

Analytical Batch: VGC2155
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: MDY

Prep Batch: VXX4044
Prep Method: SW-846 5035
Prep Date/Time: 9/25/2012 8:52:00AM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL

Print Date: 09/28/2012

N.C. Certification # 481

## Blank Spike Summary

Blank Spike ID: LCS for HBN 29355 [VXX/4044]
Blank Spike Lab ID: 91167
Date Analyzed: 09/25/2012 11:21

Spike Duplicate ID: LCSD for HBN 29355 [VXX/4044]
Spike Duplicate Lab ID: 91168
Date Analyzed: 09/25/2012 11:46
Matrix: Soil-Solid as dry weight

QC for Samples: 31202966001, 31202966002, 31202966003, 31202966004, 31202966005, 31202966006

## Results by **SW-846 8015C GRO**

| | Blank Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Gasoline Range Organics (GRO) | 16.0 | 16.1 | 101 | 16.0 | 17.1 | 107 | 70.0-130 | 6.0 | 30.00 |
| **Surrogates** | | | | | | | | | |
| 4-Bromofluorobenzene | | | 101 | | | 104 | 70.0-130 | | |

## Batch Information

Analytical Batch: **VGC2155**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX4044**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/25/2012 08:52**
Spike Init Wt./Vol.: **5 g** Extract Vol: **5 mL**
Dupe Init Wt./Vol.: **5 g** Extract Vol: **5 mL**

Print Date: 09/28/2012

N.C. Certification # 481

## Matrix Spike Summary

Original Sample ID: 31202966006 (4-5 (5-7.5))
MS Sample ID: 91581
MSD Sample ID: 91582

Analysis Date: 09/25/2012 20:39
Analysis Date: 09/25/2012 21:04
Analysis Date: 09/25/2012 21:29
Matrix: Soil-Solid as dry weight

QC for Samples: 31202966001, 31202966002, 31202966003, 31202966004, 31202966005, 31202966006

## Results by **SW-846 8015C GRO**

| | | Matrix Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Gasoline Range Organics (GRO) | ND | 12.5 | 12.3 | 98 | 12.5 | 12.3 | 98 | 70.0-130 | 0.0 | 30.00 |

## Batch Information

Analytical Batch: **VGC2155**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX4044**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/18/2012 16:58**
MS Init Wt./Vol.: **7.495 g** Extract Vol.: **5 mL**
MSD Init Wt./Vol.: **7.495 g** Extract Vol.: **5 mL**

Print Date: 09/28/2012

N.C. Certification # 481

## Batch Summary

Analytical Method: SW-846 8015C GRO

Prep Method: SW-846 5035
Prep Batch: VXX4053
Prep Date: 09/26/2012 08:36

| Client Sample ID | Lab Sample ID | Analysis Date | Analytical Batch | Instrument | Analyst |
|---|---|---|---|---|---|
| LCS for HBN 29413 [VXX/4053] | 91430 | 09/26/2012 11:09 | VGC2157 | GC7 | MDY |
| LCSD for HBN 29413 [VXX/4053] | 91431 | 09/26/2012 11:34 | VGC2157 | GC7 | MDY |
| MB for HBN 29413 [VXX/4053] | 91432 | 09/26/2012 12:00 | VGC2157 | GC7 | MDY |
| 4-6 (3-5) | 31202966008 | 09/26/2012 12:25 | VGC2157 | GC7 | MDY |
| SB-10(91322MS) | 91678 | 09/26/2012 21:00 | VGC2157 | GC7 | MDY |
| SB-10(91322MSD) | 91679 | 09/26/2012 21:26 | VGC2157 | GC7 | MDY |

## Method Blank

Blank ID: MB for HBN 29413 [VXX/4053]
Blank Lab ID: 91432
QC for Samples:
31202966008

Matrix: Soil-Solid as dry weight

## Results by **SW-846 8015C GRO**

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF |
|---|---|---|---|---|---|---|
| Gasoline Range Organics (GRO) | ND | U | 4.00 | 4.00 | mg/kg | 1 |
| **Surrogates** | | | | | | |
| 4-Bromofluorobenzene | 101 | | | 70.0-130 | % | 1 |

## Batch Information

Analytical Batch: VGC2157
Analytical Method: SW-846 8015C GRO
Instrument: GC7
Analyst: MDY

Prep Batch: VXX4053
Prep Method: SW-846 5035
Prep Date/Time: 9/26/2012 8:36:32AM
Prep Initial Wt./Vol.: 5 g
Prep Extract Vol: 5 mL

Print Date: 09/28/2012

N.C. Certification # 481

## Blank Spike Summary

Blank Spike ID: LCS for HBN 29413 [VXX/4053]
Blank Spike Lab ID: 91430
Date Analyzed: 09/26/2012 11:09

Spike Duplicate ID: LCSD for HBN 29413 [VXX/4053]
Spike Duplicate Lab ID: 91431
Date Analyzed: 09/26/2012 11:34
Matrix: Soil-Solid as dry weight

QC for Samples: 31202966008

## Results by **SW-846 8015C GRO**

| | Blank Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Parameter | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Gasoline Range Organics (GRO) | 16.0 | 14.1 | 88 | 16.0 | 14.9 | 93 | 70.0-130 | 5.5 | 30.00 |
| **Surrogates** | | | | | | | | | |
| 4-Bromofluorobenzene | | | 101 | | | 103 | 70.0-130 | | |

## Batch Information

Analytical Batch: **VGC2157**
Analytical Method: **SW-846 8015C GRO**
Instrument: **GC7**
Analyst: **MDY**

Prep Batch: **VXX4053**
Prep Method: **SW-846 5035**
Prep Date/Time: **09/26/2012 08:36**
Spike Init Wt./Vol.: **5 g** Extract Vol: **5 mL**
Dupe Init Wt./Vol.: **5 g** Extract Vol: **5 mL**

Print Date: 09/28/2012

N.C. Certification # 481

## Batch Summary

Analytical Method: SW-846 8015C DRO

Prep Method: SW-846 3541
Prep Batch: XXX3075
Prep Date: 09/20/2012 10:09

| Client Sample ID | Lab Sample ID | Analysis Date | Analytical Batch | Instrument | Analyst |
|---|---|---|---|---|---|
| MB for HBN 29081 [XXX/3075] | 90342 | 09/20/2012 19:40 | XGC2545 | GC6 | DTF |
| LCS for HBN 29081 [XXX/3075] | 90343 | 09/20/2012 20:09 | XGC2545 | GC6 | DTF |
| 4-1 (8-10) | 31202966001 | 09/22/2012 12:11 | XGC2550 | GC6 | DTF |
| 38-1 (7.5-10)(89965MS) | 90344 | 09/24/2012 19:55 | XGC2554 | GC6 | DTF |
| 38-1 (7.5-10)(89965MSD) | 90345 | 09/24/2012 20:23 | XGC2554 | GC6 | DTF |

## Method Blank

Blank ID: MB for HBN 29081 [XXX/3075]
Blank Lab ID: 90342
QC for Samples:
31202966001

Matrix: Soil-Solid as dry weight

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

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF |
|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | U | 6.25 | 6.25 | mg/kg | 1 |
| **Surrogates** | | | | | | |
| o-Terphenyl | 104 | | | 40.0-140 | % | 1 |

## Batch Information

Analytical Batch: XGC2545
Analytical Method: SW-846 8015C DRO
Instrument: GC6
Analyst: DTF

Prep Batch: XXX3075
Prep Method: SW-846 3541
Prep Date/Time: 9/20/2012 10:09:26AM
Prep Initial Wt./Vol.: 32 g
Prep Extract Vol: 10 mL

Print Date: 09/28/2012

N.C. Certification # 481

## Blank Spike Summary

Blank Spike ID: LCS for HBN 29081 [XXX/3075]
Blank Spike Lab ID: 90343
Date Analyzed: 09/20/2012 20:09

Matrix: Soil-Solid as dry weight

QC for Samples: 31202966001

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

Blank Spike (mg/kg)

| Parameter | Spike | Result | Rec (%) | CL |
|---|---|---|---|---|
| Diesel Range Organics (DRO) | 62.5 | 67.2 | 107 | 55.0-137 |
| **Surrogates** | | | | |
| o-Terphenyl | | | 113 | 40.0-140 |

## Batch Information

Analytical Batch: **XGC2545**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3075**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/20/2012 10:09**
Spike Init Wt./Vol.: **32 g** Extract Vol: **10 mL**
Dupe Init Wt./Vol.: Extract Vol:

## Batch Summary

Analytical Method: SW-846 8015C DRO

Prep Method: SW-846 3541
Prep Batch: XXX3071
Prep Date: 079 49 01/ 11:32

| Client Sample ID | Lab Sample ID | Analysis Date | Analytical Batch | Instrument | Analyst |
|---|---|---|---|---|---|
| MB for HBN / 7/ 21 [XXX3071] | 710/ 4 | 079 49 01/ 18:/ 7 | XGC/ 554 | GC6 | DTF |
| LCS for HBN / 7/ 21 [XXX3071] | 710/ 5 | 079 49 01/ 18:58 | XGC/ 554 | GC6 | DTF |
| 4-/ (2)5-10. | 31/ 0/ 76600/ | 079 49 01/ / 0:51 | XGC/ 554 | GC6 | DTF |
| 4-/ (2)5-10.(87771MS. | 710/ 6 | 079 49 01/ / 1:17 | XGC/ 554 | GC6 | DTF |
| 4-/ (2)5-10.(87771MSD. | 710/ 2 | 079 49 01/ / 1:42 | XGC/ 554 | GC6 | DTF |
| 4-3 (3-5. | 31/ 0/ 766003 | 079 49 01/ / / :15 | XGC/ 554 | GC6 | DTF |
| 4-3 (13-15. | 31/ 0/ 766004 | 079 49 01/ / / :43 | XGC/ 554 | GC6 | DTF |
| 4-4 (3-5. | 31/ 0/ 766005 | 079 49 01/ / 3:11 | XGC/ 554 | GC6 | DTF |
| 4-5 (5-2)5. | 31/ 0/ 766006 | 079 49 01/ / 3:37 | XGC/ 554 | GC6 | DTF |
| 4-6 (3-5. | 31/ 0/ 766008 | 079 59 01/ 00:02 | XGC/ 554 | GC6 | DTF |

Print Date: 079 89 01/

N)C) Certification # 481

## Method Blank

Blank ID: MB for HBN 29271 [XXX/3091]
Matrix: Soil-Solid as dry weight
Blank Lab ID: 91024
QC for Samples:
31202966002, 31202966003, 31202966004, 31202966005, 31202966006, 31202966008

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

| Parameter | Result | Qual | DL | LOQ/CL | Units | DF |
|---|---|---|---|---|---|---|
| Diesel Range Organics (DRO) | ND | U | 6.25 | 6.25 | mg/kg | 1 |
| **Surrogates** | | | | | | |
| o-Terphenyl | 102 | | | 40.0-140 | % | 1 |

## Batch Information

Analytical Batch: XGC2554
Analytical Method: SW-846 8015C DRO
Instrument: GC6
Analyst: DTF

Prep Batch: XXX3091
Prep Method: SW-846 3541
Prep Date/Time: 9/24/2012 11:37:46AM
Prep Initial Wt./Vol.: 32 g
Prep Extract Vol: 10 mL

Print Date: 09/28/2012
N.C. Certification # 481

## Blank Spike Summary

Blank Spike ID: LCS for HBN 29271 [XXX/3091]
Blank Spike Lab ID: 91025
Date Analyzed: 09/24/2012 18:58

Matrix: Soil-Solid as dry weight

QC for Samples: 31202966002, 31202966003, 31202966004, 31202966005, 31202966006, 31202966008

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

Blank Spike (mg/kg)

| Parameter | Spike | Result | Rec (%) | CL |
|---|---|---|---|---|
| Diesel Range Organics (DRO) | 62.5 | 65.4 | 105 | 55.0-137 |
| **Surrogates** | | | | |
| o-Terphenyl | | | 110 | 40.0-140 |

## Batch Information

Analytical Batch: **XGC2554**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3071**
Prep Method: **SW-846 3541**
Prep Date/Time: **079249 2012 11/3:**
Spike Init Wt./Vol.: **32 g** Extract Vol: **10 mL**
Dupe Init Wt./Vol.: Extract Vol:

Print Date: 09/28/2012

N.C. Certification # 481

## Matrix Spike Summary

Original Sample ID: 31202966002 (4-2 (7.5-10))
MS Sample ID: 91026
MSD Sample ID: 91027

Analysis Date: 09/24/2012 20:51
Analysis Date: 09/24/2012 21:19
Analysis Date: 09/24/2012 21:47
Matrix: Soil-Solid as dry weight

QC for Samples: 31202966002, 31202966003, 31202966004, 31202966005, 31202966006, 31202966008

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

| | | Matrix Spike (mg/kg) | | | Spike Duplicate (mg/kg) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Parameter | Sample | Spike | Result | Rec (%) | Spike | Result | Rec (%) | CL | RPD (%) | RPD CL |
| Diesel Range Organics (DRO) | ND | 64.7 | 65.9 | 102 | 71.5 | 79.1 | 111 | 40.0-140 | 18 | 30.00 |
| **Surrogates** | | | | | | | | | | |
| o-Terphenyl | | | | 106 | | | 116 | 40.0-140 | | |

## Batch Information

Analytical Batch: **XGC2554**
Analytical Method: **SW-846 8015C DRO**
Instrument: **GC6**
Analyst: **DTF**

Prep Batch: **XXX3091**
Prep Method: **SW-846 3541**
Prep Date/Time: **09/24/2012 11:37**
MS Init Wt./Vol.: **35.84 g** Extract Vol.: **10 mL**
MSD Init Wt./Vol.: **32.48 g** Extract Vol.: **10 mL**

Print Date: 09/28/2012

N.C. Certification # 481

# CHAIN OF CUSTODY RECORD
## SGS North America Inc.

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

www.us.sgs.com

104292

(1)
CLIENT: NCDOT U-3465 WBS: 39017.1.1
CONTACT: Gordon Box PHONE NO: (336) 335.3174
PROJECT: Ray Rd. Parcel 004 SITE/PWSID# :
REPORTS TO: Tim Leatherman
Pyramid Environmental FAX NO.:( )
INVOICE TO: NCDOT QUOTE #: NCDOT
Gordon Box P.O. NUMBER: 39017.1.1

SGS Reference: 31202966

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) 5035-GRO | 3550-DRO | 6200B | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4-1(8-10) | 9-14-12 | 13:20 | Soil | 3 | G | Methanol/None/HCl | X | X | | |
| | 4-2(7.5-10) | 9-14-12 | 13:25 | Soil | 3 | G | | X | X | | |
| | 4-3(3-5) | 9-14-12 | 13:30 | Soil | 3 | G | | X | X | | |
| | 4-3(13-15) | 9-14-12 | 13:35 | Soil | 3 | G | | X | X | | |
| | 4-4(3-5) | 9-14-12 | 13:40 | Soil | 3 | G | | X | X | | |
| | 4-5(5-7.5) | 9-14-12 | 13:55 | Soil | 3 | G | | X | X | | |
| | 4-5(TW) | 9-14-12 | 15:10 | Water | 3 | G | | | | X | |
| | 4-6(3-5) | 9-14-12 | 14:45 | Soil | 3 | G | | X | X | | |

(5)

| Collected/Relinquished By:(1) | Date | Time | Received By: |
|---|---|---|---|
| Timothy A Leatherman | 9/17/12 | 19:00 | Fed-X |
| Relinquished By: (2) | Date | Time | Received By: |
| | 9/18/12 | 1030 | |
| Relinquished By: (3) | Date | Time | Received By: |
| Relinquished By: (4) | Date | Time | Received By: |

(4)

| | |
|---|---|
| Shipping Carrier: | Samples Received Cold? (Circle) YES NO |
| Shipping Ticket No: | Temperature°C: 2.8°C. |
| 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-Pyramid** Work Order No.: **31202966**

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: 2.8
   ___ 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 Discrepancies*

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

Notes:

Comments:

Inspected and Logged in by: JJ

Date: Tue-9/18/12 00:00



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

MI_11.6

# CHAIN OF CUSTODY RECORD
## SGS North America Inc.

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

www.us.sgs.com

104292

(1)

CLIENT: NCDOT U-3465 WBS: 39017.1.1

CONTACT: Gordon Box PHONE NO: (336) 335.3174

PROJECT: Ray Rd. Parcel 004 SITE/PWSID# :

REPORTS TO: Tim Leatherman
Pyramid Environmental FAX NO.:( )

INVOICE TO: NCDOT
Gordon Box QUOTE #: NCDOT

P.O. NUMBER: 39017.1.1

SGS Reference: 31202966

PAGE 1 OF 1

(2)

| LAB NO. | SAMPLE IDENTIFICATION | DATE | TIME | MATRIX | No CONTAINERS | SAMPLE TYPE (C=COMP, G=GRAB) | Preservatives Used: Methanol / None / HCl | Analysis Required (3): 5035 - GRO | 3550 - DRO | 6200B | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 4-1(8-10) | 9-14-12 | 13:20 | Soil | 3 | G | | X | X | | |
| | 4-2(7.5-10) | 9-14-12 | 13:25 | Soil | 3 | G | | X | X | | |
| | 4-3(3-5) | 9-14-12 | 13:30 | Soil | 3 | G | | X | X | | |
| | 4-3(13-15) | 9-14-12 | 13:35 | Soil | 3 | G | | X | X | | |
| | 4-4(3-5) | 9-14-12 | 13:40 | Soil | 3 | G | | X | X | | |
| | 4-5(5-7.5) | 9-14-12 | 13:55 | Soil | 3 | G | | X | X | | |
| | 4-5(TW) | 9-14-12 | 15:10 | Water | 3 | G | | | | X | |
| | 4-6(3-5) | 9-14-12 | 14:45 | Soil | 3 | G | | X | X | | |

(5)

| Collected/Relinquished By:(1) | Date | Time | Received By: |
|---|---|---|---|
| Timothy A Leatherman | 9/17/12 | 19:00 | Fed-X |
| Relinquished By: (2) | Date | Time | Received By: |
| | 9/18/12 | 1030 | |
| 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: 2.8°C.

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-Pyramid** Work Order No.: **31202966**

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: 2.8
   ___ 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 Discrepancies*

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

Notes:

Comments:

Inspected and Logged in by: JJ

Date: Tue-9/18/12 00:00

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

# APPENDIX G

## FIELD PERSONNEL LOG

**PROJECT NAME**: NCDOT Harnett County ROW TRACTS: 4,19,21 **PROJECT NO.:** U-3465

**Name:** Tim Leatherman **Date:** 9/12/12 **Mon Tue Wed Th Fri Sat Sun**

**TASKS PERFORMED:**

7:00 to 9:00 Travel from office; meet drillers at Parcel 004. Decided to started soil sampling/drilling at Parcel 021.

9:00 to 13:30 Completed 9 soil borings a Parcel 021 with one hour lunch

13:30 to 18:00 Completed 7 soil borings a Parcel 019

## FIELD PERSONNEL LOG

**PROJECT NAME**: NCDOT Harnett County ROW TRACTS: ALL

**PROJECT NO.:** U-3465

**Name:** Tim Leatherman

**Date:** 9/11/12

**Mon** [**Tue**] **Wed Th Fri Sat Sun**

**TASKS PERFORMED:**

8:00 to 9:00 Meet private utility locator North State Locating at Parcels 019 & 021. Discussed project with them and looked at Parcels 004, 009, 019, 021, 022, 038, and 069.

9:00 to 13:00 Travel and NCDENR File Review at the Fayetteville Regional Office

13:00 to 13:30 Discussed the utilities found at each site with utility locators.

13:30 to 14:00 Lunch

14:00 to 15:00 Go over the preliminary geophysical results with Eric for each site/parcel.

15:00 to 17:00 Travel back to office and home to pickup sampling supplies.

## FIELD PERSONNEL LOG

**PROJECT NAME**: NCDOT Harnett County ROW TRACTS: ALL **PROJECT NO.:** U-3465

**Name:** Tim Leatherman **Date:** 9/10/12 **Mon** **Tue Wed Th Fri Sat Sun**

**TASKS PERFORMED:**

9:00 to 11:00 Load and Travel to Parcel 038

11:00 to 12:00 Helped Eric with Geophysics Survey at Parcel 038

12:00 to 13:00 Meet with Public Utility Locators at Parcels 004, 009, 019, 021, 022, 038, & 069.

13:00 to 13:30 Lunch

13:30 to 18:00 Helped Eric with Geophysics Survey at Parcels 038 and 009.

## FIELD PERSONNEL LOG

**PROJECT NAME**: NCDOT Harnett County ROW TRACTS: 4,22 **PROJECT NO.:** U-3465

**Name:** Eric Cross/Alan McFadden **Date:** 9/9/12 **Mon Tue Wed Th Fri Sat Sun**

**TASKS PERFORMED:**

Performed geophysical surveys using GSSI SIR 2000 ground penetrating radar equipment at Parcels 004 and 022. Performed geophysical data analysis/processing in field and from home office in evening.

## FIELD PERSONNEL LOG

**PROJECT NAME:** NCDOT Harnett County ROW TRACTS: 4,22 **PROJECT NO.:** U-3465

**Name:** Eric Cross/Alan McFadden **Date:** 9/7/12 **Mon Tue Wed Th Fri Sat Sun**

**TASKS PERFORMED:**

Performed geophysical surveys using EM61 magnetometer and/or GSSI SIR 2000 ground penetrating radar equipment at Parcel 004 and 022. Performed geophysical data analysis/processing in field and from home office in evening.

## FIELD PERSONNEL LOG

**PROJECT NAME**: NCDOT Harnett County ROW
TRACTS: ALL

**PROJECT NO.:** U-3465

**Name:** Tim Leatherman **Date:** 9/4/12 **Mon Tue Wed Th Fri Sat Sun**

**TASKS PERFORMED:**

11:00 to 12:00 Load

12:30 to 13:00 Lunch

13:00 to 14:30 Travel to Ray Road Sites/Parcels.

14:30 to 17:00 Talked with property tenants and property owners for Parcels 004, 019, 021, 022, 038, and 071. Granted access to all Parcels, but Parcel 071. Denied access to Parcel 071.

## FIELD PERSONNEL LOG

**PROJECT NAME**: NCDOT Harnett County ROW TRACTS: 4,9,38,69 **PROJECT NO.:** U-3465

**Name:** Tim Leatherman **Date:** 9/14/12 **Mon Tue Wed Th Fri Sat Sun**

**TASKS PERFORMED:**

8:00 to 12:00 Finished soil borings at Parcel 038, and completed site measurements.

12:00 to 13:00 Lunch

13:00 to 16:00 Completed soil borings and soil sampling at Parcel 004.

16:00 to 17:00 Additional Site Recon. at Parcels 009 and 069.

17:00 to 19:00 Travel back to office and unload.