## GRIGGS & MALONEY

Engineering & Environmental Consulting

P.O. Box 2968 Murfreesboro, TN 37133-2968 (615) 895-8221 Fax: (615) 895-0632

March 2, 2018

Mr. Shawn Roberts c/o Joe Lambert, Jr. Atty. 100 Public Square N. Suite 3 Shelbyville, Tennessee 37160

#### RE: PHASE II SITE INVESTIGATION FORMER BEDFORD TRACTOR PROPERTY – 736 MADISON STREET SHELBYVILLE, TENNESSEE G&M PROJECT # 1292-02

Dear Mr. Roberts:

On February 16, 2018, soil samples were collected at the property located at 736 Madison Street, Shelbyville, Tennessee. The borings were to assess if a gasoline underground storage tank (UST) once located on the property had adversely impacted the property. Two soil borings (B1 and B2) were advanced around the identified location of the UST pit. Figure 1 has been included showing the soil boring locations and the location of the former fuel tank pit.

Continuous soil samples were collected from each soil boring to a depth of 4 feet below ground surface in boring B1 and 5 feet below ground surface in boring B2. Both borings encountered refusal. All of the soil samples collected were screened for volatile organic compounds (VOCs) with a photoionization detector (PID) and the sample from each boring with the highest screening value was submitted for laboratory analysis. The sample collected from the bottom of each soil boring had the highest VOC readings, so samples B1-2 and B2-2 were submitted for laboratory analysis. The soil samples collected from the borings submitted for laboratory analysis were analyzed for BTEX, Naphthalene, MTBE and total lead.

The analytical results for the samples submitted for BTEX, Naphthalene and MTBE were below the Tennessee Division of Underground Storage Tanks (TDUST) residential Initial Screening Levels (ISLs). Low levels of lead were detected in the sample submitted from each boring. The EPA residential soil regional screening level (RSL) for total lead, updated in November 2017, is 400 mg/kg. The total lead analytical result from sample B1-2 was 39.9 mg/kg and 5.64 mg/kg in sample B2-2, all well below the EPA residential RSL for total lead. Table 1 has been included listing the soil analytical results for the analyzed parameters. The laboratory analytical reports have been included as Attachment 1.

Mr. Shawn Roberts March 2, 2018 Page 2 of 2

#### **Recommendations**

Based on the analytical results from the soil samples collected and analyzed, no additional investigation or remediation is necessary.

If you have any questions, or need any additional information, please call.

Sincerely, GRIGGS & MALONEY, INC.

Donnie Sheumaker Professional Geologist





## Figure 1 Site Detail Map

Phase II Soil Sampling 736 Madison Street Shelbyville, Tennessee

Project No. 1292-02

March 2018

# TABLE 1. SOIL SAMPLING ANALYTICAL RESULTS FOR ANALYZED PARAMETERS736 MADISON STREETSHELBYVILLE, TENNESSEE

Sample Location	Applicable Reg. Limit	B1-2	B2-2	
Sample Depth (Feet)		2-4	2-5	
Date		2/16/2018	2/16/2018	
VOCs				
Benzene	0.0729	< 0.0100	< 0.0100	
Toluene	6.78	< 0.0200	< 0.0200	
Ethylbenzene	143	< 0.0100	0.47	
Total Xylenes	9.60	< 0.0300	0.0485	
MTBE	39.6	< 0.0200	< 0.0200	
Naphthalene	135	< 0.0500	0.498	
Metals				
Total Lead	*400	39.9	5.6	

All results are reported in mg/kg.

NA: None Available

Bolded results indicate quantifiable detected results. Bolded and Shaded results indicate a

concentration that exceeds the highest listed applicable regulatory limits.

The regulatory limits are from the TDUST Residential ISLs

\*The regulatory limits are from the EPA Residential Soil Regional Screening Levels, November 2017

## **ATTACHMENT 1**

LABORATORY ANALYTICAL REPORTS



## ANALYTICAL REPORT

February 22, 2018



#### Griggs & Maloney, Inc.

Sample Delivery Group: Samples Received: Project Number:

Description:

L971054 02/16/2018 1292-02 736 Madison Street Phase II

Report To:

Donnie Sheumaker PO Box 2968 Murfreesboro, TN 37133

Entire Report Reviewed By:

Afanh Wags

Heather J Wagner Technical Service Representative

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 ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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*
<sup>1</sup> Cp
<sup>2</sup> Tc
<sup>3</sup> Ss
<sup>4</sup> Cn
⁵Sr
<sup>6</sup> Gl

A

<sup>8</sup>Sc

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SDG: L971054 DATE/TIME: 02/22/18 15:16

### SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

			Collected by	Collected date/time	Received date/time
B1-2 L971054-01 Solid			Donnie Sheumaker	02/16/18 08:41	02/16/18 16:10
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1074846	1	02/20/18 08:34	02/21/18 15:27	ST
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1074835	4	02/17/18 10:44	02/18/18 05:18	JBE
			Collected by	Collected date/time	Received date/time
B2-2 L971054-02 Solid			Donnie Sheumaker	02/16/18 08:55	02/16/18 16:10
Method	Batch	Dilution	Preparation	Analysis	Analyst
			date/time	date/time	
Metals (ICP) by Method 6010B	WG1074846	1	02/20/18 08:34	02/21/18 15:31	ST
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1074835	4	02/17/18 10:44	02/18/18 05:37	JBE

\*

Ср

Tc

Ss

Cn

#### 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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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 Technical Service Representative



SDG: L971054 DATE/TIME: 02/22/18 15:16 PAGE: 4 of 10

#### SAMPLE RESULTS - 01 L971054

#### Metals (ICP) by Method 6010B

	Decult	Qualifian		Dilution	Analysis	Datah	Ср
	Result	Qualifier	RDL	Dilution	Analysis	Batch	
Analyte	mg/kg		mg/kg		date / time		2
Lead	39.9		0.500	1	02/21/2018 15:27	WG1074846	Tc

#### Volatile Organic Compounds (GC/MS) by Method 8260B

Volatile Organic Compounds (GC/MS) by Method 8260B						<sup>3</sup> Ss	
	Result	Qualifier	RDL	Dilution	Analysis	Batch	
Analyte	mg/kg		mg/kg		date / time		$^{4}$ Cn
Benzene	ND		0.0100	4	02/18/2018 05:18	WG1074835	CII
Toluene	ND		0.0200	4	02/18/2018 05:18	WG1074835	5
Ethylbenzene	ND		0.0100	4	02/18/2018 05:18	WG1074835	ँSr
Total Xylenes	ND		0.0300	4	02/18/2018 05:18	WG1074835	
Methyl tert-butyl ether	ND		0.0200	4	02/18/2018 05:18	WG1074835	<sup>6</sup> GI
Naphthalene	ND		0.0500	4	02/18/2018 05:18	WG1074835	U.
(S) Toluene-d8	103		80.0-120		02/18/2018 05:18	WG1074835	7
(S) Dibromofluoromethane	95.8		74.0-131		02/18/2018 05:18	WG1074835	Â
(S) a,a,a-Trifluorotoluene	99.8		80.0-120		02/18/2018 05:18	WG1074835	
(S) 4-Bromofluorobenzene	101		64.0-132		02/18/2018 05:18	WG1074835	<sup>8</sup> Sc

#### Sample Narrative:

L971054-01 WG1074835: Non-target compounds too high to run at a lower dilution.

SDG: L971054

#### SAMPLE RESULTS - 02 L971054



#### Metals (ICP) by Method 6010B

	Result	Qualifier	RDL	Dilution	Analysis	Batch	Ср
Analyte	mg/kg		mg/kg		date / time		2
Lead	5.64		0.500	1	02/21/2018 15:31	WG1074846	Tc

#### Volatile Organic Compounds (GC/MS) by Method 8260B

Volatile Organic Compounds (GC/MS) by Method 8260B							<sup>3</sup> Ss	
	Result	Qualifier	RDL	Dilution	Analysis	Batch		
Analyte	mg/kg		mg/kg		date / time			$^{4}$ Cn
Benzene	ND		0.0100	4	02/18/2018 05:37	WG1074835		
Toluene	ND		0.0200	4	02/18/2018 05:37	WG1074835		5
Ethylbenzene	0.470		0.0100	4	02/18/2018 05:37	WG1074835		ँSr
Total Xylenes	0.0485		0.0300	4	02/18/2018 05:37	WG1074835		
Methyl tert-butyl ether	ND		0.0200	4	02/18/2018 05:37	WG1074835		<sup>6</sup> CI
Naphthalene	0.498		0.0500	4	02/18/2018 05:37	WG1074835		
(S) Toluene-d8	101		80.0-120		02/18/2018 05:37	WG1074835		7
(S) Dibromofluoromethane	96.7		74.0-131		02/18/2018 05:37	WG1074835		Γ́ΑΙ
(S) a,a,a-Trifluorotoluene	99.8		80.0-120		02/18/2018 05:37	WG1074835		
(S) 4-Bromofluorobenzene	98.7		64.0-132		02/18/2018 05:37	WG1074835		<sup>8</sup> Sc

#### Sample Narrative:

L971054-02 WG1074835: Non-target compounds too high to run at a lower dilution.

SDG: L971054

### GLOSSARY OF TERMS

## ₩

Τс

Ss

Cn

Sr

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AI

Sc

#### 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.

#### Abbreviations and Definitions

ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
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.
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, 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.
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.
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.
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

SDG: L971054

## ACCREDITATIONS & LOCATIONS

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE. \* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

#### State Accreditations

Alabama	40660
Alaska	UST-080
Arizona	AZ0612
Arkansas	88-0469
California	01157CA
Colorado	TN00003
Connecticut	PH-0197
Florida	E87487
Georgia	NELAP
Georgia <sup>1</sup>	923
Idaho	TN00003
Illinois	200008
Indiana	C-TN-01
lowa	364
Kansas	E-10277
Kentucky <sup>1</sup>	90010
Kentucky <sup>2</sup>	16
Louisiana	AI30792
Maine	TN0002
Maryland	324
Massachusetts	M-TN003
Michigan	9958
Minnesota	047-999-395
Mississippi	TN00003
Missouri	340
Montana	CERT0086
Nebraska	NE-OS-15-05

Nevada	TN-03-2002-34
New Hampshire	2975
New Jersey-NELAP	TN002
New Mexico	TN00003
New York	11742
North Carolina	Env375
North Carolina 1	DW21704
North Carolina <sup>2</sup>	41
North Dakota	R-140
Ohio-VAP	CL0069
Oklahoma	9915
Oregon	TN200002
Pennsylvania	68-02979
Rhode Island	221
South Carolina	84004
South Dakota	n/a
Tennessee 14	2006
Texas	T 104704245-07-TX
Texas ⁵	LAB0152
Utah	6157585858
Vermont	VT2006
Virginia	109
Washington	C1915
West Virginia	233
Wisconsin	9980939910
Wyoming	A2LA

#### Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC	100789
A2LA – ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA-Crypto	TN00003		

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

#### **Our Locations**

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. ESC Lab Sciences performs all testing at our central laboratory.





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## ATTACHMENT 2

PHOTOGRAPHS



Drilling Boring B1



Boring B1 and B2 Locations