August 29, 2019
File No. 25219145.00

Ms. Janet DiMaggio
Wisconsin Department of Natural Resources
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject: Site Investigation Report
Charles Matthews Estate
Southwest Corner of County Road E and Newell Road, Town of Scott, Wisconsin
WDNR BRRTS No. 02-11-176566
FID No. 111082070

Dear Ms. DiMaggio:

SCS Engineers (SCS) prepared this Site Investigation Report for the Charles Matthews Estate site located at the southwest corner of County Road E and Newell Road, Town of Scott, Wisconsin (**Figure 1**). The purpose of the investigation was to evaluate the degree and extent of contamination in soil and groundwater related to unlicensed disposal of paint, agricultural, and other wastes at the property.

If you have any questions regarding this Site Investigation Report, please contact us at 608-224-2830.

Sincerely,

Jackie Rennebohm
Staff Professional
SCS Engineers

Robert Langdon
Senior Project Manager
SCS Engineers

JR/jsn_lmh/REL/TK

Encl. Site Investigation Report

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Site Investigation Report

Charles Matthews Estate
Southwest Corner of County Road E and Newell Road
Town of Scott, Wisconsin

Prepared for:

WDNR – SCR
3911 Fish Hatchery Road
Fitchburg, Wisconsin 53711

SCS ENGINEERS

25219145.00 | August 29, 2019

2830 Dairy Drive
Madison, WI 53718-6751
608-224-2830

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CERTIFICATIONS

"I, Thomas Karwoski, hereby certify that I am a hydrogeologist as that term is defined in s. NR 712.03 (1), Wis. Adm. Code, am registered in accordance with the requirements of ch. GHSS 2, Wis. Adm. Code, or licensed in accordance with the requirements of ch. GHSS 3, Wis. Adm. Code, and that, to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements in chs. NR 700 to 726, Wis. Adm. Code."

Signature

Senior Project Manager/Hydrogeologist
Title

August 29, 2019
Date

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of the investigation was to evaluate the degree and extent of contamination in soil and groundwater related to unlicensed disposal of paint, agricultural, and other wastes at the property.

1.2 LOCATION AND PROJECT INFORMATION

1.	Site Owner:	Charles Matthews Estate
2.	Site Address:	Southwest Corner of County Highway E and Newell Road Town of Scott
3.	Site Location (**Figure 1**):	SE ¼ of NE ¼ Section 17, T13N, R11E Columbia County Parcel No. 11036-347.02 X Coordinate (WTM91): 583874 Y Coordinate (WTM91): 348906
4.	Environmental Consultant:	SCS Engineers 2830 Dairy Drive Madison, WI 53718-6751 Phone: 608-224-2830 Fax: 608-224-2839
5.	Project Hydrogeologist:	Tom Karwoski 608-216-7369 tkarwoski@scsengineers.com
6.	Project Manager:	Robert Langdon 608-216-7329 rlangdon@scsengineers.com
7.	Project Scientist:	Jackie Rennebohm 608-381-9188 jrennebohm@scsengineers.com
8.	BRRTS #:	02-11-176566
9.	WDNR Contact:	Janet DiMaggio Phone: 608-275-3295

2.0 SITE BACKGROUND

2.1 SITE HISTORY AND CURRENT STATUS

The Charles Matthews Estate site, Parcel No. 11036-347.02, is a 4.9-acre parcel located southwest of the intersection of County Road E and Newell Road, Town of Scott, Columbia County, Wisconsin (**Figure 1**). The property includes a narrow section of farmed land, which extends south from County Highway E to a larger, mostly wooded portion of the property. The property is currently vacant and the only structure is an abandoned mobile home, which is located on the southern portion of the property (**Figure 2**).

The property is an unlicensed site that had been used for disposal of an unknown quantity of paint-related waste, and likely used as a local repository for agricultural-related and other waste materials over many years.

In July 1997, RMT, Inc. (RMT) conducted a site investigation concerning the nature and contents of disposed material on site and identified soil contamination related to paint related wastes near the northwestern corner of the property (RMT, 1997). In April 1999, RMT oversaw the excavation of paint and paint-contaminated soils on the property. Approximately six, 20-yard roll-off boxes of soil were removed from site (RMT, 1999). The Wisconsin Department of Natural Resources (WDNR) issued a "No Further Action" notice for site contamination related to paint waste in August 1999.

In December 2017, the WDNR conducted a site inspection and noted dispersed waste material throughout the property. In May 2019, the WDNR retained SCS Engineers (SCS) to perform additional site investigation activities through a state-funded response.

2.2 REGIONAL SOILS, GEOLOGY, AND HYDROGEOLOGY

The site elevation ranges from approximately 890 feet above mean sea level (amsl) near County Highway E to approximately 860 feet amsl at the southern end of the property. The site is relatively flat and slopes to the south. The Fox River is approximately 2,600 feet southeast of the site. Shallow regional groundwater flow is to the southeast towards the Fox River at approximately 840 feet in elevation (WGNHS, 1978).

Bedrock is present at a depths of 5 to 11 feet below ground surface (bgs) overlain by a thin layer of glacial till. The bedrock geology near the site dips towards the east and southeast, and includes Cambrian-aged sandstone, shale, siltstone, and dolomite from the Trempleau Formation (WGNHS, 1978).

Soils within the vicinity of the property consist of gravel (former gravel pit located at the property) and the Military fine sandy loam (NRCS, 2019).

The well construction report for Unique Well Number YW969 (owned by Ken Yoder), located in the same quarter-quarter section as the Matthews Estate, shows clay soil to 7 feet bgs and sandstone bedrock from 7 feet to 204 feet bgs. The static water level in the Yoder well is reported at 53 feet bgs. Properties with potential water supply wells within approximately 1,200 feet of the Matthews Estate property are shown on **Figure 1**.

2.3 PREVIOUS INVESTIGATIONS

Approximately 113 tons of paint-related waste and paint-contaminated soils were excavated under a state-sponsored clean-up program in 1999. Excavation base and sidewall soil samples confirmed the presence of volatile organic compounds (VOCs) and chromium in soil at concentrations in excess of NR 720 residual contaminant levels (RCLs) (RMT, 1999). The Remediation and Redevelopment (R&R) Program of the Department issued a "No Further Action" notice for the site contamination related to paint waste in August 1999.

The Department conducted a site inspection on December 1, 2017 and noted widely dispersed waste materials including waste tires, at least one burn barrel, farm and household wastes, empty propane tanks, large slabs of concrete, and large boulders. This site is currently under investigation through a state-funded response.

3.0 SITE INVESTIGATION

3.1 METHODS

3.1.1 Monitoring Well Installation

Staring on July 8, 2019, SCS oversaw the installation of five NR 141 groundwater monitoring wells at locations selected by WDNR project staff. Monitoring well locations are provided on Figure 2. Cascade Drilling of Bothell, Wisconsin performed the monitoring well installation using rotosonic drilling methods.

Monitoring wells were installed in borings B-1 through B-5 to depths ranging from 43 to 45 feet bgs and were constructed with 15 foot screens and steel locking protective casings.

SCS described soils at each boring using the Unified Soil Classification System (USCS), performed field screening using a photo-ionization detector (PID) at 2.5-foot intervals, and collected unsaturated soil samples from each boring for analysis of VOCs and eight Resource Conservation and Recovery Act (RCRA) metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). As requested by WDNR, SCS also collected unsaturated bedrock cuttings at each boring for analysis of metals.

SCS segregated drill cuttings based on PID readings and placed all cuttings on plastic sheeting next to each boring. The cuttings were also covered with plastic sheeting.

Monitoring wells were developed consistent with NR 141 and purge water was discharged to the ground surface per approval from WDNR.

3.1.2 Groundwater Sampling

SCS returned to the site on July 23, 2019 to collect groundwater samples from each monitoring well for analysis of VOCs and the eight RCRA metals. Depth to water and total depth measurements were made prior to sampling.

Using a pump, four well volumes were removed from each well prior to sampling and samples were collected using dedicated bailers installed in each well. Purge water was discharged to the ground surface per WDNR approval.

For quality control, one duplicate sample, one equipment blank, and one trip blank were collected during the sampling event. The equipment blank was collected off the probe of the water level indicator.

3.2 FINDINGS

Monitoring well locations are shown on **Figure 2**. Laboratory analytical results and applicable WDNR standards are summarized in **Tables 1**, **2**, **3**, and **4**. Groundwater elevation measurements are provided in **Table 5**.

Soil boring logs, well construction forms, and well development forms are included in **Appendix A** and laboratory analytical reports for soil, bedrock, and groundwater samples are included in **Appendix B**.

3.2.1 Soils, Geology, and Hydrogeology

In general, the site soils, geology, and hydrogeology are consistent with regional information. Boring logs show silty sandy till overlying sandstone bedrock, which is present at a depth of approximately 7 feet bgs. Groundwater is present in bedrock at a depth of approximately 31 feet bgs.

The groundwater flow direction, based on groundwater elevations measured at site monitoring wells, is to the southeast at a gradient of approximately 0.002 feet per foot. A groundwater elevation contour map is included as **Figure 3** and a geologic cross sections is included as **Figure 4**.

3.2.2 Soil and Bedrock Sample Results

VOCs

VOCs were not detected in any of the soil samples. Soil VOC analytical results are summarized in **Table 1**.

Metals

Arsenic, selenium, and silver were the only metals detected in soil or bedrock at concentrations exceeding Wis. Adm. Code NR 720 residual contaminant levels (RCLs) (**Table 2**). The arsenic concentrations do not exceed the WDNR's arsenic background threshold value. It appears that the metals may be background in nature based on the arsenic concentrations and uniformity of the results.

3.2.3 Groundwater Sample Results

VOCs and metals were not detected in groundwater samples at concentrations exceeding NR 140 standards. Groundwater analytical results are summarized in **Tables 3** and **4**.

Chloroform was detected in the equipment blank; however, the result is an estimated concentration below the laboratory's limit of quantitation, and chloroform was also detected in the laboratory blank, indicating that the detection was likely due to laboratory contamination.

4.0 VAPOR INTRUSION SCREENING

Per WDNR guidance document Pub-RR-800, the potential for vapor intrusion can be screened out, as VOCs were not detected in soil or groundwater samples.

5.0 SUMMARY

Site investigation activities were performed to evaluate the extent of soil and groundwater contamination related to the unlicensed disposal of paint, agricultural, and other wastes at the property. As part of the work, SCS installed monitoring wells and sampled soil, bedrock, and groundwater.

VOCs were not detected in any of the soil samples. Arsenic, selenium, and silver were detected in soil and bedrock at concentrations exceeding NR 720 RCLs. However, the arsenic, silver, and selenium concentrations appear to be background in nature.

VOCs were not detected in groundwater, and metals were not detected in groundwater in excess of NR 140 standards.

6.0 REFERENCES

RMT, Inc. (RMT), Site Investigations, Matthews Property and Dave's Salvage Property, August 1997, Madison, Wisconsin.

RMT, Charles Matthews Estate, April 28, 1999 Sampling, Prepared by D. Edwards, April 1999, Madison, Wisconsin.

United States Department of Agriculture Natural Resource Conservation Service (NRCS), Web Soil Survey, July, 2019. https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx.

Wisconsin Geological and Natural History Survey (WGNHS), Ground-Water Resources and Geology of Columbia County, Wisconsin, July, 1978, Madison, Wisconsin.

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Tables

Table 1. Soil Analytical Results Summary
Charles Matthews Estate - SW Corner of County Road E and Newell Road, Town of Scott, WI / SCS Engineers Project #25219145.00
(Results are in µg/kg, except where otherwise noted)

Sample	Date	Depth (feet)	PID (ppm)	Lab Notes	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	VC	Other VOCs
B1	7/8/2019	3.5	9.1	(1)	<24	<11	<26	<22	<17	ND
B2	7/9/2019	3.5	0.5	(1)	<26	<12	<29	<25	<18	ND
B3	7/9/2019	3	0.2	(1)	<33	<15	<36	<31	<23	ND
	7/9/2019	5	0.4	(1)(2)	<27	<12	<30	<26	<19	ND
B4	7/10/2019	3	1.0	(3)	<23	<10	<26	<22	<16	ND
B5	7/11/2019	3	0.9	(3)	<23	<10	<25	<22	<16	ND
	7/11/2019	6	1.4	(3)	<33	<15	<36	<31	<23	ND
Trip Blank	7/12/2019	--	--	(3)	<19	<8.2	<20	<18	<13	ND
NR 720 Groundwater Pathway RCLs with a Wisconsin-Default Dilution Factor of 2					4.5	3.6	41.2	62.6	0.1	
NR 720 Non-Industrial Direct Contact RCLs					33,000	1,300	156,000	1,560,000	67	
NR 720 Industrial Direct Contact RCLs					145,000	8,410	2,340,000	1,850,000	2,080	
CAS No.					127-18-4	79-01-6	156-59-2	156-60-5	75-01-4	

Abbreviations:
µg/kg = micrograms per kilogram or parts per billion (ppb)
PCE = Tetrachloroethene
VC = Vinyl Chloride
CAS No. = Chemical Abstracts Service Number
PID = Photoionization Detector
TCE = Trichloroethene
VOCs = Volatile Organic Compounds
-- = Not Applicable
ppm = PID measured in ppm as isobutylene
DCE = Dichloroethene
RCLs = Residual Contaminant Levels
ND = Not Detected

Notes:
Bold+underlined values exceed an NR 720 RCL, as of December 2018.
All soil samples are unsaturated.

Table 1. Soil Analytical Results Summary
Charles Matthews Estate - SW Corner of County Road E and Newell Road, Town of Scott, WI / SCS Engineers Project #25219145.00

Laboratory Notes/Qualifiers:
(1) Bromobenzene, bromoform, 1,2-dibromo-3-chloropropane, isopropylbenzene, naphthalene, sec-butylbenzene, tert-butylbenzene, 1,2,3-trichlorobenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene = LCS or LCSD is outside acceptance limits.
(2) Bromoform and 1,2-dibromo-3-chloropropane = MS and/or MSD Recovery is outside acceptance limits.
(3) Bromobenzene, isopropylbenzene, naphthalene, sec-butylbenzene, tert-butylbenzene, 1,2,3-trichlorobenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene = LCS or LCSD is outside acceptance limits.

Created by:	LMH	Date:	7/24/2019
Last revision by:	LMH	Date:	7/24/2019
Checked by:	AJR	Date:	7/24/2019
Proj Mgr QA/QC:	REL	Date:	7/25/2019

I:\25219145.00\Data and Calculations\Tables\[Table 1_Soil_VOCs.xlsx]VOCs

Table 2. Soil Analytical Results Summary - Metals
Charles Matthews Estate - SW Corner of County Road E and Newell Road, Town of Scott, WI / SCS Engineers Project #25219145.00
(Results are in mg/kg, except where noted otherwise)

Sample	Date	Depth (feet)	Lab Notes	Arsenic	Barium	Cadmium	Chromium (Total)	Lead	Mercury	Selenium	Silver
B1	7/8/2019	3.5	--	**0.67** J	13	0.14 J B	5.5	1.6	<0.0058	**0.77** J F1	**1.2**
	7/9/2019	30	--	<0.40	4.8	0.15 J B	2.2	0.32 J	<0.0063	<0.69	0.79
B2	7/9/2019	3.5	--	**1.6**	33	0.22 B	9.3	7.2	0.013 J	<0.53	**1.4**
	7/9/2019	29.5	--	<0.34	1.9	0.16 J B	2.4	0.37 J	<0.0054	<0.58	0.49
B3	7/9/2019	3	--	**0.79** J	22	0.15 J B	4.0	1.3	<0.0062	<0.61	**1.3**
	7/9/2019	5	--	0.52 J	11	0.15 J B	7.5	1.5	<0.0058	<0.62	**1.6**
	7/10/2019	29	--	0.42 J	7.3	0.17 J B	8.5	0.60 J	<0.0067	**0.77** J	**0.86**
B4	7/10/2019	3	--	**0.89** J	11	0.15 J B	6.9	1.6	<0.0058	<0.57	**1.7**
	7/10/2019	30	--	0.45 J	3.5	0.14 J B	2.9	0.67	<0.0054	<0.52	**0.98**
B5	7/11/2019	3	--	**1.1**	10	0.13 J B	7.8	3.0	<0.0055	<0.56	**1.7**
	7/11/2019	6	--	0.41 J	5.3	0.17 J B	9.5	0.59	<0.0065	<0.69	**1.6**
	7/11/2019	27	--	**1.1**	4.7	0.15 J B	2.3	0.83	<0.0064	<0.64	**2.0**
NR 720 Groundwater Pathway RCLs with a Wisconsin-Default Dilution Factor of 2				0.584	164.8	0.752	360,000 [2]	27	0.208	0.52	0.8491
NR 720 Non-Industrial Direct Contact RCLs				0.677	15,300	71.1	NE [1]	400	3.13	391	391
NR 720 Industrial Direct Contact RCLs				3	100,000	985	NE [1]	800	3.13	5,840	5,840
Background Threshold Value				8	364	1	44	52	NE	NE	NE
CAS No.				7440-38-2	7440-39-3	7440-43-9	7440-47-3	7439-92-1	7439-97-6	7782-49-2	7440-22-4

Abbreviations:
mg/kg - milligrams per kilogram or parts per million (ppm)
CAS No. = Chemical Abstracts Service Number
RCLs = Residual Contaminant Levels
-- = Not Applicable
NE = No Standard Established

Table 2. Soil Analytical Results Summary - Metals

Charles Matthews Estate - SW Corner of County Road E and Newell Road, Town of Scott, WI / SCS Engineers Project #25219145.00

Notes:

Bold+underlined values exceed NR 720 RCLs, as of December 2018.

All soil samples are unsaturaded.

[1] Chromium Direct Contact Standards: III Non-Industrial Direct Contact RCL = 100,000 mg/kg; Industrial Direct Contact RCL = 100,000 mg/kg
VI Non-Industrial Direct Contact RCL = 0.301 mg/kg; Industrial Direct Contact RCL = 6.36 mg/kg

[2] If no Chromium-VI

Background threshold values are non-outlier trace element maximum levels in Wisconsin surface soils from the USGS Report at: http://pubs.usgs.gov/sir/2011/5202, as listed in the WDNR RR Program's RCL spreadsheet at: http://dnr.wi.gov/topic/Brownfields/professionals.html.

Laboratory Notes/Qualifiers:

B = Compound was found in the blank and sample.

F1 = MS and/or MSD Recovery is outside acceptance limits.

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Created by:	LMH	Date:	7/24/2019
Last revision by:	LMH	Date:	7/24/2019
Checked by:	AJR	Date:	7/24/2019
Proj Mgr QA/QC:	REL	Date:	7/25/2019

I:\25219145.00\Data and Calculations\Tables\[Table 2_Soil_Metals.xlsx]Soil Metals

Table 3. Groundwater Analytical Results Summary
Charles Matthews Estate - SW Corner of County Road E and Newell Road, Town of Scott, WI / SCS Engineers Project #25219145.00
(Results are in µg/L)

Sample	Date	Lab Notes	PCE	TCE	VC	cis-1,2-DCE	trans-1,2-DCE	Other VOCs
MW1	7/23/2019	--	<0.37	<0.16	<0.20	<0.41	<0.35	ND
	7/23/2019 (Dup)	--	<0.37	<0.16	<0.20	<0.41	<0.35	ND
MW2	7/23/2019	(1)	<0.37	<0.16	<0.20	<0.41	<0.35	ND
MW3	7/23/2019	--	<0.37	<0.16	<0.20	<0.41	<0.35	ND
MW4	7/23/2019	--	<0.37	<0.16	<0.20	<0.41	<0.35	ND
MW5	7/23/2019	--	<0.37	<0.16	<0.20	<0.41	<0.35	ND
Equipment Blank	7/23/2019	--	<0.37	<0.16	<0.20	<0.41	<0.35	Chloroform 0.47 J B
Trip Blank	7/23/2019	--	<0.37	<0.16	<0.20	<0.41	<0.35	ND
NR 140 Enforcement Standards (ESs)			5	5	0.2	70	100	Chloroform 6
NR 140 Preventive Action Limits (PALs)			0.5	0.5	0.02	7	20	Chloroform 0.6

Abbreviations:
µg/L = micrograms per liter or parts per billion (ppb)
VC = Vinyl Chloride
ND = Not Detected
DCE = Dichloroethene
TCE = Trichloroethene
-- = Not Applicable
PCE = Tetrachloroethene
VOCs = Volatile Organic Compounds

Notes:
NR 140 ESs - Wisconsin Administrative Code (WAC), Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from February 2017.
NR 140 PALs - WAC, Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from February 2017.
Bold+underlined values meet or exceed NR 140 ESs.
Italic+underlined values meet or exceed NR 140 PALs.

Laboratory Notes/Qualifiers:
B = Compound was found in the blank and sample.
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
(1) 1,2-Dibromo-3-Chloropropane = LCS or LCSD is outside acceptance limits.

Table 3. Groundwater Analytical Results Summary
Charles Matthews Estate - SW Corner of County Road E and Newell Road, Town of Scott, WI / SCS Engineers Project #25219145.00

Created by:	LMH	Date:	8/2/2019
Last revision by:	LMH	Date:	8/2/2019
Checked by:	JSN	Date:	8/2/2019
Proj Mgr QA/QC:	REL	Date:	8/12/2019

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Table 4. Groundwater Analytical Results Summary - Metals
Charles Matthews Estate - SW Corner of County Road E and Newell Road, Town of Scott, WI / SCS Engineers Project #25219145.00
(Results are in µg/L)

Sample	Date	Lab Notes	Arsenic	Barium	Cadmium	Chromium (Total)	Lead	Mercury	Selenium	Silver
MW1	7/23/2019	--	<0.23	13	<0.17	<1.1	<0.19	<0.098	<0.98	<0.12
	7/23/2019 (Dup)	--	0.27 J	13	<0.17	<1.1	<0.19	<0.098	<0.98	<0.12
MW2	7/23/2019	--	0.41 J	57	<0.17	<1.1	<0.19	<0.098	<0.98	<0.12
MW3	7/23/2019	--	0.32 J	35	<0.17	<1.1	<0.19	<0.098	<0.98	<0.12
MW4	7/23/2019	--	0.31 J	28	<0.17	<1.1	<0.19	<0.098	<0.98	<0.12
MW5	7/23/2019	--	0.26 J	19	<0.19	<1.1	<0.19	<0.098	<0.98	<0.12
Equipment Blank	7/23/2019	--	<0.23	1.6 J	<0.17	<1.1	0.34 J	<0.098	<0.98	<0.12
NR 140.10 Enforcement Standards (ESs)			10	2,000	5	100	15	2	50	50
NR 140.10 Preventive Action Limits (PALs)			1	400	0.5	10	1.5	0.2	10	10

Abbreviations:
µg/L = micrograms per liter or parts per billion (ppb) -- = Not Applicable

Notes:
NR 140.10 ESs - Wisconsin Administrative Code (WAC), Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from February 2017.
NR 140.10 PALs - WAC, Chapter NR 140.10 Table 1 - Public Health Groundwater Quality Standards from February 2017.
Bold+underlined values meet or exceed NR 140 enforcement standards.
Italic+underlined values meet or exceed NR 140 preventive action limits.

Laboratory Notes/Qualifiers:
J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Created by:	LMH	Date:	8/2/2019
Last revision by:	LMH	Date:	8/2/2019
Checked by:	JSN	Date:	8/2/2019
Proj Mgr QA/QC:	REL	Date:	8/12/2019

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Table 5. Water Level Summary

Charles Matthews Estate - SW Corner of County Road E and Newell Road, Town of Scott, WI / SCS Engineers Project #25219145.00

	Depth to Water in feet below top of well casing				
Raw Data	**MW1**	**MW2**	**MW3**	**MW4**	**MW5**
Measurement Date					
July 23, 2019	34.54	33.96	32.11	35.54	34.67

	Ground Water Elevation in feet above mean sea level (amsl)				
Well Number	**MW1**	**MW2**	**MW3**	**MW4**	**MW5**
Top of Casing Elevation (feet amsl)	875.26	874.17	872.75	876.48	875.45
Screen Length (ft)	15.00	15.00	15.00	15.00	15.00
Total Depth (ft from top of casing)	46.38	45.80	43.50	45.35	45.93
Top of Well Screen Elevation (ft)	843.88	843.37	844.25	846.13	844.52
Measurement Date					
July 23, 2019	840.72	840.21	840.64	840.94	840.78
Bottom of Well Elevation (ft)	828.88	828.37	829.25	831.13	829.52

Notes:
NM = not measured
* = immediadtely post developmet

Created by:	JR	Date:	7/23/2019
Last revision by:	REL	Date:	8/13/2019
Checked by:	AJR	Date:	8/15/2019
Proj Mgr QA/QC:	REL	Date:	8/15/2019

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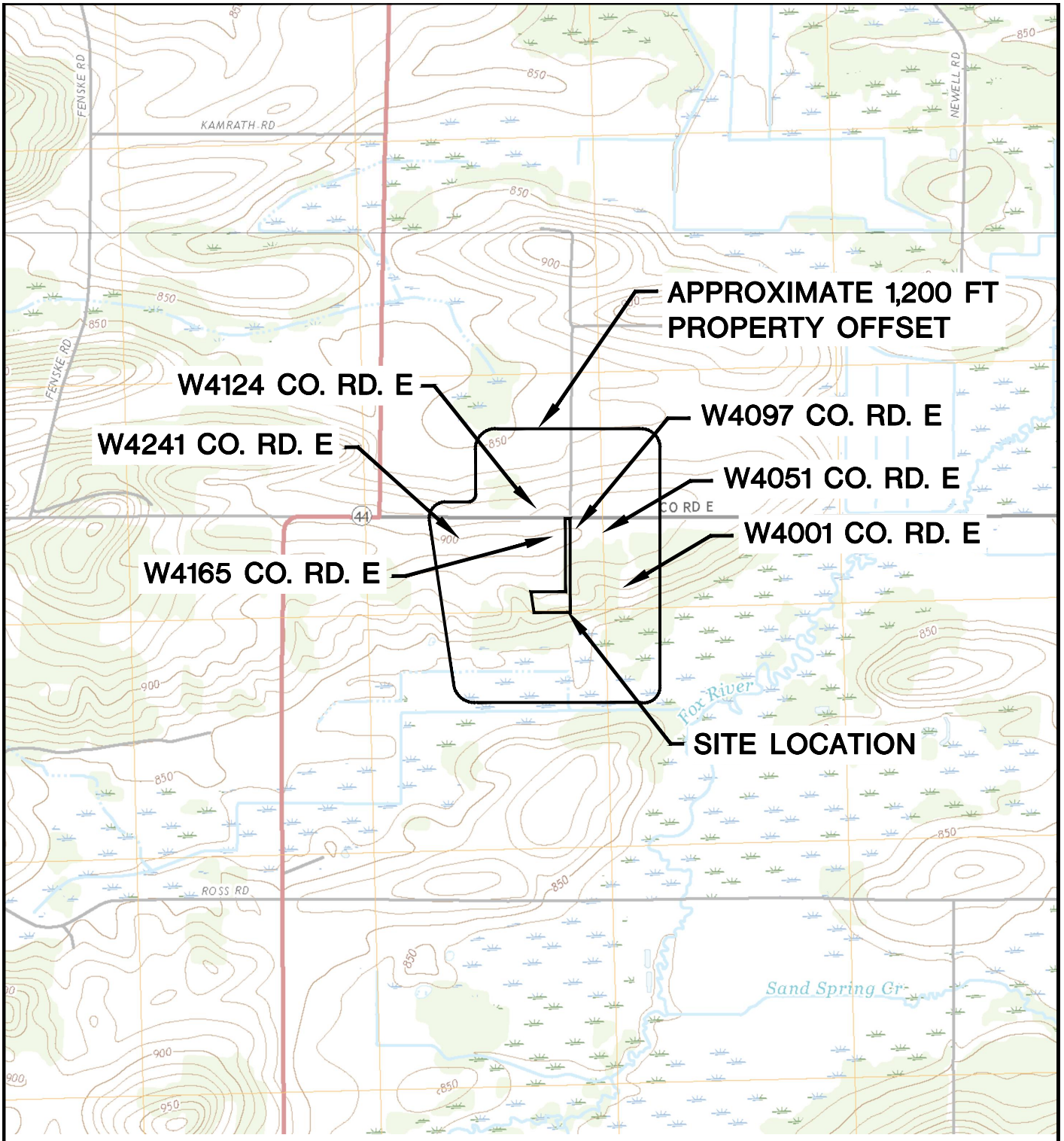
Figures



N

SAND SPRING CREEK QUADRANGLE
WISCONSIN–COLUMBIA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
2018
SCALE: 1" = 2,000'

CLIENT	WDNR–SCR 3911 FISH HATCHERY ROAD FITCHBURG, WI 53711	SITE	CHARLES MATTHEWS ESTATE SW CORNER OF CO. RD. E AND NEWELL ROAD TOWN OF SCOTT, WISCONSIN 53954

SITE LOCATION MAP

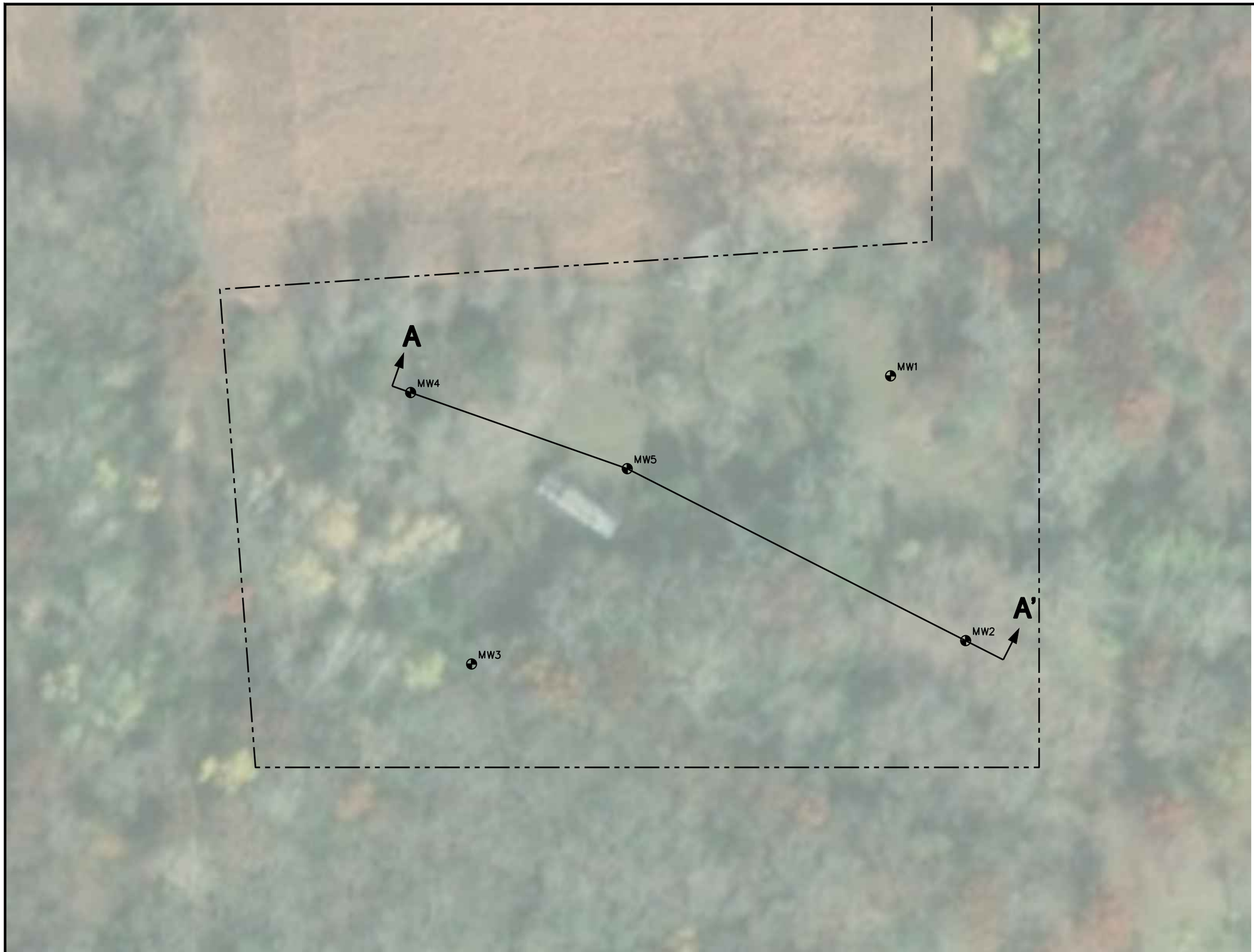
PROJECT NO.	25219145.00	DRAWN BY:	BSS
DRAWN:	07/31/19	CHECKED BY:	REL
REVISED:	07/31/19	APPROVED BY:	REL 08/23/19

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718–6751
PHONE: (608) 224–2830

FIGURE
1

I:\25219145.00\Drawings\1 Site Location Map.dwg, 8/23/2019 10:19:14 AM



LEGEND

PROPERTY LINE (APPROXIMATE)

MONITORING WELL

GEOLOGIC CROSS SECTION

N

60 0 60

SCALE: 1" = 60'

PROJECT NO.	25219145.00	DRAWN BY:	BSS
DRAWN:	08/12/19	CHECKED BY:	REL
REVISED:	08/15/19	APPROVED BY:	REL 08/23/19

ENGINEER

SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT

WDNR-SCR
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

SITE

CHARLES MATTHEWS ESTATE
SW CORNER OF CO. RD. E
AND NEWELL ROAD
TOWN OF SCOTT, WISCONSIN 53954

SITE PLAN

FIGURE
2

I:\25219145.00\Drawings\2 Site Plan (county coords).dwg, 8/23/2019 10:20:17 AM

LEGEND

- PROPERTY LINE (APPROXIMATE)
- MONITORING WELL
- 840.72 WATER TABLE ELEVATION MEASURED ON JULY 23, 2019
- WATER TABLE CONTOUR
- APPROXIMATE GROUNDWATER FLOW DIRECTION

N

60 0 60

SCALE: 1" = 60'

PROJECT NO.	25219145.00	DRAWN BY:	BSS
DRAWN:	08/12/19	CHECKED BY:	REL
REVISED:	08/15/19	APPROVED BY:	REL 08/23/19

ENGINEER

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2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT

WDNR-SCR
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

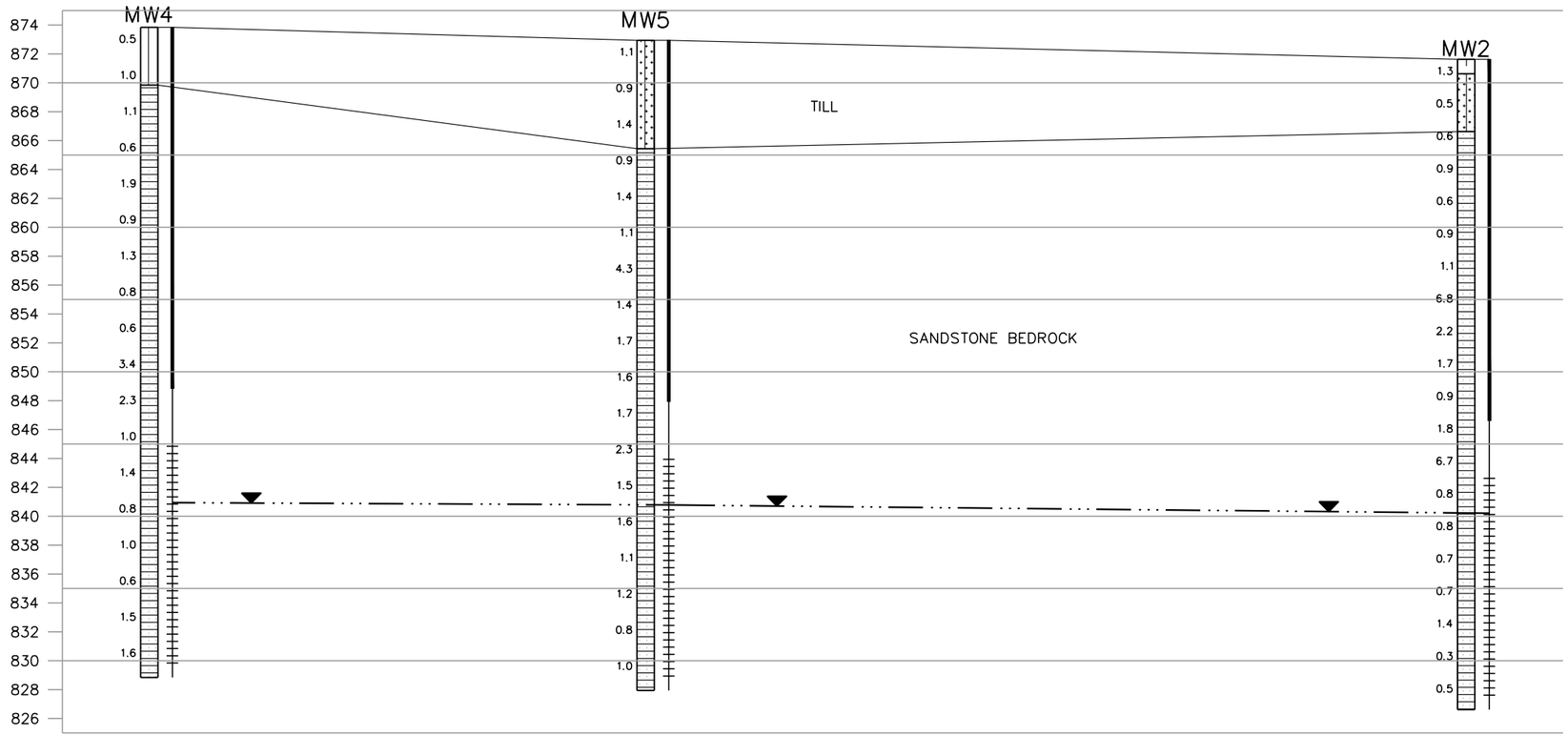
SITE

CHARLES MATTHEWS ESTATE
SW CORNER OF CO. RD. E
AND NEWELL ROAD
TOWN OF SCOTT, WISCONSIN 53954

WATER TABLE MAP
JULY 23, 2019

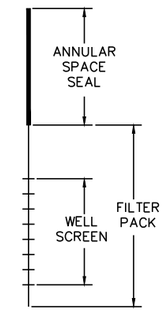
FIGURE
3

I:\25219145.00\Drawings\WTBL.dwg, 8/23/2019 10:21:33 AM



LEGEND

- SILT (ML)
- ORGANIC SILT OR CLAY, LOW PLASTICITY (OL)
- SILTY SAND (SM)
- SANDSTONE
- WATER TABLE ON 07/23/19
- 25 PHOTOIONIZATION DETECTOR READING



WELL DETAIL

0 40

HORIZONTAL SCALE: 1" = 40'
VERTICAL SCALE: 1" = 10'
VERTICAL EXAGGERATION = 4X

PROJECT NO.	25219145.00	DRAWN BY:	BSS
DRAWN:	08/12/19	CHECKED BY:	REL
REVISED:	08/15/19	APPROVED BY:	REL 08/23/19

ENGINEER: SCS ENGINEERS
2830 DAIRY DRIVE MADISON, WI 53718-6751
PHONE: (608) 224-2830

CLIENT: WDNR-SCR
3911 FISH HATCHERY ROAD
FITCHBURG, WI 53711

SITE: CHARLES MATTHEWS ESTATE
SW CORNER OF CO. RD. E
AND NEWELL ROAD
TOWN OF SCOTT, WISCONSIN 53954

GEOLOGIC CROSS SECTION A-A'

FIGURE 4

I:\25219145.00\Drawings\Xsection.dwg, 8/23/2019 10:24:00 AM

Appendix A

Soil Boring Logs and Well Construction Documentation

State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☑ Remediation/Redev.
- ☐ Waste Management
- ☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name: Charles Matthews Estate — SCS # 25219145.00	License/Permit/Monitoring Number: Facility ID: 111082070	Boring Number: B-1	
Boring Drilled By (Firm name and name of crew chief): Cascade Drilling - Randy Radke	Drilling Started: 7.8.19	Drilling Completed: 7.9.19	Drilling Method: Rotosonic
DNR Facility Well No. / WI Unique Well No.: VV845 / Common Well Name: MW-1	Static Water Level	Surface Elevation: 872.69	Borehole Diam.: 6.0
Boring Location: State Plane SE 1/4 of NE 1/4 of Section 17, T. 13 N, R. 11 E	Lat. 43.6103953 Long. -89.2084724	Local Grid Location (If applicable): N 588237.54 E 2178268.98	
County: Columbia	DNR County Code: 11	Civil Town/City/or Village: Dalton	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S1				Topsoil Silty Sand, fine, tan/grey some coarse gravel (tills)	SM			9.7		M		screened empty bag used for soil screening; PID = 5.2 ppm
S2			5					9.1		M		collected sample @ 3.5'
S3				more gray/greenish in color, trace clay, looks glauconitic in color				15.9		M		
S4			10					10.6		M		
S5				poorly graded sand, f-m, dark gray/black w/ some rusty colorings, trace silt & clay	SP			0.6		M		Large pieces of sandstone in core.
S6			15	- more dark tan/brown (sandstone bedrock)				1.2		M		used different bags for PID, PID = 82 ppm
S7				- more competent piece of sandstone				1.5		M		
S8				Sandstone bedrock, tan, fading to white, fine				1.7		M		Very "soft" sand

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: Jackie Rennebohm — Firm: SCS ENGINEERS

Department of Natural Resources | Form 4400-122A | 10-92

Boring Number B-1 | Use only as an attachment to Form 4400-122. | Page 2

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
			20	Sandstone bedrock, fine to medium, tan & white								
S9				Varies in competency from more to less competent				4.7		M		
S10								2.2		M		
			25									
S11								2.6		M		
S12								2.5		M		
			30	more tan color, much less white								
S13								0.3		M+		▽ ~32'
S14								0.2		W		slow drilling
			35									collect sample @ ~~35~~ 30'
S15								0.5		W		
S16								0.3		W		
			40									

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Boring Number B-1 | Use only as an attachment to Form 4400-122. | Page 3

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Soil Properties: Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S17			40	Sandstone bedrock, fine to medium, tan & white, competency varies from more to less competent, massive				0.7		W		NO internal structures observed b.c core gets pulverized.
S18								0.7		W		
			45	EOB @ 45'								
				Set well @ 44'								
				15' screen								
				2' filter & 2' fine								
			50									
			55									

State of Wisconsin
Department of Natural Resources

Route To:
☐ Watershed/Wastewater
☑ Remediation/Redev.
☐ Waste Management
☐ Other _____

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name: Charles Matthews Estate — SCS # 25219145.00	License/Permit/Monitoring Number: Facility ID: 111082070		Boring Number: B2
Boring Drilled By (Firm name and name of crew chief): Cascade Drilling - Randy Radke	Drilling Started: 7-9-19	Drilling Completed: 7.9.19	Drilling Method: Rotosonic
DNR Facility Well No. / WI Unique Well No.: VV846 / Common Well Name: MW2	Static Water Level	Surface Elevation: 871.62	Borehole Diam.: 6.0
Boring Location: State Plane SE 1/4 of NE 1/4 of Section 17, T. 13 N, R. 11 E	Lat. 43.6103953 Long. -89.2084724	Local Grid Location (If applicable): N. 588079.46 E. 2178315.08	
County: Columbia	DNR County Code: 11	Civil Town/City/or Village: Dalton	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S1				Top soil, organic material	OL			~~0.5~~ 1.03		M		poor recovery
S2				Silty Sand, brown, fine to medium, w/ well rounded gravel (till)	SM			0.5		M		collected sample @ 3.5'
S3			5	Sandstone bedrock, tan, fine to medium, massive				0.6		M		
S4								0.9		M		
S5			10					0.6		M		
S6								0.9		M		
S7			15	Soft sand, more white/ light tan.				1.1				harder drilling
S8								6.8				
			20									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS Jackie Rennebohm

This form is authorized by Chapters 281, 283, 289, 291, 292, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture between $10 and $25,000, or imprisonment for up to one year, depending on program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information.

Department of Natural Resources | Form 4400-122A | 10-92

Boring Number | Use only as an attachment to Form 4400-122. | Page 2

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S9				Sandstone bedrock, fine to medium, tan to light tan. Varies in competency.				2.2		M		
S10			25					1.7		M		
S11								0.9		M		
S12								1.8		M		
S13			30					0.8				collect sample @ 29.5'
S14								0.8		W		∇ = 31.5'
S15			35					0.7		W		
S16								0.7		W		
S17			40					1.4		W		

Department of Natural Resources | Form 4400-122A | 10-92

Boring Number B2 | Use only as an attachment to Form 4400-122. | Page 3

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
			40	Sandstone bedrock, fine to medium, tan to white, varies in competency.								
S18								0.3		W		
S19								0.5		W		
			45	End of boring at 45'								
				Set well at 44'								
				15' screen								
				2' of filter & fine sand								
			50									
			55									

State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☑ Remediation/Redev.
- ☐ Waste Management
- ☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name: Charles Matthews Estate — SCS # 25219145.00	License/Permit/Monitoring Number: Facility ID: 111082070		Boring Number: B3
Boring Drilled By (Firm name and name of crew chief): Cascade Drilling - Randy Rathke	Drilling Started: 7.9.19	Drilling Completed: 7.10.19	Drilling Method: Rotosonic
DNR Facility Well No. / WI Unique Well No.: JV847 / Common Well Name: MW3	Static Water Level	Surface Elevation: 870.57	Borehole Diam.: 6.0
Boring Location: State Plane SE 1/4 of NE 1/4 of Section 17, T. 13 N, R. 11 E	Lat. 43.6103953 Long. -89.2084724	Local Grid Location (If applicable): N. 5860163.30 E. 2178019.39	
County: Columbia	DNR County Code: 11	Civil Town/City/or Village: Dalton	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S1				Topsoil, organic material				0.2		m		
				Silty Sand, f-m, brown, trace small gravel (till)	SM							Sample 31
S2								0.2		m		
			5									
S3								0.4		m		Sample @ 5'
				Sandstone bedrock, f-m, tan/brown, massive								
S4				(due to core being pulverized)				0.9		m		
			10									
S5								0.4		m		
S6								0.3		m		
			15	more white/orange in color								
S7								0.4		m		
S8								0.8				
			20									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS Jackie Rennebohm

Department of Natural Resources

Form 4400-122A 10-92

Boring Number B3

Use only as an attachment to Form 4400-122.

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S9				Sandstone, f-m, tan, orange, & white, massive				0.3		M		
S10								1.3		M		
			25									
S11								0.6		M		
S12								0.7		M		Sample @ 29'
			30									
S13								0.7		W		∇ ≈ 30'
S14								0.6		W		
			35									
S15								0.7		W		
S16								0.5		W		
			40									

State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☑ Remediation/Redev.
- ☐ Waste Management
- ☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Page 1

Facility/Project Name: Charles Matthews Estate — SCS # 25219145.00	License/Permit/Monitoring Number: Facility ID: 111082070		Boring Number: B4
Boring Drilled By (Firm name and name of crew chief): Cascade Drilling - Randy Radke	Drilling Started: 7.10.19	Drilling Completed: 7.10.19	Drilling Method: Rotosonic
DNR Facility Well No. / WI Unique Well No.: VV848 / Common Well Name: MW4	Static Water Level	Surface Elevation: 873.84	Borehole Diam.: 6.0
Boring Location: State Plane SE 1/4 of NE 1/4 of Section 17, T. 13 N, R. 11 E	Lat. 43.6103953 Long. -89.2084724	Local Grid Location (If applicable): N 588225.46 E 2177981.74	
County: Columbia	DNR County Code: 11	Civil Town/City/or Village: Dalton	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S1				Topsoil / organic material, sandy silt, m-c, brown, trace gravel (till)	ML			0.5		m		Sample @ 3'
S2								1.0		m		
S3			5	Sandstone bedrock, f-m, greenish color, massive, some shale in upper 4-6' varies in competency				1.1		m		massive b.c. core got pulverized. hard drilling at 9-10'
S4				transitions to tan/orange & white color, no shale, more competent				0.4		m		
S5			10					1.9		m		
S6								0.9		m		
S7			15					1.3		m		
S8								0.8				
			20									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS Jackie Rennebohm

Department of Natural Resources | Form 4400-122A | 10-92

Boring Number B3 | Use only as an attachment to Form 4400-122. | Page 3

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S17				Sandstone, f-m, tan, orange, & white, massive				1.4		W		
				End of boring at 43'								
			45	Set well at 42', 15' 2' fines screen filter.								
			50									
			55									

Department of Natural Resources | Form 4400-122A | 10-92

Boring Number B4 | Use only as an attachment to Form 4400-122. | Page 2

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Soil Properties: Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S9				Sandstone bedrock, f-m, tan, orange, & white, massive, varies in competency				0.0		m		
S10								3.4		m		
			25					~~0.6~~				
S11								2.3		m		
S12								1.0 ~~3.4~~		m		sample @ 30'
			30									
S13								1.4 ~~2.3~~		m+		
S14								~~1.0~~ 0.8		~~M~~ W		▽ ~ 33'
			35									
S15								1.0		W		
S16								0.6		W		
			40									

Department of Natural Resources | Form 4400-122A | 10-92

Boring Number B4 | Use only as an attachment to Form 4400-122. | Page 3

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S17				Sandstone bedrock, f-m, tan, orange, and white massive, varies in competency				1.5		W		
S18								1.6		W		
			45	End of boring @ 45'								
				Set well @ 44' 15' screen 2' filter & fine								
			50									
			55									

State of Wisconsin
Department of Natural Resources

Route To:
- ☐ Watershed/Wastewater
- ☑ Remediation/Redev.
- ☐ Waste Management
- ☐ Other

SOIL BORING LOG INFORMATION
Form 4400-122 7-98
Revised by SCS 1-2016

Facility/Project Name: Charles Matthews Estate SCS # 25219145.00		License/Permit/Monitoring Number: Facility ID: 111082070	Boring Number: B5
Boring Drilled By (Firm name and name of crew chief): Cascade Drilling - Randy Radtke		Drilling Started: 7-11-19	Drilling Completed: 7-11-19
Drilling Method: Rotosonic			
DNR Facility Well No.	WI Unique Well No.: VV849	Common Well Name: MW5	Static Water Level
Surface Elevation: 872.94	Borehole Diam.: 6-0		
Boring Location: State Plane SE 1/4 of NE 1/4 of Section 17, T. 13 N, R. 11 E		Lat. 43.6103953 Long. -89.2084724	Local Grid Location (If applicable): N 588180.90 E 2178111.79
County: Columbia	DNR County Code: 11	Civil Town/City/or Village: Dalton	

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S1				Topsoil, organic material Silty Sand, f-m, brown, trace rounded gravel (till)	SM			1.1		M		
S2								0.9		M		Sample @ 3'
S3			5					1.4		m		Sample @ 6.1
S4				Sandstone bedrock, f-m, grayish tan, w/ shale top two feet, varies in competency, massive				0.9		m		
S5			10					1.4		m		massive b.c core is pulverized
S6								1.1		m		
S7			15	Transition to tan, orange, & white colors				4.3		m		
S8								1.4				
			20									

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS Jackie Rennebohm

This form is authorized by Chapters 281,283,289,291,292,295,and 299, Wis Stats Completion of this form is mandatory. Failure to file this form may result in forfeiture between $10 and $25,000, or imprisonment for up to one year, depending on program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information

Department of Natural Resources | Form 4400-122A | 10-92

Boring Number B5 | Use only as an attachment to Form 4400-122. | Page 2

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S9				Sandstone bedrock, f-m. tan, orange, & white, varies in competency, massive				1.7		M		
S10								1.6		M		
			25									
S11								1.7		M		
S12								2.3		M/W		Sample @27'
			30									▽ ≈ 32.5'
S13								1.5		W		
S14								1.6		W		
			35									
S15								1.1		W		
S16								1.2		W		
			40									

Department of Natural Resources | Form 4400-122A | 10-92

Boring Number B5 | Use only as an attachment to Form 4400-122. | Page 3

Sample Number	Sample Length Recovered	Blow Counts	Depth in Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	Max. PID/FID	Soil Properties: Standard Penetration	Soil Properties: Moisture Content	Soil Properties: P200	RQD/ Comments
S17				Sandstone bedrock, fm, tan, orange, & white, varies in competency, massive				0.8		W		
S18								1.0		W		
			45	End of boring @ 45' set well @ 44' 15' screen, 2' fine & filter								
			50									
			55									

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Charles Matthews Estate	Local Grid Location of Well: ___ ft. ☐N ☐S ___ ft. ☐E ☐W	Well Name: MW1
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ° ' " Long. ° ' " or	Wis. Unique Well No.: VV845 / DNR Well ID No.:
Facility ID: 111082070	St. Plane: 588237.54 ft. N, 2178264.45 ft. E. S/C/N	Date Well Installed: 01/09/2019 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SE 1/4 of NE 1/4 of Sec. 17, T. 13 N, R. 11 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Randy Radke / Cascade Drilling
Distance from Waste/Source ___ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number:

A. Protective pipe, top elevation 875.58 ft. MSL
B. Well casing, top elevation 875.28 ft. MSL
C. Land surface elevation 872.69 ft. MSL
D. Surface seal, bottom ___ ft. MSL or 0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☒

13. Sieve analysis performed? ☐ Yes ☒ No

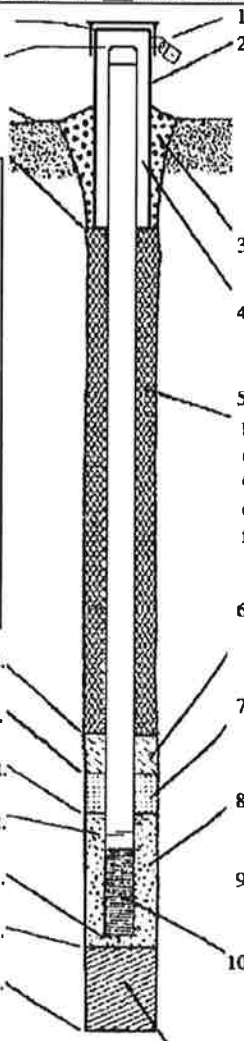
14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☐ 41 / Other ☒ Rotosonic

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe —

17. Source of water (attach analysis, if required):
—

E. Bentonite seal, top 872.69 ft. MSL or 0 ft.
F. Fine sand, top 847.69 ft. MSL or 25.0 ft.
G. Filter pack, top 845.69 ft. MSL or 27.0 ft.
H. Screen joint, top 843.69 ft. MSL or 29.0 ft.
I. Well bottom 828.69 ft. MSL or 44.0 ft.
J. Filter pack, bottom 827.69 ft. MSL or 45.0 ft.
K. Borehole, bottom 827.69 ft. MSL or 45.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.01 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04 / Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: —
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐
4. Material between well casing and protective pipe: Filter Sand — Bentonite ☐ 30 / Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #7 ☒
b. Volume added ___ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Filter(Sil) (#5) ☒
b. Volume added ___ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 15 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Charles Matthews Estate	Local Grid Location of Well: ___ ft. ☐N ☐S ___ ft. ☐E ☐W	Well Name: MW2
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No.: VV846 / DNR Well ID No.: ___
Facility ID: 111082070	St. Plane 588079.41 ft. N, 217835.05 ft. E. S/C/N	Date Well Installed: 07/09/2019 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SE 1/4 of NE 1/4 of Sec. 17, T. 13 N, R. 11 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Randy Radke, Cascade Drilling
Distance from Waste/Source ___ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ___

A. Protective pipe, top elevation 874.44 ft. MSL
B. Well casing, top elevation 874.17 ft. MSL
C. Land surface elevation 871.62 ft. MSL
D. Surface seal, bottom ___ ft. MSL or 0 ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☒

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☐ 41; Other ☒ 99
Rotosonic

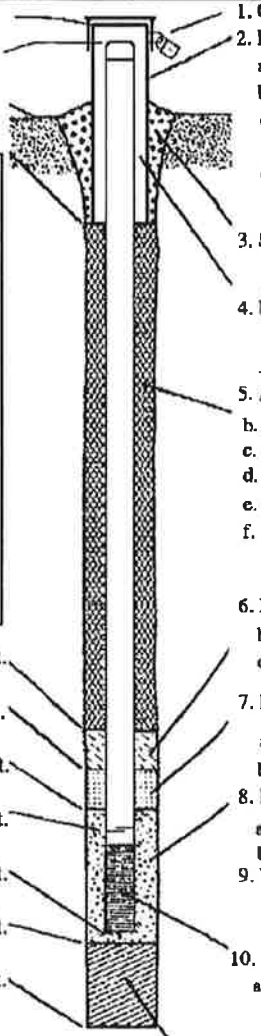
15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe —

17. Source of water (attach analysis, if required):
—

E. Bentonite seal, top 871.62 ft. MSL or 0 ft.
F. Fine sand, top 846.62 ft. MSL or 25.0 ft.
G. Filter pack, top 844.62 ft. MSL or 27.0 ft.
H. Screen joint, top 842.62 ft. MSL or 29.0 ft.
I. Well bottom 827.62 ft. MSL or 44.0 ft.
J. Filter pack, bottom 826.62 ft. MSL or 45.0 ft.
K. Borehole, bottom 826.62 ft. MSL or 45.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.01 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04; Other ☐
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ___
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐
4. Material between well casing and protective pipe: Filter Sand
Bentonite ☐ 30; Other ☒
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #7 ☒
b. Volume added ___ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. Filter Sil (#5) ☒
b. Volume added ___ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 15 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Charles Matthews Estate	Local Grid Location of Well: ___ ft. ☐ N. ☐ S. ___ ft. ☐ E. ☐ W.	Well Name: MW3
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No.: VV847 / DNR Well ID No.: ___
Facility ID: 111082070	St. Plane 586003.38 ft. N. 217819.25 ft. E. S/C/N	Date Well Installed: 07/12/2019 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SE 1/4 of NE 1/4 of Sec. 17 T. 13 N. R. 11 ☒ E ☐ W	Well Installed By: Name (first, last) and Firm: Randy Radtke, Cascade Drilling
Distance from Waste/Source ___ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ___

A. Protective pipe, top elevation 872.21 ft. MSL
B. Well casing, top elevation 872.75 ft. MSL
C. Land surface elevation 870.57 ft. MSL
D. Surface seal, bottom ___ ft. MSL or ___ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☒

13. Sieve analysis performed? ☐ Yes ☒ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☐ 41 / Other ☒ Boto Sonic

15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ___

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 870.57 ft. MSL or 0 ft.
F. Fine sand, top 847.57 ft. MSL or 23.0 ft.
G. Filter pack, top 845.57 ft. MSL or 25.0 ft.
H. Screen joint, top 843.57 ft. MSL or 27.0 ft.
I. Well bottom 828.57 ft. MSL or 42.0 ft.
J. Filter pack, bottom 827.57 ft. MSL or 43.0 ft.
K. Borehole, bottom 827.57 ft. MSL or 43.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.01 in.

1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04 / Other ☐ ___
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ___
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ ___
4. Material between well casing and protective pipe: Bentonite ☐ 30 / Other ☒ Filter Sand
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft³ volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐ ___
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #7 ☒
b. Volume added ___ ft³
8. Filter pack material: Manufacturer, product name & mesh size
a. Filter Sil (#5) ☒
b. Volume added ___ ft³
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ ___
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ ___
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 15 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐ ___

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Charles Matthews Estate	Local Grid Location of Well: ___ ft. ☐N ☐S ___ ft. ☐E ☐W	Well Name: MW4
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No.: VV848 / DNR Well ID No.: ___
Facility ID: 111082070	St. Plane 886225.48 ft. N, 2477981.74 ft. E. S/C/N	Date Well Installed: 07/10/2019 (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SE 1/4 of NE 1/4 of Sec. 17 T. 13 N. R. 11 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Randy Radke, Cascade Drilling
Distance from Waste/Source ___ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient; d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ___

A. Protective pipe, top elevation 876.72 ft. MSL
B. Well casing, top elevation 876.48 ft. MSL
C. Land surface elevation 873.84 ft. MSL
D. Surface seal, bottom ___ ft. MSL or ___ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☒

13. Sieve analysis performed? ☐ Yes ☒ No

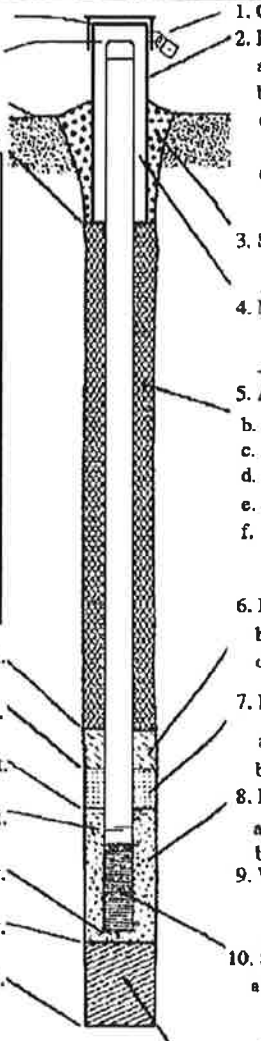
14. Drilling method used: Rotary ☐ 50; Hollow Stem Auger ☐ 41; Other ☒ Rotosonic

15. Drilling fluid used: Water ☐ 02; Air ☐ 01; Drilling Mud ☐ 03; None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No
Describe ___

17. Source of water (attach analysis, if required):

E. Bentonite seal, top 873.84 ft. MSL or 0 ft.
F. Fine sand, top 848.48 ft. MSL or 25.0 ft.
G. Filter pack, top 846.48 ft. MSL or 27.0 ft.
H. Screen joint, top 844.48 ft. MSL or 29.0 ft.
I. Well bottom 829.84 ft. MSL or 44.0 ft.
J. Filter pack, bottom 828.84 ft. MSL or 45.0 ft.
K. Borehole, bottom 828.84 ft. MSL or 45.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.01 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 5 ft.
c. Material: Steel ☒ 04; Other ☐ ___
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ___
3. Surface seal: Bentonite ☒ 30; Concrete ☐ 01; Other ☐ ___
4. Material between well casing and protective pipe: Filter Sand
Bentonite ☐ 30; Other ☒ ___
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01; Tremie pumped ☐ 02; Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐ ___
7. Fine sand material: Manufacturer, product name & mesh size
a. Red Flint #7 ☒
b. Volume added ___ ft^3
8. Filter pack material: Manufacturer, product name & mesh size
a. FilterSil (#5) ☒
b. Volume added ___ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23; Flush threaded PVC schedule 80 ☐ 24; Other ☐ ___
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11; Continuous slot ☐ 01; Other ☐ ___
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 15 ft.
11. Backfill material (below filter pack): None ☒ 14; Other ☐ ___

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature: [signature] Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐

MONITORING WELL CONSTRUCTION
Form 4400-113A Rev. 7-98

Facility/Project Name: Charles Matthews Estate	Local Grid Location of Well: ___ ft. ☐N ☐S, ___ ft. ☐E ☐W	Well Name: MW5
Facility License, Permit or Monitoring No.	Local Grid Origin ☐ (estimated: ☐) or Well Location ☐ Lat. ___ ° ___ ' ___ " Long. ___ ° ___ ' ___ " or	Wis. Unique Well No.: VV8479 / DNR Well ID No.: ___
Facility ID: 111082070	St. Plane: 588180.90 ft. N, 2178111.79 ft. E. S/C/N	Date Well Installed: ___ / ___ / ___ (m m d d y y y y)
Type of Well: Well Code 11 / MW	Section Location of Waste/Source: SE 1/4 of NE 1/4 of Sec. 17, T. 13 N, R. 11 ☒E ☐W	Well Installed By: Name (first, last) and Firm: Randy Radtke, Cascade Drilling
Distance from Waste/Source ___ ft. / Enf. Stds. Apply ☒	Location of Well Relative to Waste/Source: u ☐ Upgradient s ☐ Sidegradient d ☐ Downgradient n ☐ Not Known	Gov. Lot Number: ___

A. Protective pipe, top elevation 875.60 ft. MSL
B. Well casing, top elevation 875.45 ft. MSL
C. Land surface elevation 872.94 ft. MSL
D. Surface seal, bottom ___ ft. MSL or ___ ft.

12. USCS classification of soil near screen:
GP ☐ GM ☐ GC ☐ GW ☐ SW ☐ SP ☐
SM ☐ SC ☐ ML ☐ MH ☐ CL ☐ CH ☐
Bedrock ☒

13. Sieve analysis performed? ☐ Yes ☐ No

14. Drilling method used: Rotary ☐ 50 / Hollow Stem Auger ☐ 41 / Other ☒
Rotosonic

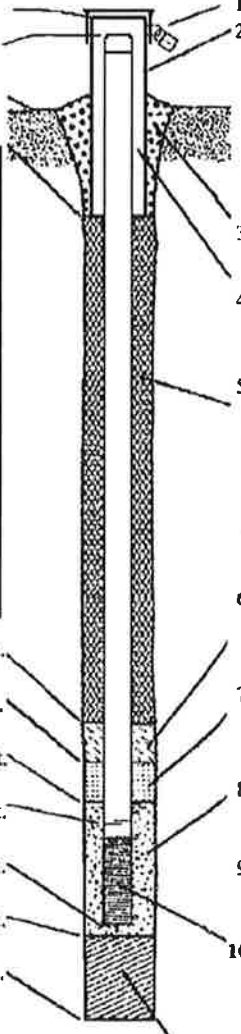
15. Drilling fluid used: Water ☐ 02 / Air ☐ 01 / Drilling Mud ☐ 03 / None ☒ 99

16. Drilling additives used? ☐ Yes ☒ No

Describe ___

17. Source of water (attach analysis, if required):
___

E. Bentonite seal, top 872.94 ft. MSL or 0 ft.
F. Fine sand, top 847.94 ft. MSL or 25.0 ft.
G. Filter pack, top 845.94 ft. MSL or 27.0 ft.
H. Screen joint, top 843.94 ft. MSL or 29.0 ft.
I. Well bottom 828.94 ft. MSL or 44.0 ft.
J. Filter pack, bottom 827.94 ft. MSL or 45.0 ft.
K. Borehole, bottom 827.94 ft. MSL or 45.0 ft.
L. Borehole, diameter 6.0 in.
M. O.D. well casing 2.38 in.
N. I.D. well casing 2.01 in.



1. Cap and lock? ☒ Yes ☐ No
2. Protective cover pipe:
a. Inside diameter: 4 in.
b. Length: 15 ft.
c. Material: Steel ☒ 04 / Other ☐ ___
d. Additional protection? ☐ Yes ☒ No
If yes, describe: ___
3. Surface seal: Bentonite ☒ 30 / Concrete ☐ 01 / Other ☐ ___
4. Material between well casing and protective pipe: Bentonite ☐ 30 / Other ☒
Filter Sand
5. Annular space seal: a. Granular/Chipped Bentonite ☒ 33
b. ___ Lbs/gal mud weight . . . Bentonite-sand slurry ☐ 35
c. ___ Lbs/gal mud weight . . . . . Bentonite slurry ☐ 31
d. ___ % Bentonite . . . . . Bentonite-cement grout ☐ 50
e. ___ Ft^3 volume added for any of the above
f. How installed: Tremie ☐ 01 / Tremie pumped ☐ 02 / Gravity ☒ 08
6. Bentonite seal: a. Bentonite granules ☐ 33
b. ☐ 1/4 in. ☒ 3/8 in. ☐ 1/2 in. Bentonite chips ☒ 32
c. ___ Other ☐ ___
7. Fine sand material: Manufacturer, product name & mesh size ☒
a. Red Flint #7
b. Volume added ___ ft^3
8. Filter pack material: Manufacturer, product name & mesh size ☒
a. FilterSil (#5)
b. Volume added ___ ft^3
9. Well casing: Flush threaded PVC schedule 40 ☒ 23 / Flush threaded PVC schedule 80 ☐ 24 / Other ☐ ___
10. Screen material: PVC
a. Screen type: Factory cut ☒ 11 / Continuous slot ☐ 01 / Other ☐ ___
b. Manufacturer Monoflex
c. Slot size: 0.010 in.
d. Slotted length: 15 ft.
11. Backfill material (below filter pack): None ☒ 14 / Other ☐ ___

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature ___ Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between $10 and $25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	County Name	Well Name
Charles Matthews Estate	Columbia	MW1

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
Facility ID: 111082070	11	VV845	___

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐ __

3. Time spent developing well 125 min.

4. Depth of well (from top of well casisng) 452 ft.

5. Inside diameter of well 2.01 in.

6. Volume of water in filter pack and well casing 6.6 gal.

7. Volume of water removed from well 40.0 gal.

8. Volume of water added (if any) 0.0 gal.

9. Source of water added —

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	32.90 ft.	33.10 ft.
Date b. (m m d d y y y y)	07/09/2019	07/09/2019
Time c.	11:00 ☒ a.m. ☐ p.m.	13:05 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	___.__ inches	___.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15	Clear ☒ 20 Turbid ☐ 25
(Describe)	Sandy	
Fill in if drilling fluids were used and well is at solid waste facility:		
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Jackie Last Name: Rennebohm
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:
Surged & purged 30 min
pump rate is 1g/45s Start 1225-1305

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Janet Last Name: DiMaggio
Facility/Firm: Wisconsin Department of Natural Resources
Street: 3911 Fish Hatchery Road
City/State/Zip: Fitchburg, WI 53711

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Jackie Rennebohm
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT

Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	County Name	Well Name
Charles Matthews Estate	Columbia	MW2
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
Facility ID: 111082070	11	VV846	___

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐

3. Time spent developing well 95 min.

4. Depth of well (from top of well casisng) 46.3 ft.

5. Inside diameter of well 2.01 in.

6. Volume of water in filter pack and well casing 16.7 gal.

7. Volume of water removed from well 70.0 gal.

8. Volume of water added (if any) ___.__ gal.

9. Source of water added —

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 33.79 ft.	33.74 ft.
Date	b. 07/09/2019 (m m d d y y y y)	07/09/2019 (m m d d y y y y)
Time	c. 15:30 ☐ a.m. ☐ p.m.	17:05 ☐ a.m. ☐ p.m.
12. Sediment in well bottom	___.__ inches	___.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe) Sandy brown	Clear ☒ 20 Turbid ☐ 25 (Describe) slightly turbid

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: ~~Jackie~~ Adam Last Name: ~~Ronnebohm~~ Watson
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Janet Last Name: DiMaggio
Facility/Firm: Wisconsin Department of Natural Resources
Street: 3911 Fish Hatchery Road
City/State/Zip: Fitchburg, WI 53711

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature:
Print Name: Adam Watson
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	County Name	Well Name
Charles Matthews Estate	Columbia	MW3
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
Facility ID: 111082070	11	VV847	___

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐ ___

3. Time spent developing well 75 min.

4. Depth of well (from top of well casisng) 43.85 ft.

5. Inside diameter of well 2.01 in.

6. Volume of water in filter pack and well casing 6.4 gal.

7. Volume of water removed from well 44.3 gal.

8. Volume of water added (if any) ___.__ gal.

9. Source of water added —

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing) a.	31.74 ft.	31.74 ft.
Date b. (mm dd yyyy)	09/10/2019	09/10/2019
Time c.	12:10 ☐ a.m. ☒ p.m.	13:25 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	___.__ inches	___.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
	sandy, tan	clear
14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

Fill in if drilling fluids were used and well is at solid waste facility:

16. Well developed by: Name (first, last) and Firm
First Name: Jackie Last Name: Rennebohm
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:
purge & surge for 30 min.
pump rate = 3.5 min / 5 gallons

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Janet Last Name: DiMaggio
Facility/Firm: Wisconsin Department of Natural Resources
Street: 3911 Fish Hatchery Road
City/State/Zip: Fitchburg, WI 53711

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Jackie Rennebohm
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	County Name	Well Name
Charles Matthews Estate	Columbia	MW4
Facility License, Permit or Monitoring Number	**County Code**	**Wis. Unique Well Number**	**DNR Well ID Number**
Facility ID: 111082070	11	VV8498	___

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐ 41
surged with bailer and pumped	☒ 61
surged with block and bailed	☐ 42
surged with block and pumped	☐ 62
surged with block, bailed and pumped	☐ 70
compressed air	☐ 20
bailed only	☐ 10
pumped only	☐ 51
pumped slowly	☐ 50
Other _____	☐ __

3. Time spent developing well 95 min.

4. Depth of well (from top of well casisng) 45.45 ft.

5. Inside diameter of well 2.01 in.

6. Volume of water in filter pack and well casing 6.2 gal.

7. Volume of water removed from well 80.0 gal.

8. Volume of water added (if any) ___.__ gal.

9. Source of water added —

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 35.28 ft.	35.30 ft.
Date	b. 07/11/2019 (m m d d y y y y)	07/11/2019
Time	c. 08:00 ☒ a.m. ☐ p.m.	09:35 ☒ a.m. ☐ p.m.
12. Sediment in well bottom	___.__ inches	___.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
	Sandy	Clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	____.__ mg/l	____.__ mg/l
15. COD	____.__ mg/l	____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Jackie Last Name: Rennebohm
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:
purge + surge 30 min
pump 835 – 935, rate = 5g/3min 45s (225s)

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Janet Last Name: DiMaggio
Facility/Firm: Wisconsin Department of Natural Resources
Street: 3911 Fish Hatchery Road
City/State/Zip: Fitchburg, WI 53711

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Jackie Rennebohm
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

SCS # 25219145.00

State of Wisconsin
Department of Natural Resources

MONITORING WELL DEVELOPMENT
Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Redevelopment ☒ Other ☐ _____

Facility/Project Name	County Name	Well Name
Charles Matthews Estate	Columbia	MW5

Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Number	DNR Well ID Number
Facility ID: 111082070	11	VV849	___

1. Can this well be purged dry? ☐ Yes ☒ No

2. Well development method

surged with bailer and bailed	☐	41
surged with bailer and pumped	☒	61
surged with block and bailed	☐	42
surged with block and pumped	☐	62
surged with block, bailed and pumped	☐	70
compressed air	☐	20
bailed only	☐	10
pumped only	☐	51
pumped slowly	☐	50
Other _____	☐	__

3. Time spent developing well 75 min.

4. Depth of well (from top of well casisng) 45.47 ft.

5. Inside diameter of well 2.01 in.

6. Volume of water in filter pack and well casing 5.9 gal.

7. Volume of water removed from well 60.0 gal.

8. Volume of water added (if any) ___.__ gal.

9. Source of water added —

10. Analysis performed on water added? (If yes, attach results) ☐ Yes ☒ No

	Before Development	After Development
11. Depth to Water (from top of well casing)	a. 34.40 ft.	___.__ ft.
Date	b. 07/11/2019 (mm/dd/yyyy)	07/11/2019 (mm/dd/yyyy)
Time	c. 11:15 ☒ a.m. ☐ p.m.	12:30 ☐ a.m. ☒ p.m.
12. Sediment in well bottom	___.__ inches	___.__ inches
13. Water clarity	Clear ☐ 10 Turbid ☒ 15 (Describe)	Clear ☒ 20 Turbid ☐ 25 (Describe)
	tan, sandy	clear

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids	_____.__ mg/l	_____.__ mg/l
15. COD	_____.__ mg/l	_____.__ mg/l

16. Well developed by: Name (first, last) and Firm
First Name: Jackie Last Name: Rennebohm
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

17. Additional comments on development:
purge & surge for 30 min
pump 1145 - 1230, rate is 5g/3min 45s (225s)

Name and Address of Facility Contact /Owner/Responsible Party
First Name: Janet Last Name: DiMaggio
Facility/Firm: Wisconsin Department of Natural Resources
Street: 3911 Fish Hatchery Road
City/State/Zip: Fitchburg, WI 53711

I hereby certify that the above information is true and correct to the best of my knowledge.
Signature: _____
Print Name: Jackie Rennebohm
Firm: SCS ENGINEERS, 2830 Dairy Drive, Madison, WI 53718

NOTE: See instructions for more information including a list of county codes and well type codes.

Appendix B

Laboratory Analytical Reports

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-166683-1
Client Project/Site: Matthews Estate - 25219145
Revision: 1

For:
SCS Engineers
2830 Dairy Dr
Madison, Wisconsin 53718

Attn: Mr. Robert Langdon

Sandie Fredrick

Authorized for release by:
7/23/2019 8:42:58 AM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Job ID: 500-166683-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-166683-1

Comments
REVISION: Removal of erroneous case narrative notation.

Receipt
The samples were received on 7/13/2019 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 3.4° C.

Receipt Exceptions
We received a VOC vial for the samples listed but the analysis is not checked on the chain-of-custody: sample -2, -4, -7 and -10. RCRA metals only per client.

Also, the soil jar for sample -7, B3 (29') has water in it along with the soil. Sample may be compromised. Run per client.

GC/MS VOA
Method(s) 5035: sample vial has < 8 grams of sample in 10 ml of methanol. B2 (3.5') (500-166683-3), B3 (3') (500-166683-5), B3 (5') (500-166683-6) and B5 (6') (500-166683-12).

The extraction LCS associated with preparation batch 494738 had several analytes recoveries above control limits. The instrument LCS associated with analytical batch 495567 had all analytes within control limits; therefore re-analysis was not performed. The data have been reported and qualified. B1 (3.5') (500-166683-1), B2 (3.5') (500-166683-3), B3 (3') (500-166683-5), B3 (5') (500-166683-6), Trip Blank (500-166683-8), B4 (3') (500-166683-9), B5 (3') (500-166683-11) and B5 (6') (500-166683-12)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 495206 were outside control limits for Bromoform and 1,2-Dibromo-3-chloropropane. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was outside acceptance limits for Bromoform and 1,2-Dibromo-3-chloropropane.

The method blank for analytical batch 465206 contained Naphthalene above the Method dectection limit (MDL) but below reporting limit (RL). Naphthalene was non-dectect in the sample: therefore, no re-analysis was done and the data has been reported.

The laboratory control sample (LCS) for 495206 recovered outside control limits for the following analytes: Bromoform and 1,2-Dibromo-3-chloropropane. These analytes were biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B1 (3.5') — Lab Sample ID: 500-166683-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.67	J	0.95	0.33	mg/Kg	1	☼	6010C	Total/NA
Barium	13		0.95	0.11	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.14	J B	0.19	0.034	mg/Kg	1	☼	6010C	Total/NA
Chromium	5.5		0.95	0.47	mg/Kg	1	☼	6010C	Total/NA
Lead	1.6		0.48	0.22	mg/Kg	1	☼	6010C	Total/NA
Selenium	0.77	J F1	0.95	0.56	mg/Kg	1	☼	6010C	Total/NA
Silver	1.2		0.48	0.12	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B1 (30') — Lab Sample ID: 500-166683-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	4.8		1.2	0.13	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.15	J B	0.23	0.042	mg/Kg	1	☼	6010C	Total/NA
Chromium	2.2		1.2	0.58	mg/Kg	1	☼	6010C	Total/NA
Lead	0.32	J	0.59	0.27	mg/Kg	1	☼	6010C	Total/NA
Silver	0.79		0.59	0.15	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B2 (3.5') — Lab Sample ID: 500-166683-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.6		0.90	0.31	mg/Kg	1	☼	6010C	Total/NA
Barium	33		0.90	0.10	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.22	B	0.18	0.033	mg/Kg	1	☼	6010C	Total/NA
Chromium	9.3		0.90	0.45	mg/Kg	1	☼	6010C	Total/NA
Lead	7.2		0.45	0.21	mg/Kg	1	☼	6010C	Total/NA
Silver	1.4		0.45	0.12	mg/Kg	1	☼	6010C	Total/NA
Mercury	0.013	J	0.017	0.0055	mg/Kg	1	☼	7471B	Total/NA

Client Sample ID: B2 (29.5') — Lab Sample ID: 500-166683-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	1.9		0.98	0.11	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.16	J B	0.20	0.035	mg/Kg	1	☼	6010C	Total/NA
Chromium	2.4		0.98	0.49	mg/Kg	1	☼	6010C	Total/NA
Lead	0.37	J	0.49	0.23	mg/Kg	1	☼	6010C	Total/NA
Silver	0.49		0.49	0.13	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B3 (3') — Lab Sample ID: 500-166683-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.79	J	1.0	0.35	mg/Kg	1	☼	6010C	Total/NA
Barium	22		1.0	0.12	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.15	J B	0.21	0.037	mg/Kg	1	☼	6010C	Total/NA
Chromium	4.0		1.0	0.51	mg/Kg	1	☼	6010C	Total/NA
Lead	1.3		0.52	0.24	mg/Kg	1	☼	6010C	Total/NA
Silver	1.3		0.52	0.13	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B3 (5') — Lab Sample ID: 500-166683-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.52	J	1.1	0.36	mg/Kg	1	☼	6010C	Total/NA
Barium	11		1.1	0.12	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.15	J B	0.21	0.038	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B3 (5') (Continued) — Lab Sample ID: 500-166683-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	7.5		1.1	0.53	mg/Kg	1	☼	6010C	Total/NA
Lead	1.5		0.53	0.25	mg/Kg	1	☼	6010C	Total/NA
Silver	1.6		0.53	0.14	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B3 (29') — Lab Sample ID: 500-166683-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.42	J	1.2	0.42	mg/Kg	1	☼	6010C	Total/NA
Barium	7.3		1.2	0.14	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.17	J B	0.24	0.044	mg/Kg	1	☼	6010C	Total/NA
Chromium	8.5		1.2	0.61	mg/Kg	1	☼	6010C	Total/NA
Lead	0.60	J	0.61	0.28	mg/Kg	1	☼	6010C	Total/NA
Selenium	0.77	J	1.2	0.72	mg/Kg	1	☼	6010C	Total/NA
Silver	0.86		0.61	0.16	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: Trip Blank — Lab Sample ID: 500-166683-8

No Detections.

Client Sample ID: B4 (3') — Lab Sample ID: 500-166683-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.89	J	0.96	0.33	mg/Kg	1	☼	6010C	Total/NA
Barium	11		0.96	0.11	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.15	J B	0.19	0.035	mg/Kg	1	☼	6010C	Total/NA
Chromium	6.9		0.96	0.48	mg/Kg	1	☼	6010C	Total/NA
Lead	1.6		0.48	0.22	mg/Kg	1	☼	6010C	Total/NA
Silver	1.7		0.48	0.12	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B4 (30') — Lab Sample ID: 500-166683-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.45	J	0.89	0.30	mg/Kg	1	☼	6010C	Total/NA
Barium	3.5		0.89	0.10	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.14	J B	0.18	0.032	mg/Kg	1	☼	6010C	Total/NA
Chromium	2.9		0.89	0.44	mg/Kg	1	☼	6010C	Total/NA
Lead	0.67		0.44	0.20	mg/Kg	1	☼	6010C	Total/NA
Silver	0.98		0.44	0.11	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B5 (3') — Lab Sample ID: 500-166683-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.1		0.96	0.33	mg/Kg	1	☼	6010C	Total/NA
Barium	10		0.96	0.11	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.13	J B	0.19	0.034	mg/Kg	1	☼	6010C	Total/NA
Chromium	7.8		0.96	0.47	mg/Kg	1	☼	6010C	Total/NA
Lead	3.0		0.48	0.22	mg/Kg	1	☼	6010C	Total/NA
Silver	1.7		0.48	0.12	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B5 (6') — Lab Sample ID: 500-166683-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.41	J	1.2	0.40	mg/Kg	1	☼	6010C	Total/NA
Barium	5.3		1.2	0.13	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B5 (6') (Continued)

Lab Sample ID: 500-166683-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.17	J B	0.23	0.042	mg/Kg	1	☼	6010C	Total/NA
Chromium	9.5		1.2	0.58	mg/Kg	1	☼	6010C	Total/NA
Lead	0.59		0.58	0.27	mg/Kg	1	☼	6010C	Total/NA
Silver	1.6		0.58	0.15	mg/Kg	1	☼	6010C	Total/NA

Client Sample ID: B5 (27')

Lab Sample ID: 500-166683-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.1		1.1	0.38	mg/Kg	1	☼	6010C	Total/NA
Barium	4.7		1.1	0.13	mg/Kg	1	☼	6010C	Total/NA
Cadmium	0.15	J B	0.22	0.039	mg/Kg	1	☼	6010C	Total/NA
Chromium	2.3		1.1	0.54	mg/Kg	1	☼	6010C	Total/NA
Lead	0.83		0.55	0.25	mg/Kg	1	☼	6010C	Total/NA
Silver	2.0		0.55	0.14	mg/Kg	1	☼	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
6010C	Metals (ICP)	SW846	TAL CHI
7471B	Mercury (CVAA)	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
3050B	Preparation, Metals	SW846	TAL CHI
5035	Closed System Purge and Trap	SW846	TAL CHI
7471B	Preparation, Mercury	SW846	TAL CHI

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-166683-1	B1 (3.5')	Solid	07/08/19 11:40	07/13/19 09:20	
500-166683-2	B1 (30')	Solid	07/09/19 08:00	07/13/19 09:20	
500-166683-3	B2 (3.5')	Solid	07/09/19 11:20	07/13/19 09:20	
500-166683-4	B2 (29.5')	Solid	07/09/19 13:30	07/13/19 09:20	
500-166683-5	B3 (3')	Solid	07/09/19 16:05	07/13/19 09:20	
500-166683-6	B3 (5')	Solid	07/09/19 16:05	07/13/19 09:20	
500-166683-7	B3 (29')	Solid	07/10/19 09:10	07/13/19 09:20	
500-166683-8	Trip Blank	Solid	07/12/19 00:00	07/13/19 09:20	
500-166683-9	B4 (3')	Solid	07/10/19 12:45	07/13/19 09:20	
500-166683-10	B4 (30')	Solid	07/10/19 14:40	07/13/19 09:20	
500-166683-11	B5 (3')	Solid	07/11/19 07:30	07/13/19 09:20	
500-166683-12	B5 (6')	Solid	07/11/19 07:30	07/13/19 09:20	
500-166683-13	B5 (27')	Solid	07/11/19 09:00	07/13/19 09:20	

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B1 (3.5')
Date Collected: 07/08/19 11:40
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-1
Matrix: Solid
Percent Solids: 92.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<9.4		16	9.4	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Bromobenzene	<23	*	64	23	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Bromochloromethane	<27		64	27	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Bromodichloromethane	<24		64	24	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Bromoform	<31	*	64	31	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Bromomethane	<51		190	51	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Carbon tetrachloride	<25		64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Chlorobenzene	<25		64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Chloroethane	<32		64	32	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Chloroform	<24		130	24	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Chloromethane	<21		64	21	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
2-Chlorotoluene	<20		64	20	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
4-Chlorotoluene	<22		64	22	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
cis-1,2-Dichloroethene	<26		64	26	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
cis-1,3-Dichloropropene	<27		64	27	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Dibromochloromethane	<31		64	31	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,2-Dibromo-3-Chloropropane	<130	*	320	130	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,2-Dibromoethane	<25		64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Dibromomethane	<17		64	17	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,2-Dichlorobenzene	<21		64	21	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,3-Dichlorobenzene	<26		64	26	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,4-Dichlorobenzene	<23		64	23	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Dichlorodifluoromethane	<43		190	43	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,1-Dichloroethane	<26		64	26	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,2-Dichloroethane	<25		64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,1-Dichloroethene	<25		64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,2-Dichloropropane	<27		64	27	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,3-Dichloropropane	<23		64	23	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
2,2-Dichloropropane	<28		64	28	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,1-Dichloropropene	<19		64	19	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Ethylbenzene	<12		16	12	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Hexachlorobutadiene	<29		64	29	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Isopropylbenzene	<25	*	64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Isopropyl ether	<18		64	18	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Methylene Chloride	<100		320	100	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Methyl tert-butyl ether	<25		64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Naphthalene	<21	*	64	21	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
n-Butylbenzene	<25		64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
N-Propylbenzene	<27		64	27	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
p-Isopropyltoluene	<23		64	23	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
sec-Butylbenzene	<26	*	64	26	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Styrene	<25		64	25	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
tert-Butylbenzene	<26	*	64	26	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,1,1,2-Tetrachloroethane	<30		64	30	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,1,2,2-Tetrachloroethane	<26		64	26	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Tetrachloroethene	<24		64	24	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Toluene	<9.4		16	9.4	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
trans-1,2-Dichloroethene	<22		64	22	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
trans-1,3-Dichloropropene	<23		64	23	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50

Client Sample ID: B1 (3.5')

Lab Sample ID: 500-166683-1

Date Collected: 07/08/19 11:40
Matrix: Solid
Date Received: 07/13/19 09:20
Percent Solids: 92.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<29	*	64	29	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,2,4-Trichlorobenzene	<22		64	22	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,1,1-Trichloroethane	<24		64	24	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,1,2-Trichloroethane	<23		64	23	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Trichloroethene	<11		32	11	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Trichlorofluoromethane	<27		64	27	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,2,3-Trichloropropane	<27		130	27	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,2,4-Trimethylbenzene	<23	*	64	23	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
1,3,5-Trimethylbenzene	<24	*	64	24	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Vinyl chloride	<17		64	17	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50
Xylenes, Total	<14		32	14	ug/Kg	☼	07/08/19 11:40	07/17/19 17:34	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*	*07/08/19 11:40*	*07/17/19 17:34*	*50*
Dibromofluoromethane	*109*		*75 - 120*	*07/08/19 11:40*	*07/17/19 17:34*	*50*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 126*	*07/08/19 11:40*	*07/17/19 17:34*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*07/08/19 11:40*	*07/17/19 17:34*	*50*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.67**	**J**	0.95	0.33	mg/Kg	☼	07/18/19 16:16	07/19/19 18:16	1
Barium	**13**		0.95	0.11	mg/Kg	☼	07/18/19 16:16	07/19/19 18:16	1
Cadmium	**0.14**	**J B**	0.19	0.034	mg/Kg	☼	07/18/19 16:16	07/19/19 18:16	1
Chromium	**5.5**		0.95	0.47	mg/Kg	☼	07/18/19 16:16	07/19/19 18:16	1
Lead	**1.6**		0.48	0.22	mg/Kg	☼	07/18/19 16:16	07/19/19 18:16	1
Selenium	**0.77**	**J F1**	0.95	0.56	mg/Kg	☼	07/18/19 16:16	07/19/19 18:16	1
Silver	**1.2**		0.48	0.12	mg/Kg	☼	07/18/19 16:16	07/19/19 18:16	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0058		0.018	0.0058	mg/Kg	☼	07/19/19 14:20	07/22/19 08:47	1

Client Sample ID: B1 (30')

Lab Sample ID: 500-166683-2

Date Collected: 07/09/19 08:00
Matrix: Solid
Date Received: 07/13/19 09:20
Percent Solids: 82.1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.40		1.2	0.40	mg/Kg	☼	07/18/19 16:16	07/19/19 18:36	1
Barium	**4.8**		1.2	0.13	mg/Kg	☼	07/18/19 16:16	07/19/19 18:36	1
Cadmium	**0.15**	**J B**	0.23	0.042	mg/Kg	☼	07/18/19 16:16	07/19/19 18:36	1
Chromium	**2.2**		1.2	0.58	mg/Kg	☼	07/18/19 16:16	07/19/19 18:36	1
Lead	**0.32**	**J**	0.59	0.27	mg/Kg	☼	07/18/19 16:16	07/19/19 18:36	1
Selenium	<0.69		1.2	0.69	mg/Kg	☼	07/18/19 16:16	07/19/19 18:36	1
Silver	**0.79**		0.59	0.15	mg/Kg	☼	07/18/19 16:16	07/19/19 18:36	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0063		0.019	0.0063	mg/Kg	☼	07/19/19 14:20	07/22/19 08:50	1

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B2 (3.5')
Date Collected: 07/09/19 11:20
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-3
Matrix: Solid
Percent Solids: 93.7

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<10		18	10	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Bromobenzene	<25	*	70	25	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Bromochloromethane	<30		70	30	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Bromodichloromethane	<26		70	26	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Bromoform	<34	*	70	34	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Bromomethane	<56		210	56	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Carbon tetrachloride	<27		70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Chlorobenzene	<27		70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Chloroethane	<35		70	35	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Chloroform	<26		140	26	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Chloromethane	<22		70	22	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
2-Chlorotoluene	<22		70	22	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
4-Chlorotoluene	<25		70	25	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
cis-1,2-Dichloroethene	<29		70	29	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
cis-1,3-Dichloropropene	<29		70	29	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Dibromochloromethane	<34		70	34	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,2-Dibromo-3-Chloropropane	<140	*	350	140	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,2-Dibromoethane	<27		70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Dibromomethane	<19		70	19	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,2-Dichlorobenzene	<23		70	23	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,3-Dichlorobenzene	<28		70	28	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,4-Dichlorobenzene	<26		70	26	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Dichlorodifluoromethane	<47		210	47	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,1-Dichloroethane	<29		70	29	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,2-Dichloroethane	<28		70	28	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,1-Dichloroethene	<27		70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,2-Dichloropropane	<30		70	30	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,3-Dichloropropane	<25		70	25	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
2,2-Dichloropropane	<31		70	31	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,1-Dichloropropene	<21		70	21	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Ethylbenzene	<13		18	13	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Hexachlorobutadiene	<31		70	31	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Isopropylbenzene	<27	*	70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Isopropyl ether	<19		70	19	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Methylene Chloride	<110		350	110	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Methyl tert-butyl ether	<28		70	28	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Naphthalene	<23	*	70	23	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
n-Butylbenzene	<27		70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
N-Propylbenzene	<29		70	29	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
p-Isopropyltoluene	<25		70	25	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
sec-Butylbenzene	<28	*	70	28	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Styrene	<27		70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
tert-Butylbenzene	<28	*	70	28	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,1,1,2-Tetrachloroethane	<32		70	32	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,1,2,2-Tetrachloroethane	<28		70	28	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Tetrachloroethene	<26		70	26	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Toluene	<10		18	10	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
trans-1,2-Dichloroethene	<25		70	25	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
trans-1,3-Dichloropropene	<25		70	25	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50

Client Sample ID: B2 (3.5')

Date Collected: 07/09/19 11:20
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-3
Matrix: Solid
Percent Solids: 93.7

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<32	*	70	32	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,2,4-Trichlorobenzene	<24		70	24	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,1,1-Trichloroethane	<27		70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,1,2-Trichloroethane	<25		70	25	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Trichloroethene	<12		35	12	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Trichlorofluoromethane	<30		70	30	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,2,3-Trichloropropane	<29		140	29	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,2,4-Trimethylbenzene	<25	*	70	25	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
1,3,5-Trimethylbenzene	<27	*	70	27	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Vinyl chloride	<18		70	18	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50
Xylenes, Total	<15		35	15	ug/Kg	☼	07/09/19 11:20	07/17/19 18:00	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*	*07/09/19 11:20*	*07/17/19 18:00*	*50*
Dibromofluoromethane	*105*		*75 - 120*	*07/09/19 11:20*	*07/17/19 18:00*	*50*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*	*07/09/19 11:20*	*07/17/19 18:00*	*50*
Toluene-d8 (Surr)	*95*		*75 - 120*	*07/09/19 11:20*	*07/17/19 18:00*	*50*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.6**		0.90	0.31	mg/Kg	☼	07/18/19 16:16	07/19/19 18:40	1
Barium	**33**		0.90	0.10	mg/Kg	☼	07/18/19 16:16	07/19/19 18:40	1
Cadmium	**0.22**	**B**	0.18	0.033	mg/Kg	☼	07/18/19 16:16	07/19/19 18:40	1
Chromium	**9.3**		0.90	0.45	mg/Kg	☼	07/18/19 16:16	07/19/19 18:40	1
Lead	**7.2**		0.45	0.21	mg/Kg	☼	07/18/19 16:16	07/19/19 18:40	1
Selenium	<0.53		0.90	0.53	mg/Kg	☼	07/18/19 16:16	07/19/19 18:40	1
Silver	**1.4**		0.45	0.12	mg/Kg	☼	07/18/19 16:16	07/19/19 18:40	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.013**	**J**	0.017	0.0055	mg/Kg	☼	07/19/19 14:20	07/22/19 08:52	1

Client Sample ID: B2 (29.5')

Date Collected: 07/09/19 13:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-4
Matrix: Solid
Percent Solids: 95.6

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.34		0.98	0.34	mg/Kg	☼	07/18/19 16:16	07/19/19 18:44	1
Barium	**1.9**		0.98	0.11	mg/Kg	☼	07/18/19 16:16	07/19/19 18:44	1
Cadmium	**0.16**	**J B**	0.20	0.035	mg/Kg	☼	07/18/19 16:16	07/19/19 18:44	1
Chromium	**2.4**		0.98	0.49	mg/Kg	☼	07/18/19 16:16	07/19/19 18:44	1
Lead	**0.37**	**J**	0.49	0.23	mg/Kg	☼	07/18/19 16:16	07/19/19 18:44	1
Selenium	<0.58		0.98	0.58	mg/Kg	☼	07/18/19 16:16	07/19/19 18:44	1
Silver	**0.49**		0.49	0.13	mg/Kg	☼	07/18/19 16:16	07/19/19 18:44	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0054		0.016	0.0054	mg/Kg	☼	07/19/19 14:20	07/22/19 08:54	1

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B3 (3')
Date Collected: 07/09/19 16:05
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-5
Matrix: Solid
Percent Solids: 82.9

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<13		22	13	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Bromobenzene	<32	*	89	32	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Bromochloromethane	<38		89	38	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Bromodichloromethane	<33		89	33	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Bromoform	<43	*	89	43	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Bromomethane	<71		270	71	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Carbon tetrachloride	<34		89	34	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Chlorobenzene	<35		89	35	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Chloroethane	<45		89	45	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Chloroform	<33		180	33	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Chloromethane	<29		89	29	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
2-Chlorotoluene	<28		89	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
4-Chlorotoluene	<31		89	31	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
cis-1,2-Dichloroethene	<36		89	36	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
cis-1,3-Dichloropropene	<37		89	37	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Dibromochloromethane	<44		89	44	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,2-Dibromo-3-Chloropropane	<180	*	450	180	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,2-Dibromoethane	<35		89	35	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Dibromomethane	<24		89	24	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,2-Dichlorobenzene	<30		89	30	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,3-Dichlorobenzene	<36		89	36	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,4-Dichlorobenzene	<33		89	33	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Dichlorodifluoromethane	<60		270	60	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,1-Dichloroethane	<37		89	37	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,2-Dichloroethane	<35		89	35	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,1-Dichloroethene	<35		89	35	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,2-Dichloropropane	<38		89	38	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,3-Dichloropropane	<32		89	32	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
2,2-Dichloropropane	<40		89	40	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,1-Dichloropropene	<27		89	27	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Ethylbenzene	<16		22	16	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Hexachlorobutadiene	<40		89	40	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Isopropylbenzene	<34	*	89	34	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Isopropyl ether	<25		89	25	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Methylene Chloride	<150		450	150	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Methyl tert-butyl ether	<35		89	35	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Naphthalene	<30	*	89	30	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
n-Butylbenzene	<35		89	35	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
N-Propylbenzene	<37		89	37	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
p-Isopropyltoluene	<32		89	32	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
sec-Butylbenzene	<36	*	89	36	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Styrene	<35		89	35	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
tert-Butylbenzene	<36	*	89	36	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,1,1,2-Tetrachloroethane	<41		89	41	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,1,2,2-Tetrachloroethane	<36		89	36	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Tetrachloroethene	<33		89	33	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Toluene	<13		22	13	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
trans-1,2-Dichloroethene	<31		89	31	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
trans-1,3-Dichloropropene	<32		89	32	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50

Client Sample ID: B3 (3')

Lab Sample ID: 500-166683-5

Date Collected: 07/09/19 16:05
Matrix: Solid
Date Received: 07/13/19 09:20
Percent Solids: 82.9

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<41	*	89	41	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,2,4-Trichlorobenzene	<31		89	31	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,1,1-Trichloroethane	<34		89	34	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,1,2-Trichloroethane	<31		89	31	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Trichloroethene	<15		45	15	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Trichlorofluoromethane	<38		89	38	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,2,3-Trichloropropane	<37		180	37	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,2,4-Trimethylbenzene	<32	*	89	32	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
1,3,5-Trimethylbenzene	<34	*	89	34	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Vinyl chloride	<23		89	23	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50
Xylenes, Total	<20		45	20	ug/Kg	☼	07/09/19 16:05	07/17/19 18:26	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*	*07/09/19 16:05*	*07/17/19 18:26*	*50*
Dibromofluoromethane	*107*		*75 - 120*	*07/09/19 16:05*	*07/17/19 18:26*	*50*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 126*	*07/09/19 16:05*	*07/17/19 18:26*	*50*
Toluene-d8 (Surr)	*92*		*75 - 120*	*07/09/19 16:05*	*07/17/19 18:26*	*50*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.79**	**J**	1.0	0.35	mg/Kg	☼	07/18/19 16:16	07/19/19 18:56	1
Barium	**22**		1.0	0.12	mg/Kg	☼	07/18/19 16:16	07/19/19 18:56	1
Cadmium	**0.15**	**J B**	0.21	0.037	mg/Kg	☼	07/18/19 16:16	07/19/19 18:56	1
Chromium	**4.0**		1.0	0.51	mg/Kg	☼	07/18/19 16:16	07/19/19 18:56	1
Lead	**1.3**		0.52	0.24	mg/Kg	☼	07/18/19 16:16	07/19/19 18:56	1
Selenium	<0.61		1.0	0.61	mg/Kg	☼	07/18/19 16:16	07/19/19 18:56	1
Silver	**1.3**		0.52	0.13	mg/Kg	☼	07/18/19 16:16	07/19/19 18:56	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0062		0.019	0.0062	mg/Kg	☼	07/19/19 14:20	07/22/19 08:56	1

Client Sample ID: B3 (5')

Lab Sample ID: 500-166683-6

Date Collected: 07/09/19 16:05
Matrix: Solid
Date Received: 07/13/19 09:20
Percent Solids: 91.5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<11		18	11	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Bromobenzene	<26	*	73	26	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Bromochloromethane	<31		73	31	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Bromodichloromethane	<27		73	27	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Bromoform	<35	* F1	73	35	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Bromomethane	<58		220	58	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Carbon tetrachloride	<28		73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Chlorobenzene	<28		73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Chloroethane	<37		73	37	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Chloroform	<27		150	27	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Chloromethane	<23		73	23	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
2-Chlorotoluene	<23		73	23	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
4-Chlorotoluene	<26		73	26	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50

Client Sample ID: B3 (5')

Date Collected: 07/09/19 16:05
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-6

Matrix: Solid
Percent Solids: 91.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<30		73	30	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
cis-1,3-Dichloropropene	<30		73	30	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Dibromochloromethane	<36		73	36	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2-Dibromo-3-Chloropropane	<150	* F1	370	150	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2-Dibromoethane	<28		73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Dibromomethane	<20		73	20	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2-Dichlorobenzene	<24		73	24	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,3-Dichlorobenzene	<29		73	29	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,4-Dichlorobenzene	<27		73	27	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Dichlorodifluoromethane	<49		220	49	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,1-Dichloroethane	<30		73	30	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2-Dichloroethane	<29		73	29	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,1-Dichloroethene	<28		73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2-Dichloropropane	<31		73	31	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,3-Dichloropropane	<26		73	26	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
2,2-Dichloropropane	<32		73	32	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,1-Dichloropropene	<22		73	22	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Ethylbenzene	<13		18	13	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Hexachlorobutadiene	<33		73	33	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Isopropylbenzene	<28	*	73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Isopropyl ether	<20		73	20	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Methylene Chloride	<120		370	120	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Methyl tert-butyl ether	<29		73	29	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Naphthalene	<24	*	73	24	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
n-Butylbenzene	<28		73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
N-Propylbenzene	<30		73	30	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
p-Isopropyltoluene	<26		73	26	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
sec-Butylbenzene	<29	*	73	29	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Styrene	<28		73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
tert-Butylbenzene	<29	*	73	29	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,1,1,2-Tetrachloroethane	<34		73	34	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,1,2,2-Tetrachloroethane	<29		73	29	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Tetrachloroethene	<27		73	27	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Toluene	<11		18	11	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
trans-1,2-Dichloroethene	<26		73	26	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
trans-1,3-Dichloropropene	<26		73	26	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2,3-Trichlorobenzene	<33	*	73	33	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2,4-Trichlorobenzene	<25		73	25	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,1,1-Trichloroethane	<28		73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,1,2-Trichloroethane	<26		73	26	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Trichloroethene	<12		37	12	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Trichlorofluoromethane	<31		73	31	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2,3-Trichloropropane	<30		150	30	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,2,4-Trimethylbenzene	<26	*	73	26	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
1,3,5-Trimethylbenzene	<28	*	73	28	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Vinyl chloride	<19		73	19	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50
Xylenes, Total	<16		37	16	ug/Kg	☼	07/09/19 16:05	07/17/19 18:53	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*	*07/09/19 16:05*	*07/17/19 18:53*	*50*

Client Sample ID: B3 (5')

Lab Sample ID: 500-166683-6
Date Collected: 07/09/19 16:05
Matrix: Solid
Date Received: 07/13/19 09:20
Percent Solids: 91.5

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*108*		*75 - 120*	*07/09/19 16:05*	*07/17/19 18:53*	*50*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*	*07/09/19 16:05*	*07/17/19 18:53*	*50*
Toluene-d8 (Surr)	*95*		*75 - 120*	*07/09/19 16:05*	*07/17/19 18:53*	*50*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.52**	**J**	1.1	0.36	mg/Kg	☼	07/18/19 16:16	07/19/19 19:00	1
Barium	**11**		1.1	0.12	mg/Kg	☼	07/18/19 16:16	07/19/19 19:00	1
Cadmium	**0.15**	**J B**	0.21	0.038	mg/Kg	☼	07/18/19 16:16	07/19/19 19:00	1
Chromium	**7.5**		1.1	0.53	mg/Kg	☼	07/18/19 16:16	07/19/19 19:00	1
Lead	**1.5**		0.53	0.25	mg/Kg	☼	07/18/19 16:16	07/19/19 19:00	1
Selenium	<0.62		1.1	0.62	mg/Kg	☼	07/18/19 16:16	07/19/19 19:00	1
Silver	**1.6**		0.53	0.14	mg/Kg	☼	07/18/19 16:16	07/19/19 19:00	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0058		0.017	0.0058	mg/Kg	☼	07/19/19 14:20	07/22/19 08:58	1

Client Sample ID: B3 (29')

Lab Sample ID: 500-166683-7
Date Collected: 07/10/19 09:10
Matrix: Solid
Date Received: 07/13/19 09:20
Percent Solids: 81.4

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.42**	**J**	1.2	0.42	mg/Kg	☼	07/18/19 16:16	07/19/19 19:04	1
Barium	**7.3**		1.2	0.14	mg/Kg	☼	07/18/19 16:16	07/19/19 19:04	1
Cadmium	**0.17**	**J B**	0.24	0.044	mg/Kg	☼	07/18/19 16:16	07/19/19 19:04	1
Chromium	**8.5**		1.2	0.61	mg/Kg	☼	07/18/19 16:16	07/19/19 19:04	1
Lead	**0.60**	**J**	0.61	0.28	mg/Kg	☼	07/18/19 16:16	07/19/19 19:04	1
Selenium	**0.77**	**J**	1.2	0.72	mg/Kg	☼	07/18/19 16:16	07/19/19 19:04	1
Silver	**0.86**		0.61	0.16	mg/Kg	☼	07/18/19 16:16	07/19/19 19:04	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0067		0.020	0.0067	mg/Kg	☼	07/19/19 14:20	07/22/19 09:00	1

Client Sample ID: Trip Blank

Lab Sample ID: 500-166683-8
Date Collected: 07/12/19 00:00
Matrix: Solid
Date Received: 07/13/19 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.3		13	7.3	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Bromobenzene	<18	*	50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Bromochloromethane	<21		50	21	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Bromodichloromethane	<19		50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Bromoform	<24		50	24	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Bromomethane	<40		150	40	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Carbon tetrachloride	<19		50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Chlorobenzene	<19		50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Chloroethane	<25		50	25	ug/Kg		07/12/19 00:00	07/18/19 23:44	50

Client Sample ID: Trip Blank
Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-8
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	<19		100	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Chloromethane	<16		50	16	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
2-Chlorotoluene	<16		50	16	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
4-Chlorotoluene	<18		50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
cis-1,2-Dichloroethene	<20		50	20	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Dibromochloromethane	<24		50	24	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2-Dibromoethane	<19		50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Dibromomethane	<14		50	14	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Dichlorodifluoromethane	<34		150	34	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,1-Dichloroethane	<21		50	21	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2-Dichloroethane	<20		50	20	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,1-Dichloroethene	<20		50	20	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2-Dichloropropane	<21		50	21	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,3-Dichloropropane	<18		50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
2,2-Dichloropropane	<22		50	22	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,1-Dichloropropene	<15		50	15	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Ethylbenzene	<9.2		13	9.2	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Hexachlorobutadiene	<22		50	22	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Isopropylbenzene	<19	*	50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Isopropyl ether	<14		50	14	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Methylene Chloride	<82		250	82	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Methyl tert-butyl ether	<20		50	20	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Naphthalene	<17	*	50	17	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
n-Butylbenzene	<19		50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
N-Propylbenzene	<21		50	21	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
p-Isopropyltoluene	<18		50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
sec-Butylbenzene	<20	*	50	20	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Styrene	<19		50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
tert-Butylbenzene	<20	*	50	20	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Tetrachloroethene	<19		50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Toluene	<7.4		13	7.4	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2,3-Trichlorobenzene	<23	*	50	23	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,1,2-Trichloroethane	<18		50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Trichloroethene	<8.2		25	8.2	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Trichlorofluoromethane	<21		50	21	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2,3-Trichloropropane	<21		100	21	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,2,4-Trimethylbenzene	<18	*	50	18	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
1,3,5-Trimethylbenzene	<19	*	50	19	ug/Kg		07/12/19 00:00	07/18/19 23:44	50

Client Sample ID: Trip Blank

Lab Sample ID: 500-166683-8
Matrix: Solid
Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<13		50	13	ug/Kg		07/12/19 00:00	07/18/19 23:44	50
Xylenes, Total	<11		25	11	ug/Kg		07/12/19 00:00	07/18/19 23:44	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*	*07/12/19 00:00*	*07/18/19 23:44*	*50*
Dibromofluoromethane	*95*		*75 - 120*	*07/12/19 00:00*	*07/18/19 23:44*	*50*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*	*07/12/19 00:00*	*07/18/19 23:44*	*50*
Toluene-d8 (Surr)	*95*		*75 - 120*	*07/12/19 00:00*	*07/18/19 23:44*	*50*

Client Sample ID: B4 (3')

Lab Sample ID: 500-166683-9
Matrix: Solid
Date Collected: 07/10/19 12:45
Percent Solids: 88.8
Date Received: 07/13/19 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<9.1		16	9.1	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Bromobenzene	<22	*	63	22	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Bromochloromethane	<27		63	27	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Bromodichloromethane	<23		63	23	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Bromoform	<30		63	30	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Bromomethane	<50		190	50	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Carbon tetrachloride	<24		63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Chlorobenzene	<24		63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Chloroethane	<32		63	32	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Chloroform	<23		130	23	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Chloromethane	<20		63	20	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
2-Chlorotoluene	<20		63	20	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
4-Chlorotoluene	<22		63	22	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
cis-1,2-Dichloroethene	<26		63	26	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
cis-1,3-Dichloropropene	<26		63	26	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Dibromochloromethane	<31		63	31	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2-Dibromo-3-Chloropropane	<120		310	120	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2-Dibromoethane	<24		63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Dibromomethane	<17		63	17	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2-Dichlorobenzene	<21		63	21	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,3-Dichlorobenzene	<25		63	25	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,4-Dichlorobenzene	<23		63	23	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Dichlorodifluoromethane	<42		190	42	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,1-Dichloroethane	<26		63	26	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2-Dichloroethane	<25		63	25	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,1-Dichloroethene	<24		63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2-Dichloropropane	<27		63	27	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,3-Dichloropropane	<23		63	23	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
2,2-Dichloropropane	<28		63	28	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,1-Dichloropropene	<19		63	19	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Ethylbenzene	<11		16	11	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Hexachlorobutadiene	<28		63	28	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Isopropylbenzene	<24	*	63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Isopropyl ether	<17		63	17	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Methylene Chloride	<100		310	100	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50

Client Sample ID: B4 (3')

Date Collected: 07/10/19 12:45
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-9

Matrix: Solid
Percent Solids: 88.8

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	<25		63	25	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Naphthalene	<21	*	63	21	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
n-Butylbenzene	<24		63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
N-Propylbenzene	<26		63	26	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
p-Isopropyltoluene	<23		63	23	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
sec-Butylbenzene	<25	*	63	25	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Styrene	<24		63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
tert-Butylbenzene	<25	*	63	25	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,1,1,2-Tetrachloroethane	<29		63	29	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,1,2,2-Tetrachloroethane	<25		63	25	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Tetrachloroethene	<23		63	23	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Toluene	<9.2		16	9.2	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
trans-1,2-Dichloroethene	<22		63	22	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
trans-1,3-Dichloropropene	<23		63	23	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2,3-Trichlorobenzene	<29	*	63	29	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2,4-Trichlorobenzene	<21		63	21	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,1,1-Trichloroethane	<24		63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,1,2-Trichloroethane	<22		63	22	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Trichloroethene	<10		31	10	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Trichlorofluoromethane	<27		63	27	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2,3-Trichloropropane	<26		130	26	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,2,4-Trimethylbenzene	<22	*	63	22	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
1,3,5-Trimethylbenzene	<24	*	63	24	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Vinyl chloride	<16		63	16	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50
Xylenes, Total	<14		31	14	ug/Kg	☼	07/10/19 12:45	07/19/19 00:10	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*72 - 124*	*07/10/19 12:45*	*07/19/19 00:10*	*50*
Dibromofluoromethane	*95*		*75 - 120*	*07/10/19 12:45*	*07/19/19 00:10*	*50*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*	*07/10/19 12:45*	*07/19/19 00:10*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*07/10/19 12:45*	*07/19/19 00:10*	*50*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.89**	**J**	0.96	0.33	mg/Kg	☼	07/18/19 16:16	07/19/19 19:08	1
Barium	**11**		0.96	0.11	mg/Kg	☼	07/18/19 16:16	07/19/19 19:08	1
Cadmium	**0.15**	**J B**	0.19	0.035	mg/Kg	☼	07/18/19 16:16	07/19/19 19:08	1
Chromium	**6.9**		0.96	0.48	mg/Kg	☼	07/18/19 16:16	07/19/19 19:08	1
Lead	**1.6**		0.48	0.22	mg/Kg	☼	07/18/19 16:16	07/19/19 19:08	1
Selenium	<0.57		0.96	0.57	mg/Kg	☼	07/18/19 16:16	07/19/19 19:08	1
Silver	**1.7**		0.48	0.12	mg/Kg	☼	07/18/19 16:16	07/19/19 19:08	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0058		0.017	0.0058	mg/Kg	☼	07/19/19 14:20	07/22/19 09:07	1

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B4 (30')

Date Collected: 07/10/19 14:40
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-10

Matrix: Solid
Percent Solids: 95.0

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.45	J	0.89	0.30	mg/Kg	☼	07/18/19 16:16	07/19/19 19:12	1
Barium	3.5		0.89	0.10	mg/Kg	☼	07/18/19 16:16	07/19/19 19:12	1
Cadmium	0.14	J B	0.18	0.032	mg/Kg	☼	07/18/19 16:16	07/19/19 19:12	1
Chromium	2.9		0.89	0.44	mg/Kg	☼	07/18/19 16:16	07/19/19 19:12	1
Lead	0.67		0.44	0.20	mg/Kg	☼	07/18/19 16:16	07/19/19 19:12	1
Selenium	<0.52		0.89	0.52	mg/Kg	☼	07/18/19 16:16	07/19/19 19:12	1
Silver	0.98		0.44	0.11	mg/Kg	☼	07/18/19 16:16	07/19/19 19:12	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0054		0.016	0.0054	mg/Kg	☼	07/19/19 14:20	07/22/19 09:15	1

Client Sample ID: B5 (3')

Date Collected: 07/11/19 07:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-11

Matrix: Solid
Percent Solids: 94.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<9.1		16	9.1	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Bromobenzene	<22	*	62	22	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Bromochloromethane	<27		62	27	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Bromodichloromethane	<23		62	23	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Bromoform	<30		62	30	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Bromomethane	<50		190	50	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Carbon tetrachloride	<24		62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Chlorobenzene	<24		62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Chloroethane	<31		62	31	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Chloroform	<23		120	23	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Chloromethane	<20		62	20	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
2-Chlorotoluene	<20		62	20	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
4-Chlorotoluene	<22		62	22	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
cis-1,2-Dichloroethene	<25		62	25	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
cis-1,3-Dichloropropene	<26		62	26	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Dibromochloromethane	<30		62	30	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2-Dibromo-3-Chloropropane	<120		310	120	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2-Dibromoethane	<24		62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Dibromomethane	<17		62	17	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2-Dichlorobenzene	<21		62	21	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,3-Dichlorobenzene	<25		62	25	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,4-Dichlorobenzene	<23		62	23	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Dichlorodifluoromethane	<42		190	42	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,1-Dichloroethane	<26		62	26	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2-Dichloroethane	<24		62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,1-Dichloroethene	<24		62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2-Dichloropropane	<27		62	27	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,3-Dichloropropane	<23		62	23	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
2,2-Dichloropropane	<28		62	28	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,1-Dichloropropene	<19		62	19	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Ethylbenzene	<11		16	11	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Hexachlorobutadiene	<28		62	28	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50

Client Sample ID: B5 (3')
Date Collected: 07/11/19 07:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-11
Matrix: Solid
Percent Solids: 94.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	<24	*	62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Isopropyl ether	<17		62	17	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Methylene Chloride	<100		310	100	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Methyl tert-butyl ether	<25		62	25	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Naphthalene	<21	*	62	21	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
n-Butylbenzene	<24		62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
N-Propylbenzene	<26		62	26	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
p-Isopropyltoluene	<23		62	23	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
sec-Butylbenzene	<25	*	62	25	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Styrene	<24		62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
tert-Butylbenzene	<25	*	62	25	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,1,1,2-Tetrachloroethane	<29		62	29	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,1,2,2-Tetrachloroethane	<25		62	25	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Tetrachloroethene	<23		62	23	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Toluene	<9.1		16	9.1	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
trans-1,2-Dichloroethene	<22		62	22	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
trans-1,3-Dichloropropene	<23		62	23	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2,3-Trichlorobenzene	<28	*	62	28	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2,4-Trichlorobenzene	<21		62	21	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,1,1-Trichloroethane	<24		62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,1,2-Trichloroethane	<22		62	22	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Trichloroethene	<10		31	10	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Trichlorofluoromethane	<27		62	27	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2,3-Trichloropropane	<26		120	26	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,2,4-Trimethylbenzene	<22	*	62	22	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
1,3,5-Trimethylbenzene	<24	*	62	24	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Vinyl chloride	<16		62	16	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50
Xylenes, Total	<14		31	14	ug/Kg	☼	07/11/19 07:30	07/19/19 00:36	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*	*07/11/19 07:30*	*07/19/19 00:36*	*50*
Dibromofluoromethane	*96*		*75 - 120*	*07/11/19 07:30*	*07/19/19 00:36*	*50*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*	*07/11/19 07:30*	*07/19/19 00:36*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*07/11/19 07:30*	*07/19/19 00:36*	*50*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.1**		0.96	0.33	mg/Kg	☼	07/18/19 16:16	07/19/19 19:16	1
Barium	**10**		0.96	0.11	mg/Kg	☼	07/18/19 16:16	07/19/19 19:16	1
Cadmium	**0.13**	**J B**	0.19	0.034	mg/Kg	☼	07/18/19 16:16	07/19/19 19:16	1
Chromium	**7.8**		0.96	0.47	mg/Kg	☼	07/18/19 16:16	07/19/19 19:16	1
Lead	**3.0**		0.48	0.22	mg/Kg	☼	07/18/19 16:16	07/19/19 19:16	1
Selenium	<0.56		0.96	0.56	mg/Kg	☼	07/18/19 16:16	07/19/19 19:16	1
Silver	**1.7**		0.48	0.12	mg/Kg	☼	07/18/19 16:16	07/19/19 19:16	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0055		0.017	0.0055	mg/Kg	☼	07/19/19 14:20	07/22/19 09:17	1

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B5 (6')
Date Collected: 07/11/19 07:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-12
Matrix: Solid
Percent Solids: 81.3

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<13		22	13	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Bromobenzene	<32	*	89	32	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Bromochloromethane	<38		89	38	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Bromodichloromethane	<33		89	33	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Bromoform	<43		89	43	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Bromomethane	<71		270	71	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Carbon tetrachloride	<34		89	34	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Chlorobenzene	<34		89	34	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Chloroethane	<45		89	45	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Chloroform	<33		180	33	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Chloromethane	<29		89	29	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
2-Chlorotoluene	<28		89	28	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
4-Chlorotoluene	<31		89	31	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
cis-1,2-Dichloroethene	<36		89	36	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
cis-1,3-Dichloropropene	<37		89	37	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Dibromochloromethane	<44		89	44	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,2-Dibromo-3-Chloropropane	<180		450	180	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,2-Dibromoethane	<34		89	34	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Dibromomethane	<24		89	24	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,2-Dichlorobenzene	<30		89	30	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,3-Dichlorobenzene	<36		89	36	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,4-Dichlorobenzene	<33		89	33	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Dichlorodifluoromethane	<60		270	60	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,1-Dichloroethane	<37		89	37	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,2-Dichloroethane	<35		89	35	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,1-Dichloroethene	<35		89	35	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,2-Dichloropropane	<38		89	38	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,3-Dichloropropane	<32		89	32	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
2,2-Dichloropropane	<40		89	40	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,1-Dichloropropene	<27		89	27	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Ethylbenzene	<16		22	16	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Hexachlorobutadiene	<40		89	40	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Isopropylbenzene	<34	*	89	34	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Isopropyl ether	<25		89	25	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Methylene Chloride	<150		450	150	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Methyl tert-butyl ether	<35		89	35	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Naphthalene	<30	*	89	30	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
n-Butylbenzene	<35		89	35	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
N-Propylbenzene	<37		89	37	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
p-Isopropyltoluene	<32		89	32	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
sec-Butylbenzene	<36	*	89	36	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Styrene	<34		89	34	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
tert-Butylbenzene	<36	*	89	36	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,1,1,2-Tetrachloroethane	<41		89	41	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,1,2,2-Tetrachloroethane	<36		89	36	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Tetrachloroethene	<33		89	33	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Toluene	<13		22	13	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
trans-1,2-Dichloroethene	<31		89	31	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
trans-1,3-Dichloropropene	<32		89	32	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50

Client Sample ID: B5 (6')

Lab Sample ID: 500-166683-12
Date Collected: 07/11/19 07:30
Matrix: Solid
Date Received: 07/13/19 09:20
Percent Solids: 81.3

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<41	*	89	41	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,2,4-Trichlorobenzene	<31		89	31	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,1,1-Trichloroethane	<34		89	34	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,1,2-Trichloroethane	<31		89	31	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Trichloroethene	<15		45	15	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Trichlorofluoromethane	<38		89	38	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,2,3-Trichloropropane	<37		180	37	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,2,4-Trimethylbenzene	<32	*	89	32	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
1,3,5-Trimethylbenzene	<34	*	89	34	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Vinyl chloride	<23		89	23	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50
Xylenes, Total	<20		45	20	ug/Kg	☼	07/11/19 07:30	07/19/19 01:02	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*	*07/11/19 07:30*	*07/19/19 01:02*	*50*
Dibromofluoromethane	*96*		*75 - 120*	*07/11/19 07:30*	*07/19/19 01:02*	*50*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 126*	*07/11/19 07:30*	*07/19/19 01:02*	*50*
Toluene-d8 (Surr)	*95*		*75 - 120*	*07/11/19 07:30*	*07/19/19 01:02*	*50*

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.41**	**J**	1.2	0.40	mg/Kg	☼	07/18/19 16:16	07/19/19 19:20	1
Barium	**5.3**		1.2	0.13	mg/Kg	☼	07/18/19 16:16	07/19/19 19:20	1
Cadmium	**0.17**	**J B**	0.23	0.042	mg/Kg	☼	07/18/19 16:16	07/19/19 19:20	1
Chromium	**9.5**		1.2	0.58	mg/Kg	☼	07/18/19 16:16	07/19/19 19:20	1
Lead	**0.59**		0.58	0.27	mg/Kg	☼	07/18/19 16:16	07/19/19 19:20	1
Selenium	<0.69		1.2	0.69	mg/Kg	☼	07/18/19 16:16	07/19/19 19:20	1
Silver	**1.6**		0.58	0.15	mg/Kg	☼	07/18/19 16:16	07/19/19 19:20	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0065		0.020	0.0065	mg/Kg	☼	07/19/19 14:20	07/22/19 09:19	1

Client Sample ID: B5 (27')

Lab Sample ID: 500-166683-13
Date Collected: 07/11/19 09:00
Matrix: Solid
Date Received: 07/13/19 09:20
Percent Solids: 81.7

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**1.1**		1.1	0.38	mg/Kg	☼	07/18/19 16:16	07/19/19 19:24	1
Barium	**4.7**		1.1	0.13	mg/Kg	☼	07/18/19 16:16	07/19/19 19:24	1
Cadmium	**0.15**	**J B**	0.22	0.039	mg/Kg	☼	07/18/19 16:16	07/19/19 19:24	1
Chromium	**2.3**		1.1	0.54	mg/Kg	☼	07/18/19 16:16	07/19/19 19:24	1
Lead	**0.83**		0.55	0.25	mg/Kg	☼	07/18/19 16:16	07/19/19 19:24	1
Selenium	<0.64		1.1	0.64	mg/Kg	☼	07/18/19 16:16	07/19/19 19:24	1
Silver	**2.0**		0.55	0.14	mg/Kg	☼	07/18/19 16:16	07/19/19 19:24	1

Method: 7471B - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0064		0.019	0.0064	mg/Kg	☼	07/19/19 14:20	07/22/19 09:21	1

Definitions/Glossary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

GC/MS VOA

Prep Batch: 494738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-1	B1 (3.5')	Total/NA	Solid	5035	
500-166683-3	B2 (3.5')	Total/NA	Solid	5035	
500-166683-5	B3 (3')	Total/NA	Solid	5035	
500-166683-6	B3 (5')	Total/NA	Solid	5035	
500-166683-8	Trip Blank	Total/NA	Solid	5035	
500-166683-9	B4 (3')	Total/NA	Solid	5035	
500-166683-11	B5 (3')	Total/NA	Solid	5035	
500-166683-12	B5 (6')	Total/NA	Solid	5035	
LB3 500-494738/19-A	Method Blank	Total/NA	Solid	5035	
LCS 500-494738/20-A	Lab Control Sample	Total/NA	Solid	5035	
500-166683-6 MS	B3 (5')	Total/NA	Solid	5035	
500-166683-6 MSD	B3 (5')	Total/NA	Solid	5035	

Analysis Batch: 495206

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-1	B1 (3.5')	Total/NA	Solid	8260B	494738
500-166683-3	B2 (3.5')	Total/NA	Solid	8260B	494738
500-166683-5	B3 (3')	Total/NA	Solid	8260B	494738
500-166683-6	B3 (5')	Total/NA	Solid	8260B	494738
MB 500-495206/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-495206/4	Lab Control Sample	Total/NA	Solid	8260B	
500-166683-6 MS	B3 (5')	Total/NA	Solid	8260B	494738
500-166683-6 MSD	B3 (5')	Total/NA	Solid	8260B	494738

Analysis Batch: 495567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-8	Trip Blank	Total/NA	Solid	8260B	494738
500-166683-9	B4 (3')	Total/NA	Solid	8260B	494738
500-166683-11	B5 (3')	Total/NA	Solid	8260B	494738
500-166683-12	B5 (6')	Total/NA	Solid	8260B	494738
LB3 500-494738/19-A	Method Blank	Total/NA	Solid	8260B	494738
MB 500-495567/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-494738/20-A	Lab Control Sample	Total/NA	Solid	8260B	494738
LCS 500-495567/4	Lab Control Sample	Total/NA	Solid	8260B	

Metals

Prep Batch: 495548

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-1	B1 (3.5')	Total/NA	Solid	3050B	
500-166683-2	B1 (30')	Total/NA	Solid	3050B	
500-166683-3	B2 (3.5')	Total/NA	Solid	3050B	
500-166683-4	B2 (29.5')	Total/NA	Solid	3050B	
500-166683-5	B3 (3')	Total/NA	Solid	3050B	
500-166683-6	B3 (5')	Total/NA	Solid	3050B	
500-166683-7	B3 (29')	Total/NA	Solid	3050B	
500-166683-9	B4 (3')	Total/NA	Solid	3050B	
500-166683-10	B4 (30')	Total/NA	Solid	3050B	
500-166683-11	B5 (3')	Total/NA	Solid	3050B	
500-166683-12	B5 (6')	Total/NA	Solid	3050B	
500-166683-13	B5 (27')	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 495548 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-495548/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 500-495548/2-A	Lab Control Sample	Total/NA	Solid	3050B	
500-166683-1 MS	B1 (3.5')	Total/NA	Solid	3050B	
500-166683-1 MSD	B1 (3.5')	Total/NA	Solid	3050B	
500-166683-1 DU	B1 (3.5')	Total/NA	Solid	3050B	

Prep Batch: 495698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-1	B1 (3.5')	Total/NA	Solid	7471B	
500-166683-2	B1 (30')	Total/NA	Solid	7471B	
500-166683-3	B2 (3.5')	Total/NA	Solid	7471B	
500-166683-4	B2 (29.5')	Total/NA	Solid	7471B	
500-166683-5	B3 (3')	Total/NA	Solid	7471B	
500-166683-6	B3 (5')	Total/NA	Solid	7471B	
500-166683-7	B3 (29')	Total/NA	Solid	7471B	
500-166683-9	B4 (3')	Total/NA	Solid	7471B	
500-166683-10	B4 (30')	Total/NA	Solid	7471B	
500-166683-11	B5 (3')	Total/NA	Solid	7471B	
500-166683-12	B5 (6')	Total/NA	Solid	7471B	
500-166683-13	B5 (27')	Total/NA	Solid	7471B	
MB 500-495698/12-A	Method Blank	Total/NA	Solid	7471B	
LCS 500-495698/13-A	Lab Control Sample	Total/NA	Solid	7471B	
500-166683-9 MS	B4 (3')	Total/NA	Solid	7471B	
500-166683-9 MSD	B4 (3')	Total/NA	Solid	7471B	
500-166683-9 DU	B4 (3')	Total/NA	Solid	7471B	

Analysis Batch: 495891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-1	B1 (3.5')	Total/NA	Solid	6010C	495548
500-166683-2	B1 (30')	Total/NA	Solid	6010C	495548
500-166683-3	B2 (3.5')	Total/NA	Solid	6010C	495548
500-166683-4	B2 (29.5')	Total/NA	Solid	6010C	495548
500-166683-5	B3 (3')	Total/NA	Solid	6010C	495548
500-166683-6	B3 (5')	Total/NA	Solid	6010C	495548
500-166683-7	B3 (29')	Total/NA	Solid	6010C	495548
500-166683-9	B4 (3')	Total/NA	Solid	6010C	495548
500-166683-10	B4 (30')	Total/NA	Solid	6010C	495548
500-166683-11	B5 (3')	Total/NA	Solid	6010C	495548
500-166683-12	B5 (6')	Total/NA	Solid	6010C	495548
500-166683-13	B5 (27')	Total/NA	Solid	6010C	495548
MB 500-495548/1-A	Method Blank	Total/NA	Solid	6010C	495548
LCS 500-495548/2-A	Lab Control Sample	Total/NA	Solid	6010C	495548
500-166683-1 MS	B1 (3.5')	Total/NA	Solid	6010C	495548
500-166683-1 MSD	B1 (3.5')	Total/NA	Solid	6010C	495548
500-166683-1 DU	B1 (3.5')	Total/NA	Solid	6010C	495548

Analysis Batch: 495964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-1	B1 (3.5')	Total/NA	Solid	7471B	495698
500-166683-2	B1 (30')	Total/NA	Solid	7471B	495698
500-166683-3	B2 (3.5')	Total/NA	Solid	7471B	495698

Metals (Continued)

Analysis Batch: 495964 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-4	B2 (29.5')	Total/NA	Solid	7471B	495698
500-166683-5	B3 (3')	Total/NA	Solid	7471B	495698
500-166683-6	B3 (5')	Total/NA	Solid	7471B	495698
500-166683-7	B3 (29')	Total/NA	Solid	7471B	495698
500-166683-9	B4 (3')	Total/NA	Solid	7471B	495698
500-166683-10	B4 (30')	Total/NA	Solid	7471B	495698
500-166683-11	B5 (3')	Total/NA	Solid	7471B	495698
500-166683-12	B5 (6')	Total/NA	Solid	7471B	495698
500-166683-13	B5 (27')	Total/NA	Solid	7471B	495698
MB 500-495698/12-A	Method Blank	Total/NA	Solid	7471B	495698
LCS 500-495698/13-A	Lab Control Sample	Total/NA	Solid	7471B	495698
500-166683-9 MS	B4 (3')	Total/NA	Solid	7471B	495698
500-166683-9 MSD	B4 (3')	Total/NA	Solid	7471B	495698
500-166683-9 DU	B4 (3')	Total/NA	Solid	7471B	495698

General Chemistry

Analysis Batch: 495498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-166683-1	B1 (3.5')	Total/NA	Solid	Moisture	
500-166683-2	B1 (30')	Total/NA	Solid	Moisture	
500-166683-3	B2 (3.5')	Total/NA	Solid	Moisture	
500-166683-4	B2 (29.5')	Total/NA	Solid	Moisture	
500-166683-5	B3 (3')	Total/NA	Solid	Moisture	
500-166683-6	B3 (5')	Total/NA	Solid	Moisture	
500-166683-7	B3 (29')	Total/NA	Solid	Moisture	
500-166683-9	B4 (3')	Total/NA	Solid	Moisture	
500-166683-10	B4 (30')	Total/NA	Solid	Moisture	
500-166683-11	B5 (3')	Total/NA	Solid	Moisture	
500-166683-12	B5 (6')	Total/NA	Solid	Moisture	
500-166683-13	B5 (27')	Total/NA	Solid	Moisture	
500-166683-1 DU	B1 (3.5')	Total/NA	Solid	Moisture	

Surrogate Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-166683-1	B1 (3.5')	92	109	107	96
500-166683-3	B2 (3.5')	93	105	106	95
500-166683-5	B3 (3')	91	107	107	92
500-166683-6	B3 (5')	94	108	106	95
500-166683-6 MS	B3 (5')	96	110	109	95
500-166683-6 MSD	B3 (5')	94	109	108	96
500-166683-8	Trip Blank	100	95	99	95
500-166683-9	B4 (3')	102	95	99	96
500-166683-11	B5 (3')	101	96	100	96
500-166683-12	B5 (6')	100	96	101	95
LB3 500-494738/19-A	Method Blank	101	96	98	96
LCS 500-494738/20-A	Lab Control Sample	104	100	100	95
LCS 500-495206/4	Lab Control Sample	93	104	103	96
LCS 500-495567/4	Lab Control Sample	102	100	99	95
MB 500-495206/6	Method Blank	91	106	105	97
MB 500-495567/7	Method Blank	102	100	103	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: LB3 500-494738/19-A
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494738

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.3		13	7.3	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Bromobenzene	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Bromochloromethane	<21	*	50	21	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Bromodichloromethane	<19	*	50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Bromoform	<24	*	50	24	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Bromomethane	<40		150	40	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Carbon tetrachloride	<19		50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Chlorobenzene	<19		50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Chloroethane	<25		50	25	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Chloroform	<19		100	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Chloromethane	<16		50	16	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
2-Chlorotoluene	<16		50	16	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
4-Chlorotoluene	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
cis-1,2-Dichloroethene	<20		50	20	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Dibromochloromethane	<24	*	50	24	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2-Dibromo-3-Chloropropane	<100	*	250	100	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2-Dibromoethane	<19	*	50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Dibromomethane	<14	*	50	14	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Dichlorodifluoromethane	<34	*	150	34	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,1-Dichloroethane	<21		50	21	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2-Dichloroethane	<20		50	20	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,1-Dichloroethene	<20		50	20	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2-Dichloropropane	<21		50	21	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,3-Dichloropropane	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
2,2-Dichloropropane	<22		50	22	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,1-Dichloropropene	<15		50	15	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Ethylbenzene	<9.2		13	9.2	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Hexachlorobutadiene	<22		50	22	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Isopropylbenzene	<19		50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Isopropyl ether	<14		50	14	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Methylene Chloride	<82		250	82	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Methyl tert-butyl ether	<20	*	50	20	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Naphthalene	<17		50	17	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
n-Butylbenzene	<19		50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
N-Propylbenzene	<21		50	21	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
p-Isopropyltoluene	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
sec-Butylbenzene	<20		50	20	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Styrene	<19		50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
tert-Butylbenzene	<20		50	20	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,1,1,2-Tetrachloroethane	<23	*	50	23	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Tetrachloroethene	<19		50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Toluene	<7.4		13	7.4	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LB3 500-494738/19-A
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 494738

Analyte	LB3 Result	LB3 Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,1,2-Trichloroethane	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Trichloroethene	<8.2		25	8.2	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Trichlorofluoromethane	<21		50	21	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2,3-Trichloropropane	<21	*	100	21	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Vinyl chloride	<13		50	13	ug/Kg		07/13/19 21:30	07/18/19 23:19	50
Xylenes, Total	<11		25	11	ug/Kg		07/13/19 21:30	07/18/19 23:19	50

Surrogate	*LB3 %Recovery*	*LB3 Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*	*07/13/19 21:30*	*07/18/19 23:19*	*50*
Dibromofluoromethane	*96*		*75 - 120*	*07/13/19 21:30*	*07/18/19 23:19*	*50*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 126*	*07/13/19 21:30*	*07/18/19 23:19*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*07/13/19 21:30*	*07/18/19 23:19*	*50*

Lab Sample ID: LCS 500-494738/20-A
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494738

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2500	2920		ug/Kg		117	70 - 120
Bromobenzene	2500	3180	*	ug/Kg		127	70 - 122
Bromochloromethane	2500	3050		ug/Kg		122	65 - 122
Bromodichloromethane	2500	2820		ug/Kg		113	69 - 120
Bromoform	2500	2610		ug/Kg		104	56 - 132
Bromomethane	2500	2280		ug/Kg		91	40 - 152
Carbon tetrachloride	2500	2870		ug/Kg		115	59 - 133
Chlorobenzene	2500	2840		ug/Kg		114	70 - 120
Chloroethane	2500	2610		ug/Kg		105	48 - 136
Chloroform	2500	2910		ug/Kg		116	70 - 120
Chloromethane	2500	2040		ug/Kg		81	56 - 152
2-Chlorotoluene	2500	3080		ug/Kg		123	70 - 125
4-Chlorotoluene	2500	3020		ug/Kg		121	68 - 124
cis-1,2-Dichloroethene	2500	3000		ug/Kg		120	70 - 125
cis-1,3-Dichloropropene	2500	2740		ug/Kg		110	64 - 127
Dibromochloromethane	2500	2720		ug/Kg		109	68 - 125
1,2-Dibromo-3-Chloropropane	2500	2680		ug/Kg		107	56 - 123
1,2-Dibromoethane	2500	2980		ug/Kg		119	70 - 125
Dibromomethane	2500	2900		ug/Kg		116	70 - 120
1,2-Dichlorobenzene	2500	3100		ug/Kg		124	70 - 125
1,3-Dichlorobenzene	2500	3060		ug/Kg		122	70 - 125
1,4-Dichlorobenzene	2500	3010		ug/Kg		120	70 - 120
Dichlorodifluoromethane	2500	1220		ug/Kg		49	40 - 159
1,1-Dichloroethane	2500	3060		ug/Kg		122	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-494738/20-A
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 494738

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	2500	2990		ug/Kg		119	68 - 127
1,1-Dichloroethene	2500	2830		ug/Kg		113	67 - 122
1,2-Dichloropropane	2500	3120		ug/Kg		125	67 - 130
1,3-Dichloropropane	2500	2880		ug/Kg		115	62 - 136
2,2-Dichloropropane	2500	2780		ug/Kg		111	58 - 139
1,1-Dichloropropene	2500	2930		ug/Kg		117	70 - 121
Ethylbenzene	2500	2870		ug/Kg		115	70 - 123
Hexachlorobutadiene	2500	3400		ug/Kg		136	51 - 150
Isopropylbenzene	2500	3230	*	ug/Kg		129	70 - 126
Methylene Chloride	2500	2700		ug/Kg		108	69 - 125
Methyl tert-butyl ether	2500	2890		ug/Kg		116	55 - 123
Naphthalene	2500	4180	*	ug/Kg		167	53 - 144
n-Butylbenzene	2500	3100		ug/Kg		124	68 - 125
N-Propylbenzene	2500	3160		ug/Kg		126	69 - 127
p-Isopropyltoluene	2500	3130		ug/Kg		125	70 - 125
sec-Butylbenzene	2500	3240	*	ug/Kg		130	70 - 123
Styrene	2500	2880		ug/Kg		115	70 - 120
tert-Butylbenzene	2500	3180	*	ug/Kg		127	70 - 121
1,1,1,2-Tetrachloroethane	2500	2860		ug/Kg		114	70 - 125
1,1,2,2-Tetrachloroethane	2500	3060		ug/Kg		122	62 - 140
Tetrachloroethene	2500	2830		ug/Kg		113	70 - 128
Toluene	2500	2710		ug/Kg		108	70 - 125
trans-1,2-Dichloroethene	2500	2940		ug/Kg		117	70 - 125
trans-1,3-Dichloropropene	2500	2630		ug/Kg		105	62 - 128
1,2,3-Trichlorobenzene	2500	4260	*	ug/Kg		170	51 - 145
1,2,4-Trichlorobenzene	2500	3320		ug/Kg		133	57 - 137
1,1,1-Trichloroethane	2500	2850		ug/Kg		114	70 - 125
1,1,2-Trichloroethane	2500	2820		ug/Kg		113	71 - 130
Trichloroethene	2500	2970		ug/Kg		119	70 - 125
Trichlorofluoromethane	2500	2690		ug/Kg		107	55 - 128
1,2,3-Trichloropropane	2500	3190		ug/Kg		128	50 - 133
1,2,4-Trimethylbenzene	2500	3180	*	ug/Kg		127	70 - 123
1,3,5-Trimethylbenzene	2500	3170	*	ug/Kg		127	70 - 123
Vinyl chloride	2500	2220		ug/Kg		89	64 - 126
Xylenes, Total	5000	5470		ug/Kg		109	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*72 - 124*
Dibromofluoromethane	*100*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*100*		*75 - 126*
Toluene-d8 (Surr)	*95*		*75 - 120*

Lab Sample ID: 500-166683-6 MS
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: B3 (5')
Prep Type: Total/NA
Prep Batch: 494738

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<11		3650	3700		ug/Kg	☼	101	70 - 120

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-166683-6 MS
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: B3 (5')
Prep Type: Total/NA
Prep Batch: 494738

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromobenzene	<26	*	3650	3680	*	ug/Kg	☼	101	70 - 122
Bromochloromethane	<31		3650	4120		ug/Kg	☼	113	65 - 122
Bromodichloromethane	<27		3650	4070		ug/Kg	☼	111	69 - 120
Bromoform	<35	* F1	3650	5320	F1	ug/Kg	☼	146	56 - 132
Bromomethane	<58		3650	3720		ug/Kg	☼	102	40 - 152
Carbon tetrachloride	<28		3650	4130		ug/Kg	☼	113	59 - 133
Chlorobenzene	<28		3650	3570		ug/Kg	☼	98	70 - 120
Chloroethane	<37		3650	3140		ug/Kg	☼	86	48 - 136
Chloroform	<27		3650	3610		ug/Kg	☼	99	70 - 120
Chloromethane	<23		3650	3350		ug/Kg	☼	92	56 - 152
2-Chlorotoluene	<23		3650	3550		ug/Kg	☼	97	70 - 125
4-Chlorotoluene	<26		3650	3560		ug/Kg	☼	98	68 - 124
cis-1,2-Dichloroethene	<30		3650	3890		ug/Kg	☼	107	70 - 125
cis-1,3-Dichloropropene	<30		3650	3730		ug/Kg	☼	102	64 - 127
Dibromochloromethane	<36		3650	4400		ug/Kg	☼	121	68 - 125
1,2-Dibromo-3-Chloropropane	<150	* F1	3650	5030	F1	ug/Kg	☼	138	56 - 123
1,2-Dibromoethane	<28		3650	4040		ug/Kg	☼	111	70 - 125
Dibromomethane	<20		3650	4390		ug/Kg	☼	120	70 - 120
1,2-Dichlorobenzene	<24		3650	3610		ug/Kg	☼	99	70 - 125
1,3-Dichlorobenzene	<29		3650	3570		ug/Kg	☼	98	70 - 125
1,4-Dichlorobenzene	<27		3650	3590		ug/Kg	☼	98	70 - 120
Dichlorodifluoromethane	<49		3650	3350		ug/Kg	☼	92	40 - 159
1,1-Dichloroethane	<30		3650	3540		ug/Kg	☼	97	70 - 125
1,2-Dichloroethane	<29		3650	3750		ug/Kg	☼	103	68 - 127
1,1-Dichloroethene	<28		3650	3680		ug/Kg	☼	101	67 - 122
1,2-Dichloropropane	<31		3650	3720		ug/Kg	☼	102	67 - 130
1,3-Dichloropropane	<26		3650	4080		ug/Kg	☼	112	62 - 136
2,2-Dichloropropane	<32		3650	3450		ug/Kg	☼	95	58 - 139
1,1-Dichloropropene	<22		3650	3500		ug/Kg	☼	96	70 - 121
Ethylbenzene	<13		3650	3540		ug/Kg	☼	97	70 - 123
Hexachlorobutadiene	<33		3650	3000		ug/Kg	☼	82	51 - 150
Isopropylbenzene	<28	*	3650	3410	*	ug/Kg	☼	93	70 - 126
Methylene Chloride	<120		3650	3770		ug/Kg	☼	103	69 - 125
Methyl tert-butyl ether	<29		3650	4210		ug/Kg	☼	115	55 - 123
Naphthalene	<24	*	3650	4090	*	ug/Kg	☼	112	53 - 144
n-Butylbenzene	<28		3650	3290		ug/Kg	☼	90	68 - 125
N-Propylbenzene	<30		3650	3410		ug/Kg	☼	93	69 - 127
p-Isopropyltoluene	<26		3650	3350		ug/Kg	☼	92	70 - 125
sec-Butylbenzene	<29	*	3650	3360	*	ug/Kg	☼	92	70 - 123
Styrene	<28		3650	3640		ug/Kg	☼	100	70 - 120
tert-Butylbenzene	<29	*	3650	3270	*	ug/Kg	☼	90	70 - 121
1,1,1,2-Tetrachloroethane	<34		3650	4070		ug/Kg	☼	112	70 - 125
1,1,2,2-Tetrachloroethane	<29		3650	4410		ug/Kg	☼	121	62 - 140
Tetrachloroethene	<27		3650	3350		ug/Kg	☼	92	70 - 128
Toluene	<11		3650	3380		ug/Kg	☼	93	70 - 125
trans-1,2-Dichloroethene	<26		3650	3650		ug/Kg	☼	100	70 - 125
trans-1,3-Dichloropropene	<26		3650	3910		ug/Kg	☼	107	62 - 128
1,2,3-Trichlorobenzene	<33	*	3650	3510	*	ug/Kg	☼	96	51 - 145
1,2,4-Trichlorobenzene	<25		3650	3330		ug/Kg	☼	91	57 - 137

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-166683-6 MS
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: B3 (5')
Prep Type: Total/NA
Prep Batch: 494738

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	<28		3650	3660		ug/Kg	☼	100	70 - 125
1,1,2-Trichloroethane	<26		3650	4160		ug/Kg	☼	114	71 - 130
Trichloroethene	<12		3650	3630		ug/Kg	☼	99	70 - 125
Trichlorofluoromethane	<31		3650	3580		ug/Kg	☼	98	55 - 128
1,2,3-Trichloropropane	<30		3650	4440		ug/Kg	☼	122	50 - 133
1,2,4-Trimethylbenzene	<26	*	3650	3410	*	ug/Kg	☼	93	70 - 123
1,3,5-Trimethylbenzene	<28	*	3650	3440	*	ug/Kg	☼	94	70 - 123
Vinyl chloride	<19		3650	3120		ug/Kg	☼	85	64 - 126
Xylenes, Total	<16		7300	7250		ug/Kg	☼	99	70 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*96*		*72 - 124*
Dibromofluoromethane	*110*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 126*
Toluene-d8 (Surr)	*95*		*75 - 120*

Lab Sample ID: 500-166683-6 MSD
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: B3 (5')
Prep Type: Total/NA
Prep Batch: 494738

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<11		3650	3660		ug/Kg	☼	100	70 - 120	1	30
Bromobenzene	<26	*	3650	3610	*	ug/Kg	☼	99	70 - 122	2	30
Bromochloromethane	<31		3650	4040		ug/Kg	☼	111	65 - 122	2	30
Bromodichloromethane	<27		3650	4030		ug/Kg	☼	110	69 - 120	1	30
Bromoform	<35	* F1	3650	5070	F1	ug/Kg	☼	139	56 - 132	5	30
Bromomethane	<58		3650	3770		ug/Kg	☼	103	40 - 152	1	30
Carbon tetrachloride	<28		3650	3920		ug/Kg	☼	107	59 - 133	5	30
Chlorobenzene	<28		3650	3500		ug/Kg	☼	96	70 - 120	2	30
Chloroethane	<37		3650	3020		ug/Kg	☼	83	48 - 136	4	30
Chloroform	<27		3650	3580		ug/Kg	☼	98	70 - 120	1	30
Chloromethane	<23		3650	3310		ug/Kg	☼	91	56 - 152	1	30
2-Chlorotoluene	<23		3650	3420		ug/Kg	☼	94	70 - 125	4	30
4-Chlorotoluene	<26		3650	3410		ug/Kg	☼	94	68 - 124	4	30
cis-1,2-Dichloroethene	<30		3650	3780		ug/Kg	☼	103	70 - 125	3	30
cis-1,3-Dichloropropene	<30		3650	3630		ug/Kg	☼	99	64 - 127	3	30
Dibromochloromethane	<36		3650	4410		ug/Kg	☼	121	68 - 125	0	30
1,2-Dibromo-3-Chloropropane	<150	* F1	3650	4830	F1	ug/Kg	☼	132	56 - 123	4	30
1,2-Dibromoethane	<28		3650	4020		ug/Kg	☼	110	70 - 125	0	30
Dibromomethane	<20		3650	4240		ug/Kg	☼	116	70 - 120	3	30
1,2-Dichlorobenzene	<24		3650	3500		ug/Kg	☼	96	70 - 125	3	30
1,3-Dichlorobenzene	<29		3650	3440		ug/Kg	☼	94	70 - 125	4	30
1,4-Dichlorobenzene	<27		3650	3440		ug/Kg	☼	94	70 - 120	4	30
Dichlorodifluoromethane	<49		3650	3280		ug/Kg	☼	90	40 - 159	2	30
1,1-Dichloroethane	<30		3650	3430		ug/Kg	☼	94	70 - 125	3	30
1,2-Dichloroethane	<29		3650	3640		ug/Kg	☼	100	68 - 127	3	30
1,1-Dichloroethene	<28		3650	3550		ug/Kg	☼	97	67 - 122	4	30
1,2-Dichloropropane	<31		3650	3570		ug/Kg	☼	98	67 - 130	4	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-166683-6 MSD
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: B3 (5')
Prep Type: Total/NA
Prep Batch: 494738

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3-Dichloropropane	<26		3650	3940		ug/Kg	☼	108	62 - 136	3	30
2,2-Dichloropropane	<32		3650	3400		ug/Kg	☼	93	58 - 139	1	30
1,1-Dichloropropene	<22		3650	3480		ug/Kg	☼	95	70 - 121	1	30
Ethylbenzene	<13		3650	3420		ug/Kg	☼	94	70 - 123	3	30
Hexachlorobutadiene	<33		3650	2740		ug/Kg	☼	75	51 - 150	9	30
Isopropylbenzene	<28	*	3650	3280	*	ug/Kg	☼	90	70 - 126	4	30
Methylene Chloride	<120		3650	3790		ug/Kg	☼	104	69 - 125	1	30
Methyl tert-butyl ether	<29		3650	4060		ug/Kg	☼	111	55 - 123	4	30
Naphthalene	<24	*	3650	3860	*	ug/Kg	☼	106	53 - 144	6	30
n-Butylbenzene	<28		3650	3140		ug/Kg	☼	86	68 - 125	5	30
N-Propylbenzene	<30		3650	3330		ug/Kg	☼	91	69 - 127	2	30
p-Isopropyltoluene	<26		3650	3130		ug/Kg	☼	86	70 - 125	7	30
sec-Butylbenzene	<29	*	3650	3200	*	ug/Kg	☼	88	70 - 123	5	30
Styrene	<28		3650	3620		ug/Kg	☼	99	70 - 120	1	30
tert-Butylbenzene	<29	*	3650	3180	*	ug/Kg	☼	87	70 - 121	3	30
1,1,1,2-Tetrachloroethane	<34		3650	3960		ug/Kg	☼	109	70 - 125	3	30
1,1,2,2-Tetrachloroethane	<29		3650	4170		ug/Kg	☼	114	62 - 140	6	30
Tetrachloroethene	<27		3650	3300		ug/Kg	☼	90	70 - 128	1	30
Toluene	<11		3650	3370		ug/Kg	☼	92	70 - 125	0	30
trans-1,2-Dichloroethene	<26		3650	3620		ug/Kg	☼	99	70 - 125	1	30
trans-1,3-Dichloropropene	<26		3650	3830		ug/Kg	☼	105	62 - 128	2	30
1,2,3-Trichlorobenzene	<33	*	3650	3280	*	ug/Kg	☼	90	51 - 145	7	30
1,2,4-Trichlorobenzene	<25		3650	3010		ug/Kg	☼	82	57 - 137	10	30
1,1,1-Trichloroethane	<28		3650	3560		ug/Kg	☼	98	70 - 125	3	30
1,1,2-Trichloroethane	<26		3650	3950		ug/Kg	☼	108	71 - 130	5	30
Trichloroethene	<12		3650	3570		ug/Kg	☼	98	70 - 125	2	30
Trichlorofluoromethane	<31		3650	3570		ug/Kg	☼	98	55 - 128	0	30
1,2,3-Trichloropropane	<30		3650	4240		ug/Kg	☼	116	50 - 133	5	30
1,2,4-Trimethylbenzene	<26	*	3650	3260	*	ug/Kg	☼	89	70 - 123	5	30
1,3,5-Trimethylbenzene	<28	*	3650	3300	*	ug/Kg	☼	90	70 - 123	4	30
Vinyl chloride	<19		3650	3280		ug/Kg	☼	90	64 - 126	5	30
Xylenes, Total	<16		7300	7080		ug/Kg	☼	97	70 - 125	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*109*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*
Toluene-d8 (Surr)	*96*		*75 - 120*

Lab Sample ID: MB 500-495206/6
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			07/17/19 11:17	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			07/17/19 11:17	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			07/17/19 11:17	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			07/17/19 11:17	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-495206/6
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	<0.48		1.0	0.48	ug/Kg			07/17/19 11:17	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			07/17/19 11:17	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			07/17/19 11:17	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			07/17/19 11:17	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			07/17/19 11:17	1
Chloroform	<0.37		2.0	0.37	ug/Kg			07/17/19 11:17	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			07/17/19 11:17	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			07/17/19 11:17	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			07/17/19 11:17	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			07/17/19 11:17	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			07/17/19 11:17	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			07/17/19 11:17	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			07/17/19 11:17	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			07/17/19 11:17	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			07/17/19 11:17	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			07/17/19 11:17	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			07/17/19 11:17	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			07/17/19 11:17	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			07/17/19 11:17	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			07/17/19 11:17	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			07/17/19 11:17	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			07/17/19 11:17	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			07/17/19 11:17	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			07/17/19 11:17	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			07/17/19 11:17	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			07/17/19 11:17	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			07/17/19 11:17	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			07/17/19 11:17	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			07/17/19 11:17	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			07/17/19 11:17	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			07/17/19 11:17	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			07/17/19 11:17	1
Naphthalene	0.499	J	1.0	0.33	ug/Kg			07/17/19 11:17	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			07/17/19 11:17	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			07/17/19 11:17	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			07/17/19 11:17	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/17/19 11:17	1
Styrene	<0.39		1.0	0.39	ug/Kg			07/17/19 11:17	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/17/19 11:17	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			07/17/19 11:17	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			07/17/19 11:17	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			07/17/19 11:17	1
Toluene	<0.15		0.25	0.15	ug/Kg			07/17/19 11:17	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			07/17/19 11:17	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			07/17/19 11:17	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			07/17/19 11:17	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			07/17/19 11:17	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			07/17/19 11:17	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			07/17/19 11:17	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-495206/6
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	<0.16		0.50	0.16	ug/Kg			07/17/19 11:17	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			07/17/19 11:17	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			07/17/19 11:17	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			07/17/19 11:17	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			07/17/19 11:17	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			07/17/19 11:17	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			07/17/19 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*		*07/17/19 11:17*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/17/19 11:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 126*		*07/17/19 11:17*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*07/17/19 11:17*	*1*

Lab Sample ID: LCS 500-495206/4
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	47.2		ug/Kg		94	70 - 120
Bromobenzene	50.0	47.3		ug/Kg		95	70 - 122
Bromochloromethane	50.0	49.7		ug/Kg		99	65 - 122
Bromodichloromethane	50.0	50.8		ug/Kg		102	69 - 120
Bromoform	50.0	69.9	*	ug/Kg		140	56 - 132
Bromomethane	50.0	43.1		ug/Kg		86	40 - 152
Carbon tetrachloride	50.0	60.6		ug/Kg		121	59 - 133
Chlorobenzene	50.0	47.1		ug/Kg		94	70 - 120
Chloroethane	50.0	39.0		ug/Kg		78	48 - 136
Chloroform	50.0	46.2		ug/Kg		92	70 - 120
Chloromethane	50.0	41.8		ug/Kg		84	56 - 152
2-Chlorotoluene	50.0	47.5		ug/Kg		95	70 - 125
4-Chlorotoluene	50.0	47.5		ug/Kg		95	68 - 124
cis-1,2-Dichloroethene	50.0	48.1		ug/Kg		96	70 - 125
cis-1,3-Dichloropropene	50.0	48.1		ug/Kg		96	64 - 127
Dibromochloromethane	50.0	57.6		ug/Kg		115	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	62.4	*	ug/Kg		125	56 - 123
1,2-Dibromoethane	50.0	51.7		ug/Kg		103	70 - 125
Dibromomethane	50.0	53.0		ug/Kg		106	70 - 120
1,2-Dichlorobenzene	50.0	46.9		ug/Kg		94	70 - 125
1,3-Dichlorobenzene	50.0	46.6		ug/Kg		93	70 - 125
1,4-Dichlorobenzene	50.0	46.6		ug/Kg		93	70 - 120
Dichlorodifluoromethane	50.0	47.8		ug/Kg		96	40 - 159
1,1-Dichloroethane	50.0	44.1		ug/Kg		88	70 - 125
1,2-Dichloroethane	50.0	46.5		ug/Kg		93	68 - 127
1,1-Dichloroethene	50.0	50.0		ug/Kg		100	67 - 122
1,2-Dichloropropane	50.0	45.2		ug/Kg		90	67 - 130
1,3-Dichloropropane	50.0	51.1		ug/Kg		102	62 - 136
2,2-Dichloropropane	50.0	49.0		ug/Kg		98	58 - 139

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-495206/4
Matrix: Solid
Analysis Batch: 495206

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloropropene	50.0	49.9		ug/Kg		100	70 - 121
Ethylbenzene	50.0	48.2		ug/Kg		96	70 - 123
Hexachlorobutadiene	50.0	41.2		ug/Kg		82	51 - 150
Isopropylbenzene	50.0	47.8		ug/Kg		96	70 - 126
Methylene Chloride	50.0	45.5		ug/Kg		91	69 - 125
Methyl tert-butyl ether	50.0	50.0		ug/Kg		100	55 - 123
Naphthalene	50.0	47.9		ug/Kg		96	53 - 144
n-Butylbenzene	50.0	47.2		ug/Kg		94	68 - 125
N-Propylbenzene	50.0	48.7		ug/Kg		97	69 - 127
p-Isopropyltoluene	50.0	46.5		ug/Kg		93	70 - 125
sec-Butylbenzene	50.0	47.7		ug/Kg		95	70 - 123
Styrene	50.0	48.0		ug/Kg		96	70 - 120
tert-Butylbenzene	50.0	45.4		ug/Kg		91	70 - 121
1,1,1,2-Tetrachloroethane	50.0	52.5		ug/Kg		105	70 - 125
1,1,2,2-Tetrachloroethane	50.0	54.1		ug/Kg		108	62 - 140
Tetrachloroethene	50.0	49.4		ug/Kg		99	70 - 128
Toluene	50.0	46.3		ug/Kg		93	70 - 125
trans-1,2-Dichloroethene	50.0	48.1		ug/Kg		96	70 - 125
trans-1,3-Dichloropropene	50.0	51.8		ug/Kg		104	62 - 128
1,2,3-Trichlorobenzene	50.0	42.5		ug/Kg		85	51 - 145
1,2,4-Trichlorobenzene	50.0	41.9		ug/Kg		84	57 - 137
1,1,1-Trichloroethane	50.0	51.7		ug/Kg		103	70 - 125
1,1,2-Trichloroethane	50.0	51.3		ug/Kg		103	71 - 130
Trichloroethene	50.0	49.4		ug/Kg		99	70 - 125
Trichlorofluoromethane	50.0	51.6		ug/Kg		103	55 - 128
1,2,3-Trichloropropane	50.0	57.2		ug/Kg		114	50 - 133
1,2,4-Trimethylbenzene	50.0	45.3		ug/Kg		91	70 - 123
1,3,5-Trimethylbenzene	50.0	46.9		ug/Kg		94	70 - 123
Vinyl chloride	50.0	42.2		ug/Kg		84	64 - 126
Xylenes, Total	100	97.8		ug/Kg		98	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*
Dibromofluoromethane	*104*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 126*
Toluene-d8 (Surr)	*96*		*75 - 120*

Lab Sample ID: MB 500-495567/7
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			07/18/19 22:27	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			07/18/19 22:27	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			07/18/19 22:27	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			07/18/19 22:27	1
Bromoform	<0.48		1.0	0.48	ug/Kg			07/18/19 22:27	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			07/18/19 22:27	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-495567/7
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			07/18/19 22:27	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			07/18/19 22:27	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			07/18/19 22:27	1
Chloroform	<0.37		2.0	0.37	ug/Kg			07/18/19 22:27	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			07/18/19 22:27	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			07/18/19 22:27	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			07/18/19 22:27	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			07/18/19 22:27	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			07/18/19 22:27	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			07/18/19 22:27	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			07/18/19 22:27	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			07/18/19 22:27	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			07/18/19 22:27	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			07/18/19 22:27	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			07/18/19 22:27	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			07/18/19 22:27	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			07/18/19 22:27	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			07/18/19 22:27	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			07/18/19 22:27	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			07/18/19 22:27	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			07/18/19 22:27	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			07/18/19 22:27	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			07/18/19 22:27	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			07/18/19 22:27	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			07/18/19 22:27	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			07/18/19 22:27	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			07/18/19 22:27	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			07/18/19 22:27	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			07/18/19 22:27	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			07/18/19 22:27	1
Naphthalene	<0.33		1.0	0.33	ug/Kg			07/18/19 22:27	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			07/18/19 22:27	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			07/18/19 22:27	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			07/18/19 22:27	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/18/19 22:27	1
Styrene	<0.39		1.0	0.39	ug/Kg			07/18/19 22:27	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/18/19 22:27	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			07/18/19 22:27	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			07/18/19 22:27	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			07/18/19 22:27	1
Toluene	<0.15		0.25	0.15	ug/Kg			07/18/19 22:27	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			07/18/19 22:27	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			07/18/19 22:27	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			07/18/19 22:27	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			07/18/19 22:27	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			07/18/19 22:27	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			07/18/19 22:27	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			07/18/19 22:27	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			07/18/19 22:27	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-495567/7
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			07/18/19 22:27	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			07/18/19 22:27	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			07/18/19 22:27	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			07/18/19 22:27	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			07/18/19 22:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*72 - 124*		*07/18/19 22:27*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*07/18/19 22:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 126*		*07/18/19 22:27*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/18/19 22:27*	*1*

Lab Sample ID: LCS 500-495567/4
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	49.0		ug/Kg		98	70 - 120
Bromobenzene	50.0	52.0		ug/Kg		104	70 - 122
Bromochloromethane	50.0	51.0		ug/Kg		102	65 - 122
Bromodichloromethane	50.0	47.5		ug/Kg		95	69 - 120
Bromoform	50.0	42.6		ug/Kg		85	56 - 132
Bromomethane	50.0	59.1		ug/Kg		118	40 - 152
Carbon tetrachloride	50.0	50.3		ug/Kg		101	59 - 133
Chlorobenzene	50.0	46.7		ug/Kg		93	70 - 120
Chloroethane	50.0	57.1		ug/Kg		114	48 - 136
Chloroform	50.0	49.0		ug/Kg		98	70 - 120
Chloromethane	50.0	53.0		ug/Kg		106	56 - 152
2-Chlorotoluene	50.0	50.5		ug/Kg		101	70 - 125
4-Chlorotoluene	50.0	50.3		ug/Kg		101	68 - 124
cis-1,2-Dichloroethene	50.0	50.4		ug/Kg		101	70 - 125
cis-1,3-Dichloropropene	50.0	45.5		ug/Kg		91	64 - 127
Dibromochloromethane	50.0	44.3		ug/Kg		89	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	44.4		ug/Kg		89	56 - 123
1,2-Dibromoethane	50.0	49.0		ug/Kg		98	70 - 125
Dibromomethane	50.0	49.5		ug/Kg		99	70 - 120
1,2-Dichlorobenzene	50.0	50.4		ug/Kg		101	70 - 125
1,3-Dichlorobenzene	50.0	50.5		ug/Kg		101	70 - 125
1,4-Dichlorobenzene	50.0	49.9		ug/Kg		100	70 - 120
Dichlorodifluoromethane	50.0	53.8		ug/Kg		108	40 - 159
1,1-Dichloroethane	50.0	51.6		ug/Kg		103	70 - 125
1,2-Dichloroethane	50.0	49.5		ug/Kg		99	68 - 127
1,1-Dichloroethene	50.0	50.3		ug/Kg		101	67 - 122
1,2-Dichloropropane	50.0	52.0		ug/Kg		104	67 - 130
1,3-Dichloropropane	50.0	47.5		ug/Kg		95	62 - 136
2,2-Dichloropropane	50.0	50.1		ug/Kg		100	58 - 139
1,1-Dichloropropene	50.0	51.6		ug/Kg		103	70 - 121
Ethylbenzene	50.0	47.5		ug/Kg		95	70 - 123

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-495567/4
Matrix: Solid
Analysis Batch: 495567

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	50.0	53.8		ug/Kg		108	51 - 150
Isopropylbenzene	50.0	52.7		ug/Kg		105	70 - 126
Methylene Chloride	50.0	46.4		ug/Kg		93	69 - 125
Methyl tert-butyl ether	50.0	47.6		ug/Kg		95	55 - 123
Naphthalene	50.0	58.3		ug/Kg		117	53 - 144
n-Butylbenzene	50.0	50.8		ug/Kg		102	68 - 125
N-Propylbenzene	50.0	51.9		ug/Kg		104	69 - 127
p-Isopropyltoluene	50.0	51.0		ug/Kg		102	70 - 125
sec-Butylbenzene	50.0	52.1		ug/Kg		104	70 - 123
Styrene	50.0	47.1		ug/Kg		94	70 - 120
tert-Butylbenzene	50.0	51.2		ug/Kg		102	70 - 121
1,1,1,2-Tetrachloroethane	50.0	46.9		ug/Kg		94	70 - 125
1,1,2,2-Tetrachloroethane	50.0	49.7		ug/Kg		99	62 - 140
Tetrachloroethene	50.0	47.7		ug/Kg		95	70 - 128
Toluene	50.0	44.5		ug/Kg		89	70 - 125
trans-1,2-Dichloroethene	50.0	51.3		ug/Kg		103	70 - 125
trans-1,3-Dichloropropene	50.0	43.5		ug/Kg		87	62 - 128
1,2,3-Trichlorobenzene	50.0	68.1		ug/Kg		136	51 - 145
1,2,4-Trichlorobenzene	50.0	55.3		ug/Kg		111	57 - 137
1,1,1-Trichloroethane	50.0	49.6		ug/Kg		99	70 - 125
1,1,2-Trichloroethane	50.0	45.8		ug/Kg		92	71 - 130
Trichloroethene	50.0	50.4		ug/Kg		101	70 - 125
Trichlorofluoromethane	50.0	54.0		ug/Kg		108	55 - 128
1,2,3-Trichloropropane	50.0	49.9		ug/Kg		100	50 - 133
1,2,4-Trimethylbenzene	50.0	51.5		ug/Kg		103	70 - 123
1,3,5-Trimethylbenzene	50.0	51.6		ug/Kg		103	70 - 123
Vinyl chloride	50.0	53.5		ug/Kg		107	64 - 126
Xylenes, Total	100	89.2		ug/Kg		89	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*72 - 124*
Dibromofluoromethane	*100*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*
Toluene-d8 (Surr)	*95*		*75 - 120*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 500-495548/1-A
Matrix: Solid
Analysis Batch: 495891

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495548

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.34		1.0	0.34	mg/Kg		07/18/19 16:16	07/19/19 18:08	1
Barium	<0.11		1.0	0.11	mg/Kg		07/18/19 16:16	07/19/19 18:08	1
Cadmium	0.0764	J	0.20	0.036	mg/Kg		07/18/19 16:16	07/19/19 18:08	1
Chromium	<0.50		1.0	0.50	mg/Kg		07/18/19 16:16	07/19/19 18:08	1
Lead	<0.23		0.50	0.23	mg/Kg		07/18/19 16:16	07/19/19 18:08	1
Selenium	<0.59		1.0	0.59	mg/Kg		07/18/19 16:16	07/19/19 18:08	1
Silver	<0.13		0.50	0.13	mg/Kg		07/18/19 16:16	07/19/19 18:08	1

Method: 6010C - Metals (ICP)

Lab Sample ID: LCS 500-495548/2-A
Matrix: Solid
Analysis Batch: 495891

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495548

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	10.0	9.04		mg/Kg		90	80 - 120
Barium	200	196		mg/Kg		98	80 - 120
Cadmium	5.00	4.63		mg/Kg		93	80 - 120
Chromium	20.0	19.6		mg/Kg		98	80 - 120
Lead	10.0	9.43		mg/Kg		94	80 - 120
Selenium	10.0	8.55		mg/Kg		86	80 - 120
Silver	5.00	4.60		mg/Kg		92	80 - 120

Lab Sample ID: 500-166683-1 MS
Matrix: Solid
Analysis Batch: 495891

Client Sample ID: B1 (3.5')
Prep Type: Total/NA
Prep Batch: 495548

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.67	J	10.4	10.6		mg/Kg	☼	96	75 - 125
Barium	13		207	214		mg/Kg	☼	97	75 - 125
Cadmium	0.14	J B	5.18	4.91		mg/Kg	☼	92	75 - 125
Chromium	5.5		20.7	27.4		mg/Kg	☼	105	75 - 125
Lead	1.6		10.4	11.6		mg/Kg	☼	97	75 - 125
Selenium	0.77	J F1	10.4	8.47	F1	mg/Kg	☼	74	75 - 125
Silver	1.2		5.18	6.36		mg/Kg	☼	99	75 - 125

Lab Sample ID: 500-166683-1 MSD
Matrix: Solid
Analysis Batch: 495891

Client Sample ID: B1 (3.5')
Prep Type: Total/NA
Prep Batch: 495548

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.67	J	9.33	9.49		mg/Kg	☼	94	75 - 125	11	20
Barium	13		187	192		mg/Kg	☼	96	75 - 125	11	20
Cadmium	0.14	J B	4.67	4.49		mg/Kg	☼	93	75 - 125	9	20
Chromium	5.5		18.7	24.1		mg/Kg	☼	100	75 - 125	13	20
Lead	1.6		9.33	11.2		mg/Kg	☼	103	75 - 125	4	20
Selenium	0.77	J F1	9.33	8.33		mg/Kg	☼	81	75 - 125	2	20
Silver	1.2		4.67	5.78		mg/Kg	☼	98	75 - 125	9	20

Lab Sample ID: 500-166683-1 DU
Matrix: Solid
Analysis Batch: 495891

Client Sample ID: B1 (3.5')
Prep Type: Total/NA
Prep Batch: 495548

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Arsenic	0.67	J	0.622	J	mg/Kg	☼	7	20
Barium	13		13.4		mg/Kg	☼	3	20
Cadmium	0.14	J B	0.161	J	mg/Kg	☼	17	20
Chromium	5.5		5.64		mg/Kg	☼	2	20
Lead	1.6		1.80		mg/Kg	☼	14	20
Selenium	0.77	J F1	<0.55		mg/Kg	☼	NC	20
Silver	1.2		1.27		mg/Kg	☼	5	20

Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 500-495698/12-A
Matrix: Solid
Analysis Batch: 495964

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 495698

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.0056		0.017	0.0056	mg/Kg		07/19/19 14:20	07/22/19 08:43	1

Lab Sample ID: LCS 500-495698/13-A
Matrix: Solid
Analysis Batch: 495964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 495698

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.167	0.164		mg/Kg		99	80 - 120

Lab Sample ID: 500-166683-9 MS
Matrix: Solid
Analysis Batch: 495964

Client Sample ID: B4 (3')
Prep Type: Total/NA
Prep Batch: 495698

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.0058		0.0861	0.0811		mg/Kg	☼	94	75 - 125

Lab Sample ID: 500-166683-9 MSD
Matrix: Solid
Analysis Batch: 495964

Client Sample ID: B4 (3')
Prep Type: Total/NA
Prep Batch: 495698

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.0058		0.0863	0.0818		mg/Kg	☼	95	75 - 125	1	20

Lab Sample ID: 500-166683-9 DU
Matrix: Solid
Analysis Batch: 495964

Client Sample ID: B4 (3')
Prep Type: Total/NA
Prep Batch: 495698

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Mercury	<0.0058		<0.0058		mg/Kg	☼	NC	20

Lab Chronicle

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B1 (3.5')
Date Collected: 07/08/19 11:40
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B1 (3.5')
Date Collected: 07/08/19 11:40
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-1
Matrix: Solid
Percent Solids: 92.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			494738	07/08/19 11:40	WRE	TAL CHI
Total/NA	Analysis	8260B		50	495206	07/17/19 17:34	JLC	TAL CHI
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 18:16	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 08:47	MJG	TAL CHI

Client Sample ID: B1 (30')
Date Collected: 07/09/19 08:00
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B1 (30')
Date Collected: 07/09/19 08:00
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-2
Matrix: Solid
Percent Solids: 82.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 18:36	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 08:50	MJG	TAL CHI

Client Sample ID: B2 (3.5')
Date Collected: 07/09/19 11:20
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B2 (3.5')
Date Collected: 07/09/19 11:20
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-3
Matrix: Solid
Percent Solids: 93.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			494738	07/09/19 11:20	WRE	TAL CHI
Total/NA	Analysis	8260B		50	495206	07/17/19 18:00	JLC	TAL CHI

Lab Chronicle

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B2 (3.5')
Date Collected: 07/09/19 11:20
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-3
Matrix: Solid
Percent Solids: 93.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 18:40	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 08:52	MJG	TAL CHI

Client Sample ID: B2 (29.5')
Date Collected: 07/09/19 13:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B2 (29.5')
Date Collected: 07/09/19 13:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-4
Matrix: Solid
Percent Solids: 95.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 18:44	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 08:54	MJG	TAL CHI

Client Sample ID: B3 (3')
Date Collected: 07/09/19 16:05
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B3 (3')
Date Collected: 07/09/19 16:05
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-5
Matrix: Solid
Percent Solids: 82.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			494738	07/09/19 16:05	WRE	TAL CHI
Total/NA	Analysis	8260B		50	495206	07/17/19 18:26	JLC	TAL CHI
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 18:56	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 08:56	MJG	TAL CHI

Lab Chronicle

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B3 (5')
Date Collected: 07/09/19 16:05
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B3 (5')
Date Collected: 07/09/19 16:05
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-6
Matrix: Solid
Percent Solids: 91.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			494738	07/09/19 16:05	WRE	TAL CHI
Total/NA	Analysis	8260B		50	495206	07/17/19 18:53	JLC	TAL CHI
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 19:00	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 08:58	MJG	TAL CHI

Client Sample ID: B3 (29')
Date Collected: 07/10/19 09:10
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B3 (29')
Date Collected: 07/10/19 09:10
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-7
Matrix: Solid
Percent Solids: 81.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 19:04	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 09:00	MJG	TAL CHI

Client Sample ID: Trip Blank
Date Collected: 07/12/19 00:00
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			494738	07/12/19 00:00	WRE	TAL CHI
Total/NA	Analysis	8260B		50	495567	07/18/19 23:44	PMF	TAL CHI

Client Sample ID: B4 (3')
Date Collected: 07/10/19 12:45
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-9
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Lab Chronicle

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B4 (3')
Date Collected: 07/10/19 12:45
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-9
Matrix: Solid
Percent Solids: 88.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			494738	07/10/19 12:45	WRE	TAL CHI
Total/NA	Analysis	8260B		50	495567	07/19/19 00:10	PMF	TAL CHI
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 19:08	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 09:07	MJG	TAL CHI

Client Sample ID: B4 (30')
Date Collected: 07/10/19 14:40
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-10
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B4 (30')
Date Collected: 07/10/19 14:40
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-10
Matrix: Solid
Percent Solids: 95.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 19:12	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 09:15	MJG	TAL CHI

Client Sample ID: B5 (3')
Date Collected: 07/11/19 07:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-11
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B5 (3')
Date Collected: 07/11/19 07:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-11
Matrix: Solid
Percent Solids: 94.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			494738	07/11/19 07:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	495567	07/19/19 00:36	PMF	TAL CHI
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 19:16	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 09:17	MJG	TAL CHI

Lab Chronicle

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145

Job ID: 500-166683-1

Client Sample ID: B5 (6')
Date Collected: 07/11/19 07:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-12
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B5 (6')
Date Collected: 07/11/19 07:30
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-12
Matrix: Solid
Percent Solids: 81.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			494738	07/11/19 07:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	495567	07/19/19 01:02	PMF	TAL CHI
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 19:20	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 09:19	MJG	TAL CHI

Client Sample ID: B5 (27')
Date Collected: 07/11/19 09:00
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-13
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	495498	07/18/19 12:24	LWN	TAL CHI

Client Sample ID: B5 (27')
Date Collected: 07/11/19 09:00
Date Received: 07/13/19 09:20

Lab Sample ID: 500-166683-13
Matrix: Solid
Percent Solids: 81.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			495548	07/18/19 16:16	BDE	TAL CHI
Total/NA	Analysis	6010C		1	495891	07/19/19 19:24	EEN	TAL CHI
Total/NA	Prep	7471B			495698	07/19/19 14:20	MJG	TAL CHI
Total/NA	Analysis	7471B		1	495964	07/22/19 09:21	MJG	TAL CHI

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 500-166683-1
Project/Site: Matthews Estate - 25219145

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

Chain of Custody Record

Lab Job #: 500-166683

Chain of Custody Number:

Page 1 of 2

Temperature °C of Cooler: 3.6, 0.6=2.1

(optional) Report To	(optional) Bill To
Contact: Rob Langdon	Contact:
Company: SCS	Company:
Address: 2830 Dairy Dr	Address:
Address: Madison, WI 53718	Address:
Phone: 608-224-2830	Phone:
Fax:	Fax:
E-Mail: rlangdon@scsengineers.com	PO#/Reference#

Client	Client Project #	Preservative
SCS Engineers	25219145	Method 8
Project Name: Matthews Estate		Parameter
Project Location/State: Dalton, WI	Lab Project #	
Sampler: Jackie Rennebohm	Lab PM: Sandie Fredrick	

500-166683 COC

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOCs	RCRA metals	Comments
1		B1 (3.5')	7-8	1140	3	S	X	X	
		~~B1 (35')~~	~~7-8~~	~~1120~~	~~3~~	~~S~~	JR		
2		B1 (30')	7-9	0800	3	S		X	
3		B2 (3.5')	7-9	1120	3	S	X	X	
4		B2 (29.5')	7-9	1330	3	S		X	
5		B3 (3')	7-9	1605	3	S	X	X	
6		B3 (5')	7-9	1605	3	S	X	X	
7		B3 (29')	7-10	0910	3	S		X	
8		Trip Blank					X		

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	SCS	7-12-19	1100	Pamela Bubley	TACH	7/13/19	0920
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped X
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

2417 Bond Street, University Park, IL 60484
Phone: 708.534.5200 Fax: 708.534.5211

(optional)
Report To
Contact: Rob Langdon
Company: SCS
Address: 2830 Dairy Drive
Address: Madison, WI 53718
Phone:
Fax:
E-Mail: rlangdon@scsengineers.com

(optional)
Bill To
Contact:
Company:
Address:
Address:
Phone:
Fax:
PO#/Reference#

Chain of Custody Record

Lab Job #: 500-166683
Chain of Custody Number:
Page 2 of 2
Temperature °C of Cooler: 3.6 06-12.1

Client: SCS Engineers
Client Project #: 25219145
Project Name: Matthews Estate
Project Location/State: Dalton, WI
Lab Project #:
Sampler: Jackie Rennebohm
Lab PM: Sandie Frederick

Preservative: methanol & water
Parameter: VOCs; DCA metals

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOCs	DCA metals								Comments
9		B4 (3')	7-10	1245	3	S	X	X								
10		B4 (30')	7-10	1440	3	S		X								
11		B5 (3')	7-11	730	3	S	X	X								
12		B5 (16')	7-11	735	3	S	X	X								
13		B5 (27')	7-11	900	3	S		X								

Preservative Key
1. HCL, Cool to 4°
2. H2SO4, Cool to 4°
3. HNO3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn, Cool to 4°
6. NaHSO4
7. Cool to 4°
8. None
9. Other

Turnaround Time Required (Business Days)
___ 1 Day ___ 2 Days ___ 5 Days ___ 7 Days ___ 10 Days ___ 15 Days _____ Other
Requested Due Date _____

Sample Disposal
☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months (A fee may be assessed if samples are retained longer than 1 month)

Relinquished By	Company	Date	Time	Received By	Company	Date	Time
	SCS	7.12.19	1100	Paula Bulkley	TACHI	7/13/19	0920
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped X
Hand Delivered

Matrix Key
WW – Wastewater
W – Water
S – Soil
SL – Sludge
MS – Miscellaneous
OL – Oil
A – Air
SE – Sediment
SO – Soil
L – Leachate
WI – Wipe
DW – Drinking Water
O – Other

Client Comments

Lab Comments:

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 500-166683-1

Login Number: 166683
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	False	Refer to Job Narrative for details.
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.6, 2.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-167182-1
Client Project/Site: Matthews Estate - 25219145.00

For:
SCS Engineers
2830 Dairy Dr
Madison, Wisconsin 53718

Attn: Mr. Robert Langdon

Authorized for release by:
7/30/2019 6:48:02 PM

Sandie Fredrick, Project Manager II
(920)261-1660
sandie.fredrick@testamericainc.com

Table of Contents

Case Narrative

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Job ID: 500-167182-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-167182-1

Comments
No additional comments.

Receipt
The samples were received on 7/24/2019 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9º C.

GC/MS VOA
The laboratory control sample (LCS) for 497057 recovered outside control limits for the following analyte: 1,2-Dibromo-3-chloropropane. This analyte was biased high in the LCS and was not detected in the associated sample; therefore, the data have been reported.

The following samples were collected in properly preserved vials for analysis of volatile organic compounds (VOCs). However, the pH was outside the required criteria when verified by the laboratory, and corrective action was not possible: MW1 (500-167182-1) and MW2 (500-167182-2).

The method blank for analytical batch 496939 contained Chloroform above the Method dectection limit (MDL) but below reporting limit (RL). This target analyte concentration was less than the reporting limit (RL) in the associated samples; therefore, re-analysis of samples was not performed. Chloroform results have been flagged in the associated samples with a "B" flag denote the presence in the blank and possible lab contamination.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Client Sample ID: MW1 — Lab Sample ID: 500-167182-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	13		2.5	0.73	ug/L	1		6020A	Dissolved

Client Sample ID: MW2 — Lab Sample ID: 500-167182-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.41	J	1.0	0.23	ug/L	1		6020A	Dissolved
Barium	57		2.5	0.73	ug/L	1		6020A	Dissolved

Client Sample ID: MW3 — Lab Sample ID: 500-167182-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.32	J	1.0	0.23	ug/L	1		6020A	Dissolved
Barium	35		2.5	0.73	ug/L	1		6020A	Dissolved

Client Sample ID: MW4 — Lab Sample ID: 500-167182-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.31	J	1.0	0.23	ug/L	1		6020A	Dissolved
Barium	28		2.5	0.73	ug/L	1		6020A	Dissolved

Client Sample ID: MW5 — Lab Sample ID: 500-167182-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.26	J	1.0	0.23	ug/L	1		6020A	Dissolved
Barium	19		2.5	0.73	ug/L	1		6020A	Dissolved

Client Sample ID: Trip Blank — Lab Sample ID: 500-167182-6

No Detections.

Client Sample ID: Field Dup (@MW1) — Lab Sample ID: 500-167182-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.27	J	1.0	0.23	ug/L	1		6020A	Dissolved
Barium	13		2.5	0.73	ug/L	1		6020A	Dissolved

Client Sample ID: Equipment Blank — Lab Sample ID: 500-167182-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.47	J B	2.0	0.37	ug/L	1		8260B	Total/NA
Barium	1.6	J	2.5	0.73	ug/L	1		6020A	Dissolved
Lead	0.34	J	0.50	0.19	ug/L	1		6020A	Dissolved

This Detection Summary does not include radiochemical test results.

Method Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
6020A	Metals (ICP/MS)	SW846	TAL CHI
7470A	Mercury (CVAA)	SW846	TAL CHI
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI
7470A	Preparation, Mercury	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Sample Summary

Client: SCS Engineers
Job ID: 500-167182-1
Project/Site: Matthews Estate - 25219145.00

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-167182-1	MW1	Water	07/23/19 09:15	07/24/19 09:35	
500-167182-2	MW2	Water	07/23/19 09:50	07/24/19 09:35	
500-167182-3	MW3	Water	07/23/19 10:15	07/24/19 09:35	
500-167182-4	MW4	Water	07/23/19 10:30	07/24/19 09:35	
500-167182-5	MW5	Water	07/23/19 10:55	07/24/19 09:35	
500-167182-6	Trip Blank	Water	07/23/19 00:00	07/24/19 09:35	
500-167182-7	Field Dup (@MW1)	Water	07/23/19 09:20	07/24/19 09:35	
500-167182-8	Equipment Blank	Water	07/23/19 09:10	07/24/19 09:35	

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Client Sample ID: MW1

Date Collected: 07/23/19 09:15
Date Received: 07/24/19 09:35

Lab Sample ID: 500-167182-1

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/27/19 01:17	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/27/19 01:17	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/27/19 01:17	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/27/19 01:17	1
Bromoform	<0.48		1.0	0.48	ug/L			07/27/19 01:17	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/27/19 01:17	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/27/19 01:17	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/27/19 01:17	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/27/19 01:17	1
Chloroform	<0.37		2.0	0.37	ug/L			07/27/19 01:17	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/27/19 01:17	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/27/19 01:17	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/27/19 01:17	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/27/19 01:17	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/27/19 01:17	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/27/19 01:17	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/27/19 01:17	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/27/19 01:17	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/27/19 01:17	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/27/19 01:17	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/27/19 01:17	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/27/19 01:17	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/27/19 01:17	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/27/19 01:17	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/27/19 01:17	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/27/19 01:17	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/27/19 01:17	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/27/19 01:17	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/27/19 01:17	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/27/19 01:17	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/27/19 01:17	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/27/19 01:17	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 01:17	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/27/19 01:17	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/27/19 01:17	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/27/19 01:17	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/27/19 01:17	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 01:17	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/27/19 01:17	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/27/19 01:17	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 01:17	1
Styrene	<0.39		1.0	0.39	ug/L			07/27/19 01:17	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 01:17	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/27/19 01:17	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/27/19 01:17	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/27/19 01:17	1
Toluene	<0.15		0.50	0.15	ug/L			07/27/19 01:17	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/27/19 01:17	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/27/19 01:17	1

Client Sample ID: MW1

Lab Sample ID: 500-167182-1

Date Collected: 07/23/19 09:15

Matrix: Water

Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/27/19 01:17	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/27/19 01:17	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/27/19 01:17	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/27/19 01:17	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/27/19 01:17	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/27/19 01:17	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/27/19 01:17	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/27/19 01:17	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/27/19 01:17	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/27/19 01:17	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/27/19 01:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*		*07/27/19 01:17*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*07/27/19 01:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*97*		*75 - 126*		*07/27/19 01:17*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*07/27/19 01:17*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.23		1.0	0.23	ug/L		07/25/19 07:57	07/25/19 17:42	1
Barium	**13**		2.5	0.73	ug/L		07/25/19 07:57	07/25/19 17:42	1
Cadmium	<0.17		0.50	0.17	ug/L		07/25/19 07:57	07/25/19 17:42	1
Chromium	<1.1		5.0	1.1	ug/L		07/25/19 07:57	07/25/19 17:42	1
Lead	<0.19		0.50	0.19	ug/L		07/25/19 07:57	07/25/19 17:42	1
Selenium	<0.98		2.5	0.98	ug/L		07/25/19 07:57	07/25/19 17:42	1
Silver	<0.12		0.50	0.12	ug/L		07/25/19 07:57	07/25/19 17:42	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		07/26/19 09:55	07/29/19 08:49	1

Client Sample ID: MW2

Lab Sample ID: 500-167182-2

Date Collected: 07/23/19 09:50

Matrix: Water

Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/29/19 17:38	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/29/19 17:38	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/29/19 17:38	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/29/19 17:38	1
Bromoform	<0.48		1.0	0.48	ug/L			07/29/19 17:38	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/29/19 17:38	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/29/19 17:38	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/29/19 17:38	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/29/19 17:38	1
Chloroform	<0.37		2.0	0.37	ug/L			07/29/19 17:38	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/29/19 17:38	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/29/19 17:38	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/29/19 17:38	1

Client Sample ID: MW2
Date Collected: 07/23/19 09:50
Date Received: 07/24/19 09:35

Lab Sample ID: 500-167182-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/29/19 17:38	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/29/19 17:38	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/29/19 17:38	1
1,2-Dibromo-3-Chloropropane	<2.0	*	5.0	2.0	ug/L			07/29/19 17:38	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/29/19 17:38	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/29/19 17:38	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/29/19 17:38	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/29/19 17:38	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/29/19 17:38	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/29/19 17:38	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/29/19 17:38	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/29/19 17:38	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/29/19 17:38	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/29/19 17:38	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/29/19 17:38	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/29/19 17:38	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/29/19 17:38	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/29/19 17:38	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/29/19 17:38	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/29/19 17:38	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/29/19 17:38	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/29/19 17:38	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/29/19 17:38	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/29/19 17:38	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/29/19 17:38	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/29/19 17:38	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/29/19 17:38	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/29/19 17:38	1
Styrene	<0.39		1.0	0.39	ug/L			07/29/19 17:38	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/29/19 17:38	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/29/19 17:38	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/29/19 17:38	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/29/19 17:38	1
Toluene	<0.15		0.50	0.15	ug/L			07/29/19 17:38	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/29/19 17:38	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/29/19 17:38	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/29/19 17:38	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/29/19 17:38	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/29/19 17:38	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/29/19 17:38	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/29/19 17:38	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/29/19 17:38	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/29/19 17:38	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/29/19 17:38	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/29/19 17:38	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/29/19 17:38	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/29/19 17:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*		*07/29/19 17:38*	*1*

Client Sample ID: MW2
Lab Sample ID: 500-167182-2
Date Collected: 07/23/19 09:50
Matrix: Water
Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*105*		*75 - 120*		*07/29/19 17:38*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 126*		*07/29/19 17:38*	*1*
Toluene-d8 (Surr)	*96*		*75 - 120*		*07/29/19 17:38*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.41**	**J**	1.0	0.23	ug/L		07/25/19 07:57	07/25/19 17:46	1
Barium	**57**		2.5	0.73	ug/L		07/25/19 07:57	07/25/19 17:46	1
Cadmium	<0.17		0.50	0.17	ug/L		07/25/19 07:57	07/25/19 17:46	1
Chromium	<1.1		5.0	1.1	ug/L		07/25/19 07:57	07/25/19 17:46	1
Lead	<0.19		0.50	0.19	ug/L		07/25/19 07:57	07/25/19 17:46	1
Selenium	<0.98		2.5	0.98	ug/L		07/25/19 07:57	07/25/19 17:46	1
Silver	<0.12		0.50	0.12	ug/L		07/25/19 07:57	07/25/19 17:46	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		07/26/19 09:55	07/29/19 08:51	1

Client Sample ID: MW3
Lab Sample ID: 500-167182-3
Date Collected: 07/23/19 10:15
Matrix: Water
Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/27/19 02:09	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/27/19 02:09	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/27/19 02:09	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/27/19 02:09	1
Bromoform	<0.48		1.0	0.48	ug/L			07/27/19 02:09	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/27/19 02:09	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/27/19 02:09	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/27/19 02:09	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/27/19 02:09	1
Chloroform	<0.37		2.0	0.37	ug/L			07/27/19 02:09	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/27/19 02:09	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/27/19 02:09	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/27/19 02:09	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/27/19 02:09	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/27/19 02:09	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/27/19 02:09	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/27/19 02:09	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/27/19 02:09	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/27/19 02:09	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/27/19 02:09	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/27/19 02:09	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/27/19 02:09	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/27/19 02:09	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/27/19 02:09	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/27/19 02:09	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/27/19 02:09	1

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Client Sample ID: MW3

Date Collected: 07/23/19 10:15
Date Received: 07/24/19 09:35

Lab Sample ID: 500-167182-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/27/19 02:09	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/27/19 02:09	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/27/19 02:09	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/27/19 02:09	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/27/19 02:09	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/27/19 02:09	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 02:09	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/27/19 02:09	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/27/19 02:09	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/27/19 02:09	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/27/19 02:09	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 02:09	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/27/19 02:09	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/27/19 02:09	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 02:09	1
Styrene	<0.39		1.0	0.39	ug/L			07/27/19 02:09	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 02:09	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/27/19 02:09	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/27/19 02:09	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/27/19 02:09	1
Toluene	<0.15		0.50	0.15	ug/L			07/27/19 02:09	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/27/19 02:09	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/27/19 02:09	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/27/19 02:09	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/27/19 02:09	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/27/19 02:09	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/27/19 02:09	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/27/19 02:09	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/27/19 02:09	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/27/19 02:09	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/27/19 02:09	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/27/19 02:09	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/27/19 02:09	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/27/19 02:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*		*07/27/19 02:09*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*07/27/19 02:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 126*		*07/27/19 02:09*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*07/27/19 02:09*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.32**	**J**	1.0	0.23	ug/L		07/25/19 07:57	07/25/19 17:49	1
Barium	**35**		2.5	0.73	ug/L		07/25/19 07:57	07/25/19 17:49	1
Cadmium	<0.17		0.50	0.17	ug/L		07/25/19 07:57	07/25/19 17:49	1
Chromium	<1.1		5.0	1.1	ug/L		07/25/19 07:57	07/25/19 17:49	1
Lead	<0.19		0.50	0.19	ug/L		07/25/19 07:57	07/25/19 17:49	1
Selenium	<0.98		2.5	0.98	ug/L		07/25/19 07:57	07/25/19 17:49	1
Silver	<0.12		0.50	0.12	ug/L		07/25/19 07:57	07/25/19 17:49	1

Client Sample ID: MW3
Lab Sample ID: 500-167182-3

Date Collected: 07/23/19 10:15
Matrix: Water
Date Received: 07/24/19 09:35

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		07/26/19 09:55	07/29/19 08:52	1

Client Sample ID: MW4
Lab Sample ID: 500-167182-4

Date Collected: 07/23/19 10:30
Matrix: Water
Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/27/19 02:35	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/27/19 02:35	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/27/19 02:35	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/27/19 02:35	1
Bromoform	<0.48		1.0	0.48	ug/L			07/27/19 02:35	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/27/19 02:35	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/27/19 02:35	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/27/19 02:35	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/27/19 02:35	1
Chloroform	<0.37		2.0	0.37	ug/L			07/27/19 02:35	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/27/19 02:35	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/27/19 02:35	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/27/19 02:35	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/27/19 02:35	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/27/19 02:35	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/27/19 02:35	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/27/19 02:35	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/27/19 02:35	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/27/19 02:35	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/27/19 02:35	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/27/19 02:35	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/27/19 02:35	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/27/19 02:35	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/27/19 02:35	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/27/19 02:35	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/27/19 02:35	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/27/19 02:35	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/27/19 02:35	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/27/19 02:35	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/27/19 02:35	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/27/19 02:35	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/27/19 02:35	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 02:35	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/27/19 02:35	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/27/19 02:35	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/27/19 02:35	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/27/19 02:35	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 02:35	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/27/19 02:35	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/27/19 02:35	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 02:35	1
Styrene	<0.39		1.0	0.39	ug/L			07/27/19 02:35	1

Client Sample ID: MW4

Lab Sample ID: 500-167182-4

Date Collected: 07/23/19 10:30

Matrix: Water

Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 02:35	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/27/19 02:35	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/27/19 02:35	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/27/19 02:35	1
Toluene	<0.15		0.50	0.15	ug/L			07/27/19 02:35	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/27/19 02:35	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/27/19 02:35	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/27/19 02:35	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/27/19 02:35	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/27/19 02:35	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/27/19 02:35	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/27/19 02:35	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/27/19 02:35	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/27/19 02:35	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/27/19 02:35	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/27/19 02:35	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/27/19 02:35	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/27/19 02:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*07/27/19 02:35*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*07/27/19 02:35*	*1*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 126*		*07/27/19 02:35*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*07/27/19 02:35*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.31**	**J**	1.0	0.23	ug/L		07/25/19 07:57	07/25/19 17:53	1
Barium	**28**		2.5	0.73	ug/L		07/25/19 07:57	07/25/19 17:53	1
Cadmium	<0.17		0.50	0.17	ug/L		07/25/19 07:57	07/25/19 17:53	1
Chromium	<1.1		5.0	1.1	ug/L		07/25/19 07:57	07/25/19 17:53	1
Lead	<0.19		0.50	0.19	ug/L		07/25/19 07:57	07/25/19 17:53	1
Selenium	<0.98		2.5	0.98	ug/L		07/25/19 07:57	07/25/19 17:53	1
Silver	<0.12		0.50	0.12	ug/L		07/25/19 07:57	07/25/19 17:53	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		07/26/19 09:55	07/29/19 08:54	1

Client Sample ID: MW5

Lab Sample ID: 500-167182-5

Date Collected: 07/23/19 10:55

Matrix: Water

Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/27/19 03:00	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/27/19 03:00	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/27/19 03:00	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/27/19 03:00	1
Bromoform	<0.48		1.0	0.48	ug/L			07/27/19 03:00	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/27/19 03:00	1

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Client Sample ID: MW5
Date Collected: 07/23/19 10:55
Date Received: 07/24/19 09:35

Lab Sample ID: 500-167182-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/27/19 03:00	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/27/19 03:00	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/27/19 03:00	1
Chloroform	<0.37		2.0	0.37	ug/L			07/27/19 03:00	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/27/19 03:00	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/27/19 03:00	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/27/19 03:00	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/27/19 03:00	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/27/19 03:00	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/27/19 03:00	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/27/19 03:00	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/27/19 03:00	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/27/19 03:00	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/27/19 03:00	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/27/19 03:00	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/27/19 03:00	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/27/19 03:00	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/27/19 03:00	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/27/19 03:00	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/27/19 03:00	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/27/19 03:00	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/27/19 03:00	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/27/19 03:00	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/27/19 03:00	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/27/19 03:00	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/27/19 03:00	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 03:00	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/27/19 03:00	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/27/19 03:00	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/27/19 03:00	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/27/19 03:00	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 03:00	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/27/19 03:00	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/27/19 03:00	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 03:00	1
Styrene	<0.39		1.0	0.39	ug/L			07/27/19 03:00	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 03:00	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/27/19 03:00	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/27/19 03:00	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/27/19 03:00	1
Toluene	<0.15		0.50	0.15	ug/L			07/27/19 03:00	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/27/19 03:00	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/27/19 03:00	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/27/19 03:00	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/27/19 03:00	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/27/19 03:00	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/27/19 03:00	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/27/19 03:00	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/27/19 03:00	1

Client Sample ID: MW5
Lab Sample ID: 500-167182-5

Date Collected: 07/23/19 10:55
Matrix: Water
Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/27/19 03:00	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/27/19 03:00	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/27/19 03:00	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/27/19 03:00	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/27/19 03:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*07/27/19 03:00*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*07/27/19 03:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*		*07/27/19 03:00*	*1*
Toluene-d8 (Surr)	*99*		*75 - 120*		*07/27/19 03:00*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.26**	**J**	1.0	0.23	ug/L		07/25/19 07:57	07/25/19 18:04	1
Barium	**19**		2.5	0.73	ug/L		07/25/19 07:57	07/25/19 18:04	1
Cadmium	<0.17		0.50	0.17	ug/L		07/25/19 07:57	07/25/19 18:04	1
Chromium	<1.1		5.0	1.1	ug/L		07/25/19 07:57	07/25/19 18:04	1
Lead	<0.19		0.50	0.19	ug/L		07/25/19 07:57	07/25/19 18:04	1
Selenium	<0.98		2.5	0.98	ug/L		07/25/19 07:57	07/25/19 18:04	1
Silver	<0.12		0.50	0.12	ug/L		07/25/19 07:57	07/25/19 18:04	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		07/26/19 09:55	07/29/19 08:55	1

Client Sample ID: Trip Blank
Lab Sample ID: 500-167182-6

Date Collected: 07/23/19 00:00
Matrix: Water
Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/26/19 23:07	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/26/19 23:07	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/26/19 23:07	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/26/19 23:07	1
Bromoform	<0.48		1.0	0.48	ug/L			07/26/19 23:07	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/26/19 23:07	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/26/19 23:07	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/26/19 23:07	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/26/19 23:07	1
Chloroform	<0.37		2.0	0.37	ug/L			07/26/19 23:07	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/26/19 23:07	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/26/19 23:07	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/26/19 23:07	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/26/19 23:07	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/26/19 23:07	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/26/19 23:07	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/26/19 23:07	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/26/19 23:07	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/26/19 23:07	1

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Client Sample ID: Trip Blank

Date Collected: 07/23/19 00:00
Date Received: 07/24/19 09:35

Lab Sample ID: 500-167182-6

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/26/19 23:07	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/26/19 23:07	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/26/19 23:07	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/26/19 23:07	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/26/19 23:07	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/26/19 23:07	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/26/19 23:07	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/26/19 23:07	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/26/19 23:07	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/26/19 23:07	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/26/19 23:07	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/26/19 23:07	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/26/19 23:07	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/26/19 23:07	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/26/19 23:07	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/26/19 23:07	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/26/19 23:07	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/26/19 23:07	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/26/19 23:07	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/26/19 23:07	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/26/19 23:07	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/26/19 23:07	1
Styrene	<0.39		1.0	0.39	ug/L			07/26/19 23:07	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/26/19 23:07	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/26/19 23:07	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/26/19 23:07	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/26/19 23:07	1
Toluene	<0.15		0.50	0.15	ug/L			07/26/19 23:07	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/26/19 23:07	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/26/19 23:07	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/26/19 23:07	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/26/19 23:07	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/26/19 23:07	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/26/19 23:07	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/26/19 23:07	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/26/19 23:07	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/26/19 23:07	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/26/19 23:07	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/26/19 23:07	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/26/19 23:07	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/26/19 23:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*		*07/26/19 23:07*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*07/26/19 23:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 126*		*07/26/19 23:07*	*1*
Toluene-d8 (Surr)	*96*		*75 - 120*		*07/26/19 23:07*	*1*

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Client Sample ID: Field Dup (@MW1)

Date Collected: 07/23/19 09:20
Date Received: 07/24/19 09:35

Lab Sample ID: 500-167182-7

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/27/19 04:44	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/27/19 04:44	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/27/19 04:44	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/27/19 04:44	1
Bromoform	<0.48		1.0	0.48	ug/L			07/27/19 04:44	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/27/19 04:44	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/27/19 04:44	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/27/19 04:44	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/27/19 04:44	1
Chloroform	<0.37		2.0	0.37	ug/L			07/27/19 04:44	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/27/19 04:44	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/27/19 04:44	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/27/19 04:44	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/27/19 04:44	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/27/19 04:44	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/27/19 04:44	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/27/19 04:44	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/27/19 04:44	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/27/19 04:44	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/27/19 04:44	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/27/19 04:44	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/27/19 04:44	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/27/19 04:44	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/27/19 04:44	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/27/19 04:44	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/27/19 04:44	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/27/19 04:44	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/27/19 04:44	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/27/19 04:44	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/27/19 04:44	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/27/19 04:44	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/27/19 04:44	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 04:44	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/27/19 04:44	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/27/19 04:44	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/27/19 04:44	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/27/19 04:44	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 04:44	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/27/19 04:44	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/27/19 04:44	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 04:44	1
Styrene	<0.39		1.0	0.39	ug/L			07/27/19 04:44	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 04:44	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/27/19 04:44	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/27/19 04:44	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/27/19 04:44	1
Toluene	<0.15		0.50	0.15	ug/L			07/27/19 04:44	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/27/19 04:44	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/27/19 04:44	1

Client Sample ID: Field Dup (@MW1)

Lab Sample ID: 500-167182-7
Date Collected: 07/23/19 09:20
Matrix: Water
Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/27/19 04:44	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/27/19 04:44	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/27/19 04:44	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/27/19 04:44	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/27/19 04:44	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/27/19 04:44	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/27/19 04:44	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/27/19 04:44	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/27/19 04:44	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/27/19 04:44	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/27/19 04:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*		*07/27/19 04:44*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*07/27/19 04:44*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*		*07/27/19 04:44*	*1*
Toluene-d8 (Surr)	*100*		*75 - 120*		*07/27/19 04:44*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.27**	**J**	1.0	0.23	ug/L		07/25/19 07:57	07/25/19 18:08	1
Barium	**13**		2.5	0.73	ug/L		07/25/19 07:57	07/25/19 18:08	1
Cadmium	<0.17		0.50	0.17	ug/L		07/25/19 07:57	07/25/19 18:08	1
Chromium	<1.1		5.0	1.1	ug/L		07/25/19 07:57	07/25/19 18:08	1
Lead	<0.19		0.50	0.19	ug/L		07/25/19 07:57	07/25/19 18:08	1
Selenium	<0.98		2.5	0.98	ug/L		07/25/19 07:57	07/25/19 18:08	1
Silver	<0.12		0.50	0.12	ug/L		07/25/19 07:57	07/25/19 18:08	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		07/26/19 09:55	07/29/19 08:57	1

Client Sample ID: Equipment Blank

Lab Sample ID: 500-167182-8
Date Collected: 07/23/19 09:10
Matrix: Water
Date Received: 07/24/19 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/27/19 05:10	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/27/19 05:10	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/27/19 05:10	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/27/19 05:10	1
Bromoform	<0.48		1.0	0.48	ug/L			07/27/19 05:10	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/27/19 05:10	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/27/19 05:10	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/27/19 05:10	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/27/19 05:10	1
Chloroform	**0.47**	**J B**	2.0	0.37	ug/L			07/27/19 05:10	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/27/19 05:10	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/27/19 05:10	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/27/19 05:10	1

Client Sample ID: Equipment Blank
Date Collected: 07/23/19 09:10
Date Received: 07/24/19 09:35

Lab Sample ID: 500-167182-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/27/19 05:10	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/27/19 05:10	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/27/19 05:10	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/27/19 05:10	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/27/19 05:10	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/27/19 05:10	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/27/19 05:10	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/27/19 05:10	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/27/19 05:10	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/27/19 05:10	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/27/19 05:10	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/27/19 05:10	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/27/19 05:10	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/27/19 05:10	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/27/19 05:10	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/27/19 05:10	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/27/19 05:10	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/27/19 05:10	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/27/19 05:10	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 05:10	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/27/19 05:10	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/27/19 05:10	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/27/19 05:10	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/27/19 05:10	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/27/19 05:10	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/27/19 05:10	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/27/19 05:10	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 05:10	1
Styrene	<0.39		1.0	0.39	ug/L			07/27/19 05:10	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/27/19 05:10	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/27/19 05:10	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/27/19 05:10	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/27/19 05:10	1
Toluene	<0.15		0.50	0.15	ug/L			07/27/19 05:10	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/27/19 05:10	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/27/19 05:10	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/27/19 05:10	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/27/19 05:10	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/27/19 05:10	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/27/19 05:10	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/27/19 05:10	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/27/19 05:10	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/27/19 05:10	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/27/19 05:10	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/27/19 05:10	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/27/19 05:10	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/27/19 05:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*72 - 124*		*07/27/19 05:10*	*1*

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Client Sample ID: Equipment Blank

Date Collected: 07/23/19 09:10
Date Received: 07/24/19 09:35

Lab Sample ID: 500-167182-8

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane	*107*		*75 - 120*		*07/27/19 05:10*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*75 - 126*		*07/27/19 05:10*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*07/27/19 05:10*	*1*

Method: 6020A - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.23		1.0	0.23	ug/L		07/25/19 07:57	07/25/19 18:12	1
Barium	**1.6**	**J**	2.5	0.73	ug/L		07/25/19 07:57	07/25/19 18:12	1
Cadmium	<0.17		0.50	0.17	ug/L		07/25/19 07:57	07/25/19 18:12	1
Chromium	<1.1		5.0	1.1	ug/L		07/25/19 07:57	07/25/19 18:12	1
Lead	**0.34**	**J**	0.50	0.19	ug/L		07/25/19 07:57	07/25/19 18:12	1
Selenium	<0.98		2.5	0.98	ug/L		07/25/19 07:57	07/25/19 18:12	1
Silver	<0.12		0.50	0.12	ug/L		07/25/19 07:57	07/25/19 18:12	1

Method: 7470A - Mercury (CVAA) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		07/26/19 09:55	07/29/19 09:15	1

Definitions/Glossary

Client: SCS Engineers
Job ID: 500-167182-1
Project/Site: Matthews Estate - 25219145.00

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

QC Association Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

GC/MS VOA

Analysis Batch: 496939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167182-1	MW1	Total/NA	Water	8260B	
500-167182-3	MW3	Total/NA	Water	8260B	
500-167182-4	MW4	Total/NA	Water	8260B	
500-167182-5	MW5	Total/NA	Water	8260B	
500-167182-6	Trip Blank	Total/NA	Water	8260B	
500-167182-7	Field Dup (@MW1)	Total/NA	Water	8260B	
500-167182-8	Equipment Blank	Total/NA	Water	8260B	
MB 500-496939/6	Method Blank	Total/NA	Water	8260B	
LCS 500-496939/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 497057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167182-2	MW2	Total/NA	Water	8260B	
MB 500-497057/6	Method Blank	Total/NA	Water	8260B	
LCS 500-497057/4	Lab Control Sample	Total/NA	Water	8260B	

Metals

Prep Batch: 496531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167182-1	MW1	Dissolved	Water	3005A	
500-167182-2	MW2	Dissolved	Water	3005A	
500-167182-3	MW3	Dissolved	Water	3005A	
500-167182-4	MW4	Dissolved	Water	3005A	
500-167182-5	MW5	Dissolved	Water	3005A	
500-167182-7	Field Dup (@MW1)	Dissolved	Water	3005A	
500-167182-8	Equipment Blank	Dissolved	Water	3005A	
MB 500-496531/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 500-496531/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 496825

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167182-1	MW1	Dissolved	Water	6020A	496531
500-167182-2	MW2	Dissolved	Water	6020A	496531
500-167182-3	MW3	Dissolved	Water	6020A	496531
500-167182-4	MW4	Dissolved	Water	6020A	496531
500-167182-5	MW5	Dissolved	Water	6020A	496531
500-167182-7	Field Dup (@MW1)	Dissolved	Water	6020A	496531
500-167182-8	Equipment Blank	Dissolved	Water	6020A	496531
MB 500-496531/1-A	Method Blank	Total Recoverable	Water	6020A	496531
LCS 500-496531/2-A	Lab Control Sample	Total Recoverable	Water	6020A	496531

Prep Batch: 496826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167182-1	MW1	Dissolved	Water	7470A	
500-167182-2	MW2	Dissolved	Water	7470A	
500-167182-3	MW3	Dissolved	Water	7470A	
500-167182-4	MW4	Dissolved	Water	7470A	
500-167182-5	MW5	Dissolved	Water	7470A	
500-167182-7	Field Dup (@MW1)	Dissolved	Water	7470A	
500-167182-8	Equipment Blank	Dissolved	Water	7470A	

Metals (Continued)

Prep Batch: 496826 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-496826/12-A	Method Blank	Total/NA	Water	7470A	
LCS 500-496826/13-A	Lab Control Sample	Total/NA	Water	7470A	
500-167182-7 MS	Field Dup (@MW1)	Dissolved	Water	7470A	
500-167182-7 MSD	Field Dup (@MW1)	Dissolved	Water	7470A	
500-167182-7 DU	Field Dup (@MW1)	Dissolved	Water	7470A	

Analysis Batch: 497139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-167182-1	MW1	Dissolved	Water	7470A	496826
500-167182-2	MW2	Dissolved	Water	7470A	496826
500-167182-3	MW3	Dissolved	Water	7470A	496826
500-167182-4	MW4	Dissolved	Water	7470A	496826
500-167182-5	MW5	Dissolved	Water	7470A	496826
500-167182-7	Field Dup (@MW1)	Dissolved	Water	7470A	496826
500-167182-8	Equipment Blank	Dissolved	Water	7470A	496826
MB 500-496826/12-A	Method Blank	Total/NA	Water	7470A	496826
LCS 500-496826/13-A	Lab Control Sample	Total/NA	Water	7470A	496826
500-167182-7 MS	Field Dup (@MW1)	Dissolved	Water	7470A	496826
500-167182-7 MSD	Field Dup (@MW1)	Dissolved	Water	7470A	496826
500-167182-7 DU	Field Dup (@MW1)	Dissolved	Water	7470A	496826

Surrogate Summary

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		BFB	DBFM	DCA	TOL
Lab Sample ID	Client Sample ID	(72-124)	(75-120)	(75-126)	(75-120)
500-167182-1	MW1	94	103	97	99
500-167182-2	MW2	94	105	102	96
500-167182-3	MW3	94	103	98	100
500-167182-4	MW4	93	105	98	98
500-167182-5	MW5	93	105	99	99
500-167182-6	Trip Blank	94	104	102	96
500-167182-7	Field Dup (@MW1)	94	104	99	100
500-167182-8	Equipment Blank	93	107	102	97
LCS 500-496939/4	Lab Control Sample	98	108	106	98
LCS 500-497057/4	Lab Control Sample	98	106	103	96
MB 500-496939/6	Method Blank	98	110	105	97
MB 500-497057/6	Method Blank	95	106	108	95

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Client: SCS Engineers
Project/Site: Matthews Estate - 25219145.00

Job ID: 500-167182-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-496939/6
Matrix: Water
Analysis Batch: 496939

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/26/19 22:42	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/26/19 22:42	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/26/19 22:42	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/26/19 22:42	1
Bromoform	<0.48		1.0	0.48	ug/L			07/26/19 22:42	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/26/19 22:42	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/26/19 22:42	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/26/19 22:42	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/26/19 22:42	1
Chloroform	0.379	J	2.0	0.37	ug/L			07/26/19 22:42	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/26/19 22:42	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/26/19 22:42	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/26/19 22:42	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/26/19 22:42	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/26/19 22:42	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/26/19 22:42	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/26/19 22:42	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/26/19 22:42	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/26/19 22:42	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/26/19 22:42	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/26/19 22:42	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/26/19 22:42	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/26/19 22:42	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/26/19 22:42	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/26/19 22:42	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/26/19 22:42	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/26/19 22:42	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/26/19 22:42	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/26/19 22:42	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/26/19 22:42	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/26/19 22:42	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/26/19 22:42	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/26/19 22:42	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/26/19 22:42	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/26/19 22:42	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/26/19 22:42	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/26/19 22:42	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/26/19 22:42	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/26/19 22:42	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/26/19 22:42	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/26/19 22:42	1
Styrene	<0.39		1.0	0.39	ug/L			07/26/19 22:42	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/26/19 22:42	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/26/19 22:42	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/26/19 22:42	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/26/19 22:42	1
Toluene	<0.15		0.50	0.15	ug/L			07/26/19 22:42	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/26/19 22:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-496939/6
Matrix: Water
Analysis Batch: 496939

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/26/19 22:42	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/26/19 22:42	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/26/19 22:42	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/26/19 22:42	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/26/19 22:42	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/26/19 22:42	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/26/19 22:42	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/26/19 22:42	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/26/19 22:42	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/26/19 22:42	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/26/19 22:42	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/26/19 22:42	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*98*		*72 - 124*		*07/26/19 22:42*	*1*
Dibromofluoromethane	*110*		*75 - 120*		*07/26/19 22:42*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 126*		*07/26/19 22:42*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*07/26/19 22:42*	*1*

Lab Sample ID: LCS 500-496939/4
Matrix: Water
Analysis Batch: 496939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	45.3		ug/L		91	70 - 120
Bromobenzene	50.0	46.6		ug/L		93	70 - 122
Bromochloromethane	50.0	50.9		ug/L		102	65 - 122
Bromodichloromethane	50.0	47.1		ug/L		94	69 - 120
Bromoform	50.0	44.8		ug/L		90	56 - 132
Bromomethane	50.0	45.5		ug/L		91	40 - 152
Carbon tetrachloride	50.0	46.8		ug/L		94	59 - 133
Chlorobenzene	50.0	45.2		ug/L		90	70 - 120
Chloroethane	50.0	55.9		ug/L		112	48 - 136
Chloroform	50.0	47.3		ug/L		95	70 - 120
Chloromethane	50.0	42.6		ug/L		85	56 - 152
2-Chlorotoluene	50.0	43.5		ug/L		87	70 - 125
4-Chlorotoluene	50.0	43.3		ug/L		87	68 - 124
cis-1,2-Dichloroethene	50.0	47.9		ug/L		96	70 - 125
cis-1,3-Dichloropropene	50.0	43.2		ug/L		86	64 - 127
Dibromochloromethane	50.0	47.5		ug/L		95	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	43.9		ug/L		88	56 - 123
1,2-Dibromoethane	50.0	47.3		ug/L		95	70 - 125
Dibromomethane	50.0	49.6		ug/L		99	70 - 120
1,2-Dichlorobenzene	50.0	45.6		ug/L		91	70 - 125
1,3-Dichlorobenzene	50.0	45.4		ug/L		91	70 - 125
1,4-Dichlorobenzene	50.0	44.8		ug/L		90	70 - 120
Dichlorodifluoromethane	50.0	44.4		ug/L		89	40 - 159
1,1-Dichloroethane	50.0	46.0		ug/L		92	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-496939/4
Matrix: Water
Analysis Batch: 496939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	50.0	49.3		ug/L		99	68 - 127
1,1-Dichloroethene	50.0	43.9		ug/L		88	67 - 122
1,2-Dichloropropane	50.0	45.9		ug/L		92	67 - 130
1,3-Dichloropropane	50.0	46.7		ug/L		93	62 - 136
2,2-Dichloropropane	50.0	44.2		ug/L		88	58 - 139
1,1-Dichloropropene	50.0	44.2		ug/L		88	70 - 121
Ethylbenzene	50.0	43.0		ug/L		86	70 - 123
Hexachlorobutadiene	50.0	45.7		ug/L		91	51 - 150
Isopropylbenzene	50.0	43.1		ug/L		86	70 - 126
Methylene Chloride	50.0	46.2		ug/L		92	69 - 125
Methyl tert-butyl ether	50.0	45.7		ug/L		91	55 - 123
Naphthalene	50.0	45.9		ug/L		92	53 - 144
n-Butylbenzene	50.0	42.3		ug/L		85	68 - 125
N-Propylbenzene	50.0	43.1		ug/L		86	69 - 127
p-Isopropyltoluene	50.0	43.7		ug/L		87	70 - 125
sec-Butylbenzene	50.0	42.6		ug/L		85	70 - 123
Styrene	50.0	45.2		ug/L		90	70 - 120
tert-Butylbenzene	50.0	43.1		ug/L		86	70 - 121
1,1,1,2-Tetrachloroethane	50.0	45.6		ug/L		91	70 - 125
1,1,2,2-Tetrachloroethane	50.0	46.0		ug/L		92	62 - 140
Tetrachloroethene	50.0	43.9		ug/L		88	70 - 128
Toluene	50.0	41.9		ug/L		84	70 - 125
trans-1,2-Dichloroethene	50.0	45.7		ug/L		91	70 - 125
trans-1,3-Dichloropropene	50.0	44.1		ug/L		88	62 - 128
1,2,3-Trichlorobenzene	50.0	46.8		ug/L		94	51 - 145
1,2,4-Trichlorobenzene	50.0	45.9		ug/L		92	57 - 137
1,1,1-Trichloroethane	50.0	46.1		ug/L		92	70 - 125
1,1,2-Trichloroethane	50.0	46.4		ug/L		93	71 - 130
Trichloroethene	50.0	49.6		ug/L		99	70 - 125
Trichlorofluoromethane	50.0	47.1		ug/L		94	55 - 128
1,2,3-Trichloropropane	50.0	50.4		ug/L		101	50 - 133
1,2,4-Trimethylbenzene	50.0	43.4		ug/L		87	70 - 123
1,3,5-Trimethylbenzene	50.0	43.4		ug/L		87	70 - 123
Vinyl chloride	50.0	42.9		ug/L		86	64 - 126
Xylenes, Total	100	83.9		ug/L		84	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*72 - 124*
Dibromofluoromethane	*108*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*
Toluene-d8 (Surr)	*98*		*75 - 120*

Lab Sample ID: MB 500-497057/6
Matrix: Water
Analysis Batch: 497057

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/29/19 10:12	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-497057/6
Matrix: Water
Analysis Batch: 497057

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<0.36		1.0	0.36	ug/L			07/29/19 10:12	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/29/19 10:12	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/29/19 10:12	1
Bromoform	<0.48		1.0	0.48	ug/L			07/29/19 10:12	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/29/19 10:12	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/29/19 10:12	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/29/19 10:12	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/29/19 10:12	1
Chloroform	<0.37		2.0	0.37	ug/L			07/29/19 10:12	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/29/19 10:12	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/29/19 10:12	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/29/19 10:12	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/29/19 10:12	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/29/19 10:12	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/29/19 10:12	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/29/19 10:12	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/29/19 10:12	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/29/19 10:12	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/29/19 10:12	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/29/19 10:12	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/29/19 10:12	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/29/19 10:12	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/29/19 10:12	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/29/19 10:12	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/29/19 10:12	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/29/19 10:12	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/29/19 10:12	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/29/19 10:12	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/29/19 10:12	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/29/19 10:12	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/29/19 10:12	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/29/19 10:12	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/29/19 10:12	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/29/19 10:12	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/29/19 10:12	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/29/19 10:12	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/29/19 10:12	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/29/19 10:12	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/29/19 10:12	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/29/19 10:12	1
Styrene	<0.39		1.0	0.39	ug/L			07/29/19 10:12	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/29/19 10:12	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/29/19 10:12	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/29/19 10:12	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/29/19 10:12	1
Toluene	<0.15		0.50	0.15	ug/L			07/29/19 10:12	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/29/19 10:12	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/29/19 10:12	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/29/19 10:12	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-497057/6
Matrix: Water
Analysis Batch: 497057

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/29/19 10:12	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/29/19 10:12	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/29/19 10:12	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/29/19 10:12	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/29/19 10:12	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/29/19 10:12	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/29/19 10:12	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/29/19 10:12	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/29/19 10:12	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/29/19 10:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*72 - 124*		*07/29/19 10:12*	*1*
Dibromofluoromethane	*106*		*75 - 120*		*07/29/19 10:12*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*		*07/29/19 10:12*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*07/29/19 10:12*	*1*

Lab Sample ID: LCS 500-497057/4
Matrix: Water
Analysis Batch: 497057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	50.0	46.3		ug/L		93	70 - 120
Bromobenzene	50.0	46.5		ug/L		93	70 - 122
Bromochloromethane	50.0	49.1		ug/L		98	65 - 122
Bromodichloromethane	50.0	49.4		ug/L		99	69 - 120
Bromoform	50.0	65.3		ug/L		131	56 - 132
Bromomethane	50.0	42.9		ug/L		86	40 - 152
Carbon tetrachloride	50.0	57.1		ug/L		114	59 - 133
Chlorobenzene	50.0	45.3		ug/L		91	70 - 120
Chloroethane	50.0	37.6		ug/L		75	48 - 136
Chloroform	50.0	44.9		ug/L		90	70 - 120
Chloromethane	50.0	40.2		ug/L		80	56 - 152
2-Chlorotoluene	50.0	46.0		ug/L		92	70 - 125
4-Chlorotoluene	50.0	45.9		ug/L		92	68 - 124
cis-1,2-Dichloroethene	50.0	46.2		ug/L		92	70 - 125
cis-1,3-Dichloropropene	50.0	47.8		ug/L		96	64 - 127
Dibromochloromethane	50.0	54.5		ug/L		109	68 - 125
1,2-Dibromo-3-Chloropropane	50.0	64.3	*	ug/L		129	56 - 123
1,2-Dibromoethane	50.0	47.8		ug/L		96	70 - 125
Dibromomethane	50.0	52.1		ug/L		104	70 - 120
1,2-Dichlorobenzene	50.0	45.4		ug/L		91	70 - 125
1,3-Dichlorobenzene	50.0	45.2		ug/L		90	70 - 125
1,4-Dichlorobenzene	50.0	46.1		ug/L		92	70 - 120
Dichlorodifluoromethane	50.0	33.2		ug/L		66	40 - 159
1,1-Dichloroethane	50.0	44.3		ug/L		89	70 - 125
1,2-Dichloroethane	50.0	46.1		ug/L		92	68 - 127
1,1-Dichloroethene	50.0	47.3		ug/L		95	67 - 122

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-497057/4
Matrix: Water
Analysis Batch: 497057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	50.0	45.8		ug/L		92	67 - 130
1,3-Dichloropropane	50.0	49.6		ug/L		99	62 - 136
2,2-Dichloropropane	50.0	48.4		ug/L		97	58 - 139
1,1-Dichloropropene	50.0	48.6		ug/L		97	70 - 121
Ethylbenzene	50.0	46.3		ug/L		93	70 - 123
Hexachlorobutadiene	50.0	40.1		ug/L		80	51 - 150
Isopropylbenzene	50.0	44.8		ug/L		90	70 - 126
Methylene Chloride	50.0	44.8		ug/L		90	69 - 125
Methyl tert-butyl ether	50.0	49.1		ug/L		98	55 - 123
Naphthalene	50.0	47.2		ug/L		94	53 - 144
n-Butylbenzene	50.0	46.7		ug/L		93	68 - 125
N-Propylbenzene	50.0	46.9		ug/L		94	69 - 127
p-Isopropyltoluene	50.0	44.7		ug/L		89	70 - 125
sec-Butylbenzene	50.0	45.6		ug/L		91	70 - 123
Styrene	50.0	46.2		ug/L		92	70 - 120
tert-Butylbenzene	50.0	43.4		ug/L		87	70 - 121
1,1,1,2-Tetrachloroethane	50.0	51.4		ug/L		103	70 - 125
1,1,2,2-Tetrachloroethane	50.0	53.2		ug/L		106	62 - 140
Tetrachloroethene	50.0	45.1		ug/L		90	70 - 128
Toluene	50.0	43.5		ug/L		87	70 - 125
trans-1,2-Dichloroethene	50.0	47.5		ug/L		95	70 - 125
trans-1,3-Dichloropropene	50.0	51.0		ug/L		102	62 - 128
1,2,3-Trichlorobenzene	50.0	42.5		ug/L		85	51 - 145
1,2,4-Trichlorobenzene	50.0	42.5		ug/L		85	57 - 137
1,1,1-Trichloroethane	50.0	48.8		ug/L		98	70 - 125
1,1,2-Trichloroethane	50.0	48.4		ug/L		97	71 - 130
Trichloroethene	50.0	47.6		ug/L		95	70 - 125
Trichlorofluoromethane	50.0	48.0		ug/L		96	55 - 128
1,2,3-Trichloropropane	50.0	55.0		ug/L		110	50 - 133
1,2,4-Trimethylbenzene	50.0	44.4		ug/L		89	70 - 123
1,3,5-Trimethylbenzene	50.0	44.2		ug/L		88	70 - 123
Vinyl chloride	50.0	37.9		ug/L		76	64 - 126
Xylenes, Total	100	93.0		ug/L		93	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*98*		*72 - 124*
Dibromofluoromethane	*106*		*75 - 120*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 126*
Toluene-d8 (Surr)	*96*		*75 - 120*

Method: 6020A - Metals (ICP/MS)

Lab Sample ID: MB 500-496531/1-A
Matrix: Water
Analysis Batch: 496825

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 496531

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.23		1.0	0.23	ug/L		07/25/19 07:57	07/25/19 16:34	1
Barium	<0.73		2.5	0.73	ug/L		07/25/19 07:57	07/25/19 16:34	1

Method: 6020A - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 500-496531/1-A
Matrix: Water
Analysis Batch: 496825

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 496531

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cadmium	<0.17		0.50	0.17	ug/L		07/25/19 07:57	07/25/19 16:34	1
Chromium	<1.1		5.0	1.1	ug/L		07/25/19 07:57	07/25/19 16:34	1
Lead	<0.19		0.50	0.19	ug/L		07/25/19 07:57	07/25/19 16:34	1
Selenium	<0.98		2.5	0.98	ug/L		07/25/19 07:57	07/25/19 16:34	1
Silver	<0.12		0.50	0.12	ug/L		07/25/19 07:57	07/25/19 16:34	1

Lab Sample ID: LCS 500-496531/2-A
Matrix: Water
Analysis Batch: 496825

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 496531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	100	97.1		ug/L		97	80 - 120
Barium	500	506		ug/L		101	80 - 120
Cadmium	50.0	48.9		ug/L		98	80 - 120
Chromium	200	202		ug/L		101	80 - 120
Lead	100	104		ug/L		104	80 - 120
Selenium	100	98.0		ug/L		98	80 - 120
Silver	50.0	49.4		ug/L		99	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 500-496826/12-A
Matrix: Water
Analysis Batch: 497139

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 496826

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.098		0.20	0.098	ug/L		07/26/19 09:55	07/29/19 08:19	1

Lab Sample ID: LCS 500-496826/13-A
Matrix: Water
Analysis Batch: 497139

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 496826

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	2.00	2.07		ug/L		103	80 - 120

Lab Sample ID: 500-167182-7 MS
Matrix: Water
Analysis Batch: 497139

Client Sample ID: Field Dup (@MW1)
Prep Type: Dissolved
Prep Batch: 496826

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.098		1.00	0.994		ug/L		99	75 - 125

Lab Sample ID: 500-167182-7 MSD
Matrix: Water
Analysis Batch: 497139

Client Sample ID: Field Dup (@MW1)
Prep Type: Dissolved
Prep Batch: 496826

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.098		1.00	0.935		ug/L		93	75 - 125	6	20

Client: SCS Engineers
Job ID: 500-167182-1
Project/Site: Matthews Estate - 25219145.00

Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: 500-167182-7 DU
Matrix: Water
Analysis Batch: 497139

Client Sample ID: Field Dup (@MW1)
Prep Type: Dissolved
Prep Batch: 496826

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Mercury	<0.098			<0.098		ug/L				NC	20

Lab Chronicle

Client: SCS Engineers
Job ID: 500-167182-1
Project/Site: Matthews Estate - 25219145.00

Client Sample ID: MW1
Lab Sample ID: 500-167182-1
Date Collected: 07/23/19 09:15
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496939	07/27/19 01:17	JLC	TAL CHI
Dissolved	Prep	3005A			496531	07/25/19 07:57	SAH	TAL CHI
Dissolved	Analysis	6020A		1	496825	07/25/19 17:42	ASF	TAL CHI
Dissolved	Prep	7470A			496826	07/26/19 09:55	MJG	TAL CHI
Dissolved	Analysis	7470A		1	497139	07/29/19 08:49	MJG	TAL CHI

Client Sample ID: MW2
Lab Sample ID: 500-167182-2
Date Collected: 07/23/19 09:50
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	497057	07/29/19 17:38	JLC	TAL CHI
Dissolved	Prep	3005A			496531	07/25/19 07:57	SAH	TAL CHI
Dissolved	Analysis	6020A		1	496825	07/25/19 17:46	ASF	TAL CHI
Dissolved	Prep	7470A			496826	07/26/19 09:55	MJG	TAL CHI
Dissolved	Analysis	7470A		1	497139	07/29/19 08:51	MJG	TAL CHI

Client Sample ID: MW3
Lab Sample ID: 500-167182-3
Date Collected: 07/23/19 10:15
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496939	07/27/19 02:09	JLC	TAL CHI
Dissolved	Prep	3005A			496531	07/25/19 07:57	SAH	TAL CHI
Dissolved	Analysis	6020A		1	496825	07/25/19 17:49	ASF	TAL CHI
Dissolved	Prep	7470A			496826	07/26/19 09:55	MJG	TAL CHI
Dissolved	Analysis	7470A		1	497139	07/29/19 08:52	MJG	TAL CHI

Client Sample ID: MW4
Lab Sample ID: 500-167182-4
Date Collected: 07/23/19 10:30
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496939	07/27/19 02:35	JLC	TAL CHI
Dissolved	Prep	3005A			496531	07/25/19 07:57	SAH	TAL CHI
Dissolved	Analysis	6020A		1	496825	07/25/19 17:53	ASF	TAL CHI
Dissolved	Prep	7470A			496826	07/26/19 09:55	MJG	TAL CHI
Dissolved	Analysis	7470A		1	497139	07/29/19 08:54	MJG	TAL CHI

Client Sample ID: MW5
Lab Sample ID: 500-167182-5
Date Collected: 07/23/19 10:55
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496939	07/27/19 03:00	JLC	TAL CHI

Lab Chronicle

Client: SCS Engineers
Job ID: 500-167182-1
Project/Site: Matthews Estate - 25219145.00

Client Sample ID: MW5
Lab Sample ID: 500-167182-5
Date Collected: 07/23/19 10:55
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			496531	07/25/19 07:57	SAH	TAL CHI
Dissolved	Analysis	6020A		1	496825	07/25/19 18:04	ASF	TAL CHI
Dissolved	Prep	7470A			496826	07/26/19 09:55	MJG	TAL CHI
Dissolved	Analysis	7470A		1	497139	07/29/19 08:55	MJG	TAL CHI

Client Sample ID: Trip Blank
Lab Sample ID: 500-167182-6
Date Collected: 07/23/19 00:00
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496939	07/26/19 23:07	JLC	TAL CHI

Client Sample ID: Field Dup (@MW1)
Lab Sample ID: 500-167182-7
Date Collected: 07/23/19 09:20
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496939	07/27/19 04:44	JLC	TAL CHI
Dissolved	Prep	3005A			496531	07/25/19 07:57	SAH	TAL CHI
Dissolved	Analysis	6020A		1	496825	07/25/19 18:08	ASF	TAL CHI
Dissolved	Prep	7470A			496826	07/26/19 09:55	MJG	TAL CHI
Dissolved	Analysis	7470A		1	497139	07/29/19 08:57	MJG	TAL CHI

Client Sample ID: Equipment Blank
Lab Sample ID: 500-167182-8
Date Collected: 07/23/19 09:10
Matrix: Water
Date Received: 07/24/19 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	496939	07/27/19 05:10	JLC	TAL CHI
Dissolved	Prep	3005A			496531	07/25/19 07:57	SAH	TAL CHI
Dissolved	Analysis	6020A		1	496825	07/25/19 18:12	ASF	TAL CHI
Dissolved	Prep	7470A			496826	07/26/19 09:55	MJG	TAL CHI
Dissolved	Analysis	7470A		1	497139	07/29/19 09:15	MJG	TAL CHI

Laboratory References:
TAL CHI = Eurofins TestAmerica, Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: SCS Engineers
Job ID: 500-167182-1
Project/Site: Matthews Estate - 25219145.00

Laboratory: Eurofins TestAmerica, Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Wisconsin	State Program	5	999580010	08-31-19 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Chicago
2417 Bond Street
University Park, IL 60484
Phone: 708-534-5200 Fax: 708-534-5211

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler:	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-73388-34233.1
Client Contact: Mr. Robert Langdon	Phone:	E-Mail: sandie.fredrick@testamericainc.com		Page: Page 1 of 3
Company: SCS Engineers				Job #: 500-167182
Address: 2830 Dairy Drive	Due Date Requested:			
City: Madison	TAT Requested (days):			
State, Zip: WI, 53718				
Phone:	PO #: 25219145.00			
Email: rlangdon@scsengineers.com	WO #:			
Project Name: Matthews Estate Project No. 25219145.00	Project #: 50006561			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

500-167182 COC

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	VOCs	RCRA Metals	Total Number of containers	Special Instructions/Note:
	Preservation Code:								X		
1	MW1	7-23-19	915	G	Solid			X	X		
2	MW2		950	G	Solid			X	X		
3	MW3		1015	G	Solid			X	X		
4	MW4		1030	G	Solid			X	X		
5	MW5		1055	G	Solid			X	X		
6	Trip Blank				Solid			X			
7	Field Dup (@MW1)		920	G	Solid			X	X		
8	Equipment Blank		910	G	Solid			X	X		
					Solid						
					Solid						
					Solid						

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		7.23.19 1100	SCS	Paula Buckley	7/24/19 0935	TACHI
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 1.4 → 2.9

Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 500-167182-1

Login Number: 167182
List Number: 1
Creator: Buckley, Paula M

List Source: Eurofins TestAmerica, Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.9
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	False	Headspace larger than 1/4" in one or more vials, one vial with accpt. headspace
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	