

4114 Laurel Ridge Drive
Raleigh, North Carolina 27612

Protocol Sampling Service, Inc.
"Experts in Environmental Compliance"
(919) 210-6547

Protocolsampling@yahoo.com
Environmentalservicesnc.com

June 30, 2023

Mr. Mark R. Powers
Regional Supervisor
UST Section, Raleigh Regional Office
NCDEQ, Division of Waste Management
1628 Mail Service Center
Raleigh, North Carolina 27699

Re: **Initial Abatement Report**
514 Glenbrook Drive
Raleigh, Wake County, North Carolina 27610

Dear Mr. Powers:

Enclosed, please find the Initial Abatement Report for the 600 Glenbrook Drive property located in Raleigh, Wake County, North Carolina and owned by the City of Raleigh. The 275-gallon No. 2 fuel oil tank was removed on June 1, 2023 with evidence of a release confirmed visually. Soil sample results were all below detection limits. Ground water analyses revealed a minor concentration for C11-C22 Aromatics of 375 ug/l (Standard 200 ug/l).

No further action is recommended for this property.

Please call me at (919) 210-6547 if you have any questions.



David E. Meyer, P.G.
Geologist/President

Cc: Mr. R. Todd Rall, Project Manager, City of Raleigh, Stormwater Division

**275-gallon Heating Oil UST Initial Abatement Report
514 Glenbrook Drive
Raleigh, Wake County, North Carolina
27610**

Prepared for:

Mr. R. Todd Rall, Project Manager
City of Raleigh
Engineering Services Department
Stormwater Division
127 W. Hargett St. Raleigh, NC 27601

Prepared by:

Prepared By:
Protocol Sampling Service, Inc.
4114 Laurel Ridge Drive
Raleigh, NC 27612
919-210-6547
Email: protocolsampling@yahoo.com

June 30, 2023

Contents

1	General Information	1
1.1	Ownership of Site	1
1.2	Facility Information	1
1.3	Contacts	1
1.3.1	Name, Address and Telephone Number of Prior Property Owner	1
1.3.2	Name, Address and Telephone Number of Current Property Owner	1
1.3.3	Name, Address and Telephone Number of Primary Consultant	2
1.3.4	Name, Address, Telephone Number, State Certification Number of Laboratory	2
1.4	UST Information	2
1.5	Site History	2
1.5.1	Past Releases at Site	2
1.5.2	Receptor Information	2
1.5.3	Site Geology/Hydrogeology	3
2	Subsurface Structures	
2.1	Conduit Locations	3
2.2	Likelihood of Exposure	4
3	Site Investigation	4
3.1	Soil Sampling Points and Sampling Procedures	4
3.2	Ground Water or Surface Water Sampling Procedures/Results	5
3.3	Quality Control Measures	6
3.4	Investigation Results	6
4	Conclusions and Recommendations	6
5	Signature of Professional Engineer or Licensed Geologist	7

Contents (Cont'd)

Figures

- Figure 1 USGS Topographic Map
Figure 2 Site Map/UST Location Map with Soil Sampling Points

Tables

- Table 1 Soil/Groundwater Laboratory Analytical Results

Appendices

- Appendix A Complete Chain-of-Custody
Appendix B Copy of Laboratory Analytical Records
Appendix C UST-61 24-hour Release and UST Reporting Form
Appendix D SR&R Water/Oil and Soil Disposal Manifests
Appendix E UST Disposal Manifest (UST disposed of as scrap)

1 Site Identification

Site Name/Site Location: 514 Glenbrook Drive

Nearest City/Town: Raleigh

County: Wake

Date of Report: June 30, 2023

Facility ID:

UST Incident Number: (non-commercial)

1.2 UST Owner:

City of Raleigh

127 West Hargett Street

Raleigh, North Carolina 27601

Phone: (984) 344-3102

1.3 UST Operator:

City of Raleigh

127 West Hargett Street

Raleigh, North Carolina 27601

Phone: (984) 344-3102

1.4 Property Owner:

City of Raleigh

127 West Hargett Street

Raleigh, North Carolina 27601

Phone: (984) 344-3102

1.5 Property Occupant:

House demolished/Empty

1.6 Consultant:

Protocol Sampling Service, Inc.

4114 Laurel Ridge Drive

Raleigh, NC 27612

(919) 210-6547

1.7 Release Information:

Date Discovered: June 1, 2023

Latitude/Longitude: 35.76907" N; 78.60248" W

Estimated Quantity of Release: unknown

Cause of Release: weepage from UST

Source of Release: 275 gallon No. 2 fuel oil UST

1.8 Site History

UST System Number	Product	Capacity	Date Installed	Date Removed
Na	Heating oil	275 gallons	1957	6-1-2023

1.9 Free Product Investigation/Recovery

Free product was not encountered on the subject site during closure and soil sampling activities.

2. Risk Characterization

Limited Site Assessment Risk Classification and Land Use for Source Area

Part I Groundwater/Surface Water/Vapor Impacts

High Risk

1. Has the release contaminated any water supply well including any well used for non-drinking purposes? Yes/**No**
2. Is a water supply well not used for drinking water located within 1,000 feet of the source area? Yes/**No**
3. Is a water supply well not used for drinking water (e.g. irrigation, washing cars, industrial cooling water, filling swimming pools) located within 250 feet of the source area? Yes/**No**
4. Does Groundwater within 500 feet of the source area of the release have the potential for future use (there is no other source of water supply other than groundwater)? Yes/ **No**
5. Do vapors from the release pose a threat to explosion because of accumulation of vapors in a confined space or pose any serious threat top public health, public safety or the environment? Yes/ **No**
6. Are there any other factors that would cause the release to pose an imminent danger to public health, public safety or the environment? Yes/**No**

Intermediate Risk

7. Is a surface body of water located within 500 feet of the source area? **Yes/No**
8. Is the source area of the release located within an approved or planned wellhead protection area as defined in 42 USC 300h-7(e)? **Yes/No**
9. Is the release located in the Coastal Plain Physiographic Province as designated on a map entitled "Geologic Map of North Carolina" published in 1985? **Yes/No**
10. Do the levels of the groundwater contamination for any of the contaminant exceed the gross contamination levels (GCL)? **Yes/No**

Part II Land Use

1. Does the property contain one or more primary or secondary residence **Yes/ No**
2. Does the property contain a school, daycare center, hospital, playground, parking, recreation area, church, nursing home, or other place of public assembly? **Yes/No**

The property is currently unoccupied.

3. Does the property contain a commercial (e.g. retail, warehouse, office/business space, etc.) or industrial (e.g., manufacturing, utilities, industrial research and development, chemical/petroleum bulk storage, etc.) enterprise, an inactive commercial or industrial, enterprise, or is the land undeveloped. **Yes/No. currently empty.**
4. Do children visit the property? **Yes/No**
5. Do pavement, buildings, or other structures cap the contaminated soil? **Yes/No.**
6. What is the zoning status of the property? Residential (R-<10HS).

Is the use of the property likely to change in the next 20 years? **Yes/No**

Property Surrounding Source Area of Release

1. What is the distance from the ust excavation to the nearest primary or secondary residence (permanent or temporary).

100' to single-family home.

2. What is the distance to the nearest school, daycare center, hospital, playground park, recreation area, church, nursing home, or other place of assembly?

700' to South Central Church of Christ

3. What is the zoning status of properties in the surrounding area?

Residential.

4. Briefly characterize the use and activities of the land and surrounding area. **The surrounding area is located in a residential subdivision in southeast Raleigh, North Carolina in an urban environment.**

3. Receptor Information

1. **No wells** are known to be located within a 1000 foot radius of the subject property.
2. The City of Raleigh utilizes three (3) surface water supply sources; Falls Lake, Lake Wheeler and Lake Benson. All three reservoirs are located outside of the City limits.
3. The closest body of water to the subject property is an unnamed tributary to Walnut Creek located 50 feet to the northwest of the subject property.
4. The subject property is not located in a wellhead protection area.
5. The subject property is not located in the Coastal Plain Physiographic Region
6. Subsurface structures include: natural gas lines, sewer, and City of Raleigh water line are located on site. These utilities are indicated on the site location map attached.

4. Site Geology and Hydrogeology

According to the 1985 Geologic Map of North Carolina, the subject property is illustrated within the Inner Piedmont, Milton Belt, and Raleigh Belt in the Piedmont Physiographic Province of North Carolina. The formation consists of metamorphosed gneiss, schist and amphibolite. Locally ground water flow is inferred to the northwest towards the unnamed tributary to Walnut Creek.

5. Sampling Results

Protocol Sampling Service, Inc. personnel visited the subject property and located subsurface structures and utilities. After utility clearance, the UST was removed and soil samples were collected from the excavation at the UST midline at 3-feet at each cardinal direction and ground water samples were taken from a temporary Type II monitor well installed in the center of the tank pit by following EPA protocol, placed in laboratory

supplied bottles, packed on ice, and transported under chain of custody to Pace Laboratories, 12065 Lebanon Road, Mt. Juliet, Tennessee (NC Certification # 375).

The soil samples were submitted for analysis by method 8015-GRO and DRO. Results of the laboratory analysis revealed below action or detectable limits for all four sidewall samples. A groundwater sample was collected from a temporary Type II monitor well installed in the center of the UST pit and analyzed by EPA Methods 602, 625 w/ten peaks, MADEP VPH ad MADEP EPH.

Sample Identification	Test Result	Depth	Action Limit
SS #1	ND	3'	50 mg/kg 100 mg/kg
SS # 2	ND	3'	50 mg/kg 100 mg/kg
SS # 3	ND	3'	50 mg/kg 100 mg/kg
SS # 4	ND	3'	50 mg/kg 100 mg/kg
MW-1 602, 625 w/10 peaks, EPH and VPH	C11-C22 Aromatics 375 ug/l	4'	15A NCAC 2L and Gross Contamination Levels 200 ug/l standard

6. Conclusions and Recommendations

A 275-gallon heating oil UST was removed by Corbett Clearing & Demolition under contract with The City of Raleigh supervised by David E. Meyer, P.G. with Protocol Sampling Service, Inc. on June 1, 2023 at 514 Glenbrook Drive, Raleigh, Wake County, North Carolina.

Soil sample results obtained after removal of the No. 2 fuel oil UST indicate no levels above the Maximum Soil Contaminant Concentrations (MSCC). Only one exceedance of 15A NCAC 2L Groundwater Standards or Gross Contaminant Levels of 375 ug/l of C11-C22 Aromatics, slightly above the standard of 200 ug/l. 46.09 tons of petroleum impacted soil was removed from the excavation and taken to Pridgen Farms in Whitackers, North Carolina for disposal.

395 gallons of mostly water and some product was removed from the UST by SR&R Environmental, Inc. and taken to their Wilmington, NC facility for disposal prior to the commencement of excavation activities. The UST was submitted as scrap metal for recycling.

Since soil sample analyses were below Maximum Soil Contaminant Concentrations (MSCC), and only 375 ug/l of C11-C22 Aromatics were detected in the groundwater sample slightly above the 15A NCAC 2L Groundwater Standards and Gross Contaminant Levels of 200 ug/l, no further action is requested for this property.

Signature of Professional Engineer or Licensed Geologist**

I, David E. Meyer, a Licensed Geologist for Protocol Sampling Service, Inc. do certify that the information contained in this report is correct and accurate to the best of my knowledge.

Protocol Sampling Service, Inc. is licensed to practice geology in North Carolina.

If you have any questions concerning this information or require further assistance, do not hesitate to contact our office (919) 210-6547 or via e-mail at protocolsampling@yahoo.com.

Sincerely,
Protocol Sampling Service, Inc.

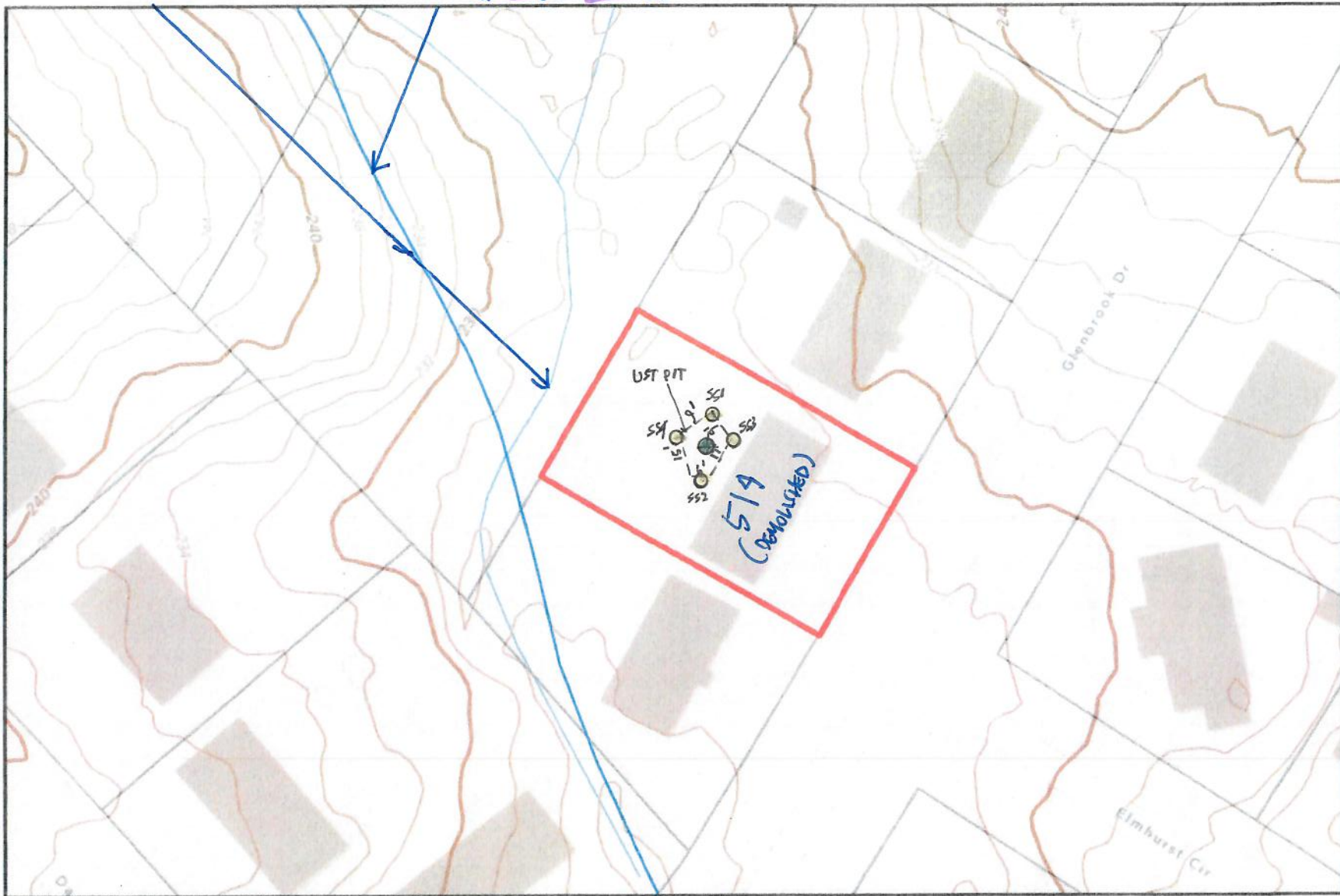


David E. Meyer, P.G.
President

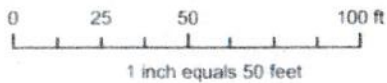
Professional Geologist License # 2628
NC Corporate Geologist License # C-569

CURRENT STREAM LOCATION

FORMER STREAM LOCATION



- - SOIL SAMPLE (A) 3'
- ⊕ - TEMP TYPE II MONITOR WELL (12')



Disclaimer
iMaps makes every effort to produce and publish the most current and accurate information possible. However, the maps are produced for information purposes and are **NOT** surveys. No warranties, expressed or implied are provided for the data therein, its use or its interpretation.

Appendix A

Complete Chain-of-Custody

Company Name/Address:
Protocol Sampling Services
 4114 Laurel Ridge Dr
 Raleigh, NC 27612

Billing Information:

Report to:
Dave Meyer

Email To:
protocolsampling@yahoo.com

Project Description:

City/State Collected:
Raleigh, NC

Phone: **919-210-6547**
 Fax:

Client Project #

Lab Project #

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):
 Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Date Results Needed
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes

No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
514 BLENDPOOL NW P11	6	SS	-3'	6/1/23	1408	2
514 BLENDPOOL SOUTH	6	SS	-3'	6/1/23	1412	2
514 BLENDPOOL EAST	6	SS	-3'	6/1/23	1415	2
514 BLENDPOOL WEST	6	SS	-3'	6/1/23	1420	2

Analysis / Container / Preservative										
V8260 - 40ml methanol,syr	SV8270 - 4oz clr	MADEP EPH - 4oz amber	MADEP VPH - 40ml methanol, syr	TPHGRO/DRO - 40ml methanol,syr,4oz						

Chain of Custody Page 1 of 1



L · A · B S · C · I · E · N · C · E · S

YOUR LAB OF CHOICE

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859



L #

Table #

Acctnum: **PROTOCOL**

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

Rem./Contaminant

Sample # (lab only)

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

pH _____ Temp _____
 Flow _____ Other _____

Relinquished by: (Signature)	Date: 6/2/23	Time: 11:54	Received by: (Signature)	Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier <input type="checkbox"/> _____	Hold #
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	Condition: (lab use only)
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	COC Seal Intact: ___ Y ___ N ___ NA pH Checked: NCF:

Appendix B

Soil and Groundwater Analytical Results

Protocol Sampling Services, Inc.

Sample Delivery Group: L1622658
Samples Received: 06/03/2023
Project Number:
Description:

Report To: Mr. David Meyer
4114 Laurel Ridge Dr
Raleigh, NC 27612-5423

Entire Report Reviewed By:












Heather J Wagner
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1	
Tc: Table of Contents	2	
Ss: Sample Summary	3	
Cn: Case Narrative	4	
Sr: Sample Results	5	
514 GLENBROOK NORTH L1622658-01	5	
514 GLENBROOK SOUTH L1622658-02	6	
514 GLENBROOK EAST L1622658-03	7	
514 GLENBROOK WEST L1622658-04	8	
Qc: Quality Control Summary	9	
Total Solids by Method 2540 G-2011	9	
Volatile Organic Compounds (GC) by Method 8015D/GRO	10	
Semi-Volatile Organic Compounds (GC) by Method 8015C	11	
Gl: Glossary of Terms	12	
Al: Accreditations & Locations	13	
Sc: Sample Chain of Custody	14	

SAMPLE SUMMARY

514 GLENBROOK NORTH L1622658-01 Solid

Collected by
Collected date/time
Received date/time

06/01/23 14:08 06/03/23 09:05

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2071830	1	06/06/23 10:20	06/06/23 10:41	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2074314	64	06/01/23 14:08	06/09/23 20:52	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015C	WG2072113	1	06/06/23 21:48	06/07/23 11:16	KAP	Mt. Juliet, TN

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

514 GLENBROOK SOUTH L1622658-02 Solid

Collected by
Collected date/time
Received date/time

06/01/23 14:12 06/03/23 09:05

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2071830	1	06/06/23 10:20	06/06/23 10:41	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2074314	47.3	06/01/23 14:12	06/09/23 21:17	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015C	WG2072113	1	06/06/23 21:48	06/07/23 11:29	KAP	Mt. Juliet, TN

514 GLENBROOK EAST L1622658-03 Solid

Collected by
Collected date/time
Received date/time

06/01/23 14:15 06/03/23 09:05

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2071830	1	06/06/23 10:20	06/06/23 10:41	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2074314	57.8	06/01/23 14:15	06/09/23 21:41	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015C	WG2072113	1	06/06/23 21:48	06/07/23 09:51	KAP	Mt. Juliet, TN

514 GLENBROOK WEST L1622658-04 Solid

Collected by
Collected date/time
Received date/time

06/01/23 14:20 06/03/23 09:05

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG2071830	1	06/06/23 10:20	06/06/23 10:41	CMK	Mt. Juliet, TN
Volatile Organic Compounds (GC) by Method 8015D/GRO	WG2074314	54.5	06/01/23 14:20	06/09/23 22:06	DWR	Mt. Juliet, TN
Semi-Volatile Organic Compounds (GC) by Method 8015C	WG2072113	1	06/06/23 21:48	06/07/23 10:05	KAP	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Heather J Wagner
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	88.0		1	06/06/2023 10:41	WG2071830

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		6.40	64	06/09/2023 20:52	WG2074314
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.6		77.0-120		06/09/2023 20:52	WG2074314

3 Ss

4 Cn

5 Sr

Semi-Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/07/2023 11:16	WG2072113
(S) <i>o</i> -Terphenyl	72.5		18.0-148		06/07/2023 11:16	WG2072113

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	83.5		1	06/06/2023 10:41	WG2071830

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		4.73	47.3	06/09/2023 21:17	WG2074314
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.6		77.0-120		06/09/2023 21:17	WG2074314

3 Ss

4 Cn

5 Sr

Semi-Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/07/2023 11:29	WG2072113
(S) <i>o</i> -Terphenyl	45.6		18.0-148		06/07/2023 11:29	WG2072113

6 Qc

7 Gl

8 Al

9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	77.2		1	06/06/2023 10:41	WG2071830

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		5.78	57.8	06/09/2023 21:41	WG2074314
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	98.4		77.0-120		06/09/2023 21:41	WG2074314

Semi-Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/07/2023 09:51	WG2072113
(S) <i>o</i> -Terphenyl	54.8		18.0-148		06/07/2023 09:51	WG2072113

- 1 Cp
- 2 Tc
- 3 Ss
- 4 Cn
- 5 Sr
- 6 Qc
- 7 Gl
- 8 Al
- 9 Sc

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis date / time	Batch
Total Solids	78.6		1	06/06/2023 10:41	WG2071830

1 Cp

2 Tc

Volatile Organic Compounds (GC) by Method 8015D/GRO

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) Low Fraction	ND		5.45	54.5	06/09/2023 22:06	WG2074314
(S) <i>a,a,a</i> -Trifluorotoluene(FID)	99.6		77.0-120		06/09/2023 22:06	WG2074314

3 Ss

4 Cn

5 Sr

Semi-Volatile Organic Compounds (GC) by Method 8015C

Analyte	Result	Qualifier	RDL	Dilution	Analysis date / time	Batch
TPH (GC/FID) High Fraction	ND		4.00	1	06/07/2023 10:05	WG2072113
(S) <i>o</i> -Terphenyl	58.0		18.0-148		06/07/2023 10:05	WG2072113

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3933604-1 06/06/23 10:41

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Total Solids	0.00200			

1 Cp

2 Tc

3 Ss

L1622658-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1622658-02 06/06/23 10:41 • (DUP) R3933604-3 06/06/23 10:41

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	83.5	82.5	1	1.19		10

4 Cn

5 Sr

Laboratory Control Sample (LCS)

(LCS) R3933604-2 06/06/23 10:41

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3935634-2 06/09/23 17:25

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) Low Fraction	1.42	↓	0.543	2.50
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120

Laboratory Control Sample (LCS)

(LCS) R3935634-1 06/09/23 16:12

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) Low Fraction	5.50	5.09	92.5	72.0-127	
(S) a,a,a-Trifluorotoluene(FID)			108	77.0-120	

L1622658-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1622658-01 06/09/23 20:52 • (MS) R3935634-3 06/10/23 02:11 • (MSD) R3935634-4 06/10/23 02:35

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPH (GC/FID) Low Fraction	352	ND	397	417	113	118	64	10.0-151			4.91	28
(S) a,a,a-Trifluorotoluene(FID)					102	103		77.0-120				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3933920-1 06/07/23 08:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPH (GC/FID) High Fraction	U		0.769	4.00
(S) o-Terphenyl	77.5			18.0-148

Laboratory Control Sample (LCS)

(LCS) R3933920-2 06/07/23 08:46

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCS Rec. %	Rec. Limits %	LCS Qualifier
TPH (GC/FID) High Fraction	50.0	38.1	76.2	50.0-150	
(S) o-Terphenyl			90.1	18.0-148	

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

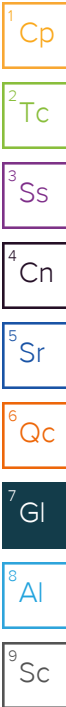
Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.



Qualifier Description

J The identification of the analyte is acceptable; the reported value is an estimate.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.



Company Name/Address:
Protocol Sampling Services
 4114 Laurel Ridge Dr
 Raleigh, NC 27612

Billing Information:

Report to:
Dave Meyer

Email To:
protocolsampling@yahoo.com

Project Description:

City/State Collected:
Raleigh, NC

Phone: **919-210-6547**
 Fax:

Client Project #

Lab Project #

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):
 Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
 ___ Same Day200%
 ___ Next Day100%
 ___ Two Day50%
 ___ Three Day25%

Date Results Needed
 Email? ___ No ___ Yes
 FAX? ___ No ___ Yes
 No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs
S14 BLENSBROOK NORTH	6	SS	-3'	6/1/23	1408	2
S14 BLENSBROOK SOUTH	6	SS	-3'	6/1/23	1412	2
S14 BLENSBROOK EAST	6	SS	-3'	6/1/23	1415	2
S14 BLENSBROOK WEST	6	SS	-7'	6/1/23	1420	2

Analysis / Container / Preservative
V8260 - 40ml methanol,syr
SV8270 - 4oz clr
MADEP EPH - 4oz amber
MADEP VPH - 40ml methanol, syr
TPHGRO/DRO - 40ml methanol,syr,4oz

Chain of Custody Page 1 of 1



L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859



L# **1622658**
G148

Acctnum: **PROTOCOL**

Template:
 Prelogin:
 TSR:
 Cooler:

Shipped Via:

Rem./Contaminant	Sample # (lab only)
	-01
	-02
	-03
	-04

5337 2243 8912
 Sample Receipt Checklist
 COC Seal Present/Intact: Y N If Applicable
 COC Signed/Accurate: Y N VOA Zero Headspace: Y N
 Bottles arrive intact: Y N Pres. Correct/Check: Y N
 Correct bottles used: Y N
 Sufficient volume sent: Y N
 RAD Screen <0.5 mR/hr: Y N

* Matrix: SS - Soil GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other _____

pH _____ Temp _____
 Flow _____ Other _____

Remarks:
 Relinquished by: (Signature)
 Relinquished by: (Signature)
 Relinquished by: (Signature)

Date: 6/2/23
 Date: 6/2/23
 Date:

Time: 11:54
 Time: 1412
 Time:

Received by: (Signature)
 Received by: (Signature)
 Received for lab by: (Signature)
 Caleb Tapp

Samples returned via: UPS
 FedEx Courier _____
 Temp: NSAP °C Bottles Received: 8
3.4 to 23.4
 Date: 6/3/23 Time: 09:05

Hold # _____
 Condition: (lab use only)
 COC Seal Intact: Y N NA
 pH Checked: _____ NCF: _____

Heather Wagner

From: David Meyer <protocolsampling@yahoo.com>
Sent: Monday, June 5, 2023 6:55 AM
To: Heather Wagner
Subject: Re: Pace Analytical National Login for L1622658

CAUTION: This email originated from outside Pace Analytical. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Heather;

Please run VPH if the TPH is over 50 ppm. The address is 514 Glenbrook Drive not S14!

David E. Meyer, P.G., LSS, President
Protocol Sampling Service, Inc.
4114 Laurel Ridge Drive
Raleigh, North Carolina 27612
Email: Protocolsampling@yahoo.com
Website: Environmentalservicesnc.com
(919) 210-6547 cell

On Sunday, June 4, 2023 at 02:57:43 AM EDT, Heather J Wagner <heather.wagner@pacelabs.com> wrote:

"Privileged and Confidential"

Thank you for choosing Pace National! Please find enclosed PDF files containing your laboratory login confirmation and chain of custody.

Pace National is leading the laboratory industry with our On-line Data Management tools. Please contact your Project Manager to learn how to create historical Excel tables or access data in real time using powerful and intuitive software that is only available at <https://www.pacenational.com>.

Visit Pace National's secure data management web site - myData - for all your reporting and data management needs at <https://www.pacenational.com/login>

Pace National ... "Your Lab of Choice"

Heather J Wagner
Technical Service Representative
615-773-9686

Pace Analytical National

NOTICE-- The contents of this email and any attachments may contain confidential, privileged, and/or legally protected information and are for the sole use of the addressee(s). Any review or distribution by others is strictly prohibited. If you are not the intended recipient, please contact the sender immediately and delete any copies.

P Please consider the environment before printing this email

Protocol Sampling Services, Inc.

Sample Delivery Group: L1624219
Samples Received: 06/08/2023
Project Number:
Description: 514 Glenbrook Drive

Report To: Mr. David Meyer
4114 Laurel Ridge Dr
Raleigh, NC 27612-5423

Entire Report Reviewed By:



Heather J Wagner
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

Pace Analytical National12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page	1	1 Cp
Tc: Table of Contents	2	2 Tc
Ss: Sample Summary	3	3 Ss
Cn: Case Narrative	4	4 Cn
Sr: Sample Results	5	5 Sr
MW1 L1624219-01	5	6 Qc
Qc: Quality Control Summary	8	7 Gl
Volatile Petroleum Hydrocarbons by Method MADEPV	8	8 Al
Volatile Organic Compounds (GC/MS) by Method 602MS	9	9 Sc
TPH by Method MADEPE	10	
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	11	
Gl: Glossary of Terms	15	
Al: Accreditations & Locations	16	
Sc: Sample Chain of Custody	17	

SAMPLE SUMMARY

MW1 L1624219-01 GW

Collected by: David Meyer
 Collected date/time: 06/07/23 06:45
 Received date/time: 06/08/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Petroleum Hydrocarbons by Method MADEPV	WG2079486	1	06/20/23 21:52	06/20/23 21:52	ADM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 602MS	WG2076917	1	06/13/23 21:49	06/13/23 21:49	ACG	Mt. Juliet, TN
TPH by Method MADEPE	WG2078200	1	06/15/23 03:12	06/16/23 15:53	DMG	Mt. Juliet, TN
TPH by Method MADEPE	WG2078200	1	06/15/23 03:12	06/18/23 04:43	DMG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2075340	1	06/14/23 07:35	06/15/23 00:01	AED	Mt. Juliet, TN

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.



Heather J Wagner
Project Manager

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Volatile Petroleum Hydrocarbons by Method MADEPV

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Unadjusted C5-C8 Aliphatics	ND		100	1	06/20/2023 21:52	WG2079486
Unadjusted C9-C12 Aliphatics	124		100	1	06/20/2023 21:52	WG2079486
Unadjusted C9-C10 Aromatics	237		100	1	06/20/2023 21:52	WG2079486
Total VPH	361		100	1	06/20/2023 21:52	WG2079486
(S) 2,5-Dibromotoluene(FID)	110		70.0-130		06/20/2023 21:52	WG2079486
(S) 2,5-Dibromotoluene(PID)	107		70.0-130		06/20/2023 21:52	WG2079486

Volatile Organic Compounds (GC/MS) by Method 602MS

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Benzene	ND		1.00	1	06/13/2023 21:49	WG2076917
Toluene	ND		1.00	1	06/13/2023 21:49	WG2076917
Ethylbenzene	ND		1.00	1	06/13/2023 21:49	WG2076917
Total Xylenes	ND		3.00	1	06/13/2023 21:49	WG2076917
Methyl tert-butyl ether	ND		1.00	1	06/13/2023 21:49	WG2076917
Di-isopropyl ether	ND		1.00	1	06/13/2023 21:49	WG2076917
(S) Toluene-d8	108		80.0-120		06/13/2023 21:49	WG2076917
(S) 4-Bromofluorobenzene	94.0		77.0-126		06/13/2023 21:49	WG2076917
(S) 1,2-Dichloroethane-d4	124		70.0-130		06/13/2023 21:49	WG2076917

TPH by Method MADEPE

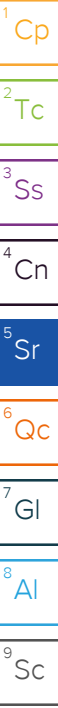
Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Unadjusted C9-C18 Aliphatics	ND		100	1	06/18/2023 04:43	WG2078200
Unadjusted C19-C36 Aliphatics	ND		100	1	06/18/2023 04:43	WG2078200
Unadjusted C11-C22 Aromatics	375		100	1	06/16/2023 15:53	WG2078200
Unadjusted Total Petroleum Hydrocarbons	476		100	1	06/16/2023 15:53	WG2078200
(S) o-Terphenyl	50.8		40.0-140		06/16/2023 15:53	WG2078200
(S) 1-Chloro-octadecane	34.9	J2	40.0-140		06/18/2023 04:43	WG2078200
(S) 2-Fluorobiphenyl	83.2		40.0-140		06/16/2023 15:53	WG2078200
(S) 2-Bromonaphthalene	82.0		40.0-140		06/16/2023 15:53	WG2078200

Sample Narrative:

L1624219-01 WG2078200: Surrogate failure due to matrix interference during extraction procedure.

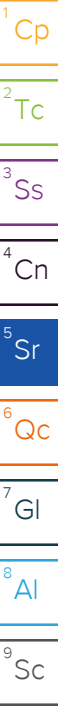
Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
Acenaphthene	2.16	J4	1.00	1	06/15/2023 00:01	WG2075340
Acenaphthylene	ND		1.00	1	06/15/2023 00:01	WG2075340
Anthracene	ND		1.00	1	06/15/2023 00:01	WG2075340
Benzdine	ND		10.0	1	06/15/2023 00:01	WG2075340
Benzo(a)anthracene	ND		1.00	1	06/15/2023 00:01	WG2075340
Benzo(b)fluoranthene	ND		1.00	1	06/15/2023 00:01	WG2075340
Benzo(k)fluoranthene	ND		1.00	1	06/15/2023 00:01	WG2075340
Benzo(g,h,i)perylene	ND		1.00	1	06/15/2023 00:01	WG2075340
Benzo(a)pyrene	ND		1.00	1	06/15/2023 00:01	WG2075340
Bis(2-chloroethoxy)methane	ND		10.0	1	06/15/2023 00:01	WG2075340
Bis(2-chloroethyl)ether	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
2,2-Oxybis(1-Chloropropane)	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
4-Bromophenyl-phenylether	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
2-Chloronaphthalene	ND	J3 J4	1.00	1	06/15/2023 00:01	WG2075340
4-Chlorophenyl-phenylether	ND		10.0	1	06/15/2023 00:01	WG2075340
Chrysene	ND		1.00	1	06/15/2023 00:01	WG2075340



Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch
Dibenz(a,h)anthracene	ND		1.00	1	06/15/2023 00:01	WG2075340
3,3-Dichlorobenzidine	ND		10.0	1	06/15/2023 00:01	WG2075340
2,4-Dinitrotoluene	ND		10.0	1	06/15/2023 00:01	WG2075340
2,6-Dinitrotoluene	ND		10.0	1	06/15/2023 00:01	WG2075340
Fluoranthene	ND		1.00	1	06/15/2023 00:01	WG2075340
Fluorene	3.07	J4	1.00	1	06/15/2023 00:01	WG2075340
Hexachlorobenzene	ND		1.00	1	06/15/2023 00:01	WG2075340
Hexachloro-1,3-butadiene	ND		10.0	1	06/15/2023 00:01	WG2075340
Hexachlorocyclopentadiene	ND	J3	10.0	1	06/15/2023 00:01	WG2075340
Hexachloroethane	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
Indeno(1,2,3-cd)pyrene	ND		1.00	1	06/15/2023 00:01	WG2075340
Isophorone	ND		10.0	1	06/15/2023 00:01	WG2075340
Naphthalene	1.02		1.00	1	06/15/2023 00:01	WG2075340
Nitrobenzene	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
n-Nitrosodimethylamine	ND		10.0	1	06/15/2023 00:01	WG2075340
n-Nitrosodiphenylamine	ND	J3	10.0	1	06/15/2023 00:01	WG2075340
n-Nitrosodi-n-propylamine	ND		10.0	1	06/15/2023 00:01	WG2075340
Phenanthrene	3.92	J4	1.00	1	06/15/2023 00:01	WG2075340
Benzylbutyl phthalate	ND		3.00	1	06/15/2023 00:01	WG2075340
Bis(2-ethylhexyl)phthalate	ND		3.00	1	06/15/2023 00:01	WG2075340
Di-n-butyl phthalate	ND		3.00	1	06/15/2023 00:01	WG2075340
Diethyl phthalate	ND		3.00	1	06/15/2023 00:01	WG2075340
Dimethyl phthalate	ND		3.00	1	06/15/2023 00:01	WG2075340
Di-n-octyl phthalate	ND		3.00	1	06/15/2023 00:01	WG2075340
Pyrene	ND	J4	1.00	1	06/15/2023 00:01	WG2075340
1,2,4-Trichlorobenzene	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
4-Chloro-3-methylphenol	ND		10.0	1	06/15/2023 00:01	WG2075340
2-Chlorophenol	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
2,4-Dichlorophenol	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
2,4-Dimethylphenol	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
4,6-Dinitro-2-methylphenol	ND		10.0	1	06/15/2023 00:01	WG2075340
2,4-Dinitrophenol	ND		10.0	1	06/15/2023 00:01	WG2075340
2-Nitrophenol	ND		10.0	1	06/15/2023 00:01	WG2075340
4-Nitrophenol	ND	J4	10.0	1	06/15/2023 00:01	WG2075340
Pentachlorophenol	ND		10.0	1	06/15/2023 00:01	WG2075340
Phenol	ND		10.0	1	06/15/2023 00:01	WG2075340
2,4,6-Trichlorophenol	ND		10.0	1	06/15/2023 00:01	WG2075340
1,2-Diphenylhydrazine	ND	J3 N2	10.0	1	06/15/2023 00:01	WG2075340
(S) 2-Fluorophenol	14.7		10.0-120		06/15/2023 00:01	WG2075340
(S) Phenol-d5	15.1		8.00-424		06/15/2023 00:01	WG2075340
(S) Nitrobenzene-d5	45.7		15.0-314		06/15/2023 00:01	WG2075340
(S) 2-Fluorobiphenyl	44.6		22.0-127		06/15/2023 00:01	WG2075340
(S) 2,4,6-Tribromophenol	58.0		10.0-153		06/15/2023 00:01	WG2075340
(S) p-Terphenyl-d14	60.2		29.0-141		06/15/2023 00:01	WG2075340



Sample Narrative:

L1624219-01 WG2075340: Duplicate Analysis performed due to QC failure. Results confirm; reporting in hold data

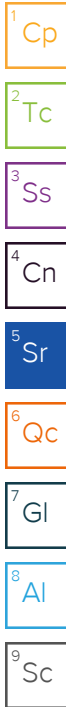
Semi Volatile Organic Compounds (GC/MS) by Method 625.1 - TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	CAS #	RT
Naphthalene, 1,7-Dimethyl-	26.7	JN	0.000	1	06/15/2023 00:01	WG2075340	000575-37-1	4.66
Benzene, 1,3,5-Trimethyl-	26.4	JN	0.000	1	06/15/2023 00:01	WG2075340	000108-67-8	2.93
Unknown-01	21.5	JN	0.000	1	06/15/2023 00:01	WG2075340	001576-87-0	2.56
Unknown-07	21.0	JN	0.000	1	06/15/2023 00:01	WG2075340	000117-81-7	9.80
Naphthalene, 2,6-Dimethyl-	19.8	JN	0.000	1	06/15/2023 00:01	WG2075340	000581-42-0	4.61

Semi Volatile Organic Compounds (GC/MS) by Method 625.1 - TENTATIVELY IDENTIFIED COMPOUNDS

Analyte	Result ug/l	Qualifier	RDL ug/l	Dilution	Analysis date / time	Batch	CAS #	RT
Unknown-05	13.6	JN	0.000	1	06/15/2023 00:01	WG2075340	000824-22-6	3.60
Naphthalene, 2,3-Dimethyl-	13.3	JN	0.000	1	06/15/2023 00:01	WG2075340	000581-40-8	4.74
Cyclohexane, 1-Methyl-2-Propyl-	12.3	JN	0.000	1	06/15/2023 00:01	WG2075340	004291-79-6	2.71
Unknown-03	9.18	JN	0.000	1	06/15/2023 00:01	WG2075340	016747-31-2	2.69
Unknown-06	8.69	JN	0.000	1	06/15/2023 00:01	WG2075340	001453-06-1	5.11

Tentatively Identified compounds (TIC) refers to substances not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search routine of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist. Quantitation is accomplished by relative peak area of the TIC compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is 10% or more of that of the nearest internal standard.



Method Blank (MB)

(MB) R3939348-3 06/20/23 13:36

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Unadjusted C5-C8 Aliphatics	U		33.3	100
Unadjusted C9-C12 Aliphatics	U		33.3	100
Unadjusted C9-C10 Aromatics	U		33.3	100
Total VPH	U		33.3	100
(S) 2,5-Dibromotoluene(FID)	102			70.0-130
(S) 2,5-Dibromotoluene(PID)	103			70.0-130

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3939348-1 06/20/23 11:23 • (LCSD) R3939348-2 06/20/23 11:56

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Unadjusted C5-C8 Aliphatics	1200	1170	1150	97.5	95.8	70.0-130			1.72	25
Unadjusted C9-C12 Aliphatics	1400	1340	1320	95.7	94.3	70.0-130			1.50	25
Unadjusted C9-C10 Aromatics	200	206	203	103	102	70.0-130			1.47	25
Total VPH	2800	2720	2670	97.1	95.4	70.0-130			1.86	25
(S) 2,5-Dibromotoluene(FID)				101	99.8	70.0-130				
(S) 2,5-Dibromotoluene(PID)				105	101	70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3937253-2 06/13/23 17:23

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Benzene	U		0.0941	1.00
Toluene	U		0.278	1.00
Ethylbenzene	U		0.137	1.00
Total Xylenes	U		0.174	3.00
Methyl tert-butyl ether	U		0.101	1.00
Di-isopropyl ether	U		0.105	1.00
(S) Toluene-d8	112			80.0-120
(S) 4-Bromofluorobenzene	92.3			77.0-126
(S) 1,2-Dichloroethane-d4	120			70.0-130

Laboratory Control Sample (LCS)

(LCS) R3937253-1 06/13/23 17:04

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	ug/l	ug/l	%	%	
Benzene	5.00	4.84	96.8	70.0-123	
Toluene	5.00	4.60	92.0	79.0-120	
Ethylbenzene	5.00	4.51	90.2	79.0-123	
Total Xylenes	15.0	13.2	88.0	79.0-123	
Methyl tert-butyl ether	5.00	4.11	82.2	68.0-125	
Di-isopropyl ether	5.00	6.27	125	58.0-138	
(S) Toluene-d8			108	80.0-120	
(S) 4-Bromofluorobenzene			95.3	77.0-126	
(S) 1,2-Dichloroethane-d4			122	70.0-130	

L1624581-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1624581-15 06/14/23 03:19 • (MS) R3937253-3 06/14/23 03:37 • (MSD) R3937253-4 06/14/23 03:57

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	ug/l	%	%		%			%	%
Benzene	5.00	ND	6.42	6.47	128	129	1	17.0-158			0.776	27
Toluene	5.00	ND	6.18	6.14	124	123	1	26.0-154			0.649	28
Ethylbenzene	5.00	ND	5.87	5.92	117	118	1	30.0-155			0.848	27
Total Xylenes	15.0	ND	17.4	17.5	116	117	1	29.0-154			0.573	28
Methyl tert-butyl ether	5.00	ND	5.26	5.34	105	107	1	28.0-150			1.51	29
Di-isopropyl ether	5.00	ND	7.99	8.18	160	164	1	21.0-160		J5	2.35	28
(S) Toluene-d8					107	110		80.0-120				
(S) 4-Bromofluorobenzene					95.1	96.5		77.0-126				
(S) 1,2-Dichloroethane-d4					122	123		70.0-130				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3938290-1 06/18/23 03:15

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Unadjusted C9-C18 Aliphatics	44.1	U	33.3	100
Unadjusted C19-C36 Aliphatics	48.4	U	33.3	100
(S) 1-Chloro-octadecane	63.2			40.0-140

Method Blank (MB)

(MB) R3938349-1 06/16/23 12:54

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
Unadjusted C11-C22 Aromatics	35.4	J	33.3	100
(S) o-Terphenyl	62.9			40.0-140
(S) 2-Fluorobiphenyl	87.8			40.0-140
(S) 2-Bromonaphthalene	87.8			40.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3938290-2 06/18/23 03:37 • (LCSD) R3938290-3 06/18/23 03:59

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Unadjusted C9-C18 Aliphatics	600	437	402	72.8	67.0	40.0-140			8.34	25
Unadjusted C19-C36 Aliphatics	800	655	669	81.9	83.6	40.0-140			2.11	25
(S) 1-Chloro-octadecane				63.6	62.4	40.0-140				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3938349-2 06/16/23 13:17 • (LCSD) R3938349-3 06/16/23 13:39

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
Unadjusted C11-C22 Aromatics	1700	1140	1110	67.1	65.3	40.0-140			2.67	25
(S) o-Terphenyl				63.1	60.4	40.0-140				
(S) 2-Fluorobiphenyl				80.4	85.8	40.0-140				
(S) 2-Bromonaphthalene				78.3	83.4	40.0-140				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB)

(MB) R3937328-3 06/14/23 22:56

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Acenaphthene	U		0.0886	1.00
Acenaphthylene	U		0.0921	1.00
Anthracene	U		0.0804	1.00
Benzidine	U		3.74	10.0
Benzo(a)anthracene	U		0.199	1.00
Benzo(b)fluoranthene	U		0.130	1.00
Benzo(k)fluoranthene	U		0.120	1.00
Benzo(g,h,i)perylene	U		0.121	1.00
Benzo(a)pyrene	U		0.0381	1.00
Bis(2-chlorethoxy)methane	U		0.116	10.0
Bis(2-chloroethyl)ether	U		0.137	10.0
2,2-Oxybis(1-Chloropropane)	U		0.210	10.0
4-Bromophenyl-phenylether	U		0.0877	10.0
2-Chloronaphthalene	U		0.0648	1.00
4-Chlorophenyl-phenylether	U		0.0926	10.0
Chrysene	U		0.130	1.00
Dibenz(a,h)anthracene	U		0.0644	1.00
3,3-Dichlorobenzidine	U		0.212	10.0
2,4-Dinitrotoluene	U		0.0983	10.0
2,6-Dinitrotoluene	U		0.250	10.0
Fluoranthene	U		0.102	1.00
Fluorene	U		0.0844	1.00
Hexachlorobenzene	U		0.0755	1.00
Hexachloro-1,3-butadiene	U		0.0968	10.0
Hexachlorocyclopentadiene	U		0.0598	10.0
Hexachloroethane	U		0.127	10.0
Indeno(1,2,3-cd)pyrene	U		0.279	1.00
Isophorone	U		0.143	10.0
Naphthalene	U		0.159	1.00
Nitrobenzene	U		0.297	10.0
n-Nitrosodimethylamine	U		0.998	10.0
n-Nitrosodiphenylamine	U		2.37	10.0
n-Nitrosodi-n-propylamine	U		0.261	10.0
Phenanthrene	U		0.112	1.00
Benzylbutyl phthalate	U		0.765	3.00
Bis(2-ethylhexyl)phthalate	U		0.895	3.00
Di-n-butyl phthalate	U		0.453	3.00
Diethyl phthalate	U		0.287	3.00
Dimethyl phthalate	U		0.260	3.00
Di-n-octyl phthalate	U		0.932	3.00

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc

Method Blank (MB)

(MB) R3937328-3 06/14/23 22:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ug/l		ug/l	ug/l
Pyrene	U		0.107	1.00
1,2,4-Trichlorobenzene	U		0.0698	10.0
4-Chloro-3-methylphenol	U		0.131	10.0
2-Chlorophenol	U		0.133	10.0
2,4-Dichlorophenol	U		0.102	10.0
2,4-Dimethylphenol	U		0.0636	10.0
4,6-Dinitro-2-methylphenol	U		1.12	10.0
2,4-Dinitrophenol	U		5.93	10.0
2-Nitrophenol	U		0.117	10.0
4-Nitrophenol	U		0.143	10.0
Pentachlorophenol	U		0.313	10.0
Phenol	U		4.33	10.0
2,4,6-Trichlorophenol	U		0.100	10.0
1,2-Diphenylhydrazine	U	N2	0.105	10.0
(S) 2-Fluorophenol	13.6			10.0-120
(S) Phenol-d5	13.2			8.00-424
(S) Nitrobenzene-d5	38.4			15.0-314
(S) 2-Fluorobiphenyl	37.4			22.0-127
(S) 2,4,6-Tribromophenol	46.2			10.0-153
(S) p-Terphenyl-d14	60.1			29.0-141

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Method Blank (MB) - TENTATIVELY IDENTIFIED COMPOUNDS

(MB) R3937328-3 06/14/23 22:56

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL	CAS #
	ug/l		ug/l	ug/l	
Number of TICs found: 0					

Tentatively Identified compounds (TIC) refers to substances not present in the list of target compounds. Therefore, not all TICs are identified and quantitated using individual standards. TIC listings are prepared utilizing a computerized library search routine of electron impact mass spectral data and evaluation of the relevant data by a mass spectral data specialist. Quantitation is accomplished by relative peak area of the TIC compared to that of the nearest internal standard from the total ion chromatogram. TICs are identified and quantitated only if the peak area is 10% or more of that of the nearest internal standard.

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3937328-1 06/14/23 22:13 • (LCSD) R3937328-2 06/14/23 22:35

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ug/l	ug/l	ug/l	%	%	%			%	%
Acenaphthene	50.0	22.1	29.0	44.2	58.0	47.0-145	J4		27.0	48
Acenaphthylene	50.0	21.0	28.5	42.0	57.0	33.0-145			30.3	74
Anthracene	50.0	26.2	34.3	52.4	68.6	27.0-133			26.8	66
Benzidine	100	15.4	12.3	15.4	12.3	1.00-120			22.4	36

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3937328-1 06/14/23 22:13 • (LCSD) R3937328-2 06/14/23 22:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzo(a)anthracene	50.0	29.2	37.5	58.4	75.0	33.0-143			24.9	53
Benzo(b)fluoranthene	50.0	27.3	34.4	54.6	68.8	24.0-159			23.0	71
Benzo(k)fluoranthene	50.0	26.7	33.9	53.4	67.8	11.0-162			23.8	63
Benzo(g,h,i)perylene	50.0	31.1	38.2	62.2	76.4	1.00-219			20.5	97
Benzo(a)pyrene	50.0	30.2	37.8	60.4	75.6	17.0-163			22.4	72
Bis(2-chlorethoxy)methane	50.0	19.2	26.7	38.4	53.4	1.00-219			32.7	54
Bis(2-chloroethyl)ether	50.0	15.9	21.3	31.8	42.6	33.0-185	J4		29.0	108
2,2-Oxybis(1-Chloropropane)	50.0	13.7	19.4	27.4	38.8	36.0-166	J4		34.4	76
4-Bromophenyl-phenylether	50.0	25.4	35.0	50.8	70.0	53.0-127	J4		31.8	43
2-Chloronaphthalene	50.0	19.1	26.7	38.2	53.4	60.0-120	J4	J3 J4	33.2	24
4-Chlorophenyl-phenylether	50.0	26.5	33.8	53.0	67.6	25.0-158			24.2	61
Chrysene	50.0	29.2	36.3	58.4	72.6	17.0-168			21.7	87
Dibenz(a,h)anthracene	50.0	31.1	39.3	62.2	78.6	1.00-227			23.3	126
3,3-Dichlorobenzidine	100	55.9	68.1	55.9	68.1	1.00-262			19.7	108
2,4-Dinitrotoluene	50.0	31.4	39.5	62.8	79.0	39.0-139			22.8	42
2,6-Dinitrotoluene	50.0	27.7	35.2	55.4	70.4	50.0-158			23.8	48
Fluoranthene	50.0	31.1	39.8	62.2	79.6	26.0-137			24.5	66
Fluorene	50.0	24.9	32.6	49.8	65.2	59.0-121	J4		26.8	38
Hexachlorobenzene	50.0	25.6	34.3	51.2	68.6	1.00-152			29.0	55
Hexachloro-1,3-butadiene	50.0	16.1	23.3	32.2	46.6	24.0-120			36.5	62
Hexachlorocyclopentadiene	50.0	10.9	17.8	21.8	35.6	10.0-120		J3	48.1	31
Hexachloroethane	50.0	11.0	16.1	22.0	32.2	40.0-120	J4	J4	37.6	52
Indeno(1,2,3-cd)pyrene	50.0	29.3	36.3	58.6	72.6	1.00-171			21.3	99
Isophorone	50.0	20.7	27.9	41.4	55.8	21.0-196			29.6	93
Naphthalene	50.0	14.2	20.9	28.4	41.8	21.0-133			38.2	65
Nitrobenzene	50.0	17.2	24.5	34.4	49.0	35.0-180	J4		35.0	62
n-Nitrosodimethylamine	50.0	13.7	19.1	27.4	38.2	10.0-120			32.9	34
n-Nitrosodiphenylamine	50.0	22.0	30.3	44.0	60.6	44.0-120		J3	31.7	21
n-Nitrosodi-n-propylamine	50.0	18.6	24.8	37.2	49.6	1.00-230			28.6	87
Phenanthrene	50.0	25.9	33.8	51.8	67.6	54.0-120	J4		26.5	39
Benzylbutyl phthalate	50.0	28.1	35.5	56.2	71.0	1.00-152			23.3	60
Bis(2-ethylhexyl)phthalate	50.0	28.3	36.6	56.6	73.2	8.00-158			25.6	82
Di-n-butyl phthalate	50.0	30.6	38.4	61.2	76.8	1.00-120			22.6	47
Diethyl phthalate	50.0	28.6	36.2	57.2	72.4	1.00-120			23.5	100
Dimethyl phthalate	50.0	27.7	34.7	55.4	69.4	1.00-120			22.4	183
Di-n-octyl phthalate	50.0	31.3	39.8	62.6	79.6	4.00-146			23.9	69
Pyrene	50.0	25.4	32.3	50.8	64.6	52.0-120	J4		23.9	49
1,2,4-Trichlorobenzene	50.0	14.1	20.7	28.2	41.4	44.0-142	J4	J4	37.9	50
4-Chloro-3-methylphenol	50.0	20.4	28.3	40.8	56.6	22.0-147			32.4	73
2-Chlorophenol	50.0	11.0	16.5	22.0	33.0	23.0-134	J4		40.0	61

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3937328-1 06/14/23 22:13 • (LCSD) R3937328-2 06/14/23 22:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4-Dichlorophenol	50.0	16.4	24.3	32.8	48.6	39.0-135	J4		38.8	50
2,4-Dimethylphenol	50.0	13.6	24.3	27.2	48.6	32.0-120	J4		56.5	58
4,6-Dinitro-2-methylphenol	50.0	36.8	48.6	73.6	97.2	1.00-181			27.6	203
2,4-Dinitrophenol	50.0	35.6	43.6	71.2	87.2	1.00-191			20.2	132
2-Nitrophenol	50.0	17.6	26.4	35.2	52.8	29.0-182			40.0	55
4-Nitrophenol	50.0	71.5	94.6	143	189	1.00-132	J4	J4	27.8	131
Pentachlorophenol	50.0	22.2	30.0	44.4	60.0	14.0-176			29.9	86
Phenol	50.0	6.86	10.3	13.7	20.6	5.00-120			40.1	64
2,4,6-Trichlorophenol	50.0	23.8	31.8	47.6	63.6	37.0-144			28.8	58
1,2-Diphenylhydrazine	50.0	27.6	34.8	55.2	69.6	37.0-125	N2	J3 N2	23.1	20
<i>(S) 2-Fluorophenol</i>				11.8	18.0	10.0-120				
<i>(S) Phenol-d5</i>				10.4	16.1	8.00-424				
<i>(S) Nitrobenzene-d5</i>				31.1	44.5	15.0-314				
<i>(S) 2-Fluorobiphenyl</i>				40.4	55.6	22.0-127				
<i>(S) 2,4,6-Tribromophenol</i>				52.5	71.0	10.0-153				
<i>(S) p-Terphenyl-d14</i>				50.8	66.3	29.0-141				

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

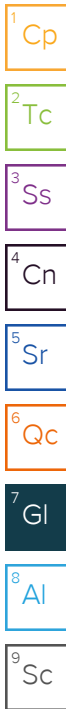
Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RT	Retention Time.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier Description

J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
N	The analyte is tentatively identified and the associated numerical value may not be consistent with the actual concentration present in the sample.
N2	Analyte reported using a calibration and validation based on Azobenzene (CAS 103-33-3). 1,2-Diphenylhydrazine decomposes into Azobenzene during the analysis.



ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico ¹	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina ¹	DW21704
Georgia	NELAP	North Carolina ³	41
Georgia ¹	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky ^{1,6}	KY90010	South Carolina	84004002
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee ^{1,4}	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas ⁵	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ Mold ⁶ Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al


⁹ Sc

Company Name/Address:
Protocol Sampling Services
 4114 Laurel Ridge Dr
 Raleigh, NC 27612

Billing Information:

Analysis / Container / Preservative


Chain of Custody Page 1 of 1



L.A.B S.C.I.E.N.C.E.S

YOUR LAB OF CHOICE

12065 Lebanon Rd
 Mount Juliet, TN 37122
 Phone: 615-758-5858
 Phone: 800-767-5859
 Fax: 615-758-5859



Report to:
Dave Meyer

Email To:
protocolsampling@yahoo.com

Project Description: **514 BRUNNEN PINE**

City/State Collected: **Fairfield, NC**

Phone: **919-210-6547**
 Fax:

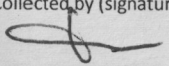
Client Project #

Lab Project #

Collected by (print):
DAVID MEYER

Site/Facility ID #

P.O. #

Collected by (signature):

 Immediately Packed on Ice N Y

Rush? (Lab MUST Be Notified)
 Same Day200%
 Next Day100%
 Two Day50%
 Three Day25%

Date Results Needed
 Email? No Yes
 FAX? No Yes
 No. of Cntrs

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs									
MW1	6	GW	2'	6/7/23	0645	9	✓	602	✓	VO5 + 10TICS	✓	VPH	✓	EPH	✓

L# **624219**
D104

Acctnum: **PROTOCOL**
 Template:
 Prelogin:
 TSR:
 Cooler:

Shipped Via:
 Rem./Contaminant Sample # (lab only)

Sample Receipt Checklist

COC Seal Present/Intact: Y N If Applicable

COC Signed/Accurate: Y N VOA Zero Headspace: Y N

Bottles arrive intact: Y N Pres. Correct/Check: Y N

Correct bottles used: Y N

Sufficient volume sent: Y N

RAD Screen <0.5 mR/hr: Y N

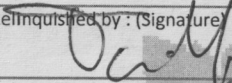
* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other _____

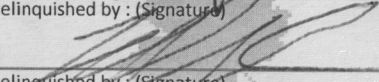
pH _____ Temp _____

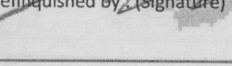
Flow _____ Other _____

Hold # _____

Remarks:
6337 2243 8213

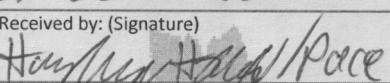
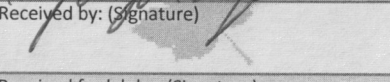
Relinquished by: (Signature) 
 Date: **6/7/2022**
 Time: **0830**

Relinquished by: (Signature) 
 Date: **6/7/23**
 Time: **1448**

Relinquished by: (Signature) 
 Date:
 Time:

Date: **6/7/2022**
 Time: **0830**

Date: **6/7/23**
 Time: **1448**

Received by: (Signature) 
 Received by: (Signature) 
 Received for lab by: (Signature) **Eri Huseby**

Samples returned via: UPS
 FedEx Courier _____

Temp: **NSA** Bottles Received: **9**
2.7+0=2.7

Date: **6-8-23** Time: **900**

Condition: (lab use only)

COC Seal Intact: Y N NA

pH Checked: NCF:

Appendix C

UST-61 24-Hour Release and UST Reporting Form

UST-61

24-Hour Release and UST Leak Reporting Form.

For Releases in NC

This form should be completed and submitted to the UST Section's regional office following a known or suspected release from an underground storage tank (UST) system. This form is required to be submitted within 24 hours of discovery of a known or suspected release

(DWM USE ONLY)
 Incident # _____ Risk (H,I,L,U) _____
 Received On _____ Received By _____
 Reported by (circle one): Phone, Fax or Report
 Region _____

Suspected Contamination? (Y/N) _____
 Confirmed GW Contamination? (Y/N) _____
 Confirmed Soil Contamination? (Y/N) _____
 Samples Taken?(Y/N) _____
 Free Product? (Y/N) _____ If Yes, State Greatest Thickness _____

Facility ID Number _____
 Date Leak Discovered _____
 Comm/Non-Commercial? _____
 Reg/Non-regulated? _____

INCIDENT DESCRIPTION

Incident Name: **514 GLENBROOK DRIVE**

Address: **GLENBROOK DRIVE**

County: **WAKE**

City/Town: **RALEIGH**

Zip Code: **27610**

Regional Office (circle one): Asheville, Mooresville, Fayetteville, **Raleigh**, Washington, Wilmington, Winston-Salem

Latitude (decimal degrees): _____

Longitude (decimal degrees): _____

Briefly describe suspected or confirmed release: (including but not limited to: nature of release, date of release, amount of release, amount of free product present and recovery efforts, initial responses conducted, impacts to receptors)

**SOIL CONTAMINATION (STAINED) NOTICED DURING UST REMOVAL ON LINE 1, 2013.
 300 GALLONS OF WATER PUMPED FROM UST PRIOR TO REMOVAL. GROUND WATER
 INTERSECTED IN TANK PIT. BLUE LINE STREAM WITHIN 50' OF UST PIT.
 COMPLETE LOT HAS BEEN FILLED OVER FLOODPLAIN SOILS.**

Obtained by:

- GPS
- Topographic map
- GIS Address matching
- Other
- Unknown

Describe location:

HOW RELEASE WAS DISCOVERED (Release Code)

(Check one)

- Release Detection Equipment or Methods
- During UST Closure/Removal
- Property Transfer
- Visual/Odor
- Water in Tank
- Water Supply Well Contamination
- Groundwater Contamination
- Surface Water Contamination
- Other (specify) _____

SOURCE OF CONTAMINATION

Source of Release (Check primary source)

- Tank
- Piping
- Dispenser
- Submersible Turbine Pump
- Delivery Problem
- Spill Bucket
- Other
- Unknown

Cause of Release (Check primary cause)

- Spill
- Overfill
- Corrosion
- Physical/Mechanical Damage
- Install Problem
- Other
- Unknown

Type of Release (Check one)

- Petroleum
- Non-Petroleum
- Both

Location (Check one)

- Facility
- Residence
- Other

Product Type Released (Check primary product type released)

- Gasoline/ Diesel/ Kerosene
- Heating Oil
- Other Petroleum Products
- Metals
- Other Inorganics
- Other Organics
- Diesel/Veg. Oil Blend
- Vegetable Oil 100%
- E10 - E20
- E21 - E84
- E85 - E99
- Ethanol 100%
- E01 - E09

Definitions presented on reverse

Definitions presented on reverse

Ownership

1. **Municipal** 2. Military 3. Unknown 4. Private 5. Federal 6. County 7. State

Operation Type

1. Public Service 2. Agricultural 3. **Residential** 4. Education/Relig. 5. Industrial 6. Commercial 7. Mining

IMPACT ON DRINKING WATER SUPPLIES

Water Supply Wells Affected? 1. Yes ② No 3. Unknown

Number of Water Supply Wells Affected 0 CITY WATER

Water Supply Wells Contaminated: (Include Users Names, Addresses and Phone Numbers. Attach additional sheet if necessary)

- 1.
- 2.
- 3.

UST Owner/Company <p style="text-align: center; font-weight: bold;">UST SYSTEM OWNER</p> <p style="font-size: 1.2em; color: blue;">CITY OF RALEIGH</p>	Point of Contact <p style="font-size: 1.2em; color: blue;">MR. TODD PALL</p>
---	---

Email <p style="font-size: 1.2em; color: blue;">TODD.PALL@RALEIGH.NC.GOV</p>	Address <p style="font-size: 1.2em; color: blue;">127 WEST HARRIETT STREET</p>
---	---

City <p style="font-size: 1.2em; color: blue;">RALEIGH</p>	State <p style="font-size: 1.2em; color: blue;">NC</p>	Zip Code <p style="font-size: 1.2em; color: blue;">27601</p>	Telephone Number <p style="font-size: 1.2em; color: blue;">(984) 344-3102</p>
---	---	---	--

UST Operator/Company <p style="text-align: center; font-weight: bold;">UST SYSTEM OPERATOR</p> <p style="font-size: 1.2em; color: blue;">SAME AS ABOVE</p>	
---	--

Email 	Address 		
City 	State 	Zip Code 	Telephone Number

Landowner <p style="text-align: center; font-weight: bold;">LANDOWNER AT LOCATION OF UST INCIDENT</p> <p style="font-size: 1.2em; color: blue;">SAME AS ABOVE</p>	
--	--

Email 	Address 		
City 	State 	Zip Code 	Telephone Number

Draw Sketch of Area (showing two major road intersections) or Attach Map

BLENDROCK DRIVE ! ELMHURST COURT OFF MARTIN LUTHER KING, JR. BLVD

Person Reporting Incident <p style="font-size: 1.2em; color: blue;">DAVID METZ</p>	Company <p style="font-size: 1.2em; color: blue;">PHOTON SAMPLE SERVICE, INC.</p>	Telephone Number <p style="font-size: 1.2em; color: blue;">(919) 210-6843</p>
Title <p style="font-size: 1.2em; color: blue;">P.E., PRESIDENT</p>	Address <p style="font-size: 1.2em; color: blue;">414 WALTER BROOK DRIVE RALEIGH, NC 27612</p>	Date <p style="font-size: 1.2em; color: blue;">6/2/2023</p>

UST Form 61 (02/19)

Definitions of Sources

- Tank:** means the tank that stores the product and is part of the underground storage tank system
- Piping:** means the piping and connectors running from the tank or submersible turbine pump to the dispenser or other end-use equipment (Vent, vapor recovery, or fill lines are excluded.)
- Dispenser:** includes the dispenser and the equipment used to connect the dispenser to the piping (e.g., a release from a suction pump or from components located above the shear valve)
- Submersible Turbine Pump (STP) Area** includes the submersible turbine pump head (typically located in the tank sump), the line leak detector, and the piping that connects the submersible turbine pump to the tank
- Delivery Problem:** identifies releases that occurred during product delivery to the tank. (Typical causes associated with this source are spills and overfills.)
- Other:** serves as the option to use when the release source is known but does not fit into one of the preceding categories (e.g., for releases from vent lines, vapor recovery lines, and fill lines)
- Unknown:** identifies releases for which the source has not been determined

Definitions of Causes

- Spill:** use this cause when a spill occurs (e.g., when the delivery hose is disconnected from the tank fill pipe or when the nozzle is removed from the dispenser)
- Overfill:** use when an overfill occurs (e.g., overfills may occur from the fill pipe at the tank or when the nozzle fails to shut off at the dispenser)
- Physical or Mechanical Damage:** use for all types of physical or mechanical damage, except corrosion (e.g., puncture of tank or piping, loose fittings, broken components, and components that have changed dimension)
- Corrosion:** use when a metal tank, piping, or other component has a release due to corrosion (e.g., for steel, corrosion takes the form of rust)
- Installation Problem:** use when the problem is determined to have occurred specifically because the UST system was not installed properly
- Other:** use this option when the cause is known but does not fit into one of the preceding categories (e.g., putting regulated substances into monitoring wells)
- Unknown:** use when the cause has not been determined

Appendix D

**UST Contents Disposal Manifest
Soil Disposal Manifest**

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

NA

2. Page 1 of 1

3. Emergency Response Phone
800-310-6757

4. Waste Tracking Number
23003

5. Generator's Name and Mailing Address

Corbett Clearing & Demolition
126 E W Ln
919-288-1916
Goldensboro, NC 27534

Generator's Site Address (if different than mailing address)
514 Glenbrook Drive
Raleigh, NC 27610

Generator's Phone:

6. Transporter 1 Company Name

SR&R Environmental, Inc.

U.S. EPA ID Number
NC0000926618

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

SR&R Environmental, Inc.
4920 US Highway 421 N
800-310-6757
Wilmington, NC 28401

U.S. EPA ID Number
NC0000926618

Facility's Phone:

9. Waste Shipping Name and Description

10. Containers

No.

Type

11. Total Quantity

12. Unit Wt./Vol.

1. Non-Haz Non-Reg Mat'l (Diesel Fuel/Water)

001

TT

345g
~~690g~~
(345)
SD4

2.

3.

4.

13. Special Handling Instructions and Additional Information

APPROVAL: 23123-BOS

S-51

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Officer's Printed/Typed Name

Ashley Wilson

Signature

Ashley Wilson

Month Day Year
5 31 23

INT'L

15. International Shipments

Import to U.S.

Export from U.S.

Port of entry/exit:

Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name

Angela Justice

Signature

Angela Justice

Month Day Year

5 31 23

Transporter 2 Printed/Typed Name

Signature

Month Day Year

TRANSPORTER

17. Discrepancy

17a. Discrepancy Indication Space

Quantity

Type

Residue

Partial Rejection

Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

327 18
SR01 SR06

18. Designated Facility Owner or Operator. Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name

STEPHEN D. ALEXANDER

Signature

Stephen D. Alexander

Month Day Year

05 31 23

DESIGNATED FACILITY

Pridgen Farms, Inc.

8549 Mill Branch Road • Rocky Mount, NC 27803
Phone: (252) 443-4083 • Fax: (252) 443-4104

NON-HAZARDOUS WASTE MANIFEST

APPROVAL# _____

LOAD # 1

GENERATOR

City of Raleigh
514 Glenbrook Dr.
Raleigh N.C.

DESTINATION

Land Application Facility Permit No. SR0500106
Speights Chapel Road
Whitakers, NC 27891

PHONE: _____

PHONE: (252) 443-4083

WASTE DESCRIPTION:

Non-Hazardous Petroleum Contaminated Soil

WASTE ORIGINATION: _____

Transporter: Alan F Rubio S.

Gross Weight (lbs.): 70840

Truck #: CCD-29

Tare Weight (lbs.): 27560

Truck Tag #/State: _____

Net Weight (lbs.): 43280

Driver Name (Print): Alan F Rubio S.

Net Weight (tons): 21.64

I hereby certify that the material stated herein was received at the waste origination site listed.

Alan F Rubio S. 6-1-23
Driver Signature Date

I hereby certify that the material stated herein was delivered without incident to the destination listed.

Alan F Rubio S. 6-1-23
Driver Signature Date

Inspected and Accepted By: _____

Meg Pridgen

NOTICE TO TRANSPORTER

**TRUCKS WILL NOT BE PERMITTED TO ENTER
THE FACILITY WITHOUT THIS ENTRANCE TICKET**

WHITE - Invoice

YELLOW - Generator

PINK - Trucker

GOLD - Pridgen Farms, Inc.

0277

EB Grain Co., Inc

Buyer: Corn • Wheat • Soybean
Services: Cotton Storage • Trucking

5249 Hathaway Street
Battleboro, NC 27809

Phone: 252.977.1554
Fax: 252.977.1555

NAME Central East Services

ADDRESS Corbett

DRIVER ON OFF

WEIGHED BY _____

LOAD OF _____

Alan F Rubio S.

Pridgen Farms, Inc.

8549 Mill Branch Road • Rocky Mount, NC 27803
Phone: (252) 443-4083 • Fax: (252) 443-4104

NON-HAZARDOUS WASTE MANIFEST

APPROVAL # _____

LOAD # 2

GENERATOR

City of Raleigh
514 Glenbrook Dr.
Raleigh N.C.

DESTINATION

Land Application Facility Permit No. SR0500106
Speights Chapel Road
Whitakers, NC 27891

PHONE: _____

PHONE: (252) 443-4083

WASTE DESCRIPTION:

Non-Hazardous Petroleum Contaminated Soil

WASTE ORIGATION: _____

Transporter: Corbett

Gross Weight (lbs.): 76460

Truck #: CCD-29

Tare Weight (lbs.): 27560

Truck Tag #/State: _____

Net Weight (lbs.): 48900

Driver Name (Print): Alan F Rubio S.

Net Weight (tons): 24.45

I hereby certify that the material stated herein was received at the waste origination site listed.

I hereby certify that the material stated herein was delivered without incident to the destination listed.

Alan F Rubio S. 6-1-23
Driver Signature Date

Alan F Rubio S. 6-1-23
Driver Signature Date

Inspected and Accepted By: Meg Pridgen 6-1-23

NOTICE TO TRANSPORTER

**TRUCKS WILL NOT BE PERMITTED TO ENTER
THE FACILITY WITHOUT THIS ENTRANCE TICKET**

0278

EB Grain Co., Inc

Buyer: Corn • Wheat • Soybean
Services: Cotton Storage • Trucking

5249 Hathaway Street
Battleboro, NC 27809

Phone: 252.977.1554
Fax: 252.977.1555

NAME Corbett # CCD29

ADDRESS _____

LOOP ID

0278

76460

INBOUND

DRIVER ON

WEIGHED BY _____

LOAD OF _____

Alan F Rubio S.

OFF NORTH CAROLINA
PUBLIC WEIGHMASTER
LICENSE EXPIRES JUNE 30, 2028
NICHOLAS GRANT EVERETTE
INVALID UNLESS SIGNED

Appendix E

UST Disposal Manifest