



March 23, 2016

CapSo Properties
800 South Gay Street, Suite 1405
Knoxville, Tennessee 37929
Attn: Maharaj Sood

RE: PHASE II ENVIRONMENTAL SITE ASSESSMENT
123 and 135 E. Tyrone Rd.
Oak Ridge, Tennessee 37830

Dear Mr. Sood:

BDavis Environmental, LLC (BDE) has completed phase II environmental site assessment at the referenced site. In the phase I environmental site assessment, two recognized environmental conditions were identified. The purpose of the phase II environmental site assessment investigation was to determine the presence or absence of subsurface hazardous materials with associated with historical site usage.

The investigation was completed in accordance with the proposal submitted on February 23, 2016. The results of the site assessment activities represent the environmental conditions at the site. If you have any questions or would like BDE revise or clarify any section of this document, please don't hesitate to contact me at 865-300-0392.

Respectfully Submitted,

BDAVIS ENVIRONMENTAL, LLC

William S. Davis P.G.

William S. Davis III, P.G.
President



Enclosure: Phase II Environmental Site Assessment Report

BDavis Environmental, LLC
PO Box 703
Powell, Tennessee 37849
Phone (865) 300-0392

PHASE II ENVIRONMENTAL SITE ASSESSMENT
FOR
3515 NORTH BROADWAY
KNOXVILLE, KNOX COUNTY, TENNESSEE

Prepared For:

CapSo Properties, LLC
800 South Gay Street, Suite 1405
Knoxville, TN 37929

Prepared by:



BDAVIS ENVIRONMENTAL, LLC

PB Box 703
Powell, TN 37849

March 23, 2016

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
1.1 Purpose	1
2.0 SITE DESCRIPTION	1
2.1 Site Location and Legal Description	1
2.2 Geologic Settings.....	2
2.2.1 Topography and Physical Settings.....	2
3.0 SUBSURFACE INVESTIGATION.....	3
3.1 Soil Borings.....	3
3.3 Groundwater Sample Analysis and Results.....	5
4.0 CONCLUSIONS.....	5

LIST OF APPENDICES

APPENDIX A	FIGURES
FIGURE 1: SITE LOCATION MAP	
FIGURE 2: SOIL BORING LOCATION MAP	
APPENDIX B	SOIL BORING LOGS
APPENDIX C	LABORATORY ANALYTICAL REPORT

1.0 INTRODUCTION

1.1 Purpose

BDavis Environmental, LLC (BDE), at the request of CapSo Properties, LLC, has conducted a Phase II Environmental Site Assessment (ESA) for the properties located at 3515 North Broadway Knoxville, Tennessee. (**Figure 1**, Site Location Map). The subject site is currently owned by Lane Family XII, LLC. A phase I ESA was conducted in February 2016 in accordance with American Society for Testing and Materials (ASTM) E1527-13. The phase I ESA identified the site as the location of a former automobile filling and an automobile service center which were determined to be recognized environmental conditions (REC).

The purpose of this phase II Environmental Site Assessment (ESA) is to determine if the RECs identified in the phase I ESA have contributed to impacts hazardous materials within the subsurface of the subject site. The investigation activities included the advancement of 4 soil borings into the subsurface. The borings were placed within areas of concern and hydrogeologically downgradient in an attempt to identify possible contamination. The retrieved soils were selectively analyzed for heavy metals and volatile organic compounds (VOCs). In addition to the soil monitoring, a groundwater sample was collected in one soil boring B-2 and analyzed for VOCs.

2.0 SITE DESCRIPTION

2.1 Site Location and Legal Description

The site is located on two adjoining properties located at 3515 North Broadway, Knox County, Knoxville, Tennessee. The site has been previously developed and is predominately covered in asphalt and concrete. There are site location map and site plan map are included in **Appendix A**. The structures surrounding the subject property includes a florist and fitness gym directly north of the property. Residences are to the east, south, and west of the property. First creek creates the property boundary to the

north, west, and south of the site. North Broadway is the property boundary to the east.

2.2 Geologic Settings

The site is located in east Tennessee in the Valley and Ridge Province. The Valley and Ridge Province is formed from a series of long and even ridges and continuous valleys in between. The majority of the underlying bedrock is striking to the northeast and dipping to the southeast. The site is underlain by the Cambrian aged Maryville Limestone. This group is blue gray fine textured thick to massive bedded limestone formation. There was outcropping bedrock identified on the property along the banks of First Creek.

The residual soil is classified by the U.S. Department of Agriculture (USDA) Soil Conservation Service as Dandridge shaley silt loam. This soil is in the Class D hydrologic group and has slow infiltration rates. Typically the depth to the water table is greater than 6 feet. Due to the history of the site, it is anticipated that fill material was placed on site to bring the low areas to grade.

2.2.1 Topography and Physical Settings

A review of the USGS Fountain City, TN topographic quadrangle map indicates that the property has an approximate elevation ranging from 940 to 956 feet above sea level. The site is relatively flat but the ground does gently slope north in the direction of the rear of the property. There was no indication of karst topography on the subject properties or in the vicinity of the site.

2.2.2 Groundwater / Hydrology

During the phase II subsurface investigation, one boring reached groundwater (B-2). The uppermost groundwater aquifer is located below the soil bedrock interface. First Creek flows around the east, north, and west of the subject property. There were no water wells identified in the vicinity of the subject site.

3.0 SUBSURFACE INVESTIGATION

3.1 Soil Borings

Prior to arrival at the site for the subsurface investigation, the utilities were located utilizing the Tennessee One Call system. BDE subcontracted Tennessee licensed driller, TriState Drilling, LLC in Chattanooga, Tennessee to conduct the soil boring.

The soil boring was conducted under the supervision of BDE geologist. Soil borings were installed by a GeoprobeTM drilling rig using direct push technology. A total of 4 soil borings were installed at the site. All drilling tools were decontaminated in between borings. Two soil borings were installed at the front of the subject property. One soil boring was installed adjacent to the garaged areas and one soil boring was installed near the dumpster area at the northwest corner of the property. The borings were placed in areas due to potential contamination from historical site activities.

The soil borings were advanced to bedrock refusal. The depths to refusal ranged from 9 feet in B-4 to 15.0 feet in B-2. Continuous soil samples were collected in clear plastic liners that were placed in the drill steel rods. Following the removal of the rods, the soil sample liners were cut and transferred immediately to the logging station. The borings were logged in accordance with the Unified Soil Classification System (USCS) and soil samples were screened in the field using a calibrated organic vapor meter (OVM) Photoionization Detector. Soil samples were collected based on visual evidence, OVM readings, and olfactory evidence. The locations of each soil boring are included in a Soil Boring Location Map in **Appendix A**. OVM readings indicated no levels of impacts in any of the soil borings. Samples from each boring were collected and immediately place on ice. The samples were labeled, packaged, and sent to a state certified laboratory under chain of custody. Soil boring logs for each location are included in **Appendix B**.

3.2 Soil Sample Analysis and Results

The soil samples were analyzed by Environmental Science Corporation in Mount Juliet, Tennessee. The soil samples were analyzed for volatile organic compounds (VOC) by EPA method 8260b and RCRA 8 metals by EPA methods 6010b and 7471a.

The soil boring analysis results were compared to the US Environmental Protection Agency's (EPA) region screening levels (RSL) for industrial and residential soils. The RSLs utilized on this site are developed using risk assessment guidance from the EPA Superfund program and can be used for Superfund sites. They are risk-based concentrations derived from standardized equations combining exposure information assumptions with EPA toxicity data. RSLs are considered by the EPA to be protective for humans (including sensitive groups) over a lifetime; however, SLs are not always applicable to a particular site and do not address non-human health endpoints, such as ecological impacts. The RSLs contained in the RSL table are generic; they are calculated without site-specific information. They may be re-calculated using site-specific data.

Only one constituent was detected in excess of the EPA RSL. Arsenic was detected in B-1, B-2, and B-4 at concentrations in excess of the RSL for residential and industrial soils. Barium, chromium, and lead were detected at concentrations below the RSL for residential and industrial soils.

The Tennessee Department of Environment and Conservation (TDEC) Division of Superfund has determined that there is a naturally occurring range of arsenic in Tennessee soils ranging 0.1 - 120 ppm. Results from the metals analyses from all the borings show consistent concentrations as related to soil derived from a formation. Several of the inorganic constituents such as arsenic exhibit natural concentrations that are higher than what is common in the southeastern United States soils. These higher concentrations are due to the fact that the soils are residual insoluble residue derived from thick sections of interbedded carbonate and aluminu-silicate clastic rocks. These soils characteristically have higher levels of insoluble metals due to the manner in which

the soils form. The soluble fraction of the rock units are removed by chemical erosion over geologic time leaving the insoluble fraction behind. This process tends to concentrate certain constituents of the original rock mass in the remaining soil fraction.

The soil laboratory analytical results and comparison to the 2015 soil and residential RSLs are included in **Table 1**. The laboratory analytical report is included in **Appendix C**.

Table 1 Soil Boring Laboratory Analysis

Client Sample ID	B-1 (mg/m3)	B-2 (mg/m3)	B-3 (mg/m3)	B-4 (mg/m3)	EPA Residential Soil RSL- 2015 (mg/m3)	EPA Industrial Soil RSL – 2015 (mg/m3)
Arsenic	3.74	2.14	<2.0	3.9	0.68	3.00
Barium	38.7	15.8	43.1	24.0	15000	220000
Chromium	13.2	10.4	12.2	13.2	NA	NA
Lead	13.1	9.34	15.9	9.23	400	800

All results are in milligram per kilogram (mg/kg)

Shading indicates results in excess of the EPA RSL

3.3 Groundwater Sample Analysis and Results

B-2 was the only boring that penetrated the uppermost aquifer; therefore a groundwater sample was collected. A grab sample was collected with a disposable bailer and was analyzed for VOCs by EPA method 8260b. There was an insufficient amount of water in the boring to collect a metals sample. There were no VOCs detected above laboratory detection limits in the groundwater sample from B-2. The laboratory analytical report is included in **Appendix C**.

4.0 CONCLUSIONS

None of the soil borings indicated impacts from field screening OVM monitoring during the soil boring installation event. Soil analytical results indicate that arsenic was identified in excess of RSL in three soil borings. Arsenic has been determined to be

naturally occurring throughout east Tennessee by TDEC Division of Superfund. All other constituents from the soil and groundwater samples were below the RSL.

5.0 RECOMMENDATION

The purpose of this phase II was to identify the presence or absence of potential hazardous conditions for the subject property. Even though arsenic levels were detected in excess of the residential and industrial RSL, it is determined to be naturally occurring and should not be associated with historical site useage. Due to the fact that no other soil or groundwater constituents were identified above the RSL, additional soil and/or groundwater monitoring is not required at this time.

APPENDIX A

Figures

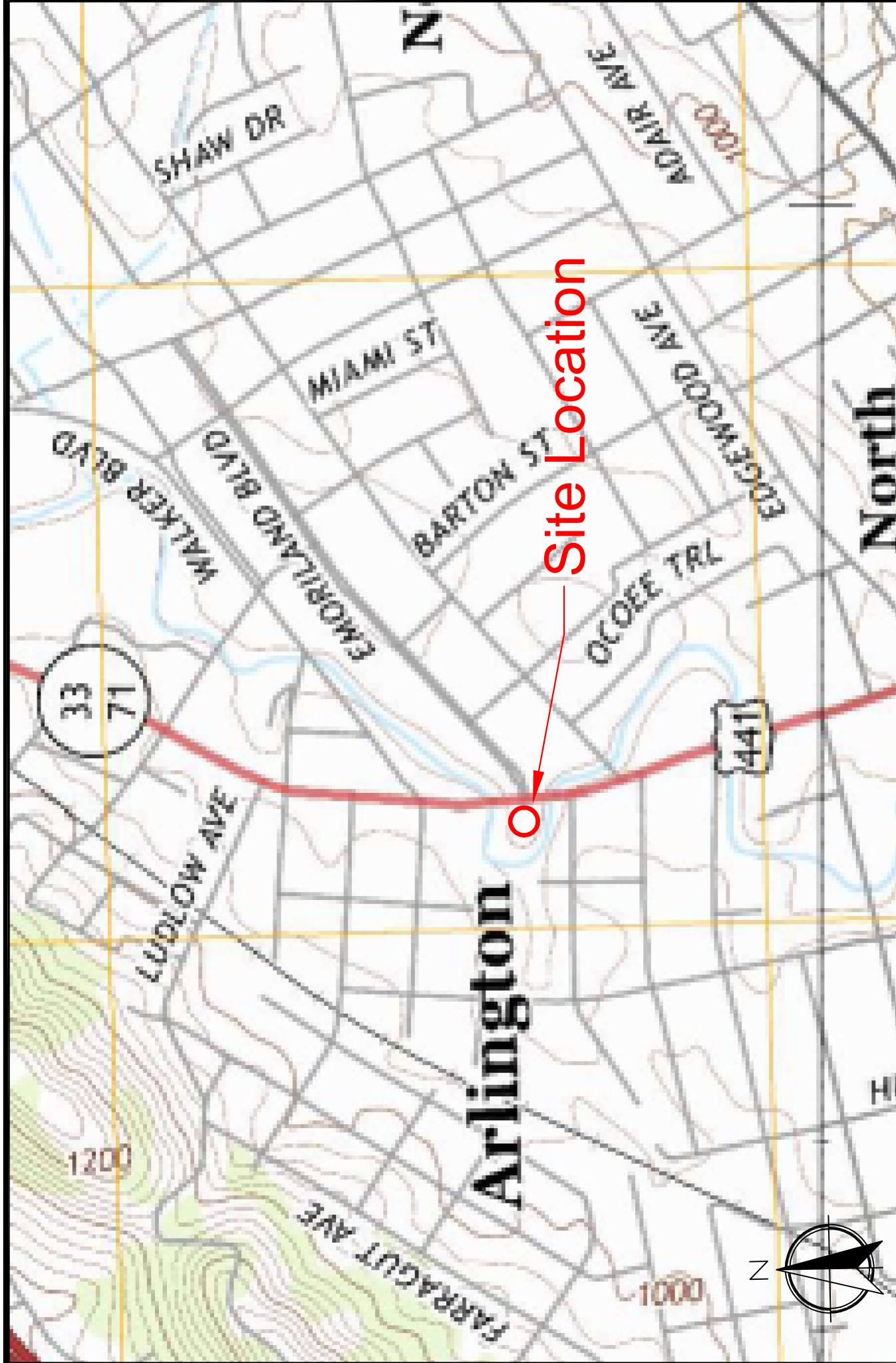


Figure 1
Site Location Map

Phase II Environmental Site
Assessment
3515 N. Broadway
Knoxville, TN

Source: USGS Topographic
Quadrangle Map - Fountain City,
TN

Drawn By: BD
Checked By: BD



North Broadway

B-1

B-2

B-3

B-4

Legend:

Property Boundary

B-4 Soil Boring Location

Drawn By: BD
Checked By: BD

Phase II Environmental Site
Assessment
3515 N. Broadway
Knoxville, TN

Figure 2
Site Plan Map

APPENDIX B

Soil Borings

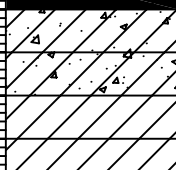
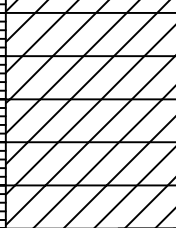
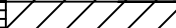
FACILITY NAME: 3515 North Broadway Phase II		TN FAC. ID#:	WELL#: &/or BORING#: B-1	pg 1 of 1
LOCATION MAP:		START DATE & TIME: 3/16/2016 10:00		
		COMP. DATE & TIME: 3/16/2016 10:10		
		LOGGED BY: WILLIAM DAVIS TN LIC#: 5032		
		DRILLER: TRISTATE DRILLING		
		DRILLING METHOD: DIRECT PUSH		
		ELEV (MSL): T.D. (MSL):		
		PROJECT #:		
COMMENTS:				

MSL	COMPLETION DIAGRAM BOREHOLE DIAMETER: 2"	WATER LEVEL	PENETRATION RATE	DEPTH	GRAPHIC LITHOLOGY	OVD	SAMPLES & CORES			DESCRIPTION (Color, Texture, Structure, etc...)
							TYPE	INT./REC.	ANAL	
				0						0-1 asphalt
						0.0				1-5 Fill clay loam soft moist red brown gray silty clay fragments of limestone
				5		0.0				5-8 soft moist brown to gray silty clay loam rock fragments
						0.0				8 -13.2 dark brown silty clay loam
				10		0.0				
										Refusal at 13.2
				15						
				20						
				25						
				20						

FACILITY NAME: 3515 North Broadway Phase II		TN FAC. ID#:	WELL#: &/or BORING#: B-2	pg 1 of 1
LOCATION MAP:		START DATE & TIME: 3/16/2016 10:30	PROJECT #:	
		COMP. DATE & TIME: 3/16/2016 10:40		
		LOGGED BY: WILLIAM DAVIS TN LIC#: 5032		
		DRILLER: TRISTATE DRILLING		
		DRILLING METHOD: DIRECT PUSH		
		ELEV (MSL): T.D. (MSL):		
COMMENTS:				

MSL	COMPLETION DIAGRAM		WATER LEVEL	PENETRATION RATE	DEPTH	GRAPHIC LITHOLOGY	OVD	SAMPLES & CORES			DESCRIPTION (Color, Texture, Structure, etc...)
	BOREHOLE DIAMETER: 2"							TYPE	INT./REC.	ANAL	
					0						0-1 asphalt
							0.0				1-3 dry loose brown silty clay loam
											3-10 dry firm orange brown silty clay loam
					5		0.0				
					10		0.0				10-15.0 soft wet brown silty clay loam
					15						Refusal at 15.0
					20						
					25						

FACILITY NAME: 3515 North Broadway Phase II		TN FAC. ID#:	WELL#: &/or BORING#: B-3	pg 1 of 1
LOCATION MAP:		START DATE & TIME: 3/16/2016 10:45		
		COMP. DATE & TIME: 3/16/2016 10:55		
		LOGGED BY: WILLIAM DAVIS TN LIC#: 5032		
		DRILLER: TRISTATE DRILLING		
		DRILLING METHOD: DIRECT PUSH		
		ELEV (MSL): T.D. (MSL):		
		PROJECT #:		
		COMMENTS:		

MSL	COMPLETION DIAGRAM BOREHOLE DIAMETER: 2"	WATER LEVEL	PENETRATION RATE	DEPTH	GRAPHIC LITHOLOGY	OVD	SAMPLES & CORES			DESCRIPTION (Color, Texture, Structure, etc...)
							TYPE	INT./REC.	ANAL	
				0						0-1 asphalt
				1		0.0				1-5 clay loam brown gray silty clay loam with fragments of limestone
				5		0.0				5-10.7 soft moist brown silty clay loam
				10		0.0				
										Refusal at 10.7
				15						
				20						
				25						
				20						

FACILITY NAME: 3515 North Broadway Phase II					TN FAC. ID#:		WELL#: &/or BORING#: B-4		pg 1 of 1	
LOCATION MAP:					START DATE & TIME: 3/16/2016 11:20		PROJECT #:			
					COMP. DATE & TIME: 3/16/2016 11:40					
					LOGGED BY: WILLIAM DAVIS TN LIC#: 5032					
					DRILLER: TRISTATE DRILLING					
					DRILLING METHOD: DIRECT PUSH					
					ELEV (MSL): T.D. (MSL):					
COMMENTS:										

MSL	COMPLETION DIAGRAM BOREHOLE DIAMETER: 2"	WATER LEVEL	PENETRATION RATE	DEPTH	GRAPHIC LITHOLOGY	OVD	SAMPLES & CORES			DESCRIPTION (Color, Texture, Structure, etc...)
							TYPE	INT./REC.	ANAL	
				0						0-1 asphalt
				1		0.0				1-3 dry loose silty clay
				3						3-6 soft moist brown silty clay fragments of wood at 6 feet
				5		0.0				6 -9.0 soft wet light brown silty clay loam
				10						Refusal at 9.0
				15						
				20						
				25						
				20						

APPENDIX C

Laboratory Analytical Results

BDavis Environmental

Sample Delivery Group: L823998
Samples Received: 03/17/2016
Project Number:
Description: 3515 N. Broadway

Report To: Mr. Billy Davis
PO Box 703
Powell, TN 37849

Entire Report Reviewed By:



T. Alan Harvill

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.



¹Cp: Cover Page	1
²Tc: Table of Contents	2
³Ss: Sample Summary	3
⁴Cn: Case Narrative	4
⁵Sr: Sample Results	5
B-1 L823998-01	5
B-2 L823998-02	7
B-3 L823998-03	9
B-4 L823998-04	11
B-2 L823998-05	13
⁶Qc: Quality Control Summary	15
Mercury by Method 7471A	15
Metals (ICP) by Method 6010B	16
Volatile Organic Compounds (GC/MS) by Method 8260B	17
⁷Gl: Glossary of Terms	29
⁸Al: Accreditations & Locations	30
⁹Sc: Chain of Custody	31





B-1 L823998-01 Solid

Collected by
Billy DavisCollected date/time
03/16/16 10:10Received date/time
03/17/16 08:15¹ Cp

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG857353	1	03/21/16 11:15	03/21/16 13:53	BRJ
Metals (ICP) by Method 6010B	WG857399	1	03/18/16 09:19	03/18/16 15:45	WBD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG857621	5	03/21/16 20:54	03/22/16 15:08	BMB

² Tc³ Ss

B-2 L823998-02 Solid

Collected by
Billy DavisCollected date/time
03/16/16 10:40Received date/time
03/17/16 08:15⁴ Cn

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG857353	1	03/21/16 11:15	03/21/16 13:56	BRJ
Metals (ICP) by Method 6010B	WG857399	1	03/18/16 09:19	03/18/16 15:48	WBD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG857621	5	03/21/16 20:54	03/22/16 19:09	BMB

⁵ Sr⁶ Qc⁷ Gl

B-3 L823998-03 Solid

Collected by
Billy DavisCollected date/time
03/16/16 11:05Received date/time
03/17/16 08:15⁸ Al

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG857353	1	03/21/16 11:15	03/21/16 13:59	BRJ
Metals (ICP) by Method 6010B	WG857399	1	03/18/16 09:19	03/18/16 15:51	WBD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG857621	5	03/21/16 20:54	03/22/16 19:26	BMB

⁹ Sc

B-4 L823998-04 Solid

Collected by
Billy DavisCollected date/time
03/16/16 11:30Received date/time
03/17/16 08:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Mercury by Method 7471A	WG857353	1	03/21/16 11:15	03/21/16 14:02	BRJ
Metals (ICP) by Method 6010B	WG857399	1	03/18/16 09:19	03/18/16 15:54	WBD
Volatile Organic Compounds (GC/MS) by Method 8260B	WG857621	5	03/21/16 20:54	03/22/16 19:43	BMB

B-2 L823998-05 GW

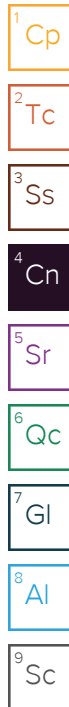
Collected by
Billy DavisCollected date/time
03/16/16 12:00Received date/time
03/17/16 08:15

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (GC/MS) by Method 8260B	WG857679	1	03/20/16 09:55	03/20/16 09:55	BMB



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. 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.

T. Alan Harvill
Technical Service Representative





Mercury by Method 7471A

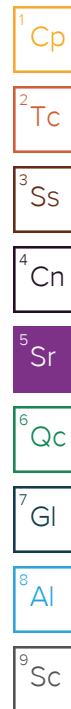
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	03/21/2016 13:53	WG857353

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.74		2.00	1	03/18/2016 15:45	WG857399
Barium	38.7		0.500	1	03/18/2016 15:45	WG857399
Cadmium	ND		0.500	1	03/18/2016 15:45	WG857399
Chromium	13.2		1.00	1	03/18/2016 15:45	WG857399
Lead	13.1		0.500	1	03/18/2016 15:45	WG857399
Selenium	ND		2.00	1	03/18/2016 15:45	WG857399
Silver	ND		1.00	1	03/18/2016 15:45	WG857399

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.250	5	03/22/2016 15:08	WG857621
Acrylonitrile	ND		0.0500	5	03/22/2016 15:08	WG857621
Benzene	ND		0.00500	5	03/22/2016 15:08	WG857621
Bromobenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
Bromodichloromethane	ND		0.00500	5	03/22/2016 15:08	WG857621
Bromoform	ND		0.00500	5	03/22/2016 15:08	WG857621
Bromomethane	ND		0.0250	5	03/22/2016 15:08	WG857621
n-Butylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
sec-Butylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
tert-Butylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
Carbon tetrachloride	ND		0.00500	5	03/22/2016 15:08	WG857621
Chlorobenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
Chlorodibromomethane	ND		0.00500	5	03/22/2016 15:08	WG857621
Chloroethane	ND		0.0250	5	03/22/2016 15:08	WG857621
2-Chloroethyl vinyl ether	ND		0.250	5	03/22/2016 15:08	WG857621
Chloroform	ND		0.0250	5	03/22/2016 15:08	WG857621
Chloromethane	ND		0.0125	5	03/22/2016 15:08	WG857621
2-Chlorotoluene	ND		0.00500	5	03/22/2016 15:08	WG857621
4-Chlorotoluene	ND		0.00500	5	03/22/2016 15:08	WG857621
1,2-Dibromo-3-Chloropropane	ND		0.0250	5	03/22/2016 15:08	WG857621
1,2-Dibromoethane	ND		0.00500	5	03/22/2016 15:08	WG857621
Dibromomethane	ND		0.00500	5	03/22/2016 15:08	WG857621
1,2-Dichlorobenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
1,3-Dichlorobenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
1,4-Dichlorobenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
Dichlorodifluoromethane	ND		0.0250	5	03/22/2016 15:08	WG857621
1,1-Dichloroethane	ND		0.00500	5	03/22/2016 15:08	WG857621
1,2-Dichloroethane	ND		0.00500	5	03/22/2016 15:08	WG857621
1,1-Dichloroethene	ND		0.00500	5	03/22/2016 15:08	WG857621
cis-1,2-Dichloroethene	ND	J4	0.00500	5	03/22/2016 15:08	WG857621
trans-1,2-Dichloroethene	ND		0.00500	5	03/22/2016 15:08	WG857621
1,2-Dichloropropane	ND		0.00500	5	03/22/2016 15:08	WG857621
1,1-Dichloropropene	ND	J4	0.00500	5	03/22/2016 15:08	WG857621
1,3-Dichloropropane	ND		0.00500	5	03/22/2016 15:08	WG857621
cis-1,3-Dichloropropene	ND		0.00500	5	03/22/2016 15:08	WG857621
trans-1,3-Dichloropropene	ND		0.00500	5	03/22/2016 15:08	WG857621
2,2-Dichloropropane	ND		0.00500	5	03/22/2016 15:08	WG857621
Di-isopropyl ether	ND		0.00500	5	03/22/2016 15:08	WG857621
Ethylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621





Collected date/time: 03/16/16 10:10

L823998

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.00500	5	03/22/2016 15:08	WG857621
Isopropylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
p-Isopropyltoluene	ND		0.00500	5	03/22/2016 15:08	WG857621
2-Butanone (MEK)	ND		0.0500	5	03/22/2016 15:08	WG857621
Methylene Chloride	ND		0.0250	5	03/22/2016 15:08	WG857621
4-Methyl-2-pentanone (MIBK)	ND		0.0500	5	03/22/2016 15:08	WG857621
Methyl tert-butyl ether	ND		0.00500	5	03/22/2016 15:08	WG857621
Naphthalene	ND		0.0250	5	03/22/2016 15:08	WG857621
n-Propylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
Styrene	ND		0.00500	5	03/22/2016 15:08	WG857621
1,1,1,2-Tetrachloroethane	ND		0.00500	5	03/22/2016 15:08	WG857621
1,1,2,2-Tetrachloroethane	ND		0.00500	5	03/22/2016 15:08	WG857621
1,1,2-Trichlorotrifluoroethane	ND		0.00500	5	03/22/2016 15:08	WG857621
Tetrachloroethene	ND		0.00500	5	03/22/2016 15:08	WG857621
Toluene	ND		0.0250	5	03/22/2016 15:08	WG857621
1,2,3-Trichlorobenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
1,2,4-Trichlorobenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
1,1,1-Trichloroethane	ND		0.00500	5	03/22/2016 15:08	WG857621
1,1,2-Trichloroethane	ND		0.00500	5	03/22/2016 15:08	WG857621
Trichloroethene	ND		0.00500	5	03/22/2016 15:08	WG857621
Trichlorofluoromethane	ND		0.0250	5	03/22/2016 15:08	WG857621
1,2,3-Trichloropropane	ND		0.0125	5	03/22/2016 15:08	WG857621
1,2,4-Trimethylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
1,2,3-Trimethylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
Vinyl chloride	ND		0.00500	5	03/22/2016 15:08	WG857621
1,3,5-Trimethylbenzene	ND		0.00500	5	03/22/2016 15:08	WG857621
Xylenes, Total	ND		0.0150	5	03/22/2016 15:08	WG857621
(S) Toluene-d8	107		88.7-115		03/22/2016 15:08	WG857621
(S) Dibromofluoromethane	116		76.3-123		03/22/2016 15:08	WG857621
(S) 4-Bromofluorobenzene	104		69.7-129		03/22/2016 15:08	WG857621

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Mercury by Method 7471A

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	0.129		0.0200	1	03/21/2016 13:56	WG857353

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	2.14		2.00	1	03/18/2016 15:48	WG857399
Barium	15.8		0.500	1	03/18/2016 15:48	WG857399
Cadmium	ND		0.500	1	03/18/2016 15:48	WG857399
Chromium	10.4		1.00	1	03/18/2016 15:48	WG857399
Lead	9.34		0.500	1	03/18/2016 15:48	WG857399
Selenium	ND		2.00	1	03/18/2016 15:48	WG857399
Silver	ND		1.00	1	03/18/2016 15:48	WG857399

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.250	5	03/22/2016 19:09	WG857621
Acrylonitrile	ND		0.0500	5	03/22/2016 19:09	WG857621
Benzene	ND		0.00500	5	03/22/2016 19:09	WG857621
Bromobenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
Bromodichloromethane	ND		0.00500	5	03/22/2016 19:09	WG857621
Bromoform	ND		0.00500	5	03/22/2016 19:09	WG857621
Bromomethane	ND		0.0250	5	03/22/2016 19:09	WG857621
n-Butylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
sec-Butylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
tert-Butylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
Carbon tetrachloride	ND		0.00500	5	03/22/2016 19:09	WG857621
Chlorobenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
Chlorodibromomethane	ND		0.00500	5	03/22/2016 19:09	WG857621
Chloroethane	ND		0.0250	5	03/22/2016 19:09	WG857621
2-Chloroethyl vinyl ether	ND		0.250	5	03/22/2016 19:09	WG857621
Chloroform	ND		0.0250	5	03/22/2016 19:09	WG857621
Chloromethane	ND		0.0125	5	03/22/2016 19:09	WG857621
2-Chlorotoluene	ND		0.00500	5	03/22/2016 19:09	WG857621
4-Chlorotoluene	ND		0.00500	5	03/22/2016 19:09	WG857621
1,2-Dibromo-3-Chloropropane	ND		0.0250	5	03/22/2016 19:09	WG857621
1,2-Dibromoethane	ND		0.00500	5	03/22/2016 19:09	WG857621
Dibromomethane	ND		0.00500	5	03/22/2016 19:09	WG857621
1,2-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
1,3-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
1,4-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
Dichlorodifluoromethane	ND		0.0250	5	03/22/2016 19:09	WG857621
1,1-Dichloroethane	ND		0.00500	5	03/22/2016 19:09	WG857621
1,2-Dichloroethane	ND		0.00500	5	03/22/2016 19:09	WG857621
1,1-Dichloroethene	ND		0.00500	5	03/22/2016 19:09	WG857621
cis-1,2-Dichloroethene	ND	J4	0.00500	5	03/22/2016 19:09	WG857621
trans-1,2-Dichloroethene	ND		0.00500	5	03/22/2016 19:09	WG857621
1,2-Dichloropropane	ND		0.00500	5	03/22/2016 19:09	WG857621
1,1-Dichloropropene	ND	J4	0.00500	5	03/22/2016 19:09	WG857621
1,3-Dichloropropane	ND		0.00500	5	03/22/2016 19:09	WG857621
cis-1,3-Dichloropropene	ND		0.00500	5	03/22/2016 19:09	WG857621
trans-1,3-Dichloropropene	ND		0.00500	5	03/22/2016 19:09	WG857621
2,2-Dichloropropane	ND		0.00500	5	03/22/2016 19:09	WG857621
Di-isopropyl ether	ND		0.00500	5	03/22/2016 19:09	WG857621
Ethylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Collected date/time: 03/16/16 10:40

L823998

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.00500	5	03/22/2016 19:09	WG857621
Isopropylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
p-Isopropyltoluene	ND		0.00500	5	03/22/2016 19:09	WG857621
2-Butanone (MEK)	ND		0.0500	5	03/22/2016 19:09	WG857621
Methylene Chloride	ND		0.0250	5	03/22/2016 19:09	WG857621
4-Methyl-2-pentanone (MIBK)	ND		0.0500	5	03/22/2016 19:09	WG857621
Methyl tert-butyl ether	ND		0.00500	5	03/22/2016 19:09	WG857621
Naphthalene	ND		0.0250	5	03/22/2016 19:09	WG857621
n-Propylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
Styrene	ND		0.00500	5	03/22/2016 19:09	WG857621
1,1,1,2-Tetrachloroethane	ND		0.00500	5	03/22/2016 19:09	WG857621
1,1,2,2-Tetrachloroethane	ND		0.00500	5	03/22/2016 19:09	WG857621
1,1,2-Trichlorotrifluoroethane	ND		0.00500	5	03/22/2016 19:09	WG857621
Tetrachloroethene	ND		0.00500	5	03/22/2016 19:09	WG857621
Toluene	ND		0.0250	5	03/22/2016 19:09	WG857621
1,2,3-Trichlorobenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
1,2,4-Trichlorobenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
1,1,1-Trichloroethane	ND		0.00500	5	03/22/2016 19:09	WG857621
1,1,2-Trichloroethane	ND		0.00500	5	03/22/2016 19:09	WG857621
Trichloroethene	ND		0.00500	5	03/22/2016 19:09	WG857621
Trichlorofluoromethane	ND		0.0250	5	03/22/2016 19:09	WG857621
1,2,3-Trichloropropane	ND		0.0125	5	03/22/2016 19:09	WG857621
1,2,4-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
1,2,3-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
Vinyl chloride	ND		0.00500	5	03/22/2016 19:09	WG857621
1,3,5-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:09	WG857621
Xylenes, Total	ND		0.0150	5	03/22/2016 19:09	WG857621
(S) Toluene-d8	105		88.7-115		03/22/2016 19:09	WG857621
(S) Dibromofluoromethane	117		76.3-123		03/22/2016 19:09	WG857621
(S) 4-Bromofluorobenzene	103		69.7-129		03/22/2016 19:09	WG857621

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Mercury by Method 7471A

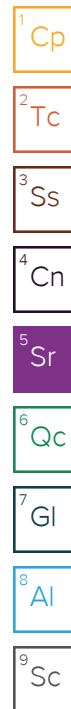
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	03/21/2016 13:59	WG857353

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	ND		2.00	1	03/18/2016 15:51	WG857399
Barium	43.1		0.500	1	03/18/2016 15:51	WG857399
Cadmium	ND		0.500	1	03/18/2016 15:51	WG857399
Chromium	12.2		1.00	1	03/18/2016 15:51	WG857399
Lead	15.9		0.500	1	03/18/2016 15:51	WG857399
Selenium	ND		2.00	1	03/18/2016 15:51	WG857399
Silver	ND		1.00	1	03/18/2016 15:51	WG857399

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.250	5	03/22/2016 19:26	WG857621
Acrylonitrile	ND		0.0500	5	03/22/2016 19:26	WG857621
Benzene	ND		0.00500	5	03/22/2016 19:26	WG857621
Bromobenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
Bromodichloromethane	ND		0.00500	5	03/22/2016 19:26	WG857621
Bromoform	ND		0.00500	5	03/22/2016 19:26	WG857621
Bromomethane	ND		0.0250	5	03/22/2016 19:26	WG857621
n-Butylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
sec-Butylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
tert-Butylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
Carbon tetrachloride	ND		0.00500	5	03/22/2016 19:26	WG857621
Chlorobenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
Chlorodibromomethane	ND		0.00500	5	03/22/2016 19:26	WG857621
Chloroethane	ND		0.0250	5	03/22/2016 19:26	WG857621
2-Chloroethyl vinyl ether	ND		0.250	5	03/22/2016 19:26	WG857621
Chloroform	ND		0.0250	5	03/22/2016 19:26	WG857621
Chloromethane	ND		0.0125	5	03/22/2016 19:26	WG857621
2-Chlorotoluene	ND		0.00500	5	03/22/2016 19:26	WG857621
4-Chlorotoluene	ND		0.00500	5	03/22/2016 19:26	WG857621
1,2-Dibromo-3-Chloropropane	ND		0.0250	5	03/22/2016 19:26	WG857621
1,2-Dibromoethane	ND		0.00500	5	03/22/2016 19:26	WG857621
Dibromomethane	ND		0.00500	5	03/22/2016 19:26	WG857621
1,2-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
1,3-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
1,4-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
Dichlorodifluoromethane	ND		0.0250	5	03/22/2016 19:26	WG857621
1,1-Dichloroethane	ND		0.00500	5	03/22/2016 19:26	WG857621
1,2-Dichloroethane	ND		0.00500	5	03/22/2016 19:26	WG857621
1,1-Dichloroethene	ND		0.00500	5	03/22/2016 19:26	WG857621
cis-1,2-Dichloroethene	ND	J4	0.00500	5	03/22/2016 19:26	WG857621
trans-1,2-Dichloroethene	ND		0.00500	5	03/22/2016 19:26	WG857621
1,2-Dichloropropane	ND		0.00500	5	03/22/2016 19:26	WG857621
1,1-Dichloropropene	ND	J4	0.00500	5	03/22/2016 19:26	WG857621
1,3-Dichloropropane	ND		0.00500	5	03/22/2016 19:26	WG857621
cis-1,3-Dichloropropene	ND		0.00500	5	03/22/2016 19:26	WG857621
trans-1,3-Dichloropropene	ND		0.00500	5	03/22/2016 19:26	WG857621
2,2-Dichloropropane	ND		0.00500	5	03/22/2016 19:26	WG857621
Di-isopropyl ether	ND		0.00500	5	03/22/2016 19:26	WG857621
Ethylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621





Collected date/time: 03/16/16 11:05

L823998

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.00500	5	03/22/2016 19:26	WG857621
Isopropylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
p-Isopropyltoluene	ND		0.00500	5	03/22/2016 19:26	WG857621
2-Butanone (MEK)	ND		0.0500	5	03/22/2016 19:26	WG857621
Methylene Chloride	ND		0.0250	5	03/22/2016 19:26	WG857621
4-Methyl-2-pentanone (MIBK)	ND		0.0500	5	03/22/2016 19:26	WG857621
Methyl tert-butyl ether	ND		0.00500	5	03/22/2016 19:26	WG857621
Naphthalene	ND		0.0250	5	03/22/2016 19:26	WG857621
n-Propylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
Styrene	ND		0.00500	5	03/22/2016 19:26	WG857621
1,1,1,2-Tetrachloroethane	ND		0.00500	5	03/22/2016 19:26	WG857621
1,1,2,2-Tetrachloroethane	ND		0.00500	5	03/22/2016 19:26	WG857621
1,1,2-Trichlorotrifluoroethane	ND		0.00500	5	03/22/2016 19:26	WG857621
Tetrachloroethene	ND		0.00500	5	03/22/2016 19:26	WG857621
Toluene	ND		0.0250	5	03/22/2016 19:26	WG857621
1,2,3-Trichlorobenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
1,2,4-Trichlorobenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
1,1,1-Trichloroethane	ND		0.00500	5	03/22/2016 19:26	WG857621
1,1,2-Trichloroethane	ND		0.00500	5	03/22/2016 19:26	WG857621
Trichloroethene	ND		0.00500	5	03/22/2016 19:26	WG857621
Trichlorofluoromethane	ND		0.0250	5	03/22/2016 19:26	WG857621
1,2,3-Trichloropropane	ND		0.0125	5	03/22/2016 19:26	WG857621
1,2,4-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
1,2,3-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
Vinyl chloride	ND		0.00500	5	03/22/2016 19:26	WG857621
1,3,5-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:26	WG857621
Xylenes, Total	ND		0.0150	5	03/22/2016 19:26	WG857621
(S) Toluene-d8	107		88.7-115		03/22/2016 19:26	WG857621
(S) Dibromofluoromethane	116		76.3-123		03/22/2016 19:26	WG857621
(S) 4-Bromofluorobenzene	105		69.7-129		03/22/2016 19:26	WG857621

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Mercury by Method 7471A

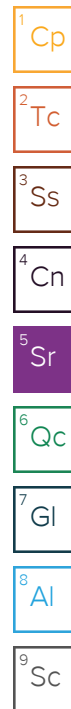
Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Mercury	ND		0.0200	1	03/21/2016 14:02	WG857353

Metals (ICP) by Method 6010B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Arsenic	3.98		2.00	1	03/18/2016 15:54	WG857399
Barium	24.0		0.500	1	03/18/2016 15:54	WG857399
Cadmium	ND		0.500	1	03/18/2016 15:54	WG857399
Chromium	13.2		1.00	1	03/18/2016 15:54	WG857399
Lead	9.23		0.500	1	03/18/2016 15:54	WG857399
Selenium	ND		2.00	1	03/18/2016 15:54	WG857399
Silver	ND		1.00	1	03/18/2016 15:54	WG857399

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Acetone	ND		0.250	5	03/22/2016 19:43	WG857621
Acrylonitrile	ND		0.0500	5	03/22/2016 19:43	WG857621
Benzene	ND		0.00500	5	03/22/2016 19:43	WG857621
Bromobenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
Bromodichloromethane	ND		0.00500	5	03/22/2016 19:43	WG857621
Bromoform	ND		0.00500	5	03/22/2016 19:43	WG857621
Bromomethane	ND		0.0250	5	03/22/2016 19:43	WG857621
n-Butylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
sec-Butylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
tert-Butylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
Carbon tetrachloride	ND		0.00500	5	03/22/2016 19:43	WG857621
Chlorobenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
Chlorodibromomethane	ND		0.00500	5	03/22/2016 19:43	WG857621
Chloroethane	ND		0.0250	5	03/22/2016 19:43	WG857621
2-Chloroethyl vinyl ether	ND		0.250	5	03/22/2016 19:43	WG857621
Chloroform	ND		0.0250	5	03/22/2016 19:43	WG857621
Chloromethane	ND		0.0125	5	03/22/2016 19:43	WG857621
2-Chlorotoluene	ND		0.00500	5	03/22/2016 19:43	WG857621
4-Chlorotoluene	ND		0.00500	5	03/22/2016 19:43	WG857621
1,2-Dibromo-3-Chloropropane	ND		0.0250	5	03/22/2016 19:43	WG857621
1,2-Dibromoethane	ND		0.00500	5	03/22/2016 19:43	WG857621
Dibromomethane	ND		0.00500	5	03/22/2016 19:43	WG857621
1,2-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
1,3-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
1,4-Dichlorobenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
Dichlorodifluoromethane	ND		0.0250	5	03/22/2016 19:43	WG857621
1,1-Dichloroethane	ND		0.00500	5	03/22/2016 19:43	WG857621
1,2-Dichloroethane	ND		0.00500	5	03/22/2016 19:43	WG857621
1,1-Dichloroethene	ND		0.00500	5	03/22/2016 19:43	WG857621
cis-1,2-Dichloroethene	ND	J4	0.00500	5	03/22/2016 19:43	WG857621
trans-1,2-Dichloroethene	ND		0.00500	5	03/22/2016 19:43	WG857621
1,2-Dichloropropane	ND		0.00500	5	03/22/2016 19:43	WG857621
1,1-Dichloropropene	ND	J4	0.00500	5	03/22/2016 19:43	WG857621
1,3-Dichloropropane	ND		0.00500	5	03/22/2016 19:43	WG857621
cis-1,3-Dichloropropene	ND		0.00500	5	03/22/2016 19:43	WG857621
trans-1,3-Dichloropropene	ND		0.00500	5	03/22/2016 19:43	WG857621
2,2-Dichloropropane	ND		0.00500	5	03/22/2016 19:43	WG857621
Di-isopropyl ether	ND		0.00500	5	03/22/2016 19:43	WG857621
Ethylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621





Collected date/time: 03/16/16 11:30

L823998

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

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
Hexachloro-1,3-butadiene	ND		0.00500	5	03/22/2016 19:43	WG857621
Isopropylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
p-Isopropyltoluene	ND		0.00500	5	03/22/2016 19:43	WG857621
2-Butanone (MEK)	ND		0.0500	5	03/22/2016 19:43	WG857621
Methylene Chloride	ND		0.0250	5	03/22/2016 19:43	WG857621
4-Methyl-2-pentanone (MIBK)	ND		0.0500	5	03/22/2016 19:43	WG857621
Methyl tert-butyl ether	ND		0.00500	5	03/22/2016 19:43	WG857621
Naphthalene	ND		0.0250	5	03/22/2016 19:43	WG857621
n-Propylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
Styrene	ND		0.00500	5	03/22/2016 19:43	WG857621
1,1,1,2-Tetrachloroethane	ND		0.00500	5	03/22/2016 19:43	WG857621
1,1,2,2-Tetrachloroethane	ND		0.00500	5	03/22/2016 19:43	WG857621
1,1,2-Trichlorotrifluoroethane	ND		0.00500	5	03/22/2016 19:43	WG857621
Tetrachloroethene	ND		0.00500	5	03/22/2016 19:43	WG857621
Toluene	ND		0.0250	5	03/22/2016 19:43	WG857621
1,2,3-Trichlorobenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
1,2,4-Trichlorobenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
1,1,1-Trichloroethane	ND		0.00500	5	03/22/2016 19:43	WG857621
1,1,2-Trichloroethane	ND		0.00500	5	03/22/2016 19:43	WG857621
Trichloroethene	ND		0.00500	5	03/22/2016 19:43	WG857621
Trichlorofluoromethane	ND		0.0250	5	03/22/2016 19:43	WG857621
1,2,3-Trichloropropane	ND		0.0125	5	03/22/2016 19:43	WG857621
1,2,4-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
1,2,3-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
Vinyl chloride	ND		0.00500	5	03/22/2016 19:43	WG857621
1,3,5-Trimethylbenzene	ND		0.00500	5	03/22/2016 19:43	WG857621
Xylenes, Total	ND		0.0150	5	03/22/2016 19:43	WG857621
(S) Toluene-d8	106		88.7-115		03/22/2016 19:43	WG857621
(S) Dibromofluoromethane	118		76.3-123		03/22/2016 19:43	WG857621
(S) 4-Bromofluorobenzene	102		69.7-129		03/22/2016 19:43	WG857621

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 03/16/16 12:00

L823998

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Acetone	ND		0.0500	1	03/20/2016 09:55	WG857679
Acrolein	ND		0.0500	1	03/20/2016 09:55	WG857679
Acrylonitrile	ND		0.0100	1	03/20/2016 09:55	WG857679
Benzene	ND		0.00100	1	03/20/2016 09:55	WG857679
Bromobenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
Bromodichloromethane	ND		0.00100	1	03/20/2016 09:55	WG857679
Bromoform	ND		0.00100	1	03/20/2016 09:55	WG857679
Bromomethane	ND		0.00500	1	03/20/2016 09:55	WG857679
n-Butylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
sec-Butylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
tert-Butylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
Carbon tetrachloride	ND		0.00100	1	03/20/2016 09:55	WG857679
Chlorobenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
Chlorodibromomethane	ND		0.00100	1	03/20/2016 09:55	WG857679
Chloroethane	ND		0.00500	1	03/20/2016 09:55	WG857679
2-Chloroethyl vinyl ether	ND	J4	0.0500	1	03/20/2016 09:55	WG857679
Chloroform	ND		0.00500	1	03/20/2016 09:55	WG857679
Chloromethane	ND		0.00250	1	03/20/2016 09:55	WG857679
2-Chlorotoluene	ND		0.00100	1	03/20/2016 09:55	WG857679
4-Chlorotoluene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,2-Dibromo-3-Chloropropane	ND		0.00500	1	03/20/2016 09:55	WG857679
1,2-Dibromoethane	ND		0.00100	1	03/20/2016 09:55	WG857679
Dibromomethane	ND		0.00100	1	03/20/2016 09:55	WG857679
1,2-Dichlorobenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,3-Dichlorobenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,4-Dichlorobenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
Dichlorodifluoromethane	ND		0.00500	1	03/20/2016 09:55	WG857679
1,1-Dichloroethane	ND		0.00100	1	03/20/2016 09:55	WG857679
1,2-Dichloroethane	ND		0.00100	1	03/20/2016 09:55	WG857679
1,1-Dichloroethene	ND		0.00100	1	03/20/2016 09:55	WG857679
cis-1,2-Dichloroethene	ND		0.00100	1	03/20/2016 09:55	WG857679
trans-1,2-Dichloroethene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,2-Dichloropropane	ND		0.00100	1	03/20/2016 09:55	WG857679
1,1-Dichloropropene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,3-Dichloropropane	ND		0.00100	1	03/20/2016 09:55	WG857679
cis-1,3-Dichloropropene	ND		0.00100	1	03/20/2016 09:55	WG857679
trans-1,3-Dichloropropene	ND		0.00100	1	03/20/2016 09:55	WG857679
2,2-Dichloropropane	ND		0.00100	1	03/20/2016 09:55	WG857679
Di-isopropyl ether	ND		0.00100	1	03/20/2016 09:55	WG857679
Ethylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
Hexachloro-1,3-butadiene	ND		0.00100	1	03/20/2016 09:55	WG857679
Isopropylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
p-Isopropyltoluene	ND		0.00100	1	03/20/2016 09:55	WG857679
2-Butanone (MEK)	ND		0.0100	1	03/20/2016 09:55	WG857679
Methylene Chloride	ND		0.00500	1	03/20/2016 09:55	WG857679
4-Methyl-2-pentanone (MIBK)	ND		0.0100	1	03/20/2016 09:55	WG857679
Methyl tert-butyl ether	ND		0.00100	1	03/20/2016 09:55	WG857679
Naphthalene	ND		0.00500	1	03/20/2016 09:55	WG857679
n-Propylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
Styrene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,1,1,2-Tetrachloroethane	ND		0.00100	1	03/20/2016 09:55	WG857679
1,1,2,2-Tetrachloroethane	ND	J4	0.00100	1	03/20/2016 09:55	WG857679
1,1,2-Trichlorotrifluoroethane	ND		0.00100	1	03/20/2016 09:55	WG857679
Tetrachloroethene	ND		0.00100	1	03/20/2016 09:55	WG857679
Toluene	ND		0.00500	1	03/20/2016 09:55	WG857679
1,2,3-Trichlorobenzene	ND		0.00100	1	03/20/2016 09:55	WG857679

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc



Collected date/time: 03/16/16 12:00

L823998

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

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,1,1-Trichloroethane	ND		0.00100	1	03/20/2016 09:55	WG857679
1,1,2-Trichloroethane	ND		0.00100	1	03/20/2016 09:55	WG857679
Trichloroethene	ND		0.00100	1	03/20/2016 09:55	WG857679
Trichlorofluoromethane	ND		0.00500	1	03/20/2016 09:55	WG857679
1,2,3-Trichloropropane	ND		0.00250	1	03/20/2016 09:55	WG857679
1,2,4-Trimethylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,2,3-Trimethylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
1,3,5-Trimethylbenzene	ND		0.00100	1	03/20/2016 09:55	WG857679
Vinyl chloride	ND		0.00100	1	03/20/2016 09:55	WG857679
Xylenes, Total	ND		0.00300	1	03/20/2016 09:55	WG857679
(S) Toluene-d8	104		90.0-115		03/20/2016 09:55	WG857679
(S) Dibromofluoromethane	114		79.0-121		03/20/2016 09:55	WG857679
(S) 4-Bromofluorobenzene	98.8		80.1-120		03/20/2016 09:55	WG857679

¹ Cp² Tc³ Ss⁴ Cn⁵ Sr⁶ Qc⁷ Gl⁸ Al⁹ Sc



Method Blank (MB)

(MB) 03/21/16 12:42

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Mercury	ND		0.0200

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

(LCS) 03/21/16 12:45 • (LCSD) 03/21/16 12:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Mercury	0.300	0.300	0.297	100	99	80-120			1	20

L823465-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/21/16 12:51 • (MS) 03/21/16 12:54 • (MSD) 03/21/16 12:57

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 %
Mercury	0.300	0.0125	0.318	0.294	102	94	1	75-125			8	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



Method Blank (MB)

(MB) 03/18/16 15:10

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Arsenic	ND		2.00
Barium	ND		0.500
Cadmium	ND		0.500
Chromium	ND		1.00
Lead	ND		0.500
Selenium	ND		2.00
Silver	ND		1.00

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) 03/18/16 15:12 • (LCSD) 03/18/16 15:15

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Arsenic	100	99.4	98.3	99	98	80-120			1	20
Barium	100	101	99.8	101	100	80-120			1	20
Cadmium	100	101	100	101	100	80-120			1	20
Chromium	100	100	98.8	100	99	80-120			2	20
Lead	100	104	103	104	103	80-120			1	20
Selenium	100	102	101	102	101	80-120			2	20
Silver	100	94.3	92.9	94	93	80-120			2	20

L824029-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/18/16 15:18 • (MS) 03/18/16 15:27 • (MSD) 03/18/16 15:30

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 %
Arsenic	100	2.66	96.5	98.1	94	95	1	75-125			2	20
Barium	100	21.7	119	121	98	99	1	75-125			1	20
Cadmium	100	0.0232	95.9	97.7	96	98	1	75-125			2	20
Chromium	100	21.3	113	113	92	91	1	75-125			1	20
Lead	100	9.28	109	110	99	100	1	75-125			1	20
Selenium	100	0.0548	91.2	93.3	91	93	1	75-125			2	20
Silver	100	ND	88.9	90.7	89	91	1	75-125			2	20



Method Blank (MB)

(MB) 03/22/16 12:13

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
Acetone	ND		0.0500
Acrylonitrile	ND		0.0100
Benzene	ND		0.00100
Bromobenzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
n-Butylbenzene	ND		0.00100
sec-Butylbenzene	ND		0.00100
tert-Butylbenzene	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
2-Chloroethyl vinyl ether	ND		0.0500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
2-Chlorotoluene	ND		0.00100
4-Chlorotoluene	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
Dibromomethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
1,1-Dichloropropene	ND		0.00100
1,3-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100
trans-1,3-Dichloropropene	ND		0.00100

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



Method Blank (MB)

(MB) 03/22/16 12:13

Analyte	MB Result mg/kg	MB Qualifier	MB RDL mg/kg
2,2-Dichloropropane	ND		0.00100
Di-isopropyl ether	ND		0.00100
Ethylbenzene	ND		0.00100
Hexachloro-1,3-butadiene	ND		0.00100
Isopropylbenzene	ND		0.00100
p-Isopropyltoluene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Methyl tert-butyl ether	ND		0.00100
Naphthalene	ND		0.00500
n-Propylbenzene	ND		0.00100
Styrene	ND		0.00100
1,1,1,2-Tetrachloroethane	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
1,2,3-Trichloropropane	ND		0.00250
1,2,3-Trimethylbenzene	ND		0.00100
1,2,4-Trimethylbenzene	ND		0.00100
1,3,5-Trimethylbenzene	ND		0.00100
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	105		88.7-115
(S) Dibromofluoromethane	116		76.3-123
(S) 4-Bromofluorobenzene	103		69.7-129

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) 03/22/16 10:47 • (LCSD) 03/22/16 11:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.112	0.102	90.0	81.6	25.3-178			9.81	22.9
Acrylonitrile	0.125	0.135	0.133	108	106	57.8-143			1.46	20
Benzene	0.0250	0.0293	0.0275	117	110	72.6-120			6.36	20
Bromobenzene	0.0250	0.0264	0.0255	106	102	80.3-115			3.33	20
Bromodichloromethane	0.0250	0.0278	0.0264	111	106	75.3-119			5.31	20
Bromoform	0.0250	0.0235	0.0224	94.0	89.4	69.1-135			4.98	20
Bromomethane	0.0250	0.0369	0.0352	148	141	23.0-191			4.57	20
n-Butylbenzene	0.0250	0.0292	0.0273	117	109	74.2-134			6.57	20
sec-Butylbenzene	0.0250	0.0259	0.0241	104	96.5	77.8-129			7.11	20
tert-Butylbenzene	0.0250	0.0258	0.0241	103	96.4	77.2-129			6.65	20
Carbon tetrachloride	0.0250	0.0277	0.0256	111	102	69.4-129			7.97	20
Chlorobenzene	0.0250	0.0260	0.0246	104	98.6	78.9-122			5.46	20
Chlorodibromomethane	0.0250	0.0258	0.0249	103	99.6	76.4-126			3.59	20
Chloroethane	0.0250	0.0333	0.0314	133	125	47.2-147			5.94	20
2-Chloroethyl vinyl ether	0.125	0.158	0.150	126	120	16.7-162			5.13	23.7
Chloroform	0.0250	0.0297	0.0283	119	113	73.3-122			4.76	20
Chloromethane	0.0250	0.0320	0.0302	128	121	53.1-135			5.86	20
2-Chlorotoluene	0.0250	0.0246	0.0235	98.3	93.8	74.6-127			4.70	20
4-Chlorotoluene	0.0250	0.0270	0.0259	108	104	79.5-123			4.21	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0237	0.0228	94.7	91.2	64.9-131			3.79	20
1,2-Dibromoethane	0.0250	0.0258	0.0243	103	97.2	78.7-123			6.14	20
Dibromomethane	0.0250	0.0272	0.0258	109	103	78.5-117			5.31	20
1,2-Dichlorobenzene	0.0250	0.0266	0.0260	107	104	83.6-119			2.42	20
1,3-Dichlorobenzene	0.0250	0.0245	0.0239	97.8	95.7	75.9-129			2.23	20
1,4-Dichlorobenzene	0.0250	0.0268	0.0258	107	103	81.0-115			3.85	20
Dichlorodifluoromethane	0.0250	0.0345	0.0316	138	126	50.9-139			8.85	20
1,1-Dichloroethane	0.0250	0.0307	0.0291	123	117	71.7-125			5.30	20
1,2-Dichloroethane	0.0250	0.0301	0.0290	120	116	67.2-121			3.56	20
1,1-Dichloroethene	0.0250	0.0312	0.0288	125	115	60.6-133			7.86	20
cis-1,2-Dichloroethene	0.0250	0.0305	0.0290	122	116	76.1-121	J4		4.98	20
trans-1,2-Dichloroethene	0.0250	0.0292	0.0274	117	110	70.7-124			6.15	20
1,2-Dichloropropane	0.0250	0.0286	0.0273	114	109	76.9-123			4.49	20
1,1-Dichloropropene	0.0250	0.0318	0.0292	127	117	71.2-126	J4		8.53	20
1,3-Dichloropropane	0.0250	0.0267	0.0256	107	102	80.3-114			4.24	20
cis-1,3-Dichloropropene	0.0250	0.0282	0.0264	113	106	77.3-123			6.33	20
trans-1,3-Dichloropropene	0.0250	0.0274	0.0258	109	103	73.0-127			5.97	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc



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

(LCS) 03/22/16 10:47 • (LCSD) 03/22/16 11:05

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	0.0282	0.0265	113	106	61.9-132			6.00	20
Di-isopropyl ether	0.0250	0.0300	0.0290	120	116	67.2-131			3.15	20
Ethylbenzene	0.0250	0.0262	0.0244	105	97.6	78.6-124			7.13	20
Hexachloro-1,3-butadiene	0.0250	0.0261	0.0245	104	98.0	69.2-136			6.40	20
Isopropylbenzene	0.0250	0.0262	0.0244	105	97.8	79.4-126			7.03	20
p-Isopropyltoluene	0.0250	0.0262	0.0247	105	98.8	75.4-132			5.74	20
2-Butanone (MEK)	0.125	0.137	0.130	109	104	44.5-154			5.13	21.3
Methylene Chloride	0.0250	0.0274	0.0267	110	107	68.2-119			2.56	20
4-Methyl-2-pentanone (MIBK)	0.125	0.133	0.123	107	98.4	61.1-138			7.92	20
Methyl tert-butyl ether	0.0250	0.0271	0.0270	109	108	70.2-122			0.630	20
Naphthalene	0.0250	0.0248	0.0238	99.3	95.2	69.9-132			4.19	20
n-Propylbenzene	0.0250	0.0274	0.0256	110	102	80.2-124			6.94	20
Styrene	0.0250	0.0258	0.0246	103	98.3	79.4-124			5.04	20
1,1,1,2-Tetrachloroethane	0.0250	0.0252	0.0246	101	98.5	76.7-127			2.28	20
1,1,2,2-Tetrachloroethane	0.0250	0.0244	0.0234	97.4	93.7	78.8-124			3.89	20
Tetrachloroethene	0.0250	0.0255	0.0237	102	94.6	71.1-133			7.39	20
Toluene	0.0250	0.0254	0.0236	102	94.2	76.7-116			7.57	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0305	0.0285	122	114	62.6-138			7.07	20
1,2,3-Trichlorobenzene	0.0250	0.0266	0.0259	106	104	72.5-137			2.53	20
1,2,4-Trichlorobenzene	0.0250	0.0269	0.0259	108	103	74.0-137			3.99	20
1,1,1-Trichloroethane	0.0250	0.0299	0.0282	120	113	69.9-127			5.83	20
1,1,2-Trichloroethane	0.0250	0.0256	0.0245	102	97.8	81.9-119			4.68	20
Trichloroethene	0.0250	0.0264	0.0244	106	97.7	77.2-122			8.00	20
Trichlorofluoromethane	0.0250	0.0294	0.0274	118	109	51.5-151			7.27	20
1,2,3-Trichloropropane	0.0250	0.0234	0.0223	93.5	89.1	74.0-124			4.83	20
1,2,3-Trimethylbenzene	0.0250	0.0279	0.0268	112	107	79.4-118			4.07	20
1,2,4-Trimethylbenzene	0.0250	0.0259	0.0246	103	98.5	77.1-124			4.95	20
1,3,5-Trimethylbenzene	0.0250	0.0261	0.0245	104	98.0	79.0-125			6.17	20
Vinyl chloride	0.0250	0.0330	0.0303	132	121	58.4-134			8.27	20
Xylenes, Total	0.0750	0.0781	0.0734	104	97.9	78.1-123			6.18	20
(S) Toluene-d8				106	105	88.7-115				
(S) Dibromofluoromethane				117	117	76.3-123				
(S) 4-Bromofluorobenzene				100	100	69.7-129				

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc



L823998-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/22/16 15:08 • (MS) 03/22/16 13:42 • (MSD) 03/22/16 13:59

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 %
Acetone	0.125	0.0126	0.513	0.481	80.1	75.0	5	10.0-130			6.37	31.5
Acrylonitrile	0.125	ND	0.642	0.637	103	102	5	39.3-152			0.790	27.2
Benzene	0.0250	ND	0.135	0.137	108	110	5	47.8-131			1.72	22.8
Bromobenzene	0.0250	ND	0.126	0.128	101	103	5	40.0-130			1.86	27.4
Bromodichloromethane	0.0250	ND	0.140	0.141	112	112	5	50.6-128			0.720	22.8
Bromoform	0.0250	ND	0.119	0.122	94.9	97.5	5	43.3-139			2.70	25.9
Bromomethane	0.0250	ND	0.153	0.153	122	122	5	5.00-189			0.300	26.7
n-Butylbenzene	0.0250	ND	0.125	0.126	100	101	5	23.6-146			0.760	39.2
sec-Butylbenzene	0.0250	ND	0.117	0.118	94.0	94.2	5	31.0-142			0.240	34.7
tert-Butylbenzene	0.0250	ND	0.119	0.121	95.6	96.6	5	36.9-142			1.05	31.7
Carbon tetrachloride	0.0250	ND	0.125	0.127	100	101	5	46.0-140			1.24	27.2
Chlorobenzene	0.0250	ND	0.121	0.124	96.8	99.5	5	44.1-134			2.71	25.7
Chlorodibromomethane	0.0250	ND	0.128	0.130	102	104	5	49.7-134			1.78	24
Chloroethane	0.0250	ND	0.141	0.142	113	113	5	5.00-164			0.380	28.4
2-Chloroethyl vinyl ether	0.125	ND	0.796	0.829	127	133	5	5.00-159			4.02	40
Chloroform	0.0250	ND	0.143	0.145	115	116	5	51.2-133			1.37	22.8
Chloromethane	0.0250	ND	0.124	0.124	98.9	98.9	5	31.4-141			0.0100	24.6
2-Chlorotoluene	0.0250	ND	0.116	0.118	92.8	94.7	5	36.1-137			2.03	28.9
4-Chlorotoluene	0.0250	ND	0.126	0.127	100	102	5	35.4-137			1.27	29.8
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.120	0.129	96.0	103	5	40.4-138			6.93	30.8
1,2-Dibromoethane	0.0250	ND	0.121	0.127	97.2	102	5	50.2-133			4.54	23.6
Dibromomethane	0.0250	ND	0.133	0.134	107	107	5	52.4-128			0.630	23
1,2-Dichlorobenzene	0.0250	ND	0.128	0.134	102	107	5	34.6-139			4.71	29.9
1,3-Dichlorobenzene	0.0250	ND	0.117	0.118	93.3	94.6	5	28.4-142			1.41	31.2
1,4-Dichlorobenzene	0.0250	ND	0.125	0.130	100	104	5	35.0-133			3.73	31.1
Dichlorodifluoromethane	0.0250	ND	0.111	0.113	88.9	90.3	5	31.2-144			1.61	30.2
1,1-Dichloroethane	0.0250	ND	0.145	0.146	116	117	5	49.1-136			1.28	22.9
1,2-Dichloroethane	0.0250	ND	0.148	0.149	119	119	5	47.1-129			0.420	22.7
1,1-Dichloroethene	0.0250	ND	0.136	0.137	109	110	5	36.1-142			0.610	25.6
cis-1,2-Dichloroethene	0.0250	ND	0.147	0.146	117	117	5	50.6-133			0.360	23
trans-1,2-Dichloroethene	0.0250	ND	0.129	0.129	103	103	5	43.8-135			0.180	24.8
1,2-Dichloropropane	0.0250	ND	0.140	0.141	112	113	5	50.3-134			1.19	22.7
1,1-Dichloropropene	0.0250	ND	0.138	0.140	110	112	5	43.0-137			1.63	26.4
1,3-Dichloropropane	0.0250	ND	0.130	0.135	104	108	5	51.4-127			3.81	23.1
cis-1,3-Dichloropropene	0.0250	ND	0.137	0.140	109	112	5	48.4-134			2.31	23.6
trans-1,3-Dichloropropene	0.0250	ND	0.135	0.138	108	111	5	46.6-135			2.24	25.3

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L823998-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/22/16 15:08 • (MS) 03/22/16 13:42 • (MSD) 03/22/16 13:59

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 %
2,2-Dichloropropane	0.0250	ND	0.134	0.134	107	107	5	45.2-141			0.290	26.6
Di-isopropyl ether	0.0250	ND	0.148	0.150	118	120	5	46.7-140			1.53	23.5
Ethylbenzene	0.0250	ND	0.119	0.120	94.9	96.3	5	44.8-135			1.45	26.9
Hexachloro-1,3-butadiene	0.0250	ND	0.108	0.114	86.5	90.9	5	10.0-149			4.93	40
Isopropylbenzene	0.0250	ND	0.120	0.121	96.4	97.0	5	41.9-139			0.650	29.3
p-Isopropyltoluene	0.0250	ND	0.118	0.117	94.1	94.0	5	27.3-146			0.110	35.1
2-Butanone (MEK)	0.125	ND	0.633	0.635	101	102	5	23.9-170			0.290	28.3
Methylene Chloride	0.0250	0.00242	0.135	0.134	106	105	5	46.7-125			0.580	22.2
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.682	0.695	109	111	5	42.4-146			1.86	26.7
Methyl tert-butyl ether	0.0250	ND	0.139	0.140	111	112	5	50.4-131			0.730	24.8
Naphthalene	0.0250	0.000544	0.122	0.131	96.8	104	5	18.4-145			7.22	34
n-Propylbenzene	0.0250	ND	0.123	0.124	98.3	99.2	5	35.2-139			0.920	31.9
Styrene	0.0250	ND	0.121	0.128	97.1	103	5	39.7-137			5.45	28.2
1,1,1,2-Tetrachloroethane	0.0250	ND	0.125	0.125	99.9	100	5	48.8-136			0.150	25.5
1,1,2,2-Tetrachloroethane	0.0250	ND	0.126	0.131	101	105	5	45.7-140			3.84	26.4
Tetrachloroethene	0.0250	ND	0.110	0.112	87.8	89.5	5	37.7-140			1.92	29.2
Toluene	0.0250	0.000306	0.119	0.120	95.1	96.0	5	47.8-127			0.910	24.3
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.134	0.137	108	110	5	35.7-146			1.93	28.8
1,2,3-Trichlorobenzene	0.0250	ND	0.123	0.132	98.3	106	5	10.0-150			7.56	38.5
1,2,4-Trichlorobenzene	0.0250	ND	0.120	0.126	96.0	101	5	10.0-153			4.68	39.3
1,1,1-Trichloroethane	0.0250	ND	0.141	0.142	113	113	5	49.0-138			0.750	25.3
1,1,2-Trichloroethane	0.0250	ND	0.125	0.130	100	104	5	52.3-132			3.60	23.4
Trichloroethene	0.0250	ND	0.121	0.122	96.7	97.9	5	48.0-132			1.25	24.8
Trichlorofluoromethane	0.0250	ND	0.134	0.135	107	108	5	12.8-169			1.09	29.7
1,2,3-Trichloropropane	0.0250	ND	0.119	0.122	95.4	97.9	5	44.4-138			2.55	26.3
1,2,3-Trimethylbenzene	0.0250	0.000195	0.131	0.135	105	108	5	41.0-133			3.09	27.6
1,2,4-Trimethylbenzene	0.0250	0.000198	0.120	0.121	95.7	96.5	5	32.9-139			0.880	30.6
1,3,5-Trimethylbenzene	0.0250	ND	0.119	0.120	95.0	95.8	5	37.1-138			0.880	30.6
Vinyl chloride	0.0250	ND	0.130	0.130	104	104	5	32.0-146			0.230	26.3
Xylenes, Total	0.0750	0.000284	0.356	0.363	94.8	96.8	5	42.7-135			2.10	26.6
(S) Toluene-d8					107	106		88.7-115				
(S) Dibromofluoromethane					116	115		76.3-123				
(S) 4-Bromofluorobenzene					101	100		69.7-129				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

Method Blank (MB)

(MB) 03/20/16 02:31

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
Acetone	ND		0.0500
Acrolein	ND		0.0500
Acrylonitrile	ND		0.0100
Benzene	ND		0.00100
Bromobenzene	ND		0.00100
Bromodichloromethane	ND		0.00100
Bromoform	ND		0.00100
Bromomethane	ND		0.00500
n-Butylbenzene	ND		0.00100
sec-Butylbenzene	ND		0.00100
tert-Butylbenzene	ND		0.00100
Carbon tetrachloride	ND		0.00100
Chlorobenzene	ND		0.00100
Chlorodibromomethane	ND		0.00100
Chloroethane	ND		0.00500
2-Chloroethyl vinyl ether	ND		0.0500
Chloroform	ND		0.00500
Chloromethane	ND		0.00250
2-Chlorotoluene	ND		0.00100
4-Chlorotoluene	ND		0.00100
1,2-Dibromo-3-Chloropropane	ND		0.00500
1,2-Dibromoethane	ND		0.00100
Dibromomethane	ND		0.00100
1,2-Dichlorobenzene	ND		0.00100
1,3-Dichlorobenzene	ND		0.00100
1,4-Dichlorobenzene	ND		0.00100
Dichlorodifluoromethane	ND		0.00500
1,1-Dichloroethane	ND		0.00100
1,2-Dichloroethane	ND		0.00100
1,1-Dichloroethene	ND		0.00100
cis-1,2-Dichloroethene	ND		0.00100
trans-1,2-Dichloroethene	ND		0.00100
1,2-Dichloropropane	ND		0.00100
1,1-Dichloropropene	ND		0.00100
1,3-Dichloropropane	ND		0.00100
cis-1,3-Dichloropropene	ND		0.00100

1

Cp

2

Tc

3

Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc



Method Blank (MB)

(MB) 03/20/16 02:31

Analyte	MB Result mg/l	MB Qualifier	MB RDL mg/l
trans-1,3-Dichloropropene	ND		0.00100
2,2-Dichloropropane	ND		0.00100
Di-isopropyl ether	ND		0.00100
Ethylbenzene	ND		0.00100
Hexachloro-1,3-butadiene	ND		0.00100
Isopropylbenzene	ND		0.00100
p-Isopropyltoluene	ND		0.00100
2-Butanone (MEK)	ND		0.0100
Methylene Chloride	ND		0.00500
4-Methyl-2-pentanone (MIBK)	ND		0.0100
Methyl tert-butyl ether	ND		0.00100
Naphthalene	ND		0.00500
n-Propylbenzene	ND		0.00100
Styrene	ND		0.00100
1,1,1,2-Tetrachloroethane	ND		0.00100
1,1,2,2-Tetrachloroethane	ND		0.00100
Tetrachloroethene	ND		0.00100
Toluene	ND		0.00500
1,1,2-Trichlorotrifluoroethane	ND		0.00100
1,2,3-Trichlorobenzene	ND		0.00100
1,2,4-Trichlorobenzene	ND		0.00100
1,1,1-Trichloroethane	ND		0.00100
1,1,2-Trichloroethane	ND		0.00100
Trichloroethene	ND		0.00100
Trichlorofluoromethane	ND		0.00500
1,2,3-Trichloropropane	ND		0.00250
1,2,3-Trimethylbenzene	ND		0.00100
1,2,4-Trimethylbenzene	ND		0.00100
1,3,5-Trimethylbenzene	ND		0.00100
Vinyl chloride	ND		0.00100
Xylenes, Total	ND		0.00300
(S) Toluene-d8	104		90.0-115
(S) Dibromofluoromethane	108		79.0-121
(S) 4-Bromofluorobenzene	97.9		80.1-120

¹Cp

²Tc

³Ss

⁴Cn

⁵Sr

⁶Qc

⁷Gl

⁸Al

⁹Sc

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

(LCS) 03/19/16 23:18 • (LCSD) 03/20/16 00:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.110	0.101	88.2	80.7	28.7-175			8.87	20.9
Acrolein	0.125	0.101	0.0924	80.6	74.0	40.4-172			8.56	20
Acrylonitrile	0.125	0.123	0.111	98.4	88.6	58.2-145			10.5	20
Benzene	0.0250	0.0239	0.0237	95.5	94.9	73.0-122			0.600	20
Bromobenzene	0.0250	0.0242	0.0235	97.0	94.1	81.5-115			3.01	20
Bromodichloromethane	0.0250	0.0240	0.0234	95.9	93.6	75.5-121			2.41	20
Bromoform	0.0250	0.0211	0.0201	84.6	80.3	71.5-131			5.21	20
Bromomethane	0.0250	0.0297	0.0310	119	124	22.4-187			4.14	20
n-Butylbenzene	0.0250	0.0261	0.0255	104	102	75.9-134			2.38	20
sec-Butylbenzene	0.0250	0.0223	0.0218	89.1	87.1	80.6-126			2.24	20
tert-Butylbenzene	0.0250	0.0224	0.0225	89.7	89.8	79.3-127			0.0800	20
Carbon tetrachloride	0.0250	0.0241	0.0243	96.5	97.2	70.9-129			0.750	20
Chlorobenzene	0.0250	0.0227	0.0226	90.8	90.2	79.7-122			0.630	20
Chlorodibromomethane	0.0250	0.0226	0.0217	90.3	86.8	78.2-124			4.04	20
Chloroethane	0.0250	0.0251	0.0251	101	101	41.2-153			0.0100	20
2-Chloroethyl vinyl ether	0.125	ND	ND	0.960	1.08	23.4-162	J4	J4	11.9	23.5
Chloroform	0.0250	0.0248	0.0249	99.1	99.7	73.2-125			0.530	20
Chloromethane	0.0250	0.0223	0.0219	89.4	87.7	55.8-134			1.86	20
2-Chlorotoluene	0.0250	0.0220	0.0218	88.0	87.4	76.4-125			0.710	20
4-Chlorotoluene	0.0250	0.0238	0.0237	95.2	94.6	81.5-121			0.560	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0228	0.0199	91.2	79.6	64.8-131			13.6	20
1,2-Dibromoethane	0.0250	0.0236	0.0224	94.4	89.6	79.8-122			5.22	20
Dibromomethane	0.0250	0.0237	0.0225	94.7	90.2	79.5-118			4.86	20
1,2-Dichlorobenzene	0.0250	0.0243	0.0238	97.3	95.3	84.7-118			2.13	20
1,3-Dichlorobenzene	0.0250	0.0219	0.0217	87.4	86.9	77.6-127			0.600	20
1,4-Dichlorobenzene	0.0250	0.0226	0.0225	90.3	90.1	82.2-114			0.120	20
Dichlorodifluoromethane	0.0250	0.0223	0.0224	89.3	89.7	56.0-134			0.510	20
1,1-Dichloroethane	0.0250	0.0251	0.0250	100	99.9	71.7-127			0.350	20
1,2-Dichloroethane	0.0250	0.0262	0.0259	105	104	65.3-126			1.23	20
1,1-Dichloroethene	0.0250	0.0252	0.0257	101	103	59.9-137			1.71	20
cis-1,2-Dichloroethene	0.0250	0.0243	0.0249	97.1	99.5	77.3-122			2.40	20
trans-1,2-Dichloroethene	0.0250	0.0232	0.0242	92.9	96.9	72.6-125			4.16	20
1,2-Dichloropropane	0.0250	0.0236	0.0235	94.6	93.9	77.4-125			0.710	20
1,1-Dichloropropene	0.0250	0.0261	0.0258	104	103	72.5-127			0.820	20
1,3-Dichloropropane	0.0250	0.0239	0.0236	95.7	94.5	80.6-115			1.23	20
cis-1,3-Dichloropropene	0.0250	0.0241	0.0241	96.6	96.5	77.7-124			0.100	20

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Cp

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Tc

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Ss

4

Cn

5

Sr

6

Qc

7

Gl

8

Al

9

Sc

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

(LCS) 03/19/16 23:18 • (LCSD) 03/20/16 00:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
trans-1,3-Dichloropropene	0.0250	0.0240	0.0239	95.9	95.6	73.5-127			0.360	20
2,2-Dichloropropane	0.0250	0.0244	0.0242	97.5	96.9	61.3-134			0.650	20
Di-isopropyl ether	0.0250	0.0231	0.0227	92.5	91.0	65.1-135			1.71	20
Ethylbenzene	0.0250	0.0232	0.0233	92.7	93.1	80.9-121			0.510	20
Hexachloro-1,3-butadiene	0.0250	0.0229	0.0213	91.6	85.3	73.7-133			7.11	20
Isopropylbenzene	0.0250	0.0229	0.0227	91.7	90.9	81.6-124			0.870	20
p-Isopropyltoluene	0.0250	0.0225	0.0222	90.2	89.0	77.6-129			1.33	20
2-Butanone (MEK)	0.125	0.111	0.101	89.2	80.8	46.4-155			9.79	20
Methylene Chloride	0.0250	0.0226	0.0224	90.5	89.7	69.5-120			0.820	20
4-Methyl-2-pentanone (MIBK)	0.125	0.111	0.102	89.1	81.3	63.3-138			9.13	20
Methyl tert-butyl ether	0.0250	0.0240	0.0235	95.9	94.1	70.1-125			1.93	20
Naphthalene	0.0250	0.0223	0.0200	89.2	79.8	69.7-134			11.1	20
n-Propylbenzene	0.0250	0.0240	0.0243	96.1	97.1	81.9-122			1.05	20
Styrene	0.0250	0.0230	0.0229	92.1	91.7	79.9-124			0.520	20
1,1,1,2-Tetrachloroethane	0.0250	0.0219	0.0220	87.6	88.2	78.5-125			0.710	20
1,1,2,2-Tetrachloroethane	0.0250	0.0211	0.0197	84.2	78.8	79.3-123		J4	6.67	20
Tetrachloroethene	0.0250	0.0226	0.0229	90.5	91.6	73.5-130			1.24	20
Toluene	0.0250	0.0232	0.0231	92.8	92.6	77.9-116			0.190	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0243	0.0248	97.3	99.2	62.0-141			1.92	20
1,2,3-Trichlorobenzene	0.0250	0.0219	0.0207	87.7	83.0	75.7-134			5.55	20
1,2,4-Trichlorobenzene	0.0250	0.0232	0.0227	93.0	90.6	76.1-136			2.55	20
1,1,1-Trichloroethane	0.0250	0.0247	0.0247	98.7	98.7	71.1-129			0.0500	20
1,1,2-Trichloroethane	0.0250	0.0231	0.0221	92.4	88.3	81.6-120			4.59	20
Trichloroethene	0.0250	0.0232	0.0230	92.8	92.1	79.5-121			0.760	20
Trichlorofluoromethane	0.0250	0.0258	0.0260	103	104	49.1-157			0.960	20
1,2,3-Trichloropropane	0.0250	0.0238	0.0213	95.1	85.1	74.9-124			11.1	20
1,2,3-Trimethylbenzene	0.0250	0.0246	0.0234	98.2	93.7	79.9-118			4.76	20
1,2,4-Trimethylbenzene	0.0250	0.0226	0.0225	90.6	89.9	79.0-122			0.780	20
1,3,5-Trimethylbenzene	0.0250	0.0224	0.0221	89.4	88.6	81.0-123			0.960	20
Vinyl chloride	0.0250	0.0248	0.0244	99.2	97.5	61.5-134			1.76	20
Xylenes, Total	0.0750	0.0676	0.0681	90.2	90.8	79.2-122			0.650	20
(S) Toluene-d8				105	106	90.0-115				
(S) Dibromofluoromethane				108	108	79.0-121				
(S) 4-Bromofluorobenzene				102	102	80.1-120				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L823785-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/20/16 04:08 • (MS) 03/20/16 02:51 • (MSD) 03/20/16 03:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.00100	0.0509	0.0494	39.9	38.7	1	25.0-156			3.00	21.5
Acrolein	0.125	ND	0.0909	0.0878	72.7	70.2	1	34.0-194			3.47	21.5
Acrylonitrile	0.125	ND	0.118	0.115	94.6	92.0	1	55.9-161			2.82	20
Benzene	0.0250	ND	0.0236	0.0226	94.2	90.2	1	58.6-133			4.32	20
Bromobenzene	0.0250	ND	0.0236	0.0230	94.6	92.1	1	70.6-125			2.68	20
Bromodichloromethane	0.0250	ND	0.0237	0.0227	94.9	90.8	1	69.2-127			4.36	20
Bromoform	0.0250	ND	0.0208	0.0205	83.2	82.0	1	66.3-140			1.37	20
Bromomethane	0.0250	ND	0.0303	0.0288	121	115	1	16.6-183			4.92	20.5
n-Butylbenzene	0.0250	ND	0.0251	0.0244	101	97.4	1	64.8-145			3.12	20
sec-Butylbenzene	0.0250	ND	0.0218	0.0211	87.0	84.3	1	66.8-139			3.18	20
tert-Butylbenzene	0.0250	ND	0.0219	0.0213	87.6	85.2	1	67.1-138			2.78	20
Carbon tetrachloride	0.0250	ND	0.0231	0.0223	92.6	89.2	1	60.6-139			3.66	20
Chlorobenzene	0.0250	ND	0.0225	0.0214	89.8	85.5	1	70.1-130			4.98	20
Chlorodibromomethane	0.0250	ND	0.0217	0.0213	86.7	85.0	1	71.6-132			1.95	20
Chloroethane	0.0250	ND	0.0248	0.0235	99.3	93.9	1	33.3-155			5.66	20
2-Chloroethyl vinyl ether	0.125	ND	ND	ND	1.80	1.44	1	5.00-149	J6	J6	21.9	40
Chloroform	0.0250	ND	0.0248	0.0233	99.1	93.2	1	66.1-133			6.16	20
Chloromethane	0.0250	ND	0.0212	0.0205	85.0	82.0	1	40.7-139			3.56	20
2-Chlorotoluene	0.0250	ND	0.0217	0.0209	86.6	83.7	1	66.9-134			3.40	20
4-Chlorotoluene	0.0250	ND	0.0233	0.0227	93.0	90.9	1	66.8-134			2.35	20
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.0214	0.0208	85.5	83.4	1	63.9-142			2.49	20.2
1,2-Dibromoethane	0.0250	ND	0.0232	0.0223	92.9	89.1	1	73.8-131			4.24	20
Dibromomethane	0.0250	ND	0.0232	0.0222	92.8	88.7	1	72.8-127			4.47	20
1,2-Dichlorobenzene	0.0250	ND	0.0236	0.0224	94.3	89.7	1	77.4-127			4.97	20
1,3-Dichlorobenzene	0.0250	ND	0.0215	0.0210	85.8	84.0	1	67.9-136			2.12	20
1,4-Dichlorobenzene	0.0250	ND	0.0223	0.0213	89.2	85.1	1	74.4-123			4.71	20
Dichlorodifluoromethane	0.0250	ND	0.0214	0.0210	85.5	83.9	1	42.2-146			1.94	20
1,1-Dichloroethane	0.0250	ND	0.0246	0.0236	98.5	94.4	1	64.0-134			4.28	20
1,2-Dichloroethane	0.0250	ND	0.0257	0.0251	103	100	1	60.7-132			2.57	20
1,1-Dichloroethene	0.0250	ND	0.0249	0.0237	99.5	94.9	1	48.8-144			4.72	20
cis-1,2-Dichloroethene	0.0250	ND	0.0244	0.0237	97.5	94.8	1	60.6-136			2.78	20
trans-1,2-Dichloroethene	0.0250	ND	0.0234	0.0222	93.7	89.0	1	61.0-132			5.22	20
1,2-Dichloropropane	0.0250	ND	0.0233	0.0221	93.2	88.3	1	69.7-130			5.43	20
1,1-Dichloropropene	0.0250	ND	0.0256	0.0244	102	97.5	1	61.5-136			4.97	20
1,3-Dichloropropane	0.0250	ND	0.0237	0.0228	94.7	91.2	1	74.3-123			3.75	20
cis-1,3-Dichloropropene	0.0250	ND	0.0237	0.0232	94.8	92.6	1	71.1-129			2.34	20

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

L823785-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) 03/20/16 04:08 • (MS) 03/20/16 02:51 • (MSD) 03/20/16 03:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
trans-1,3-Dichloropropene	0.0250	ND	0.0240	0.0228	96.0	91.0	1	66.3-136			5.33	20
2,2-Dichloropropane	0.0250	ND	0.0239	0.0229	95.7	91.5	1	54.9-142			4.51	20
Di-isopropyl ether	0.0250	ND	0.0228	0.0219	91.3	87.4	1	59.9-140			4.34	20
Ethylbenzene	0.0250	ND	0.0224	0.0213	89.8	85.1	1	62.7-136			5.29	20
Hexachloro-1,3-butadiene	0.0250	ND	0.0208	0.0205	83.1	81.9	1	61.1-144			1.44	20.1
Isopropylbenzene	0.0250	ND	0.0223	0.0213	89.2	85.2	1	67.4-136			4.55	20
p-Isopropyltoluene	0.0250	ND	0.0225	0.0213	89.8	85.3	1	62.8-143			5.08	20
2-Butanone (MEK)	0.125	ND	0.0757	0.0733	60.6	58.7	1	45.0-156			3.24	20.8
Methylene Chloride	0.0250	ND	0.0216	0.0215	86.5	85.9	1	61.5-125			0.750	20
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.107	0.102	85.3	81.9	1	60.7-150			4.10	20
Methyl tert-butyl ether	0.0250	ND	0.0243	0.0231	97.2	92.5	1	61.4-136			4.94	20
Naphthalene	0.0250	0.000132	0.0212	0.0209	84.1	83.0	1	61.8-143			1.33	20
n-Propylbenzene	0.0250	ND	0.0237	0.0228	94.7	91.1	1	63.2-139			3.87	20
Styrene	0.0250	ND	0.0226	0.0216	90.4	86.2	1	68.2-133			4.67	20
1,1,1,2-Tetrachloroethane	0.0250	ND	0.0216	0.0206	86.4	82.5	1	70.5-132			4.63	20
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0206	0.0201	82.3	80.3	1	64.9-145			2.45	20
Tetrachloroethene	0.0250	ND	0.0219	0.0206	87.8	82.3	1	57.4-141			6.42	20
Toluene	0.0250	ND	0.0231	0.0222	92.5	88.6	1	67.8-124			4.35	20
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.0244	0.0237	97.4	94.8	1	53.7-150			2.69	20
1,2,3-Trichlorobenzene	0.0250	ND	0.0211	0.0207	84.2	82.6	1	65.7-143			1.90	20
1,2,4-Trichlorobenzene	0.0250	ND	0.0224	0.0218	89.7	87.2	1	67.0-146			2.83	20
1,1,1-Trichloroethane	0.0250	ND	0.0241	0.0227	96.6	91.0	1	58.7-134			5.98	20
1,1,2-Trichloroethane	0.0250	ND	0.0227	0.0219	91.0	87.6	1	74.1-130			3.82	20
Trichloroethene	0.0250	ND	0.0226	0.0213	90.2	85.4	1	48.9-148			5.52	20
Trichlorofluoromethane	0.0250	ND	0.0254	0.0243	102	97.0	1	39.9-165			4.64	20
1,2,3-Trichloropropane	0.0250	ND	0.0229	0.0219	91.7	87.8	1	71.5-134			4.37	20
1,2,3-Trimethylbenzene	0.0250	ND	0.0236	0.0227	94.3	90.7	1	62.7-133			3.88	20
1,2,4-Trimethylbenzene	0.0250	ND	0.0221	0.0214	88.3	85.6	1	60.5-137			3.08	20
1,3,5-Trimethylbenzene	0.0250	ND	0.0220	0.0212	88.1	84.7	1	67.9-134			3.90	20
Vinyl chloride	0.0250	ND	0.0239	0.0229	95.7	91.6	1	44.3-143			4.36	20
Xylenes, Total	0.0750	ND	0.0666	0.0637	88.8	85.0	1	65.6-133			4.39	20
(S) Toluene-d8					107	107		90.0-115				
(S) Dibromofluoromethane					108	109		79.0-121				
(S) 4-Bromofluorobenzene					104	104		80.1-120				

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Cp

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Tc

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Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
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.
(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.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

¹ Cp

² Tc

³ Ss

⁴ Cn

⁵ Sr

⁶ Qc

⁷ Gl

⁸ Al

⁹ Sc



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	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Connecticut	PH-0197	North Carolina ¹	DW21704
Florida	E87487	North Carolina ²	41
Georgia	NELAP	North Dakota	R-140
Georgia ¹	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky ¹	90010	South Dakota	n/a
Kentucky ²	16	Tennessee ¹⁴	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas ⁵	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

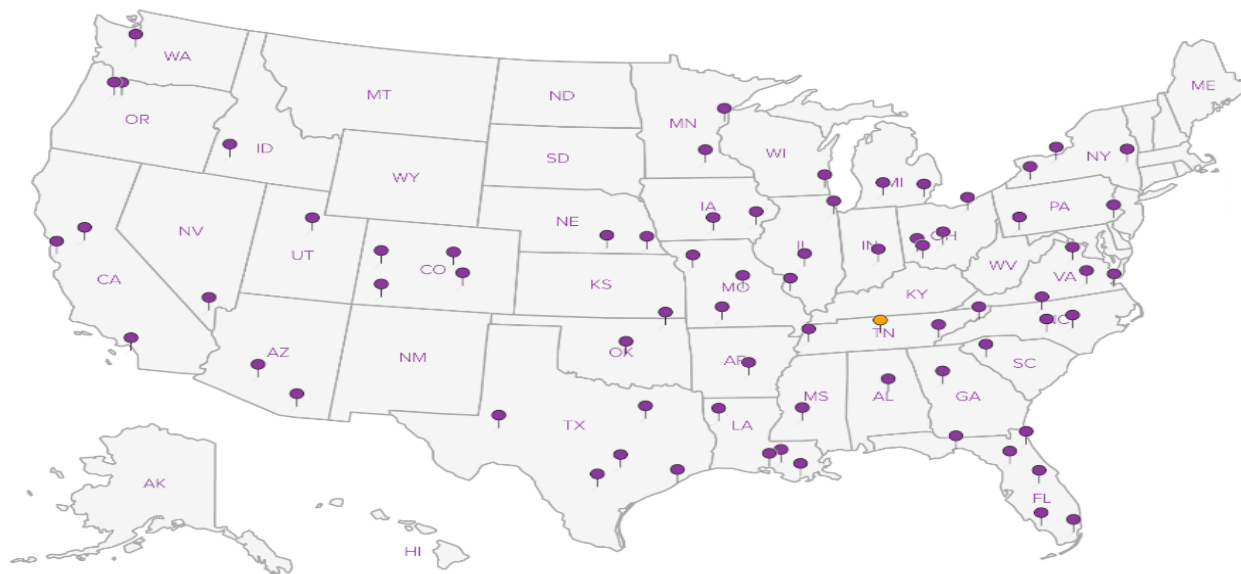
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 ⁵	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

¹ Drinking Water ² Underground Storage Tanks ³ Aquatic Toxicity ⁴ Chemical/Microbiological ⁵ 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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