Phase II Environmental Assessment
Johnson Property
104 S. Knowles Avenue
New Richmond, WI

July 18, 2019

Prepared for (Users):

William Johnson
320 S. Green Avenue
New Richmond, WI

Prepared by:

Cedar Corporation
604 Wilson Avenue
Menomonie, WI 54751

CC # J6204-0001-300-01

TABLE OF CONTENTS

I. EXECUTIVE SUMMARY

Cedar Corporation has performed a Phase II Environmental Site Assessment in general conformance with the scope and limitations of ASTM Practice E1903 of the Johnson property located at 104 S. Knowles Avenue, New Richmond, WI, the property. Any exceptions to, or deletions from this practice are described in Sections II.C. of this report.

This assessment has revealed confirmation of a release(s), specifically reported detections of dry cleaning solvents (Tetrachloroethene) that warrant further investigation.

The results of this study are based upon the professional interpretation of information available to Cedar Corporation during the time and budget constraints of this assessment. Cedar Corporation has considered that the information provided by the cited references is complete and correct. Cedar Corporation does not warrant that this report represents an exhaustive study of all possible environmental concerns at the Property. The items investigated as part of this study represent the most likely sources of recognized environmental conditions, and are consequently believed to address your needs at this time.

II. INTRODUCTION

A. PURPOSE

This Phase II report has been completed to evaluate Recognized Environmental Conditions identified in a previously completed Phase I ESA. This report is intended to provide sufficient information regarding the presence of contamination to assist the user(s) in making informed decisions regarding the property.

B. SPECIAL TERMS AND CONDITIONS

There were no special terms and conditions between Client and Cedar Corporation.

C. LIMITATIONS AND EXCEPTIONS OF ASSESSMENT

No warranty, expressed or implied, is made concerning the environmental quality of the property. The conclusions and opinions made herein are based on the information obtained by or presented to Cedar Corporation through the completion of the report. As site conditions may change with time due to development and operational practices on this and adjoining properties, this report has a limited life. Cedar Corporation reserves the right to alter the opinions expressed herein should additional information pertaining to the environmental

quality of the property become available.

III. BACKGROUND

A. SITE DESCRIPTION AND FEATURES

The property is located in downtown New Richmond, WI in an area made up of commercial and recreational development. The property is located in the NW 1/4 of the NW 1/4 of Section 2, Township 30 North, Range 18 W, City of New Richmond, St. Croix County, WI (Figure 1).

B. PHYSICAL SETTING

In order to review and describe the physical setting of the property, Cedar Corporation reviewed the USGS 7.5 Minute Topographic Quadrangle the property is located on, readily available geologic and hydrologic maps, and a review of the USDA Web Soil Survey.

1. Site Topography

In general, the topography of the property is generally flat, with an approximate elevation of 984 feet above mean sea level (MSL).

2. Bedrock Geology

The upper most layer of bedrock beneath the site is dolomite of the Prairie du Chien Group (*Mudrey & others, 1987*). Depth to bedrock is estimated to be 15 feet.

3. Hydrology

Groundwater beneath the site is estimated to be approximately 10 feet.

4. Soils

According to the USDA Web Soil Survey, the surface soil at the site is described as Sattre silt loam.

C. SITE HISTORY AND LAND USE

The property was determined that the property was initially developed prior to 1887 with a livery barn and shed. The barn use remained unchanged until the 1927 map which shows a small gas station with three tanks located on the property. The gas station appears unchanged through the 1947 map. City records

indicate the current building was constructed in 1951 and used as a service station through the late 1970s. An addition was added in 1982 and the use changed to a dry cleaners and insurance office, later a jewelry shop.

D. ADJACENT PROPERTY LAND USE

The adjoining properties have the following uses: recreational (Glover Park) to the north across E. 1st Street; Indianhead Glass and NRICH Tutoring Service to the east; Old Gem Theater to the south; and, vacant or tattoo parlor to the west across S. Knowles Ave.

E. SUMMARY OF PREVIOUS ASSESSMENTS

A Phase I Environmental Site Assessment completed by Cedar Corporation on June 3, 2019, identified the past use of portions of the property as a gas station and later dry cleaners with no known records available to demonstrate releases did not occur as a Recognized Environmental Condition and recommended soil and soil vapor sampling to determine if the past use resulted in impacts to the environmental quality of the property.

IV. PHASE II ACTIVITIES

A. SCOPE OF ASSESSMENT

Four soil borings were constructed to 6-16 feet of depth in locations selected to evaluate reported or likely (based on Sanborn fire insurance maps and historic aerial photography) former tank bed locations. A groundwater sample was collected from borings B-3. One sub-slab soil vapor sample was collected in the north portion of the building's basement.

B. FIELD METHODS

Soils were evaluated by construction of soil borings with a Geoprobe soil boring rig operated by Geiss Soils & Samples of Merrill, WI. Soil samples were collected in four foot incremental sampling with new PVC liners. The geology of each soil sample was described and recorded on soil boring logs. Samples selected to be laboratory analyzed were placed in laboratory supplied containers. The sub-slab vapor sample was collected after installing a vapor port through the floor following WDNR's Vapor Intrusion Guidance (RR-800) using summa canister provided by the laboratory.

C. SAMPLING AND ANALYTICAL METHODS

Samples collected were laboratory analyzed by Europhins at their University Park, IL

facility for Volatile Organic Compounds by EPA Method 8260B (for soils and water) or TO-15 (for vapor).

V. EVALUATION AND PRESENTATION OF RESULTS

A. SUBSURFACE CONDITIONS

The geology was observed to consist of approximately 6-10 feet of tan-brown sands overlying orange medium-coarse sand with some gravel. Bedrock or some other obstruction limited the depth of boring B-1 to 6 feet. Figure 2 presents the locations of the soil borings.

Groundwater, anticipated to be 10 feet of depth, was encountered at 14 feet in borings extending as deep as 16 feet.

B. ANALYTICAL DATA

The lab reported no detections of VOCs in any of the soil samples with the exception of Naphthalene (at 25 µg/kg) and Tetrachloroethene or Perc (at 100 µg/kg) in boring B-2 at 4-6 feet of depth. Table 1 presents the analytical results. Groundwater sampled from boring B-3 was reported to have detections of Tetrachloroethene at 5.4 µg/L and Toluene at 0.24 µg/L.

The subslab vapor sample was reported to have detections of Hexachlorobutadiene at 340 ug/m^3, Tetrachloroethene at 320,000 ug/m^3, and Trichloroethene at 320 ug/m^3.

A soil sample was collected from the base of the 300 gallon fuel oil tank bed located off the northeast corner of the building at the time the UST was removed on May 23, 2019. The laboratory reported detections of Methylene Chloride (at 98 µg/kg) and Toluene (at 11 µg/kg). The detection of Methylene Chloride is suspected of being a lab contaminant.

Complete copies of the analytical reports are in Appendix B.

VI. DISCUSSION OF FINDINGS AND CONCLUSIONS

A. RECOGNIZED ENVIRONMENTAL CONDITIONS

The only Recognized Environmental Conditions identified in the previously completed Phase I ESA were the presence of the historic UST system(s) on and use of the property as a gasoline station and later a dry cleaner.

B. AFFECTED MEDIA

The media suspected of having the potential to have become contaminated by past use – soil vapor, soils and groundwater, were found to have reported detections of dry cleaning solvent contaminants in the laboratory analyzed samples. The levels reported exceed “allowable” levels.

C. EVALUATION OF MEDIA QUALITY

As the laboratory reported detections in several of the samples analyzed above “allowable” levels, further investigation is warranted to determine the full extent of contamination on, and potentially off, the property with dry cleaning solvents. It does not appear the former storage/use of petroleum on the property resulted in release(s) of petroleum products.

D. OTHER CONCERNS

No other concerns were identified during the course of this assessment.

VII. RECOMMENDATIONS

Based on in field observations made during construction of the soil borings and laboratory analyzed soil samples results, it is the Environmental Professional’s opinion there are apparent impacts from the historic dry cleaner use affecting the property and further investigation is warranted.

The contamination discovered at the property during the course of this assessment needs to be reported to the WDNR in compliance with §292.11 (the “spills” statute).

VIII. REFERENCES

1) *Phase I Environmental Assessment, Johnson Property, 104 S. Knowles Avenue, New Richmond, WI,* Cedar Corporation, June 3, 2019.

2) Soil, NRCS Web Soil Survey.

3) Bedrock Geology of WI North West Sheet, WGNHS, Mudrey & Others, 1987.

IX. SIGNATURES AND QUALIFICATIONS OF PROFESSIONALS

Matt has served as an environmental consultant since 1993.

Areas of Expertise Include:

- Phase I and II Environmental Site Assessments.
- Transaction Screen Process Environmental Site Assessments.
- Project Management of Petroleum and agricultural chemical projects - soil and groundwater investigations, remedial actions, reporting, and case closures.
- Project management and monitoring of underground storage tank closures and environmental assessments.
- Geological evaluations of existing subsurface conditions.
- NR 708 Non-emergency immediate action cleanups.
- Lead risk assessments and lead hazard screens.
- Asbestos containing building material inspections for Demolition and Renovation Projects.
- WisDOT/Federal Highway Environmental Documentation.

Education

University of Wisconsin-Eau Claire, Bachelor of Science, Geology (1992)

Professional Certifications

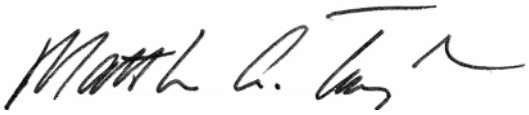
Certified Site Assessor (WI Reg. #41812)
Certified Asbestos Inspector (WI Reg. #AII-100624)
40-hour OSHA Health & Safety Training for Hazardous Materials Handling

Professional Registrations

State of Wisconsin, Professional Geologist, No. 1156 (1999)

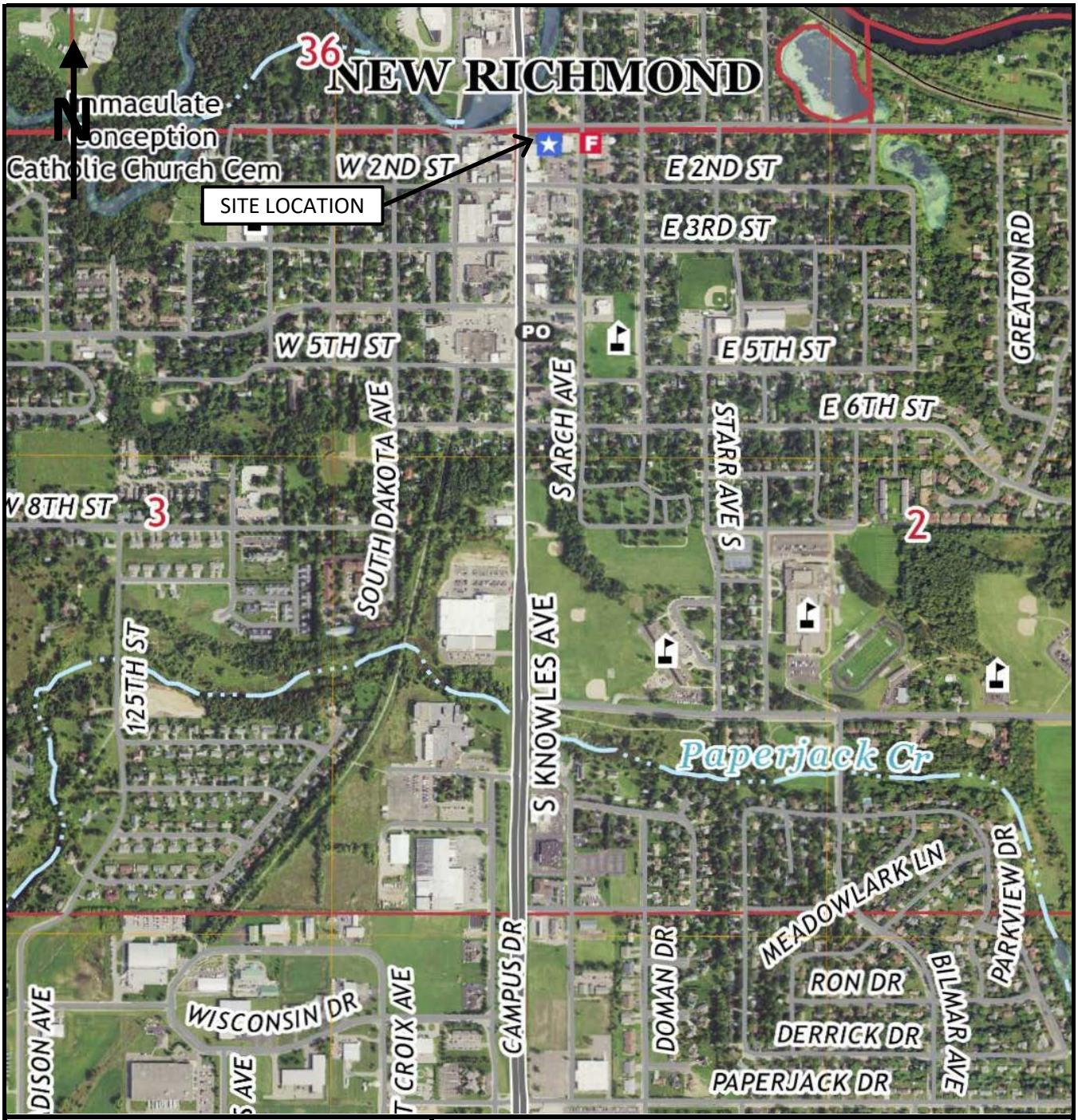
Employment History

1993 - present Cedar Corporation



Matthew A. Taylor, PG

FIGURE(S)



LEGEND

NEW RICHMOND SOUTH, WI
USGS TOPOGRAPHIC QUADRANGLE
7.5 MINUTE SERIES, 2018

CONTOUR INTERVAL = 10
NW 1/4 OF THE NW 1/4 SECTION 2,
TOWNSHIP 30 N, RANGE 18 W,
ST. CROIX COUNTY, WI

Cedar corporation
604 Wilson Avenue
Menomonie, WI 54751
engineering | architecture | environmental | surveying
landscape architecture | planning | economic development

SOURCE	SITE LOCATION MAP	DRAWN BY
USGS	Johnson Property 104 S. Knowles Avenue New Richmond, WI	MAT
DATE		JOB NO.
5/19		J6204-0001
SCALE		FIGURE
1"=1000'		1

Cedar corporation
Menomonie Madison
Green Bay Cedarburg
800-472-7372 • www.cedarcorp.com

JOB JOHNSON PROPERTY - NEW RICHMOND

CALCULATED BY _____ DATE _____

CHECK BY _____ DATE _____

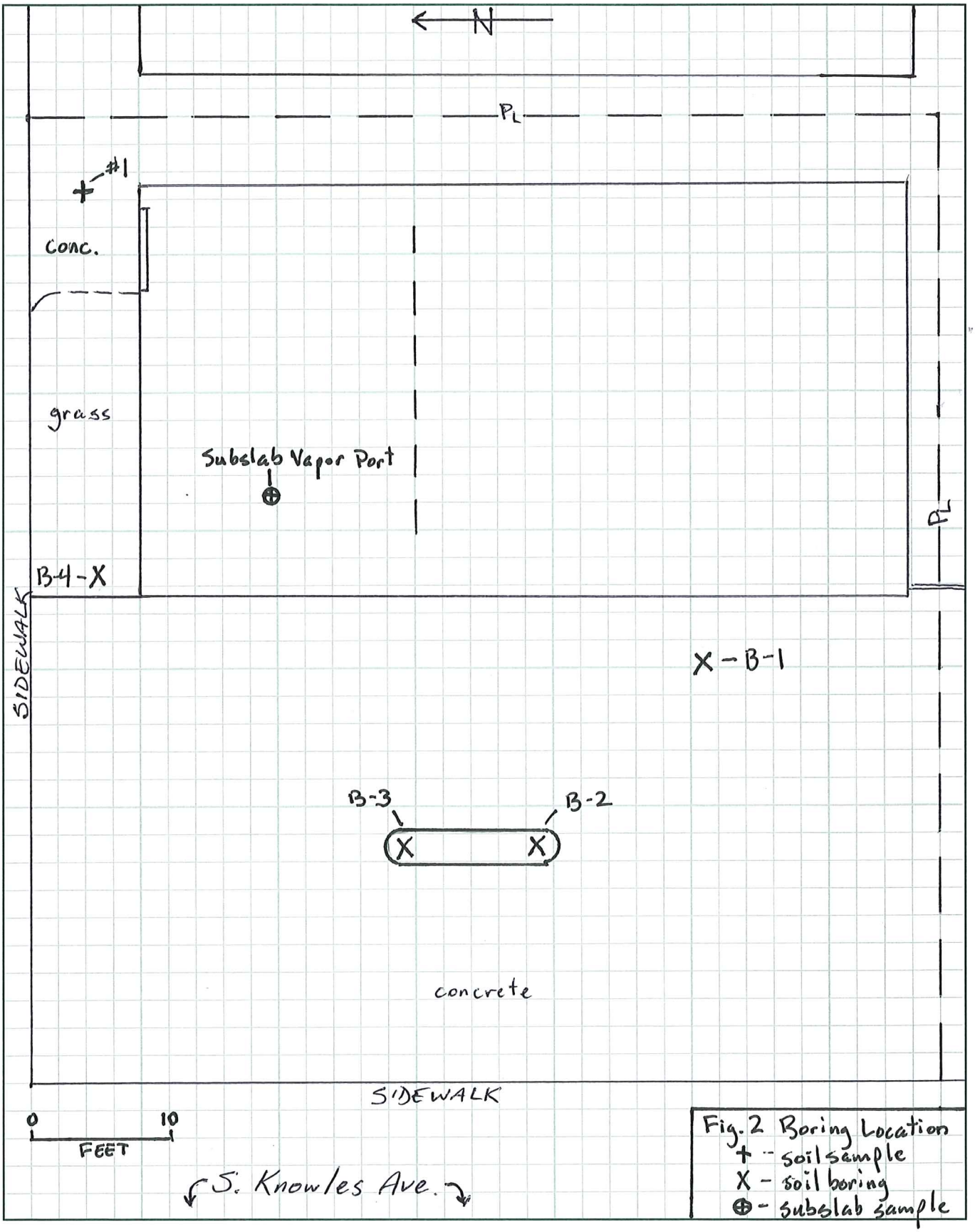


Fig. 2 Boring Location
+ - soil sample
X - soil boring
⊕ - subslab sample

TABLE(S)

Table 1
Soil Analytical Results
Johnson Property
New Richmond, Wisconsin

Results reported in ug/kg unless noted			Sample Name	B-1	B-2	B-2	B-3	B-3	B-4
			Laboratory ID	500-165716-1	500-165716-2	500-165716-3	500-165716-4	500-165716-5	500-165716-6
			Map ID	B-1	B-2	B-2	B-3	B-3	B-4
	DF-2 Groundwater Pathway RCLs	Non-Industrial Direct Contact RCLs	Sample Date	6/24/2019	6/24/2019	6/24/2019	6/24/2019	6/24/2019	6/24/2019
			Sample Depth (feet)	4-6	4-6	14-16	4-6	14-16	14-16
Compound			Saturated (S) or Unsaturated (U)	U	U	U	U	U	U
Benzene	5.1	1,600		<8	<7.8	<11	<7.7	<8.3	<12
Toluene	1,107.2	818,000		<8.1	<7.8	<11	<7.8	<8.3	<12
Ethylbenzene	1,570	8,020		<10	<9.7	<14	<9.7	<10	<15
Xylenes	3,960	260,000		<12	<12	<17	<12	<12	<18
1,2,4-Trimethyl benzene	1382.1	219,000		<20	<19	<27	<19	<20	<29
1,3,5-Trimethyl benzene	(combined)	182,000		<21	<20	<29	<20	<21	<30
Methyl tert-butyl ether	27.0	63,800		<22	<21	<30	<21	<22	<31
Naphthalene	658.2	5,520		<18	25	<26	<18	<19	<27
Tetrachloroethene	4.5	145		<20	100	<28	<20	<21	<30

Values in Bold Typeface exceed Non-Industrial Direct Contact RCLs
Values which have been underlined exceed DF-2 Groundwater Pathway RCLs
ug/kg = micrograms per kilogram = ppb = parts per billion

Table 2.
Vapor Analytical Table
Johnson Property
New Richmond, WI

Contaminant	WI Residential Vapor Action Levels (ug/m3)		Sample ID	**JOHNSON_SUBSLAB_20190624**
			Date	6/24/2019
	Indoor Air VAL	Sub-Slab Vapor VRSL	Method	TO-15
			Location	Sub-Slab
Hexachlorobutadiene	42.5	1,420		**3600 J**
Tetrachloroethene	42	1,400		**320,000**
Trichloroethene	2.1	70		**320 J**

Notes:
Bold values indicate VAL or VRSL Exceedance
J = Reported value was between the limit of detection and the limit of quantitation

APPENDIX A – Soil Boring Logs

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☐ Other ☐ _____

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Johnson Property	_____	B-1

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Darrin Last Name: Firm: Cress Soil/Samples	6/24/2019	__/__/____	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
_____	_____	_____	_____ Feet MSL	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S/C/N
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____ E/W

Lat ____ ° ____ ' ____ "
Long ____ ° ____ ' ____ "

Local Grid Location
_____ Feet ☐ N ☐ S _____ Feet ☐ E ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
		_____	New Richmond

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1			2	Concrete Sandy fill no odor										
2			4											
			6	EOB 6' Bedrock?										
			8											
			10											
			12											
			14											
			16											

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

Signature	Firm
M. Tang	Ceder Corporation

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☐ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Johnson Property		B-2

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Darrin Last Name: Firm: Geiss Soil Samples	6/24/2019	__/__/____	Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			_____ Feet MSL	_____ Feet MSL	_____ inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S/C/N
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____ E/W

Lat ___° ___' ___"
Long ___° ___' ___"

Local Grid Location
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			New Richmond

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1			2	Conc.										
			4	tan-brown sand ↑ NO ODOR										
2			6	orangy, some gravel										
			8											
3			10											
			12											
4			14	↓ 8										
			16											
			18											
			20											

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

Signature	Firm
M. Ley	Cedar Corp.

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION

Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☐ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Johnson Property		B-3

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Darrin Last Name:	6/24/2019		Geoprobe
Firm: Getts Soil Samples			

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S/C/N
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____ E/W

Lat ° ' "
Long ° ' "

Local Grid Location
☐ N ☐ E
_____ Feet ☐ S _____ Feet ☐ W

Facility ID	County	County Code	Civil Town/City/ or Village
			New Richmond

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1			2	Conc.										
			4	tan-brown sand some gravel										
2			6											
			8	NO ODOR										
3			10											
			12	orangy sand, gravel										
4			14	▼										
			16	EOB 16'										
			18											
			20											

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

Signature	Firm
M. Taylor	Cedar Corp.

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State of Wisconsin
Department of Natural Resources

SOIL BORING LOG INFORMATION
Form 4400-122 Rev. 7-98

Route To: Watershed/Wastewater ☐ Waste Management ☐
Remediation/Revelopment ☐ Other ☐ _____

Page 1 of 1

Facility/Project Name	License/Permit/Monitoring Number	Boring Number
Johnson Property		B-4

Boring Drilled By: Name of crew chief (first, last) and Firm	Date Drilling Started	Date Drilling Completed	Drilling Method
First Name: Last Name: Firm:	6/24/2019		Geoprobe

WI Unique Well No.	DNR Well ID No.	Well Name	Final Static Water Level	Surface Elevation	Borehole Diameter
			Feet MSL	Feet MSL	inches

Local Grid Origin ☐ (estimated: ☐) or Boring Location ☐
State Plane _____ N, _____ E S/C/N
Lat ° ' "
Long ° ' "
Local Grid Location ☐ N ☐ E _____ Feet ☐ S _____ Feet ☐ W
_____ 1/4 of _____ 1/4 of Section _____, T _____ N, R _____ E/W

Facility ID	County	County Code	Civil Town/City/ or Village

Sample Number and Type	Sample Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties: Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	RQD/ Comments
1			2	Grass										
			4	Sandy Fill										
2			6											
			8	ND ODOR										
3			10											
			12	orange sand/gravel										
4			14											
			16	EOB. 16'										
			18											
			20											

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

Signature	Firm
M. Taylor	Cedar Corp.

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APPENDIX B – Analytical Report(s)

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-165716-1
Client Project/Site: Johnson Property

For:
Cedar Corporation
604 Wilson Avenue
Menomonie, Wisconsin 54751

Attn: Matt Taylor

Sandie Fredrick

Authorized for release by:
7/10/2019 2:45:58 PM

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

Table of Contents

Case Narrative

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Job ID: 500-165716-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-165716-1

Comments
No additional comments.

Receipt
The samples were received on 6/26/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5º C.

GC/MS VOA
The laboratory control sample (LCS) for 493662 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.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 493699 recovered above the upper control limit for 1,2-dibromo-3-chloropropane and Bromoform. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: B-1 4-6' (500-165716-1) and (CCVIS 500-493699/2).

The laboratory control sample (LCS) for 493429 recovered outside control limits for the following analyte: 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene. These analytes were biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

The extraction LCS associated with preparation batch 493436 had several analytes recoveries above control limits. The instrument LCS associated with analytical batch 493429 had 1,2,3-Trichlorobenzene and 1,2,4-Trichlorobenzene were outside control limits; therefore re-analysis was not performed. The data have been reported and qualified. B-1 4-6' (500-165716-1), B-2 4-6' (500-165716-2), B-2 14-16' (500-165716-3), B-3 4-6' (500-165716-4), B-3 14-16' (500-165716-5) and B-4 14-16' (500-165716-6)

The method blank for 493662 contained Naphthalene above the method detection limit and below the Reporting limit (RL). This target analyte concentration was less than the reporting limit (RL) in the associated sample; therefore, re-analysis of sample was not performed. Naphthalene result had been flagged in the associated samples with a "B" flag denote the presence in the blank and possible lab contamination.

The method blank for analytical batch 493699 contained Naphthalene above the Method detection limit (MDL) but below reporting limit (RL). Naphthalene was non-detect in the sample: therefore, no re-analysis was done and the data has been reported.

The laboratory control sample (LCS) for 493699 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 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: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Client Sample ID: B-1 4-6' — Lab Sample ID: 500-165716-1

No Detections.

Client Sample ID: B-2 4-6' — Lab Sample ID: 500-165716-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	25	J B *	53	18	ug/Kg	50	☼	8260B	Total/NA
Tetrachloroethene	100		53	20	ug/Kg	50	☼	8260B	Total/NA

Client Sample ID: B-2 14-16' — Lab Sample ID: 500-165716-3

No Detections.

Client Sample ID: B-3 4-6' — Lab Sample ID: 500-165716-4

No Detections.

Client Sample ID: B-3 14-16' — Lab Sample ID: 500-165716-5

No Detections.

Client Sample ID: B-4 14-16' — Lab Sample ID: 500-165716-6

No Detections.

Client Sample ID: B-3 — Lab Sample ID: 500-165716-7

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	5.4		1.0	0.37	ug/L	1		8260B	Total/NA
Toluene	0.24	J	0.50	0.15	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI
5035	Closed System Purge and Trap	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: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-165716-1	B-1 4-6'	Solid	06/24/19 08:30	06/26/19 09:00	
500-165716-2	B-2 4-6'	Solid	06/24/19 08:45	06/26/19 09:00	
500-165716-3	B-2 14-16'	Solid	06/24/19 09:00	06/26/19 09:00	
500-165716-4	B-3 4-6'	Solid	06/24/19 09:15	06/26/19 09:00	
500-165716-5	B-3 14-16'	Solid	06/24/19 09:30	06/26/19 09:00	
500-165716-6	B-4 14-16'	Solid	06/24/19 09:45	06/26/19 09:00	
500-165716-7	B-3	Water	06/24/19 10:40	06/26/19 09:00	

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Client Sample ID: B-1 4-6'
Date Collected: 06/24/19 08:30
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-1
Matrix: Solid
Percent Solids: 95.2

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<8.0		14	8.0	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Bromobenzene	<20	*	55	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Bromochloromethane	<24		55	24	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Bromodichloromethane	<20		55	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Bromoform	<27	^c	55	27	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Bromomethane	<44		160	44	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
n-Butylbenzene	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
sec-Butylbenzene	<22		55	22	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
tert-Butylbenzene	<22		55	22	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Carbon tetrachloride	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Chlorobenzene	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Dibromochloromethane	<27		55	27	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Chloroethane	<28		55	28	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Chloroform	<20	*	110	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Chloromethane	<18		55	18	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
2-Chlorotoluene	<17		55	17	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
4-Chlorotoluene	<19		55	19	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,2-Dibromo-3-Chloropropane	<110	^c *	270	110	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,2-Dibromoethane	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Dibromomethane	<15	*	55	15	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,2-Dichlorobenzene	<18		55	18	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,3-Dichlorobenzene	<22		55	22	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,4-Dichlorobenzene	<20		55	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Dichlorodifluoromethane	<37		160	37	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,1-Dichloroethane	<23		55	23	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,2-Dichloroethane	<22		55	22	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,1-Dichloroethene	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
cis-1,2-Dichloroethene	<22		55	22	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
trans-1,2-Dichloroethene	<19		55	19	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,2-Dichloropropane	<24		55	24	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,3-Dichloropropane	<20		55	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
2,2-Dichloropropane	<24		55	24	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,1-Dichloropropene	<16	*	55	16	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
cis-1,3-Dichloropropene	<23		55	23	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
trans-1,3-Dichloropropene	<20		55	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Isopropyl ether	<15		55	15	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Ethylbenzene	<10		14	10	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Hexachlorobutadiene	<24		55	24	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Isopropylbenzene	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
p-Isopropyltoluene	<20		55	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Methylene Chloride	<90		270	90	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Methyl tert-butyl ether	<22	*	55	22	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Naphthalene	<18	*	55	18	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
N-Propylbenzene	<23		55	23	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Styrene	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,1,1,2-Tetrachloroethane	<25		55	25	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,1,2,2-Tetrachloroethane	<22		55	22	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Tetrachloroethene	<20		55	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Toluene	<8.1		14	8.1	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50

Client Sample ID: B-1 4-6'

Date Collected: 06/24/19 08:30
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-1

Matrix: Solid
Percent Solids: 95.2

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<25	*	55	25	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,2,4-Trichlorobenzene	<19		55	19	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,1,1-Trichloroethane	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,1,2-Trichloroethane	<19		55	19	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Trichloroethene	<9.0		27	9.0	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Trichlorofluoromethane	<24		55	24	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,2,3-Trichloropropane	<23		110	23	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,2,4-Trimethylbenzene	<20		55	20	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
1,3,5-Trimethylbenzene	<21		55	21	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Vinyl chloride	<14		55	14	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50
Xylenes, Total	<12		27	12	ug/Kg	☼	06/24/19 08:30	07/08/19 15:38	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*75 - 126*	*06/24/19 08:30*	*07/08/19 15:38*	*50*
Toluene-d8 (Surr)	*97*		*75 - 120*	*06/24/19 08:30*	*07/08/19 15:38*	*50*
4-Bromofluorobenzene (Surr)	*96*		*72 - 124*	*06/24/19 08:30*	*07/08/19 15:38*	*50*
Dibromofluoromethane	*104*		*75 - 120*	*06/24/19 08:30*	*07/08/19 15:38*	*50*

Client Sample ID: B-2 4-6'

Date Collected: 06/24/19 08:45
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-2

Matrix: Solid
Percent Solids: 96.4

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.8		13	7.8	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Bromobenzene	<19	*	53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Bromochloromethane	<23		53	23	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Bromodichloromethane	<20		53	20	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Bromoform	<26	*	53	26	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Bromomethane	<42		160	42	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
n-Butylbenzene	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
sec-Butylbenzene	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
tert-Butylbenzene	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Carbon tetrachloride	<20		53	20	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Chlorobenzene	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Dibromochloromethane	<26		53	26	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Chloroethane	<27		53	27	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Chloroform	<20	*	110	20	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Chloromethane	<17		53	17	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
2-Chlorotoluene	<17		53	17	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
4-Chlorotoluene	<19		53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2-Dibromo-3-Chloropropane	<110	*	270	110	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2-Dibromoethane	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Dibromomethane	<14	*	53	14	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2-Dichlorobenzene	<18		53	18	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,3-Dichlorobenzene	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,4-Dichlorobenzene	<19		53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Dichlorodifluoromethane	<36		160	36	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,1-Dichloroethane	<22		53	22	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2-Dichloroethane	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50

Client Sample ID: B-2 4-6'

Date Collected: 06/24/19 08:45
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-2

Matrix: Solid
Percent Solids: 96.4

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
cis-1,2-Dichloroethene	<22		53	22	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
trans-1,2-Dichloroethene	<19		53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2-Dichloropropane	<23		53	23	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,3-Dichloropropane	<19		53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
2,2-Dichloropropane	<24		53	24	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,1-Dichloropropene	<16	*	53	16	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
cis-1,3-Dichloropropene	<22		53	22	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
trans-1,3-Dichloropropene	<19		53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Isopropyl ether	<15		53	15	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Ethylbenzene	<9.7		13	9.7	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Hexachlorobutadiene	<24		53	24	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Isopropylbenzene	<20		53	20	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
p-Isopropyltoluene	<19		53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Methylene Chloride	<87		270	87	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Methyl tert-butyl ether	<21	*	53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Naphthalene	**25**	**J B ***	53	18	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
N-Propylbenzene	<22		53	22	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Styrene	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,1,1,2-Tetrachloroethane	<25		53	25	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,1,2,2-Tetrachloroethane	<21		53	21	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Tetrachloroethene	**100**		53	20	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Toluene	<7.8		13	7.8	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2,3-Trichlorobenzene	<24	*	53	24	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2,4-Trichlorobenzene	<18		53	18	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,1,1-Trichloroethane	<20		53	20	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,1,2-Trichloroethane	<19		53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Trichloroethene	<8.7		27	8.7	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Trichlorofluoromethane	<23		53	23	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2,3-Trichloropropane	<22		110	22	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,2,4-Trimethylbenzene	<19		53	19	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
1,3,5-Trimethylbenzene	<20		53	20	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Vinyl chloride	<14		53	14	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50
Xylenes, Total	<12		27	12	ug/Kg	☼	06/24/19 08:45	07/07/19 21:01	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 126*	*06/24/19 08:45*	*07/07/19 21:01*	*50*
Toluene-d8 (Surr)	*99*		*75 - 120*	*06/24/19 08:45*	*07/07/19 21:01*	*50*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*	*06/24/19 08:45*	*07/07/19 21:01*	*50*
Dibromofluoromethane	*101*		*75 - 120*	*06/24/19 08:45*	*07/07/19 21:01*	*50*

Client Sample ID: B-2 14-16'

Date Collected: 06/24/19 09:00
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-3

Matrix: Solid
Percent Solids: 78.7

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<11		19	11	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Bromobenzene	<27	*	77	27	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Bromochloromethane	<33		77	33	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Client Sample ID: B-2 14-16'
Date Collected: 06/24/19 09:00
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-3
Matrix: Solid
Percent Solids: 78.7

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<29		77	29	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Bromoform	<37	*	77	37	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Bromomethane	<61		230	61	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
n-Butylbenzene	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
sec-Butylbenzene	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
tert-Butylbenzene	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Carbon tetrachloride	<29		77	29	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Chlorobenzene	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Dibromochloromethane	<37		77	37	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Chloroethane	<39		77	39	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Chloroform	<28	*	150	28	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Chloromethane	<25		77	25	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
2-Chlorotoluene	<24		77	24	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
4-Chlorotoluene	<27		77	27	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2-Dibromo-3-Chloropropane	<150	*	380	150	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2-Dibromoethane	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Dibromomethane	<21	*	77	21	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2-Dichlorobenzene	<26		77	26	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,3-Dichlorobenzene	<31		77	31	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,4-Dichlorobenzene	<28		77	28	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Dichlorodifluoromethane	<52		230	52	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,1-Dichloroethane	<31		77	31	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2-Dichloroethane	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,1-Dichloroethene	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
cis-1,2-Dichloroethene	<31		77	31	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
trans-1,2-Dichloroethene	<27		77	27	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2-Dichloropropane	<33		77	33	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,3-Dichloropropane	<28		77	28	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
2,2-Dichloropropane	<34		77	34	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,1-Dichloropropene	<23	*	77	23	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
cis-1,3-Dichloropropene	<32		77	32	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
trans-1,3-Dichloropropene	<28		77	28	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Isopropyl ether	<21		77	21	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Ethylbenzene	<14		19	14	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Hexachlorobutadiene	<34		77	34	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Isopropylbenzene	<29		77	29	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
p-Isopropyltoluene	<28		77	28	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Methylene Chloride	<120		380	120	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Methyl tert-butyl ether	<30	*	77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Naphthalene	<26	*	77	26	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
N-Propylbenzene	<32		77	32	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Styrene	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,1,1,2-Tetrachloroethane	<35		77	35	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,1,2,2-Tetrachloroethane	<30		77	30	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Tetrachloroethene	<28		77	28	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Toluene	<11		19	11	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2,3-Trichlorobenzene	<35	*	77	35	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2,4-Trichlorobenzene	<26		77	26	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,1,1-Trichloroethane	<29		77	29	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50

Client Sample ID: B-2 14-16'

Lab Sample ID: 500-165716-3
Date Collected: 06/24/19 09:00
Matrix: Solid
Date Received: 06/26/19 09:00
Percent Solids: 78.7

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<27		77	27	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Trichloroethene	<13		38	13	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Trichlorofluoromethane	<33		77	33	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2,3-Trichloropropane	<32		150	32	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,2,4-Trimethylbenzene	<27		77	27	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
1,3,5-Trimethylbenzene	<29		77	29	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Vinyl chloride	<20		77	20	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50
Xylenes, Total	<17		38	17	ug/Kg	☼	06/24/19 09:00	07/07/19 21:28	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 126*	*06/24/19 09:00*	*07/07/19 21:28*	*50*
Toluene-d8 (Surr)	*100*		*75 - 120*	*06/24/19 09:00*	*07/07/19 21:28*	*50*
4-Bromofluorobenzene (Surr)	*99*		*72 - 124*	*06/24/19 09:00*	*07/07/19 21:28*	*50*
Dibromofluoromethane	*101*		*75 - 120*	*06/24/19 09:00*	*07/07/19 21:28*	*50*

Client Sample ID: B-3 4-6'

Lab Sample ID: 500-165716-4
Date Collected: 06/24/19 09:15
Matrix: Solid
Date Received: 06/26/19 09:00
Percent Solids: 96.4

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.7		13	7.7	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Bromobenzene	<19	*	53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Bromochloromethane	<23		53	23	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Bromodichloromethane	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Bromoform	<26	*	53	26	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Bromomethane	<42		160	42	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
n-Butylbenzene	<21		53	21	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
sec-Butylbenzene	<21		53	21	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
tert-Butylbenzene	<21		53	21	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Carbon tetrachloride	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Chlorobenzene	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Dibromochloromethane	<26		53	26	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Chloroethane	<27		53	27	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Chloroform	<20	*	110	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Chloromethane	<17		53	17	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
2-Chlorotoluene	<17		53	17	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
4-Chlorotoluene	<19		53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,2-Dibromo-3-Chloropropane	<110	*	260	110	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,2-Dibromoethane	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Dibromomethane	<14	*	53	14	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,2-Dichlorobenzene	<18		53	18	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,3-Dichlorobenzene	<21		53	21	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,4-Dichlorobenzene	<19		53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Dichlorodifluoromethane	<36		160	36	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,1-Dichloroethane	<22		53	22	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,2-Dichloroethane	<21		53	21	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,1-Dichloroethene	<21		53	21	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
cis-1,2-Dichloroethene	<22		53	22	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
trans-1,2-Dichloroethene	<19		53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50

Client Sample ID: B-3 4-6'

Date Collected: 06/24/19 09:15
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-4

Matrix: Solid
Percent Solids: 96.4

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	<23		53	23	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,3-Dichloropropane	<19		53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
2,2-Dichloropropane	<23		53	23	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,1-Dichloropropene	<16	*	53	16	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
cis-1,3-Dichloropropene	<22		53	22	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
trans-1,3-Dichloropropene	<19		53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Isopropyl ether	<15		53	15	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Ethylbenzene	<9.7		13	9.7	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Hexachlorobutadiene	<24		53	24	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Isopropylbenzene	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
p-Isopropyltoluene	<19		53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Methylene Chloride	<86		260	86	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Methyl tert-butyl ether	<21	*	53	21	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Naphthalene	<18	*	53	18	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
N-Propylbenzene	<22		53	22	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Styrene	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,1,1,2-Tetrachloroethane	<24		53	24	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,1,2,2-Tetrachloroethane	<21		53	21	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Tetrachloroethene	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Toluene	<7.8		13	7.8	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,2,3-Trichlorobenzene	<24	*	53	24	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,2,4-Trichlorobenzene	<18		53	18	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,1,1-Trichloroethane	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,1,2-Trichloroethane	<19		53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Trichloroethene	<8.7		26	8.7	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Trichlorofluoromethane	<23		53	23	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,2,3-Trichloropropane	<22		110	22	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,2,4-Trimethylbenzene	<19		53	19	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
1,3,5-Trimethylbenzene	<20		53	20	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Vinyl chloride	<14		53	14	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50
Xylenes, Total	<12		26	12	ug/Kg	☼	06/24/19 09:15	07/07/19 21:54	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 126*	*06/24/19 09:15*	*07/07/19 21:54*	*50*
Toluene-d8 (Surr)	*97*		*75 - 120*	*06/24/19 09:15*	*07/07/19 21:54*	*50*
4-Bromofluorobenzene (Surr)	*98*		*72 - 124*	*06/24/19 09:15*	*07/07/19 21:54*	*50*
Dibromofluoromethane	*104*		*75 - 120*	*06/24/19 09:15*	*07/07/19 21:54*	*50*

Client Sample ID: B-3 14-16'

Date Collected: 06/24/19 09:30
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-5

Matrix: Solid
Percent Solids: 93.6

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<8.3		14	8.3	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Bromobenzene	<20	*	57	20	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Bromochloromethane	<24		57	24	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Bromodichloromethane	<21		57	21	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Bromoform	<27	*	57	27	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Bromomethane	<45		170	45	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Client Sample ID: B-3 14-16'
Date Collected: 06/24/19 09:30
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-5
Matrix: Solid
Percent Solids: 93.6

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
n-Butylbenzene	<22		57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
sec-Butylbenzene	<23		57	23	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
tert-Butylbenzene	<23		57	23	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Carbon tetrachloride	<22		57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Chlorobenzene	<22		57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Dibromochloromethane	<28		57	28	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Chloroethane	<28		57	28	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Chloroform	<21	*	110	21	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Chloromethane	<18		57	18	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
2-Chlorotoluene	<18		57	18	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
4-Chlorotoluene	<20		57	20	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,2-Dibromo-3-Chloropropane	<110	*	280	110	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,2-Dibromoethane	<22		57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Dibromomethane	<15	*	57	15	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,2-Dichlorobenzene	<19		57	19	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,3-Dichlorobenzene	<23		57	23	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,4-Dichlorobenzene	<21		57	21	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Dichlorodifluoromethane	<38		170	38	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,1-Dichloroethane	<23		57	23	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,2-Dichloroethane	<22		57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,1-Dichloroethene	<22		57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
cis-1,2-Dichloroethene	<23		57	23	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
trans-1,2-Dichloroethene	<20		57	20	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,2-Dichloropropane	<24		57	24	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,3-Dichloropropane	<20		57	20	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
2,2-Dichloropropane	<25		57	25	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,1-Dichloropropene	<17	*	57	17	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
cis-1,3-Dichloropropene	<24		57	24	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
trans-1,3-Dichloropropene	<20		57	20	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Isopropyl ether	<16		57	16	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Ethylbenzene	<10		14	10	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Hexachlorobutadiene	<25		57	25	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Isopropylbenzene	<22		57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
p-Isopropyltoluene	<20		57	20	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Methylene Chloride	<92		280	92	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Methyl tert-butyl ether	<22	*	57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Naphthalene	<19	*	57	19	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
N-Propylbenzene	<23		57	23	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Styrene	<22		57	22	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,1,1,2-Tetrachloroethane	<26		57	26	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,1,2,2-Tetrachloroethane	<23		57	23	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Tetrachloroethene	<21		57	21	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Toluene	<8.3		14	8.3	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,2,3-Trichlorobenzene	<26	*	57	26	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,2,4-Trichlorobenzene	<19		57	19	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,1,1-Trichloroethane	<21		57	21	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,1,2-Trichloroethane	<20		57	20	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Trichloroethene	<9.3		28	9.3	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Trichlorofluoromethane	<24		57	24	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50

Client Sample ID: B-3 14-16'

Date Collected: 06/24/19 09:30
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-5

Matrix: Solid
Percent Solids: 93.6

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	<23		110	23	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,2,4-Trimethylbenzene	<20		57	20	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
1,3,5-Trimethylbenzene	<21		57	21	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Vinyl chloride	<15		57	15	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50
Xylenes, Total	<12		28	12	ug/Kg	☼	06/24/19 09:30	07/07/19 22:21	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 126*	*06/24/19 09:30*	*07/07/19 22:21*	*50*
Toluene-d8 (Surr)	*98*		*75 - 120*	*06/24/19 09:30*	*07/07/19 22:21*	*50*
4-Bromofluorobenzene (Surr)	*95*		*72 - 124*	*06/24/19 09:30*	*07/07/19 22:21*	*50*
Dibromofluoromethane	*106*		*75 - 120*	*06/24/19 09:30*	*07/07/19 22:21*	*50*

Client Sample ID: B-4 14-16'

Date Collected: 06/24/19 09:45
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-6

Matrix: Solid
Percent Solids: 76.6

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<12		20	12	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Bromobenzene	<28	*	80	28	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Bromochloromethane	<34		80	34	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Bromodichloromethane	<30		80	30	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Bromoform	<39	*	80	39	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Bromomethane	<64		240	64	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
n-Butylbenzene	<31		80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
sec-Butylbenzene	<32		80	32	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
tert-Butylbenzene	<32		80	32	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Carbon tetrachloride	<31		80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Chlorobenzene	<31		80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Dibromochloromethane	<39		80	39	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Chloroethane	<40		80	40	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Chloroform	<30	*	160	30	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Chloromethane	<26		80	26	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
2-Chlorotoluene	<25		80	25	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
4-Chlorotoluene	<28		80	28	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2-Dibromo-3-Chloropropane	<160	*	400	160	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2-Dibromoethane	<31		80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Dibromomethane	<22	*	80	22	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2-Dichlorobenzene	<27		80	27	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,3-Dichlorobenzene	<32		80	32	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,4-Dichlorobenzene	<29		80	29	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Dichlorodifluoromethane	<54		240	54	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,1-Dichloroethane	<33		80	33	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2-Dichloroethane	<31		80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,1-Dichloroethene	<31		80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
cis-1,2-Dichloroethene	<33		80	33	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
trans-1,2-Dichloroethene	<28		80	28	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2-Dichloropropane	<34		80	34	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,3-Dichloropropane	<29		80	29	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
2,2-Dichloropropane	<35		80	35	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50

Client Sample ID: B-4 14-16'

Date Collected: 06/24/19 09:45
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-6

Matrix: Solid
Percent Solids: 76.6

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloropropene	<24	*	80	24	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
cis-1,3-Dichloropropene	<33		80	33	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
trans-1,3-Dichloropropene	<29		80	29	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Isopropyl ether	<22		80	22	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Ethylbenzene	<15		20	15	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Hexachlorobutadiene	<36		80	36	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Isopropylbenzene	<31		80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
p-Isopropyltoluene	<29		80	29	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Methylene Chloride	<130		400	130	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Methyl tert-butyl ether	<31	*	80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Naphthalene	<27	*	80	27	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
N-Propylbenzene	<33		80	33	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Styrene	<31		80	31	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,1,1,2-Tetrachloroethane	<37		80	37	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,1,2,2-Tetrachloroethane	<32		80	32	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Tetrachloroethene	<30		80	30	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Toluene	<12		20	12	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2,3-Trichlorobenzene	<37	*	80	37	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2,4-Trichlorobenzene	<27		80	27	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,1,1-Trichloroethane	<30		80	30	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,1,2-Trichloroethane	<28		80	28	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Trichloroethene	<13		40	13	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Trichlorofluoromethane	<34		80	34	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2,3-Trichloropropane	<33		160	33	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,2,4-Trimethylbenzene	<29		80	29	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
1,3,5-Trimethylbenzene	<30		80	30	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Vinyl chloride	<21		80	21	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50
Xylenes, Total	<18		40	18	ug/Kg	☼	06/24/19 09:45	07/07/19 22:48	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*	*06/24/19 09:45*	*07/07/19 22:48*	*50*
Toluene-d8 (Surr)	*97*		*75 - 120*	*06/24/19 09:45*	*07/07/19 22:48*	*50*
4-Bromofluorobenzene (Surr)	*97*		*72 - 124*	*06/24/19 09:45*	*07/07/19 22:48*	*50*
Dibromofluoromethane	*107*		*75 - 120*	*06/24/19 09:45*	*07/07/19 22:48*	*50*

Client Sample ID: B-3

Date Collected: 06/24/19 10:40
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-7

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/07/19 16:57	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/07/19 16:57	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/07/19 16:57	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/07/19 16:57	1
Bromoform	<0.48		1.0	0.48	ug/L			07/07/19 16:57	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/07/19 16:57	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/07/19 16:57	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/07/19 16:57	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/07/19 16:57	1

Client Sample ID: B-3
Date Collected: 06/24/19 10:40
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-7
Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/07/19 16:57	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/07/19 16:57	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/07/19 16:57	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/07/19 16:57	1
Chloroform	<0.37		2.0	0.37	ug/L			07/07/19 16:57	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/07/19 16:57	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/07/19 16:57	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/07/19 16:57	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/07/19 16:57	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/07/19 16:57	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/07/19 16:57	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/07/19 16:57	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/07/19 16:57	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/07/19 16:57	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/07/19 16:57	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/07/19 16:57	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/07/19 16:57	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/07/19 16:57	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/07/19 16:57	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/07/19 16:57	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/07/19 16:57	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/07/19 16:57	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/07/19 16:57	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/07/19 16:57	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/07/19 16:57	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/07/19 16:57	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/07/19 16:57	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/07/19 16:57	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/07/19 16:57	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/07/19 16:57	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/07/19 16:57	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/07/19 16:57	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/07/19 16:57	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/07/19 16:57	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/07/19 16:57	1
Styrene	<0.39		1.0	0.39	ug/L			07/07/19 16:57	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/07/19 16:57	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/07/19 16:57	1
Tetrachloroethene	**5.4**		1.0	0.37	ug/L			07/07/19 16:57	1
Toluene	**0.24**	**J**	0.50	0.15	ug/L			07/07/19 16:57	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/07/19 16:57	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/07/19 16:57	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/07/19 16:57	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/07/19 16:57	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/07/19 16:57	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/07/19 16:57	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/07/19 16:57	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/07/19 16:57	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/07/19 16:57	1

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Client Sample ID: B-3
Date Collected: 06/24/19 10:40
Date Received: 06/26/19 09:00

Lab Sample ID: 500-165716-7
Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/07/19 16:57	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/07/19 16:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*		*07/07/19 16:57*	*1*
Toluene-d8 (Surr)	*88*		*75 - 120*		*07/07/19 16:57*	*1*
4-Bromofluorobenzene (Surr)	*104*		*72 - 124*		*07/07/19 16:57*	*1*
Dibromofluoromethane	*111*		*75 - 120*		*07/07/19 16:57*	*1*

Definitions/Glossary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
^c	CCV Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.
J	Reported value was between the limit of detection and the limit of quantitation.

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: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

GC/MS VOA

Analysis Batch: 493429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB3 500-493436/21-A	Method Blank	Total/NA	Solid	8260B	493436
MB 500-493429/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-493429/4	Lab Control Sample	Total/NA	Solid	8260B	
LCS 500-493436/22-A	Lab Control Sample	Total/NA	Solid	8260B	493436

Prep Batch: 493436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165716-1	B-1 4-6'	Total/NA	Solid	5035	
500-165716-2	B-2 4-6'	Total/NA	Solid	5035	
500-165716-3	B-2 14-16'	Total/NA	Solid	5035	
500-165716-4	B-3 4-6'	Total/NA	Solid	5035	
500-165716-5	B-3 14-16'	Total/NA	Solid	5035	
500-165716-6	B-4 14-16'	Total/NA	Solid	5035	
LB3 500-493436/21-A	Method Blank	Total/NA	Solid	5035	
LCS 500-493436/22-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 493637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165716-7	B-3	Total/NA	Water	8260B	
MB 500-493637/6	Method Blank	Total/NA	Water	8260B	
LCS 500-493637/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 493662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165716-2	B-2 4-6'	Total/NA	Solid	8260B	493436
500-165716-3	B-2 14-16'	Total/NA	Solid	8260B	493436
500-165716-4	B-3 4-6'	Total/NA	Solid	8260B	493436
500-165716-5	B-3 14-16'	Total/NA	Solid	8260B	493436
500-165716-6	B-4 14-16'	Total/NA	Solid	8260B	493436
MB 500-493662/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-493662/4	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 493699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165716-1	B-1 4-6'	Total/NA	Solid	8260B	493436
MB 500-493699/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-493699/4	Lab Control Sample	Total/NA	Solid	8260B	

General Chemistry

Analysis Batch: 492165

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-165716-1	B-1 4-6'	Total/NA	Solid	Moisture	
500-165716-2	B-2 4-6'	Total/NA	Solid	Moisture	
500-165716-3	B-2 14-16'	Total/NA	Solid	Moisture	
500-165716-4	B-3 4-6'	Total/NA	Solid	Moisture	
500-165716-5	B-3 14-16'	Total/NA	Solid	Moisture	
500-165716-6	B-4 14-16'	Total/NA	Solid	Moisture	

Surrogate Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

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

Matrix: Solid — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-126)	(75-120)	(72-124)	(75-120)
500-165716-1	B-1 4-6'	111	97	96	104
500-165716-2	B-2 4-6'	101	99	100	101
500-165716-3	B-2 14-16'	105	100	99	101
500-165716-4	B-3 4-6'	101	97	98	104
500-165716-5	B-3 14-16'	103	98	95	106
500-165716-6	B-4 14-16'	108	97	97	107
LB3 500-493436/21-A	Method Blank	108	97	106	99
LCS 500-493429/4	Lab Control Sample	104	97	104	101
LCS 500-493436/22-A	Lab Control Sample	106	97	105	103
LCS 500-493662/4	Lab Control Sample	110	98	100	106
LCS 500-493699/4	Lab Control Sample	105	101	98	102
MB 500-493429/7	Method Blank	107	97	101	100
MB 500-493662/6	Method Blank	112	97	100	109
MB 500-493699/6	Method Blank	108	98	99	103

Surrogate Legend

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

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

Matrix: Water — **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-126)	(75-120)	(72-124)	(75-120)
500-165716-7	B-3	106	88	104	111
LCS 500-493637/4	Lab Control Sample	96	91	100	102
MB 500-493637/6	Method Blank	106	90	104	109

Surrogate Legend

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

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

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

Lab Sample ID: MB 500-493429/7
Matrix: Solid
Analysis Batch: 493429

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			07/05/19 11:09	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			07/05/19 11:09	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			07/05/19 11:09	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			07/05/19 11:09	1
Bromoform	<0.48		1.0	0.48	ug/Kg			07/05/19 11:09	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			07/05/19 11:09	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			07/05/19 11:09	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/05/19 11:09	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/05/19 11:09	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			07/05/19 11:09	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			07/05/19 11:09	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			07/05/19 11:09	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			07/05/19 11:09	1
Chloroform	<0.37		2.0	0.37	ug/Kg			07/05/19 11:09	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			07/05/19 11:09	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			07/05/19 11:09	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			07/05/19 11:09	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			07/05/19 11:09	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			07/05/19 11:09	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			07/05/19 11:09	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			07/05/19 11:09	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			07/05/19 11:09	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			07/05/19 11:09	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			07/05/19 11:09	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			07/05/19 11:09	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			07/05/19 11:09	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			07/05/19 11:09	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			07/05/19 11:09	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			07/05/19 11:09	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			07/05/19 11:09	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			07/05/19 11:09	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			07/05/19 11:09	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			07/05/19 11:09	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			07/05/19 11:09	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			07/05/19 11:09	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			07/05/19 11:09	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			07/05/19 11:09	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			07/05/19 11:09	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			07/05/19 11:09	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			07/05/19 11:09	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			07/05/19 11:09	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			07/05/19 11:09	1
Naphthalene	<0.33		1.0	0.33	ug/Kg			07/05/19 11:09	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			07/05/19 11:09	1
Styrene	<0.39		1.0	0.39	ug/Kg			07/05/19 11:09	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			07/05/19 11:09	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			07/05/19 11:09	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			07/05/19 11:09	1

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

Lab Sample ID: MB 500-493429/7
Matrix: Solid
Analysis Batch: 493429

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<0.15		0.25	0.15	ug/Kg			07/05/19 11:09	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			07/05/19 11:09	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			07/05/19 11:09	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			07/05/19 11:09	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			07/05/19 11:09	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			07/05/19 11:09	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			07/05/19 11:09	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			07/05/19 11:09	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			07/05/19 11:09	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			07/05/19 11:09	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			07/05/19 11:09	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			07/05/19 11:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*75 - 126*		*07/05/19 11:09*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*07/05/19 11:09*	*1*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*		*07/05/19 11:09*	*1*
Dibromofluoromethane	*100*		*75 - 120*		*07/05/19 11:09*	*1*

Lab Sample ID: LCS 500-493429/4
Matrix: Solid
Analysis Batch: 493429

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	57.2		ug/Kg		114	70 - 120
Bromobenzene	50.0	59.2		ug/Kg		118	70 - 122
Bromochloromethane	50.0	56.5		ug/Kg		113	65 - 122
Bromodichloromethane	50.0	56.3		ug/Kg		113	69 - 120
Bromoform	50.0	50.8		ug/Kg		102	56 - 132
Bromomethane	50.0	49.3		ug/Kg		99	40 - 152
n-Butylbenzene	50.0	60.4		ug/Kg		121	68 - 125
sec-Butylbenzene	50.0	59.2		ug/Kg		118	70 - 123
tert-Butylbenzene	50.0	59.0		ug/Kg		118	70 - 121
Carbon tetrachloride	50.0	59.3		ug/Kg		119	59 - 133
Chlorobenzene	50.0	56.1		ug/Kg		112	70 - 120
Dibromochloromethane	50.0	52.4		ug/Kg		105	68 - 125
Chloroethane	50.0	59.4		ug/Kg		119	48 - 136
Chloroform	50.0	57.8		ug/Kg		116	70 - 120
Chloromethane	50.0	61.3		ug/Kg		123	56 - 152
2-Chlorotoluene	50.0	58.4		ug/Kg		117	70 - 125
4-Chlorotoluene	50.0	58.5		ug/Kg		117	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	51.4		ug/Kg		103	56 - 123
1,2-Dibromoethane	50.0	54.8		ug/Kg		110	70 - 125
Dibromomethane	50.0	56.0		ug/Kg		112	70 - 120
1,2-Dichlorobenzene	50.0	57.9		ug/Kg		116	70 - 125
1,3-Dichlorobenzene	50.0	58.1		ug/Kg		116	70 - 125
1,4-Dichlorobenzene	50.0	57.5		ug/Kg		115	70 - 120
Dichlorodifluoromethane	50.0	48.7		ug/Kg		97	40 - 159

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

Lab Sample ID: LCS 500-493429/4
Matrix: Solid
Analysis Batch: 493429

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	50.0	60.3		ug/Kg		121	70 - 125
1,2-Dichloroethane	50.0	58.6		ug/Kg		117	68 - 127
1,1-Dichloroethene	50.0	57.3		ug/Kg		115	67 - 122
cis-1,2-Dichloroethene	50.0	58.0		ug/Kg		116	70 - 125
trans-1,2-Dichloroethene	50.0	59.2		ug/Kg		118	70 - 125
1,2-Dichloropropane	50.0	60.2		ug/Kg		120	67 - 130
1,3-Dichloropropane	50.0	55.8		ug/Kg		112	62 - 136
2,2-Dichloropropane	50.0	61.1		ug/Kg		122	58 - 139
1,1-Dichloropropene	50.0	60.1		ug/Kg		120	70 - 121
cis-1,3-Dichloropropene	50.0	54.7		ug/Kg		109	64 - 127
trans-1,3-Dichloropropene	50.0	54.3		ug/Kg		109	62 - 128
Ethylbenzene	50.0	54.8		ug/Kg		110	70 - 123
Hexachlorobutadiene	50.0	66.6		ug/Kg		133	51 - 150
Isopropylbenzene	50.0	59.2		ug/Kg		118	70 - 126
p-Isopropyltoluene	50.0	58.5		ug/Kg		117	70 - 125
Methylene Chloride	50.0	54.2		ug/Kg		108	69 - 125
Methyl tert-butyl ether	50.0	58.3		ug/Kg		117	55 - 123
Naphthalene	50.0	70.2		ug/Kg		140	53 - 144
N-Propylbenzene	50.0	60.8		ug/Kg		122	69 - 127
Styrene	50.0	53.5		ug/Kg		107	70 - 120
1,1,1,2-Tetrachloroethane	50.0	54.6		ug/Kg		109	70 - 125
1,1,2,2-Tetrachloroethane	50.0	56.4		ug/Kg		113	62 - 140
Tetrachloroethene	50.0	56.9		ug/Kg		114	70 - 128
Toluene	50.0	53.3		ug/Kg		107	70 - 125
1,2,3-Trichlorobenzene	50.0	90.4	*	ug/Kg		181	51 - 145
1,2,4-Trichlorobenzene	50.0	69.6	*	ug/Kg		139	57 - 137
1,1,1-Trichloroethane	50.0	59.1		ug/Kg		118	70 - 125
1,1,2-Trichloroethane	50.0	54.3		ug/Kg		109	71 - 130
Trichloroethene	50.0	55.7		ug/Kg		111	70 - 125
Trichlorofluoromethane	50.0	61.5		ug/Kg		123	55 - 128
1,2,3-Trichloropropane	50.0	56.8		ug/Kg		114	50 - 133
1,2,4-Trimethylbenzene	50.0	58.2		ug/Kg		116	70 - 123
1,3,5-Trimethylbenzene	50.0	58.5		ug/Kg		117	70 - 123
Vinyl chloride	50.0	56.7		ug/Kg		113	64 - 126
Xylenes, Total	100	108		ug/Kg		108	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*75 - 126*
Toluene-d8 (Surr)	*97*		*75 - 120*
4-Bromofluorobenzene (Surr)	*104*		*72 - 124*
Dibromofluoromethane	*101*		*75 - 120*

Lab Sample ID: LB3 500-493436/21-A
Matrix: Solid
Analysis Batch: 493429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493436

Analyte	LB3 Result	LB3 Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.3		13	7.3	ug/Kg		07/05/19 07:00	07/05/19 17:28	50

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

Lab Sample ID: LB3 500-493436/21-A
Matrix: Solid
Analysis Batch: 493429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493436

Analyte	LB3 Result	LB3 Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Bromochloromethane	<21		50	21	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Bromodichloromethane	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Bromoform	<24		50	24	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Bromomethane	<40		150	40	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
n-Butylbenzene	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
sec-Butylbenzene	<20		50	20	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
tert-Butylbenzene	<20		50	20	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Carbon tetrachloride	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Chlorobenzene	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Dibromochloromethane	<24		50	24	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Chloroethane	<25		50	25	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Chloroform	<19		100	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Chloromethane	<16		50	16	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
2-Chlorotoluene	<16		50	16	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
4-Chlorotoluene	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,2-Dibromoethane	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Dibromomethane	<14		50	14	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Dichlorodifluoromethane	<34		150	34	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,1-Dichloroethane	<21		50	21	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,2-Dichloroethane	<20		50	20	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,1-Dichloroethene	<20		50	20	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
cis-1,2-Dichloroethene	<20		50	20	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,2-Dichloropropane	<21		50	21	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,3-Dichloropropane	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
2,2-Dichloropropane	<22		50	22	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,1-Dichloropropene	<15		50	15	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Isopropyl ether	<14		50	14	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Ethylbenzene	<9.2		13	9.2	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Hexachlorobutadiene	<22		50	22	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Isopropylbenzene	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
p-Isopropyltoluene	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Methylene Chloride	<82		250	82	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Methyl tert-butyl ether	<20		50	20	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Naphthalene	<17		50	17	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
N-Propylbenzene	<21		50	21	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Styrene	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Tetrachloroethene	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Toluene	<7.4		13	7.4	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg		07/05/19 07:00	07/05/19 17:28	50

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

Lab Sample ID: LB3 500-493436/21-A
Matrix: Solid
Analysis Batch: 493429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 493436

Analyte	LB3 Result	LB3 Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,1,2-Trichloroethane	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Trichloroethene	<8.2		25	8.2	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Trichlorofluoromethane	<21		50	21	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,2,3-Trichloropropane	<21		100	21	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Vinyl chloride	<13		50	13	ug/Kg		07/05/19 07:00	07/05/19 17:28	50
Xylenes, Total	<11		25	11	ug/Kg		07/05/19 07:00	07/05/19 17:28	50

Surrogate	*LB3 %Recovery*	*LB3 Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*	*07/05/19 07:00*	*07/05/19 17:28*	*50*
Toluene-d8 (Surr)	*97*		*75 - 120*	*07/05/19 07:00*	*07/05/19 17:28*	*50*
4-Bromofluorobenzene (Surr)	*106*		*72 - 124*	*07/05/19 07:00*	*07/05/19 17:28*	*50*
Dibromofluoromethane	*99*		*75 - 120*	*07/05/19 07:00*	*07/05/19 17:28*	*50*

Lab Sample ID: LCS 500-493436/22-A
Matrix: Solid
Analysis Batch: 493429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493436

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2500	2950		ug/Kg		118	70 - 120
Bromobenzene	2500	3090	*	ug/Kg		124	70 - 122
Bromochloromethane	2500	3040		ug/Kg		122	65 - 122
Bromodichloromethane	2500	2940		ug/Kg		117	69 - 120
Bromoform	2500	2650		ug/Kg		106	56 - 132
Bromomethane	2500	2200		ug/Kg		88	40 - 152
n-Butylbenzene	2500	2980		ug/Kg		119	68 - 125
sec-Butylbenzene	2500	2990		ug/Kg		119	70 - 123
tert-Butylbenzene	2500	2980		ug/Kg		119	70 - 121
Carbon tetrachloride	2500	2960		ug/Kg		118	59 - 133
Chlorobenzene	2500	2840		ug/Kg		114	70 - 120
Dibromochloromethane	2500	2710		ug/Kg		108	68 - 125
Chloroethane	2500	2540		ug/Kg		101	48 - 136
Chloroform	2500	3020	*	ug/Kg		121	70 - 120
Chloromethane	2500	2450		ug/Kg		98	56 - 152
2-Chlorotoluene	2500	3000		ug/Kg		120	70 - 125
4-Chlorotoluene	2500	2960		ug/Kg		119	68 - 124
1,2-Dibromo-3-Chloropropane	2500	2980		ug/Kg		119	56 - 123
1,2-Dibromoethane	2500	2910		ug/Kg		116	70 - 125
Dibromomethane	2500	3040	*	ug/Kg		122	70 - 120
1,2-Dichlorobenzene	2500	3000		ug/Kg		120	70 - 125
1,3-Dichlorobenzene	2500	2950		ug/Kg		118	70 - 125
1,4-Dichlorobenzene	2500	2920		ug/Kg		117	70 - 120
Dichlorodifluoromethane	2500	1440		ug/Kg		58	40 - 159
1,1-Dichloroethane	2500	3120		ug/Kg		125	70 - 125
1,2-Dichloroethane	2500	3100		ug/Kg		124	68 - 127

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

Lab Sample ID: LCS 500-493436/22-A
Matrix: Solid
Analysis Batch: 493429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 493436

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	2500	2940		ug/Kg		117	67 - 122
cis-1,2-Dichloroethene	2500	3050		ug/Kg		122	70 - 125
trans-1,2-Dichloroethene	2500	3010		ug/Kg		120	70 - 125
1,2-Dichloropropane	2500	3130		ug/Kg		125	67 - 130
1,3-Dichloropropane	2500	2940		ug/Kg		118	62 - 136
2,2-Dichloropropane	2500	3000		ug/Kg		120	58 - 139
1,1-Dichloropropene	2500	3040	*	ug/Kg		122	70 - 121
cis-1,3-Dichloropropene	2500	2820		ug/Kg		113	64 - 127
trans-1,3-Dichloropropene	2500	2770		ug/Kg		111	62 - 128
Ethylbenzene	2500	2770		ug/Kg		111	70 - 123
Hexachlorobutadiene	2500	3420		ug/Kg		137	51 - 150
Isopropylbenzene	2500	3010		ug/Kg		120	70 - 126
p-Isopropyltoluene	2500	2930		ug/Kg		117	70 - 125
Methylene Chloride	2500	2900		ug/Kg		116	69 - 125
Methyl tert-butyl ether	2500	3090	*	ug/Kg		124	55 - 123
Naphthalene	2500	3620	*	ug/Kg		145	53 - 144
N-Propylbenzene	2500	3060		ug/Kg		122	69 - 127
Styrene	2500	2750		ug/Kg		110	70 - 120
1,1,1,2-Tetrachloroethane	2500	2880		ug/Kg		115	70 - 125
1,1,2,2-Tetrachloroethane	2500	3030		ug/Kg		121	62 - 140
Tetrachloroethene	2500	2850		ug/Kg		114	70 - 128
Toluene	2500	2720		ug/Kg		109	70 - 125
1,2,3-Trichlorobenzene	2500	4530	*	ug/Kg		181	51 - 145
1,2,4-Trichlorobenzene	2500	3430		ug/Kg		137	57 - 137
1,1,1-Trichloroethane	2500	3040		ug/Kg		122	70 - 125
1,1,2-Trichloroethane	2500	2850		ug/Kg		114	71 - 130
Trichloroethene	2500	2870		ug/Kg		115	70 - 125
Trichlorofluoromethane	2500	2790		ug/Kg		112	55 - 128
1,2,3-Trichloropropane	2500	3050		ug/Kg		122	50 - 133
1,2,4-Trimethylbenzene	2500	2930		ug/Kg		117	70 - 123
1,3,5-Trimethylbenzene	2500	2970		ug/Kg		119	70 - 123
Vinyl chloride	2500	2320		ug/Kg		93	64 - 126
Xylenes, Total	5000	5520		ug/Kg		110	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*
Toluene-d8 (Surr)	*97*		*75 - 120*
4-Bromofluorobenzene (Surr)	*105*		*72 - 124*
Dibromofluoromethane	*103*		*75 - 120*

Lab Sample ID: MB 500-493637/6
Matrix: Water
Analysis Batch: 493637

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.50	0.15	ug/L			07/07/19 13:33	1
Bromobenzene	<0.36		1.0	0.36	ug/L			07/07/19 13:33	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			07/07/19 13:33	1

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

Lab Sample ID: MB 500-493637/6
Matrix: Water
Analysis Batch: 493637

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	<0.37		1.0	0.37	ug/L			07/07/19 13:33	1
Bromoform	<0.48		1.0	0.48	ug/L			07/07/19 13:33	1
Bromomethane	<0.80		3.0	0.80	ug/L			07/07/19 13:33	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			07/07/19 13:33	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			07/07/19 13:33	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			07/07/19 13:33	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			07/07/19 13:33	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			07/07/19 13:33	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			07/07/19 13:33	1
Chloroethane	<0.51		1.0	0.51	ug/L			07/07/19 13:33	1
Chloroform	<0.37		2.0	0.37	ug/L			07/07/19 13:33	1
Chloromethane	<0.32		1.0	0.32	ug/L			07/07/19 13:33	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			07/07/19 13:33	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			07/07/19 13:33	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			07/07/19 13:33	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			07/07/19 13:33	1
Dibromomethane	<0.27		1.0	0.27	ug/L			07/07/19 13:33	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			07/07/19 13:33	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			07/07/19 13:33	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			07/07/19 13:33	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			07/07/19 13:33	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			07/07/19 13:33	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			07/07/19 13:33	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			07/07/19 13:33	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			07/07/19 13:33	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			07/07/19 13:33	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			07/07/19 13:33	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			07/07/19 13:33	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			07/07/19 13:33	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			07/07/19 13:33	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			07/07/19 13:33	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			07/07/19 13:33	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			07/07/19 13:33	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			07/07/19 13:33	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			07/07/19 13:33	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			07/07/19 13:33	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			07/07/19 13:33	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			07/07/19 13:33	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			07/07/19 13:33	1
Naphthalene	<0.34		1.0	0.34	ug/L			07/07/19 13:33	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			07/07/19 13:33	1
Styrene	<0.39		1.0	0.39	ug/L			07/07/19 13:33	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			07/07/19 13:33	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			07/07/19 13:33	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			07/07/19 13:33	1
Toluene	<0.15		0.50	0.15	ug/L			07/07/19 13:33	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			07/07/19 13:33	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			07/07/19 13:33	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			07/07/19 13:33	1

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

Lab Sample ID: MB 500-493637/6
Matrix: Water
Analysis Batch: 493637

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			07/07/19 13:33	1
Trichloroethene	<0.16		0.50	0.16	ug/L			07/07/19 13:33	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			07/07/19 13:33	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			07/07/19 13:33	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			07/07/19 13:33	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			07/07/19 13:33	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			07/07/19 13:33	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			07/07/19 13:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*		*07/07/19 13:33*	*1*
Toluene-d8 (Surr)	*90*		*75 - 120*		*07/07/19 13:33*	*1*
4-Bromofluorobenzene (Surr)	*104*		*72 - 124*		*07/07/19 13:33*	*1*
Dibromofluoromethane	*109*		*75 - 120*		*07/07/19 13:33*	*1*

Lab Sample ID: LCS 500-493637/4
Matrix: Water
Analysis Batch: 493637

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	45.4		ug/L		91	70 - 120
Bromobenzene	50.0	48.7		ug/L		97	70 - 122
Bromochloromethane	50.0	53.0		ug/L		106	65 - 122
Bromodichloromethane	50.0	49.1		ug/L		98	69 - 120
Bromoform	50.0	50.3		ug/L		101	56 - 132
Bromomethane	50.0	33.2		ug/L		66	40 - 152
n-Butylbenzene	50.0	45.7		ug/L		91	68 - 125
sec-Butylbenzene	50.0	46.6		ug/L		93	70 - 123
tert-Butylbenzene	50.0	47.9		ug/L		96	70 - 121
Carbon tetrachloride	50.0	49.4		ug/L		99	59 - 133
Chlorobenzene	50.0	47.9		ug/L		96	70 - 120
Dibromochloromethane	50.0	53.1		ug/L		106	68 - 125
Chloroethane	50.0	43.0		ug/L		86	48 - 136
Chloroform	50.0	47.1		ug/L		94	70 - 120
Chloromethane	50.0	49.2		ug/L		98	56 - 152
2-Chlorotoluene	50.0	46.6		ug/L		93	70 - 125
4-Chlorotoluene	50.0	45.5		ug/L		91	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	46.5		ug/L		93	56 - 123
1,2-Dibromoethane	50.0	49.5		ug/L		99	70 - 125
Dibromomethane	50.0	48.3		ug/L		97	70 - 120
1,2-Dichlorobenzene	50.0	47.6		ug/L		95	70 - 125
1,3-Dichlorobenzene	50.0	48.6		ug/L		97	70 - 125
1,4-Dichlorobenzene	50.0	45.8		ug/L		92	70 - 120
Dichlorodifluoromethane	50.0	46.4		ug/L		93	40 - 159
1,1-Dichloroethane	50.0	45.7		ug/L		91	70 - 125
1,2-Dichloroethane	50.0	48.2		ug/L		96	68 - 127
1,1-Dichloroethene	50.0	46.0		ug/L		92	67 - 122
cis-1,2-Dichloroethene	50.0	48.9		ug/L		98	70 - 125

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

Lab Sample ID: LCS 500-493637/4
Matrix: Water
Analysis Batch: 493637

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	50.0	47.7		ug/L		95	70 - 125
1,2-Dichloropropane	50.0	48.1		ug/L		96	67 - 130
1,3-Dichloropropane	50.0	47.7		ug/L		95	62 - 136
2,2-Dichloropropane	50.0	39.4		ug/L		79	58 - 139
1,1-Dichloropropene	50.0	46.4		ug/L		93	70 - 121
cis-1,3-Dichloropropene	50.0	45.8		ug/L		92	64 - 127
trans-1,3-Dichloropropene	50.0	44.9		ug/L		90	62 - 128
Ethylbenzene	50.0	48.9		ug/L		98	70 - 123
Hexachlorobutadiene	50.0	52.6		ug/L		105	51 - 150
Isopropylbenzene	50.0	46.6		ug/L		93	70 - 126
p-Isopropyltoluene	50.0	47.8		ug/L		96	70 - 125
Methylene Chloride	50.0	47.8		ug/L		96	69 - 125
Methyl tert-butyl ether	50.0	40.2		ug/L		80	55 - 123
Naphthalene	50.0	48.8		ug/L		98	53 - 144
N-Propylbenzene	50.0	46.1		ug/L		92	69 - 127
Styrene	50.0	44.7		ug/L		89	70 - 120
1,1,1,2-Tetrachloroethane	50.0	51.7		ug/L		103	70 - 125
1,1,2,2-Tetrachloroethane	50.0	45.6		ug/L		91	62 - 140
Tetrachloroethene	50.0	50.0		ug/L		100	70 - 128
Toluene	50.0	44.6		ug/L		89	70 - 125
1,2,3-Trichlorobenzene	50.0	52.9		ug/L		106	51 - 145
1,2,4-Trichlorobenzene	50.0	49.2		ug/L		98	57 - 137
1,1,1-Trichloroethane	50.0	47.6		ug/L		95	70 - 125
1,1,2-Trichloroethane	50.0	48.8		ug/L		98	71 - 130
Trichloroethene	50.0	50.4		ug/L		101	70 - 125
Trichlorofluoromethane	50.0	46.9		ug/L		94	55 - 128
1,2,3-Trichloropropane	50.0	55.3		ug/L		111	50 - 133
1,2,4-Trimethylbenzene	50.0	46.9		ug/L		94	70 - 123
1,3,5-Trimethylbenzene	50.0	46.7		ug/L		93	70 - 123
Vinyl chloride	50.0	43.2		ug/L		86	64 - 126
Xylenes, Total	100	92.0		ug/L		92	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*96*		*75 - 126*
Toluene-d8 (Surr)	*91*		*75 - 120*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*
Dibromofluoromethane	*102*		*75 - 120*

Lab Sample ID: MB 500-493662/6
Matrix: Solid
Analysis Batch: 493662

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			07/07/19 19:16	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			07/07/19 19:16	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			07/07/19 19:16	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			07/07/19 19:16	1
Bromoform	<0.48		1.0	0.48	ug/Kg			07/07/19 19:16	1

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

Lab Sample ID: MB 500-493662/6
Matrix: Solid
Analysis Batch: 493662

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	<0.80		3.0	0.80	ug/Kg			07/07/19 19:16	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			07/07/19 19:16	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/07/19 19:16	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/07/19 19:16	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			07/07/19 19:16	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			07/07/19 19:16	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			07/07/19 19:16	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			07/07/19 19:16	1
Chloroform	<0.37		2.0	0.37	ug/Kg			07/07/19 19:16	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			07/07/19 19:16	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			07/07/19 19:16	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			07/07/19 19:16	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			07/07/19 19:16	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			07/07/19 19:16	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			07/07/19 19:16	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			07/07/19 19:16	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			07/07/19 19:16	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			07/07/19 19:16	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			07/07/19 19:16	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			07/07/19 19:16	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			07/07/19 19:16	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			07/07/19 19:16	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			07/07/19 19:16	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			07/07/19 19:16	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			07/07/19 19:16	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			07/07/19 19:16	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			07/07/19 19:16	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			07/07/19 19:16	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			07/07/19 19:16	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			07/07/19 19:16	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			07/07/19 19:16	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			07/07/19 19:16	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			07/07/19 19:16	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			07/07/19 19:16	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			07/07/19 19:16	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			07/07/19 19:16	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			07/07/19 19:16	1
Naphthalene	0.485	J	1.0	0.33	ug/Kg			07/07/19 19:16	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			07/07/19 19:16	1
Styrene	<0.39		1.0	0.39	ug/Kg			07/07/19 19:16	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			07/07/19 19:16	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			07/07/19 19:16	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			07/07/19 19:16	1
Toluene	<0.15		0.25	0.15	ug/Kg			07/07/19 19:16	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			07/07/19 19:16	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			07/07/19 19:16	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			07/07/19 19:16	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			07/07/19 19:16	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			07/07/19 19:16	1

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

Lab Sample ID: MB 500-493662/6
Matrix: Solid
Analysis Batch: 493662

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			07/07/19 19:16	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			07/07/19 19:16	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			07/07/19 19:16	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			07/07/19 19:16	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			07/07/19 19:16	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			07/07/19 19:16	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*75 - 126*		*07/07/19 19:16*	*1*
Toluene-d8 (Surr)	*97*		*75 - 120*		*07/07/19 19:16*	*1*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*		*07/07/19 19:16*	*1*
Dibromofluoromethane	*109*		*75 - 120*		*07/07/19 19:16*	*1*

Lab Sample ID: LCS 500-493662/4
Matrix: Solid
Analysis Batch: 493662

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	45.9		ug/Kg		92	70 - 120
Bromobenzene	50.0	46.6		ug/Kg		93	70 - 122
Bromochloromethane	50.0	48.6		ug/Kg		97	65 - 122
Bromodichloromethane	50.0	52.0		ug/Kg		104	69 - 120
Bromoform	50.0	68.8	*	ug/Kg		138	56 - 132
Bromomethane	50.0	45.7		ug/Kg		91	40 - 152
n-Butylbenzene	50.0	45.6		ug/Kg		91	68 - 125
sec-Butylbenzene	50.0	47.3		ug/Kg		95	70 - 123
tert-Butylbenzene	50.0	43.4		ug/Kg		87	70 - 121
Carbon tetrachloride	50.0	57.3		ug/Kg		115	59 - 133
Chlorobenzene	50.0	45.1		ug/Kg		90	70 - 120
Dibromochloromethane	50.0	54.3		ug/Kg		109	68 - 125
Chloroethane	50.0	50.6		ug/Kg		101	48 - 136
Chloroform	50.0	55.9		ug/Kg		112	70 - 120
Chloromethane	50.0	40.8		ug/Kg		82	56 - 152
2-Chlorotoluene	50.0	45.8		ug/Kg		92	70 - 125
4-Chlorotoluene	50.0	45.2		ug/Kg		90	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	68.7	*	ug/Kg		137	56 - 123
1,2-Dibromoethane	50.0	52.0		ug/Kg		104	70 - 125
Dibromomethane	50.0	50.8		ug/Kg		102	70 - 120
1,2-Dichlorobenzene	50.0	44.1		ug/Kg		88	70 - 125
1,3-Dichlorobenzene	50.0	43.1		ug/Kg		86	70 - 125
1,4-Dichlorobenzene	50.0	44.3		ug/Kg		89	70 - 120
Dichlorodifluoromethane	50.0	40.5		ug/Kg		81	40 - 159
1,1-Dichloroethane	50.0	46.0		ug/Kg		92	70 - 125
1,2-Dichloroethane	50.0	49.8		ug/Kg		100	68 - 127
1,1-Dichloroethene	50.0	44.2		ug/Kg		88	67 - 122
cis-1,2-Dichloroethene	50.0	45.5		ug/Kg		91	70 - 125
trans-1,2-Dichloroethene	50.0	44.1		ug/Kg		88	70 - 125
1,2-Dichloropropane	50.0	46.5		ug/Kg		93	67 - 130

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

Lab Sample ID: LCS 500-493662/4
Matrix: Solid
Analysis Batch: 493662

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	50.0	52.9		ug/Kg		106	62 - 136
2,2-Dichloropropane	50.0	50.6		ug/Kg		101	58 - 139
1,1-Dichloropropene	50.0	48.0		ug/Kg		96	70 - 121
cis-1,3-Dichloropropene	50.0	49.5		ug/Kg		99	64 - 127
trans-1,3-Dichloropropene	50.0	52.8		ug/Kg		106	62 - 128
Ethylbenzene	50.0	46.6		ug/Kg		93	70 - 123
Hexachlorobutadiene	50.0	43.4		ug/Kg		87	51 - 150
Isopropylbenzene	50.0	47.4		ug/Kg		95	70 - 126
p-Isopropyltoluene	50.0	44.0		ug/Kg		88	70 - 125
Methylene Chloride	50.0	44.8		ug/Kg		90	69 - 125
Methyl tert-butyl ether	50.0	51.5		ug/Kg		103	55 - 123
Naphthalene	50.0	49.7		ug/Kg		99	53 - 144
N-Propylbenzene	50.0	46.2		ug/Kg		92	69 - 127
Styrene	50.0	45.9		ug/Kg		92	70 - 120
1,1,1,2-Tetrachloroethane	50.0	50.3		ug/Kg		101	70 - 125
1,1,2,2-Tetrachloroethane	50.0	57.5		ug/Kg		115	62 - 140
Tetrachloroethene	50.0	45.7		ug/Kg		91	70 - 128
Toluene	50.0	41.8		ug/Kg		84	70 - 125
1,2,3-Trichlorobenzene	50.0	45.9		ug/Kg		92	51 - 145
1,2,4-Trichlorobenzene	50.0	44.8		ug/Kg		90	57 - 137
1,1,1-Trichloroethane	50.0	47.9		ug/Kg		96	70 - 125
1,1,2-Trichloroethane	50.0	48.0		ug/Kg		96	71 - 130
Trichloroethene	50.0	45.9		ug/Kg		92	70 - 125
Trichlorofluoromethane	50.0	48.1		ug/Kg		96	55 - 128
1,2,3-Trichloropropane	50.0	62.1		ug/Kg		124	50 - 133
1,2,4-Trimethylbenzene	50.0	45.4		ug/Kg		91	70 - 123
1,3,5-Trimethylbenzene	50.0	46.3		ug/Kg		93	70 - 123
Vinyl chloride	50.0	37.4		ug/Kg		75	64 - 126
Xylenes, Total	100	89.2		ug/Kg		89	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 126*
Toluene-d8 (Surr)	*98*		*75 - 120*
4-Bromofluorobenzene (Surr)	*100*		*72 - 124*
Dibromofluoromethane	*106*		*75 - 120*

Lab Sample ID: MB 500-493699/6
Matrix: Solid
Analysis Batch: 493699

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			07/08/19 12:04	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			07/08/19 12:04	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			07/08/19 12:04	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			07/08/19 12:04	1
Bromoform	<0.48		1.0	0.48	ug/Kg			07/08/19 12:04	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			07/08/19 12:04	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			07/08/19 12:04	1

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

Lab Sample ID: MB 500-493699/6
Matrix: Solid
Analysis Batch: 493699

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/08/19 12:04	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			07/08/19 12:04	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			07/08/19 12:04	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			07/08/19 12:04	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			07/08/19 12:04	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			07/08/19 12:04	1
Chloroform	<0.37		2.0	0.37	ug/Kg			07/08/19 12:04	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			07/08/19 12:04	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			07/08/19 12:04	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			07/08/19 12:04	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			07/08/19 12:04	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			07/08/19 12:04	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			07/08/19 12:04	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			07/08/19 12:04	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			07/08/19 12:04	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			07/08/19 12:04	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			07/08/19 12:04	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			07/08/19 12:04	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			07/08/19 12:04	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			07/08/19 12:04	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			07/08/19 12:04	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			07/08/19 12:04	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			07/08/19 12:04	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			07/08/19 12:04	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			07/08/19 12:04	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			07/08/19 12:04	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			07/08/19 12:04	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			07/08/19 12:04	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			07/08/19 12:04	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			07/08/19 12:04	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			07/08/19 12:04	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			07/08/19 12:04	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			07/08/19 12:04	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			07/08/19 12:04	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			07/08/19 12:04	1
Naphthalene	0.501	J	1.0	0.33	ug/Kg			07/08/19 12:04	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			07/08/19 12:04	1
Styrene	<0.39		1.0	0.39	ug/Kg			07/08/19 12:04	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			07/08/19 12:04	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			07/08/19 12:04	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			07/08/19 12:04	1
Toluene	<0.15		0.25	0.15	ug/Kg			07/08/19 12:04	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			07/08/19 12:04	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			07/08/19 12:04	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			07/08/19 12:04	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			07/08/19 12:04	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			07/08/19 12:04	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			07/08/19 12:04	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			07/08/19 12:04	1

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

Lab Sample ID: MB 500-493699/6
Matrix: Solid
Analysis Batch: 493699

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			07/08/19 12:04	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			07/08/19 12:04	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			07/08/19 12:04	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			07/08/19 12:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*		*07/08/19 12:04*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*07/08/19 12:04*	*1*
4-Bromofluorobenzene (Surr)	*99*		*72 - 124*		*07/08/19 12:04*	*1*
Dibromofluoromethane	*103*		*75 - 120*		*07/08/19 12:04*	*1*

Lab Sample ID: LCS 500-493699/4
Matrix: Solid
Analysis Batch: 493699

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	45.8		ug/Kg		92	70 - 120
Bromobenzene	50.0	43.6		ug/Kg		87	70 - 122
Bromochloromethane	50.0	45.7		ug/Kg		91	65 - 122
Bromodichloromethane	50.0	48.5		ug/Kg		97	69 - 120
Bromoform	50.0	65.1		ug/Kg		130	56 - 132
Bromomethane	50.0	46.2		ug/Kg		92	40 - 152
n-Butylbenzene	50.0	50.0		ug/Kg		100	68 - 125
sec-Butylbenzene	50.0	49.4		ug/Kg		99	70 - 123
tert-Butylbenzene	50.0	46.3		ug/Kg		93	70 - 121
Carbon tetrachloride	50.0	63.3		ug/Kg		127	59 - 133
Chlorobenzene	50.0	45.7		ug/Kg		91	70 - 120
Dibromochloromethane	50.0	53.5		ug/Kg		107	68 - 125
Chloroethane	50.0	42.6		ug/Kg		85	48 - 136
Chloroform	50.0	45.4		ug/Kg		91	70 - 120
Chloromethane	50.0	51.2		ug/Kg		102	56 - 152
2-Chlorotoluene	50.0	47.8		ug/Kg		96	70 - 125
4-Chlorotoluene	50.0	48.1		ug/Kg		96	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	62.4	*	ug/Kg		125	56 - 123
1,2-Dibromoethane	50.0	47.7		ug/Kg		95	70 - 125
Dibromomethane	50.0	49.1		ug/Kg		98	70 - 120
1,2-Dichlorobenzene	50.0	43.8		ug/Kg		88	70 - 125
1,3-Dichlorobenzene	50.0	44.7		ug/Kg		89	70 - 125
1,4-Dichlorobenzene	50.0	44.0		ug/Kg		88	70 - 120
Dichlorodifluoromethane	50.0	46.0		ug/Kg		92	40 - 159
1,1-Dichloroethane	50.0	46.1		ug/Kg		92	70 - 125
1,2-Dichloroethane	50.0	49.7		ug/Kg		99	68 - 127
1,1-Dichloroethene	50.0	50.7		ug/Kg		101	67 - 122
cis-1,2-Dichloroethene	50.0	44.9		ug/Kg		90	70 - 125
trans-1,2-Dichloroethene	50.0	48.2		ug/Kg		96	70 - 125
1,2-Dichloropropane	50.0	45.9		ug/Kg		92	67 - 130
1,3-Dichloropropane	50.0	49.4		ug/Kg		99	62 - 136
2,2-Dichloropropane	50.0	52.9		ug/Kg		106	58 - 139

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

Lab Sample ID: LCS 500-493699/4
Matrix: Solid
Analysis Batch: 493699

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	52.1		ug/Kg		104	70 - 121
cis-1,3-Dichloropropene	50.0	47.1		ug/Kg		94	64 - 127
trans-1,3-Dichloropropene	50.0	51.6		ug/Kg		103	62 - 128
Ethylbenzene	50.0	49.5		ug/Kg		99	70 - 123
Hexachlorobutadiene	50.0	43.6		ug/Kg		87	51 - 150
Isopropylbenzene	50.0	48.7		ug/Kg		97	70 - 126
p-Isopropyltoluene	50.0	46.7		ug/Kg		93	70 - 125
Methylene Chloride	50.0	42.9		ug/Kg		86	69 - 125
Methyl tert-butyl ether	50.0	47.0		ug/Kg		94	55 - 123
Naphthalene	50.0	45.2		ug/Kg		90	53 - 144
N-Propylbenzene	50.0	49.4		ug/Kg		99	69 - 127
Styrene	50.0	46.0		ug/Kg		92	70 - 120
1,1,1,2-Tetrachloroethane	50.0	51.7		ug/Kg		103	70 - 125
1,1,2,2-Tetrachloroethane	50.0	50.2		ug/Kg		100	62 - 140
Tetrachloroethene	50.0	51.5		ug/Kg		103	70 - 128
Toluene	50.0	45.6		ug/Kg		91	70 - 125
1,2,3-Trichlorobenzene	50.0	41.7		ug/Kg		83	51 - 145
1,2,4-Trichlorobenzene	50.0	42.2		ug/Kg		84	57 - 137
1,1,1-Trichloroethane	50.0	54.3		ug/Kg		109	70 - 125
1,1,2-Trichloroethane	50.0	49.6		ug/Kg		99	71 - 130
Trichloroethene	50.0	47.1		ug/Kg		94	70 - 125
Trichlorofluoromethane	50.0	54.8		ug/Kg		110	55 - 128
1,2,3-Trichloropropane	50.0	49.5		ug/Kg		99	50 - 133
1,2,4-Trimethylbenzene	50.0	45.7		ug/Kg		91	70 - 123
1,3,5-Trimethylbenzene	50.0	47.1		ug/Kg		94	70 - 123
Vinyl chloride	50.0	47.0		ug/Kg		94	64 - 126
Xylenes, Total	100	98.9		ug/Kg		99	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 126*
Toluene-d8 (Surr)	*101*		*75 - 120*
4-Bromofluorobenzene (Surr)	*98*		*72 - 124*
Dibromofluoromethane	*102*		*75 - 120*

Lab Chronicle

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Client Sample ID: B-1 4-6' — **Lab Sample ID: 500-165716-1**
Date Collected: 06/24/19 08:30 — **Matrix: Solid**
Date Received: 06/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	492165	06/26/19 14:14	LWN	TAL CHI

Client Sample ID: B-1 4-6' — **Lab Sample ID: 500-165716-1**
Date Collected: 06/24/19 08:30 — **Matrix: Solid**
Date Received: 06/26/19 09:00 — **Percent Solids: 95.2**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493436	06/24/19 08:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	493699	07/08/19 15:38	PMF	TAL CHI

Client Sample ID: B-2 4-6' — **Lab Sample ID: 500-165716-2**
Date Collected: 06/24/19 08:45 — **Matrix: Solid**
Date Received: 06/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	492165	06/26/19 14:14	LWN	TAL CHI

Client Sample ID: B-2 4-6' — **Lab Sample ID: 500-165716-2**
Date Collected: 06/24/19 08:45 — **Matrix: Solid**
Date Received: 06/26/19 09:00 — **Percent Solids: 96.4**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493436	06/24/19 08:45	WRE	TAL CHI
Total/NA	Analysis	8260B		50	493662	07/07/19 21:01	PMF	TAL CHI

Client Sample ID: B-2 14-16' — **Lab Sample ID: 500-165716-3**
Date Collected: 06/24/19 09:00 — **Matrix: Solid**
Date Received: 06/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	492165	06/26/19 14:14	LWN	TAL CHI

Client Sample ID: B-2 14-16' — **Lab Sample ID: 500-165716-3**
Date Collected: 06/24/19 09:00 — **Matrix: Solid**
Date Received: 06/26/19 09:00 — **Percent Solids: 78.7**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493436	06/24/19 09:00	WRE	TAL CHI
Total/NA	Analysis	8260B		50	493662	07/07/19 21:28	PMF	TAL CHI

Client Sample ID: B-3 4-6' — **Lab Sample ID: 500-165716-4**
Date Collected: 06/24/19 09:15 — **Matrix: Solid**
Date Received: 06/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	492165	06/26/19 14:14	LWN	TAL CHI

Lab Chronicle

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

Client Sample ID: B-3 4-6'
Lab Sample ID: 500-165716-4
Date Collected: 06/24/19 09:15
Matrix: Solid
Date Received: 06/26/19 09:00
Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493436	06/24/19 09:15	WRE	TAL CHI
Total/NA	Analysis	8260B		50	493662	07/07/19 21:54	PMF	TAL CHI

Client Sample ID: B-3 14-16'
Lab Sample ID: 500-165716-5
Date Collected: 06/24/19 09:30
Matrix: Solid
Date Received: 06/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	492165	06/26/19 14:14	LWN	TAL CHI

Client Sample ID: B-3 14-16'
Lab Sample ID: 500-165716-5
Date Collected: 06/24/19 09:30
Matrix: Solid
Date Received: 06/26/19 09:00
Percent Solids: 93.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493436	06/24/19 09:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	493662	07/07/19 22:21	PMF	TAL CHI

Client Sample ID: B-4 14-16'
Lab Sample ID: 500-165716-6
Date Collected: 06/24/19 09:45
Matrix: Solid
Date Received: 06/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	492165	06/26/19 14:14	LWN	TAL CHI

Client Sample ID: B-4 14-16'
Lab Sample ID: 500-165716-6
Date Collected: 06/24/19 09:45
Matrix: Solid
Date Received: 06/26/19 09:00
Percent Solids: 76.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			493436	06/24/19 09:45	WRE	TAL CHI
Total/NA	Analysis	8260B		50	493662	07/07/19 22:48	PMF	TAL CHI

Client Sample ID: B-3
Lab Sample ID: 500-165716-7
Date Collected: 06/24/19 10:40
Matrix: Water
Date Received: 06/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	493637	07/07/19 16:57	JLC	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-165716-1

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

2417 Bond Street, University Park, IL 604
Phone: 708.534.5200 Fax: 708.534.

500-165716 COC

(optional)

Report To
Contact: Matt Taylor
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

(optional)

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

Chain of Custody Record

Lab Job #: 500-165716

Chain of Custody Number:

Page _____ of _____

Temperature °C of Cooler: 2.5-7.15

Client: Cedar Corp
Client Project #:
Project Name: Johnson Property
Project Location/State: New Richmond, WI
Lab Project #:
Sampler: MAT
Lab PM: Sandie Fredrick

Preservative
Parameter: VOCs

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	Comments
1		B-1 4-6'	6/24/19	0830	2	S	X	
2		B-2 4-6'		0845				
3		B-2 14-16'		0900				
4		B-3 4-6'		0915				
5		B-3 14-16'		0930				
6		B-4 14-16'		0945				
7		B-3		1040	2	W	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
Anna Beckman	Cedar Corp	6/25/19	0730		TA-ORL	6/26/19	0900
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped: Fed 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:

TAL-4124-500 (1209)

7/10/2019

500-165716 Waybill

Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-165716-1
SDG Number:

Login Number: 165716
List Number: 1
Creator: Scott, Sherri L

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	1.5
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").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

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ANALYTICAL REPORT

Eurofins TestAmerica, Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-15765-1
Client Project/Site: Johnson Property

For:
Cedar Corporation
604 Wilson Avenue
Menomonie, Wisconsin 54751

Attn: Mitch Evenson

Sandie Fredrick

Authorized for release by:
7/8/2019 10:19:27 AM

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

Table of Contents

Definitions/Glossary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Qualifiers

Air - GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Reported value was between the limit of detection and the limit of quantitation.

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)

Case Narrative

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Job ID: 140-15765-1

Laboratory: Eurofins TestAmerica, Knoxville

Narrative

Job Narrative
140-15765-1

Comments
No additional comments.

Receipt
The sample was received on 6/26/2019 10:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice.

Air - GC/MS VOA
Method(s) Neutralization, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified "zero air" as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of "zero air" by Eurofins TestAmerica Knoxville.

Method(s) TO-15: The continuing calibration verification (CCV) associated with batch 140-31066 exhibited % difference of > 30% for the following analytes Carbon tetrachloride, Dichlorobromomethane and Naphthalene; however, the results were within the LCS acceptance limits. The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria.

Method(s) TO-15: The following analyte(s) recovered outside control limits for the LCS associated with analytical batch 140-31066: Carbon tetrachloride and Dichlorobromomethane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.

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

Detection Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Client Sample ID: JOHNSON_SUBSLAB_20190624 — Lab Sample ID: 140-15765-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Hexachlorobutadiene	340	J	600	240	ppb v/v	600		TO-15	Total/NA
Tetrachloroethene	47000		600	51	ppb v/v	600		TO-15	Total/NA
Trichloroethene	60	J	600	45	ppb v/v	600		TO-15	Total/NA

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Hexachlorobutadiene	3600	J	6400	2600	ug/m3	600		TO-15	Total/NA
Tetrachloroethene	320000		4100	350	ug/m3	600		TO-15	Total/NA
Trichloroethene	320	J	3200	240	ug/m3	600		TO-15	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: JOHNSON_SUBSLAB_20190624
Lab Sample ID: 140-15765-1
Date Collected: 06/24/19 10:22
Matrix: Air
Date Received: 06/26/19 10:00
Sample Container: Summa Canister 6L

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<150		600	150	ppb v/v			06/27/19 18:45	600
1,1,2,2-Tetrachloroethane	<110		600	110	ppb v/v			06/27/19 18:45	600
1,1,2-Trichloro-1,2,2-trifluoroethane	<63		600	63	ppb v/v			06/27/19 18:45	600
1,1,2-Trichloroethane	<54		600	54	ppb v/v			06/27/19 18:45	600
1,1-Dichloroethane	<54		600	54	ppb v/v			06/27/19 18:45	600
1,1-Dichloroethene	<60		600	60	ppb v/v			06/27/19 18:45	600
1,2,4-Trichlorobenzene	<480		6000	480	ppb v/v			06/27/19 18:45	600
1,2,4-Trimethylbenzene	<150		600	150	ppb v/v			06/27/19 18:45	600
1,2-Dibromoethane (EDB)	<51		600	51	ppb v/v			06/27/19 18:45	600
1,2-Dichloro-1,1,2,2-tetrafluoroethane	<93		600	93	ppb v/v			06/27/19 18:45	600
1,2-Dichlorobenzene	<230		600	230	ppb v/v			06/27/19 18:45	600
1,2-Dichloroethane	<75		600	75	ppb v/v			06/27/19 18:45	600
1,2-Dichloropropane	<75		600	75	ppb v/v			06/27/19 18:45	600
1,3,5-Trimethylbenzene	<170		600	170	ppb v/v			06/27/19 18:45	600
1,3-Dichlorobenzene	<120		600	120	ppb v/v			06/27/19 18:45	600
1,4-Dichlorobenzene	<120		600	120	ppb v/v			06/27/19 18:45	600
1,4-Dioxane	<230		15000	230	ppb v/v			06/27/19 18:45	600
2-Butanone (MEK)	<550		3000	550	ppb v/v			06/27/19 18:45	600
4-Methyl-2-pentanone (MIBK)	<410		1500	410	ppb v/v			06/27/19 18:45	600
Acetone	<4300		15000	4300	ppb v/v			06/27/19 18:45	600
Benzene	<57		600	57	ppb v/v			06/27/19 18:45	600
Benzyl chloride	<290		2400	290	ppb v/v			06/27/19 18:45	600
Bromodichloromethane	<130	*	600	130	ppb v/v			06/27/19 18:45	600
Bromoform	<66		600	66	ppb v/v			06/27/19 18:45	600
Bromomethane	<170		600	170	ppb v/v			06/27/19 18:45	600
Carbon disulfide	<84		1500	84	ppb v/v			06/27/19 18:45	600
Carbon tetrachloride	<54	*	600	54	ppb v/v			06/27/19 18:45	600
Chlorobenzene	<48		600	48	ppb v/v			06/27/19 18:45	600
Chloroethane	<220		2400	220	ppb v/v			06/27/19 18:45	600
Chloroform	<48		600	48	ppb v/v			06/27/19 18:45	600
Chloromethane	<500		1500	500	ppb v/v			06/27/19 18:45	600
cis-1,2-Dichloroethene	<75		600	75	ppb v/v			06/27/19 18:45	600
cis-1,3-Dichloropropene	<120		600	120	ppb v/v			06/27/19 18:45	600
Cyclohexane	<180		1500	180	ppb v/v			06/27/19 18:45	600
Dibromochloromethane	<51		600	51	ppb v/v			06/27/19 18:45	600
Dichlorodifluoromethane	<110		1500	110	ppb v/v			06/27/19 18:45	600
Ethylbenzene	<99		600	99	ppb v/v			06/27/19 18:45	600
Hexachlorobutadiene	**340**	**J**	600	240	ppb v/v			06/27/19 18:45	600
Hexane	<99		2400	99	ppb v/v			06/27/19 18:45	600
Isopropyl alcohol	<840		15000	840	ppb v/v			06/27/19 18:45	600
Isopropylbenzene	<130		2400	130	ppb v/v			06/27/19 18:45	600
Methyl tert-butyl ether	<390		3000	390	ppb v/v			06/27/19 18:45	600
Methylene Chloride	<1100		3000	1100	ppb v/v			06/27/19 18:45	600
m-Xylene & p-Xylene	<220		2400	220	ppb v/v			06/27/19 18:45	600
Naphthalene	<570		1500	570	ppb v/v			06/27/19 18:45	600
o-Xylene	<110		600	110	ppb v/v			06/27/19 18:45	600
Styrene	<180		600	180	ppb v/v			06/27/19 18:45	600
Tetrachloroethene	**47000**		600	51	ppb v/v			06/27/19 18:45	600

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Client Sample ID: JOHNSON_SUBSLAB_20190624
Date Collected: 06/24/19 10:22
Date Received: 06/26/19 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-15765-1
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<440		15000	440	ppb v/v			06/27/19 18:45	600
Toluene	<590		600	590	ppb v/v			06/27/19 18:45	600
trans-1,2-Dichloroethene	<48		600	48	ppb v/v			06/27/19 18:45	600
trans-1,3-Dichloropropene	<63		600	63	ppb v/v			06/27/19 18:45	600
Trichloroethene	**60**	**J**	600	45	ppb v/v			06/27/19 18:45	600
Trichlorofluoromethane	<54		600	54	ppb v/v			06/27/19 18:45	600
Vinyl acetate	<210		15000	210	ppb v/v			06/27/19 18:45	600
Vinyl bromide	<150		600	150	ppb v/v			06/27/19 18:45	600
Vinyl chloride	<200		600	200	ppb v/v			06/27/19 18:45	600

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<800		3300	800	ug/m3			06/27/19 18:45	600
1,1,2,2-Tetrachloroethane	<740		4100	740	ug/m3			06/27/19 18:45	600
1,1,2-Trichloro-1,2,2-trifluoroethane	<480		4600	480	ug/m3			06/27/19 18:45	600
1,1,2-Trichloroethane	<290		3300	290	ug/m3			06/27/19 18:45	600
1,1-Dichloroethane	<220		2400	220	ug/m3			06/27/19 18:45	600
1,1-Dichloroethene	<240		2400	240	ug/m3			06/27/19 18:45	600
1,2,4-Trichlorobenzene	<3600		45000	3600	ug/m3			06/27/19 18:45	600
1,2,4-Trimethylbenzene	<750		2900	750	ug/m3			06/27/19 18:45	600
1,2-Dibromoethane (EDB)	<390		4600	390	ug/m3			06/27/19 18:45	600
1,2-Dichloro-1,1,2,2-tetrafluoroethane	<650		4200	650	ug/m3			06/27/19 18:45	600
1,2-Dichlorobenzene	<1400		3600	1400	ug/m3			06/27/19 18:45	600
1,2-Dichloroethane	<300		2400	300	ug/m3			06/27/19 18:45	600
1,2-Dichloropropane	<350		2800	350	ug/m3			06/27/19 18:45	600
1,3,5-Trimethylbenzene	<810		2900	810	ug/m3			06/27/19 18:45	600
1,3-Dichlorobenzene	<720		3600	720	ug/m3			06/27/19 18:45	600
1,4-Dichlorobenzene	<720		3600	720	ug/m3			06/27/19 18:45	600
1,4-Dioxane	<810		54000	810	ug/m3			06/27/19 18:45	600
2-Butanone (MEK)	<1600		8800	1600	ug/m3			06/27/19 18:45	600
4-Methyl-2-pentanone (MIBK)	<1700		6100	1700	ug/m3			06/27/19 18:45	600
Acetone	<10000		36000	10000	ug/m3			06/27/19 18:45	600
Benzene	<180		1900	180	ug/m3			06/27/19 18:45	600
Benzyl chloride	<1500		12000	1500	ug/m3			06/27/19 18:45	600
Bromodichloromethane	<880	*	4000	880	ug/m3			06/27/19 18:45	600
Bromoform	<680		6200	680	ug/m3			06/27/19 18:45	600
Bromomethane	<650		2300	650	ug/m3			06/27/19 18:45	600
Carbon disulfide	<260		4700	260	ug/m3			06/27/19 18:45	600
Carbon tetrachloride	<340	*	3800	340	ug/m3			06/27/19 18:45	600
Chlorobenzene	<220		2800	220	ug/m3			06/27/19 18:45	600
Chloroethane	<570		6300	570	ug/m3			06/27/19 18:45	600
Chloroform	<230		2900	230	ug/m3			06/27/19 18:45	600
Chloromethane	<1000		3100	1000	ug/m3			06/27/19 18:45	600
cis-1,2-Dichloroethene	<300		2400	300	ug/m3			06/27/19 18:45	600
cis-1,3-Dichloropropene	<530		2700	530	ug/m3			06/27/19 18:45	600
Cyclohexane	<610		5200	610	ug/m3			06/27/19 18:45	600
Dibromochloromethane	<430		5100	430	ug/m3			06/27/19 18:45	600
Dichlorodifluoromethane	<520		7400	520	ug/m3			06/27/19 18:45	600
Ethylbenzene	<430		2600	430	ug/m3			06/27/19 18:45	600
Hexachlorobutadiene	**3600**	**J**	6400	2600	ug/m3			06/27/19 18:45	600

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Client Sample ID: JOHNSON_SUBSLAB_20190624 **Lab Sample ID: 140-15765-1**
Date Collected: 06/24/19 10:22 **Matrix: Air**
Date Received: 06/26/19 10:00
Sample Container: Summa Canister 6L

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	<350		8500	350	ug/m3			06/27/19 18:45	600
Isopropyl alcohol	<2100		37000	2100	ug/m3			06/27/19 18:45	600
Isopropylbenzene	<620		12000	620	ug/m3			06/27/19 18:45	600
Methyl tert-butyl ether	<1400		11000	1400	ug/m3			06/27/19 18:45	600
Methylene Chloride	<3800		10000	3800	ug/m3			06/27/19 18:45	600
m-Xylene & p-Xylene	<950		10000	950	ug/m3			06/27/19 18:45	600
Naphthalene	<3000		7900	3000	ug/m3			06/27/19 18:45	600
o-Xylene	<500		2600	500	ug/m3			06/27/19 18:45	600
Styrene	<770		2600	770	ug/m3			06/27/19 18:45	600
Tetrachloroethene	**320000**		4100	350	ug/m3			06/27/19 18:45	600
Tetrahydrofuran	<1300		44000	1300	ug/m3			06/27/19 18:45	600
Toluene	<2200		2300	2200	ug/m3			06/27/19 18:45	600
trans-1,2-Dichloroethene	<190		2400	190	ug/m3			06/27/19 18:45	600
trans-1,3-Dichloropropene	<290		2700	290	ug/m3			06/27/19 18:45	600
Trichloroethene	**320**	**J**	3200	240	ug/m3			06/27/19 18:45	600
Trichlorofluoromethane	<300		3400	300	ug/m3			06/27/19 18:45	600
Vinyl acetate	<750		53000	750	ug/m3			06/27/19 18:45	600
Vinyl bromide	<660		2600	660	ug/m3			06/27/19 18:45	600
Vinyl chloride	<510		1500	510	ug/m3			06/27/19 18:45	600

Default Detection Limits

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Analyte	LOQ	LOD	Units
1,1,1-Trichloroethane	0.20	0.049	ppb v/v
1,1,1-Trichloroethane	1.1	0.27	ug/m3
1,1,2,2-Tetrachloroethane	0.20	0.036	ppb v/v
1,1,2,2-Tetrachloroethane	1.4	0.25	ug/m3
1,1,2-Trichloro-1,2,2-trifluoroethane	0.20	0.021	ppb v/v
1,1,2-Trichloro-1,2,2-trifluoroethane	1.5	0.16	ug/m3
1,1,2-Trichloroethane	0.20	0.018	ppb v/v
1,1,2-Trichloroethane	1.1	0.098	ug/m3
1,1-Dichloroethane	0.20	0.018	ppb v/v
1,1-Dichloroethane	0.81	0.073	ug/m3
1,1-Dichloroethene	0.20	0.020	ppb v/v
1,1-Dichloroethene	0.79	0.079	ug/m3
1,2,4-Trichlorobenzene	2.0	0.16	ppb v/v
1,2,4-Trichlorobenzene	15	1.2	ug/m3
1,2,4-Trimethylbenzene	0.20	0.051	ppb v/v
1,2,4-Trimethylbenzene	0.98	0.25	ug/m3
1,2-Dibromoethane (EDB)	0.20	0.017	ppb v/v
1,2-Dibromoethane (EDB)	1.5	0.13	ug/m3
1,2-Dichloro-1,1,2,2-tetrafluoroethane	0.20	0.031	ppb v/v
1,2-Dichloro-1,1,2,2-tetrafluoroethane	1.4	0.22	ug/m3
1,2-Dichlorobenzene	0.20	0.076	ppb v/v
1,2-Dichlorobenzene	1.2	0.46	ug/m3
1,2-Dichloroethane	0.20	0.025	ppb v/v
1,2-Dichloroethane	0.81	0.10	ug/m3
1,2-Dichloropropane	0.20	0.025	ppb v/v
1,2-Dichloropropane	0.92	0.12	ug/m3
1,3,5-Trimethylbenzene	0.20	0.055	ppb v/v
1,3,5-Trimethylbenzene	0.98	0.27	ug/m3
1,3-Dichlorobenzene	0.20	0.040	ppb v/v
1,3-Dichlorobenzene	1.2	0.24	ug/m3
1,4-Dichlorobenzene	0.20	0.040	ppb v/v
1,4-Dichlorobenzene	1.2	0.24	ug/m3
1,4-Dioxane	5.0	0.075	ppb v/v
1,4-Dioxane	18	0.27	ug/m3
2-Butanone (MEK)	1.0	0.18	ppb v/v
2-Butanone (MEK)	2.9	0.54	ug/m3
4-Methyl-2-pentanone (MIBK)	0.50	0.14	ppb v/v
4-Methyl-2-pentanone (MIBK)	2.0	0.55	ug/m3
Acetone	5.0	1.4	ppb v/v
Acetone	12	3.4	ug/m3
Benzene	0.20	0.019	ppb v/v
Benzene	0.64	0.061	ug/m3
Benzyl chloride	0.80	0.095	ppb v/v
Benzyl chloride	4.1	0.49	ug/m3
Bromodichloromethane	0.20	0.044	ppb v/v
Bromodichloromethane	1.3	0.29	ug/m3
Bromoform	0.20	0.022	ppb v/v
Bromoform	2.1	0.23	ug/m3
Bromomethane	0.20	0.056	ppb v/v
Bromomethane	0.78	0.22	ug/m3
Carbon disulfide	0.50	0.028	ppb v/v
Carbon disulfide	1.6	0.087	ug/m3
Carbon tetrachloride	0.20	0.018	ppb v/v

Default Detection Limits

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	LOQ	LOD	Units
Carbon tetrachloride	1.3	0.11	ug/m3
Chlorobenzene	0.20	0.016	ppb v/v
Chlorobenzene	0.92	0.074	ug/m3
Chloroethane	0.80	0.072	ppb v/v
Chloroethane	2.1	0.19	ug/m3
Chloroform	0.20	0.016	ppb v/v
Chloroform	0.98	0.078	ug/m3
Chloromethane	0.50	0.17	ppb v/v
Chloromethane	1.0	0.34	ug/m3
cis-1,2-Dichloroethene	0.20	0.025	ppb v/v
cis-1,2-Dichloroethene	0.79	0.099	ug/m3
cis-1,3-Dichloropropene	0.20	0.039	ppb v/v
cis-1,3-Dichloropropene	0.91	0.18	ug/m3
Cyclohexane	0.50	0.059	ppb v/v
Cyclohexane	1.7	0.20	ug/m3
Dibromochloromethane	0.20	0.017	ppb v/v
Dibromochloromethane	1.7	0.14	ug/m3
Dichlorodifluoromethane	0.50	0.035	ppb v/v
Dichlorodifluoromethane	2.5	0.17	ug/m3
Ethylbenzene	0.20	0.033	ppb v/v
Ethylbenzene	0.87	0.14	ug/m3
Hexachlorobutadiene	0.20	0.080	ppb v/v
Hexachlorobutadiene	2.1	0.85	ug/m3
Hexane	0.80	0.033	ppb v/v
Hexane	2.8	0.12	ug/m3
Isopropyl alcohol	5.0	0.28	ppb v/v
Isopropyl alcohol	12	0.69	ug/m3
Isopropylbenzene	0.80	0.042	ppb v/v
Isopropylbenzene	3.9	0.21	ug/m3
Methyl tert-butyl ether	1.0	0.13	ppb v/v
Methyl tert-butyl ether	3.6	0.47	ug/m3
Methylene Chloride	1.0	0.36	ppb v/v
Methylene Chloride	3.5	1.3	ug/m3
m-Xylene & p-Xylene	0.80	0.073	ppb v/v
m-Xylene & p-Xylene	3.5	0.32	ug/m3
Naphthalene	0.50	0.19	ppb v/v
Naphthalene	2.6	1.0	ug/m3
o-Xylene	0.20	0.038	ppb v/v
o-Xylene	0.87	0.17	ug/m3
Styrene	0.20	0.060	ppb v/v
Styrene	0.85	0.26	ug/m3
Tetrachloroethene	0.20	0.017	ppb v/v
Tetrachloroethene	1.4	0.12	ug/m3
Tetrahydrofuran	5.0	0.15	ppb v/v
Tetrahydrofuran	15	0.43	ug/m3
Toluene	0.20	0.20	ppb v/v
Toluene	0.75	0.74	ug/m3
trans-1,2-Dichloroethene	0.20	0.016	ppb v/v
trans-1,2-Dichloroethene	0.79	0.063	ug/m3
trans-1,3-Dichloropropene	0.20	0.021	ppb v/v
trans-1,3-Dichloropropene	0.91	0.095	ug/m3
Trichloroethene	0.20	0.015	ppb v/v
Trichloroethene	1.1	0.081	ug/m3

Default Detection Limits

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Analyte	LOQ	LOD	Units
Trichlorofluoromethane	0.20	0.018	ppb v/v
Trichlorofluoromethane	1.1	0.10	ug/m3
Vinyl acetate	5.0	0.071	ppb v/v
Vinyl acetate	18	0.25	ug/m3
Vinyl bromide	0.20	0.050	ppb v/v
Vinyl bromide	0.87	0.22	ug/m3
Vinyl chloride	0.20	0.066	ppb v/v
Vinyl chloride	0.51	0.17	ug/m3

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air

Lab Sample ID: MB 140-31066/8
Matrix: Air
Analysis Batch: 31066

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.049		0.20	0.049	ppb v/v			06/27/19 15:51	1
1,1,2,2-Tetrachloroethane	<0.036		0.20	0.036	ppb v/v			06/27/19 15:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.021		0.20	0.021	ppb v/v			06/27/19 15:51	1
1,1,2-Trichloroethane	<0.018		0.20	0.018	ppb v/v			06/27/19 15:51	1
1,1-Dichloroethane	<0.018		0.20	0.018	ppb v/v			06/27/19 15:51	1
1,1-Dichloroethene	<0.020		0.20	0.020	ppb v/v			06/27/19 15:51	1
1,2,4-Trichlorobenzene	<0.16		2.0	0.16	ppb v/v			06/27/19 15:51	1
1,2,4-Trimethylbenzene	<0.051		0.20	0.051	ppb v/v			06/27/19 15:51	1
1,2-Dibromoethane (EDB)	<0.017		0.20	0.017	ppb v/v			06/27/19 15:51	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	<0.031		0.20	0.031	ppb v/v			06/27/19 15:51	1
1,2-Dichlorobenzene	<0.076		0.20	0.076	ppb v/v			06/27/19 15:51	1
1,2-Dichloroethane	<0.025		0.20	0.025	ppb v/v			06/27/19 15:51	1
1,2-Dichloropropane	<0.025		0.20	0.025	ppb v/v			06/27/19 15:51	1
1,3,5-Trimethylbenzene	<0.055		0.20	0.055	ppb v/v			06/27/19 15:51	1
1,3-Dichlorobenzene	<0.040		0.20	0.040	ppb v/v			06/27/19 15:51	1
1,4-Dichlorobenzene	<0.040		0.20	0.040	ppb v/v			06/27/19 15:51	1
1,4-Dioxane	<0.075		5.0	0.075	ppb v/v			06/27/19 15:51	1
2-Butanone (MEK)	<0.18		1.0	0.18	ppb v/v			06/27/19 15:51	1
4-Methyl-2-pentanone (MIBK)	<0.14		0.50	0.14	ppb v/v			06/27/19 15:51	1
Acetone	<1.4		5.0	1.4	ppb v/v			06/27/19 15:51	1
Benzene	<0.019		0.20	0.019	ppb v/v			06/27/19 15:51	1
Benzyl chloride	<0.095		0.80	0.095	ppb v/v			06/27/19 15:51	1
Bromodichloromethane	<0.044		0.20	0.044	ppb v/v			06/27/19 15:51	1
Bromoform	<0.022		0.20	0.022	ppb v/v			06/27/19 15:51	1
Bromomethane	<0.056		0.20	0.056	ppb v/v			06/27/19 15:51	1
Carbon disulfide	<0.028		0.50	0.028	ppb v/v			06/27/19 15:51	1
Carbon tetrachloride	<0.018		0.20	0.018	ppb v/v			06/27/19 15:51	1
Chlorobenzene	<0.016		0.20	0.016	ppb v/v			06/27/19 15:51	1
Chloroethane	<0.072		0.80	0.072	ppb v/v			06/27/19 15:51	1
Chloroform	<0.016		0.20	0.016	ppb v/v			06/27/19 15:51	1
Chloromethane	<0.17		0.50	0.17	ppb v/v			06/27/19 15:51	1
cis-1,2-Dichloroethene	<0.025		0.20	0.025	ppb v/v			06/27/19 15:51	1
cis-1,3-Dichloropropene	<0.039		0.20	0.039	ppb v/v			06/27/19 15:51	1
Cyclohexane	<0.059		0.50	0.059	ppb v/v			06/27/19 15:51	1
Dibromochloromethane	<0.017		0.20	0.017	ppb v/v			06/27/19 15:51	1
Dichlorodifluoromethane	<0.035		0.50	0.035	ppb v/v			06/27/19 15:51	1
Ethylbenzene	<0.033		0.20	0.033	ppb v/v			06/27/19 15:51	1
Hexachlorobutadiene	<0.080		0.20	0.080	ppb v/v			06/27/19 15:51	1
Hexane	<0.033		0.80	0.033	ppb v/v			06/27/19 15:51	1
Isopropyl alcohol	<0.28		5.0	0.28	ppb v/v			06/27/19 15:51	1
Isopropylbenzene	<0.042		0.80	0.042	ppb v/v			06/27/19 15:51	1
Methyl tert-butyl ether	<0.13		1.0	0.13	ppb v/v			06/27/19 15:51	1
Methylene Chloride	<0.36		1.0	0.36	ppb v/v			06/27/19 15:51	1
m-Xylene & p-Xylene	<0.073		0.80	0.073	ppb v/v			06/27/19 15:51	1
Naphthalene	<0.19		0.50	0.19	ppb v/v			06/27/19 15:51	1
o-Xylene	<0.038		0.20	0.038	ppb v/v			06/27/19 15:51	1
Styrene	<0.060		0.20	0.060	ppb v/v			06/27/19 15:51	1
Tetrachloroethene	<0.017		0.20	0.017	ppb v/v			06/27/19 15:51	1

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-31066/8
Matrix: Air
Analysis Batch: 31066

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	<0.15		5.0	0.15	ppb v/v			06/27/19 15:51	1
Toluene	<0.20		0.20	0.20	ppb v/v			06/27/19 15:51	1
trans-1,2-Dichloroethene	<0.016		0.20	0.016	ppb v/v			06/27/19 15:51	1
trans-1,3-Dichloropropene	<0.021		0.20	0.021	ppb v/v			06/27/19 15:51	1
Trichloroethene	<0.015		0.20	0.015	ppb v/v			06/27/19 15:51	1
Trichlorofluoromethane	<0.018		0.20	0.018	ppb v/v			06/27/19 15:51	1
Vinyl acetate	<0.071		5.0	0.071	ppb v/v			06/27/19 15:51	1
Vinyl bromide	<0.050		0.20	0.050	ppb v/v			06/27/19 15:51	1
Vinyl chloride	<0.066		0.20	0.066	ppb v/v			06/27/19 15:51	1

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.27		1.1	0.27	ug/m3			06/27/19 15:51	1
1,1,2,2-Tetrachloroethane	<0.25		1.4	0.25	ug/m3			06/27/19 15:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.16		1.5	0.16	ug/m3			06/27/19 15:51	1
1,1,2-Trichloroethane	<0.098		1.1	0.098	ug/m3			06/27/19 15:51	1
1,1-Dichloroethane	<0.073		0.81	0.073	ug/m3			06/27/19 15:51	1
1,1-Dichloroethene	<0.079		0.79	0.079	ug/m3			06/27/19 15:51	1
1,2,4-Trichlorobenzene	<1.2		15	1.2	ug/m3			06/27/19 15:51	1
1,2,4-Trimethylbenzene	<0.25		0.98	0.25	ug/m3			06/27/19 15:51	1
1,2-Dibromoethane (EDB)	<0.13		1.5	0.13	ug/m3			06/27/19 15:51	1
1,2-Dichloro-1,1,2,2-tetrafluoroethane	<0.22		1.4	0.22	ug/m3			06/27/19 15:51	1
1,2-Dichlorobenzene	<0.46		1.2	0.46	ug/m3			06/27/19 15:51	1
1,2-Dichloroethane	<0.10		0.81	0.10	ug/m3			06/27/19 15:51	1
1,2-Dichloropropane	<0.12		0.92	0.12	ug/m3			06/27/19 15:51	1
1,3,5-Trimethylbenzene	<0.27		0.98	0.27	ug/m3			06/27/19 15:51	1
1,3-Dichlorobenzene	<0.24		1.2	0.24	ug/m3			06/27/19 15:51	1
1,4-Dichlorobenzene	<0.24		1.2	0.24	ug/m3			06/27/19 15:51	1
1,4-Dioxane	<0.27		18	0.27	ug/m3			06/27/19 15:51	1
2-Butanone (MEK)	<0.54		2.9	0.54	ug/m3			06/27/19 15:51	1
4-Methyl-2-pentanone (MIBK)	<0.55		2.0	0.55	ug/m3			06/27/19 15:51	1
Acetone	<3.4		12	3.4	ug/m3			06/27/19 15:51	1
Benzene	<0.061		0.64	0.061	ug/m3			06/27/19 15:51	1
Benzyl chloride	<0.49		4.1	0.49	ug/m3			06/27/19 15:51	1
Bromodichloromethane	<0.29		1.3	0.29	ug/m3			06/27/19 15:51	1
Bromoform	<0.23		2.1	0.23	ug/m3			06/27/19 15:51	1
Bromomethane	<0.22		0.78	0.22	ug/m3			06/27/19 15:51	1
Carbon disulfide	<0.087		1.6	0.087	ug/m3			06/27/19 15:51	1
Carbon tetrachloride	<0.11		1.3	0.11	ug/m3			06/27/19 15:51	1
Chlorobenzene	<0.074		0.92	0.074	ug/m3			06/27/19 15:51	1
Chloroethane	<0.19		2.1	0.19	ug/m3			06/27/19 15:51	1
Chloroform	<0.078		0.98	0.078	ug/m3			06/27/19 15:51	1
Chloromethane	<0.34		1.0	0.34	ug/m3			06/27/19 15:51	1
cis-1,2-Dichloroethene	<0.099		0.79	0.099	ug/m3			06/27/19 15:51	1
cis-1,3-Dichloropropene	<0.18		0.91	0.18	ug/m3			06/27/19 15:51	1
Cyclohexane	<0.20		1.7	0.20	ug/m3			06/27/19 15:51	1
Dibromochloromethane	<0.14		1.7	0.14	ug/m3			06/27/19 15:51	1
Dichlorodifluoromethane	<0.17		2.5	0.17	ug/m3			06/27/19 15:51	1
Ethylbenzene	<0.14		0.87	0.14	ug/m3			06/27/19 15:51	1
Hexachlorobutadiene	<0.85		2.1	0.85	ug/m3			06/27/19 15:51	1

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: MB 140-31066/8
Matrix: Air
Analysis Batch: 31066

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

Analyte	MB Result	MB Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
Hexane	<0.12		2.8	0.12	ug/m3			06/27/19 15:51	1
Isopropyl alcohol	<0.69		12	0.69	ug/m3			06/27/19 15:51	1
Isopropylbenzene	<0.21		3.9	0.21	ug/m3			06/27/19 15:51	1
Methyl tert-butyl ether	<0.47		3.6	0.47	ug/m3			06/27/19 15:51	1
Methylene Chloride	<1.3		3.5	1.3	ug/m3			06/27/19 15:51	1
m-Xylene & p-Xylene	<0.32		3.5	0.32	ug/m3			06/27/19 15:51	1
Naphthalene	<1.0		2.6	1.0	ug/m3			06/27/19 15:51	1
o-Xylene	<0.17		0.87	0.17	ug/m3			06/27/19 15:51	1
Styrene	<0.26		0.85	0.26	ug/m3			06/27/19 15:51	1
Tetrachloroethene	<0.12		1.4	0.12	ug/m3			06/27/19 15:51	1
Tetrahydrofuran	<0.43		15	0.43	ug/m3			06/27/19 15:51	1
Toluene	<0.74		0.75	0.74	ug/m3			06/27/19 15:51	1
trans-1,2-Dichloroethene	<0.063		0.79	0.063	ug/m3			06/27/19 15:51	1
trans-1,3-Dichloropropene	<0.095		0.91	0.095	ug/m3			06/27/19 15:51	1
Trichloroethene	<0.081		1.1	0.081	ug/m3			06/27/19 15:51	1
Trichlorofluoromethane	<0.10		1.1	0.10	ug/m3			06/27/19 15:51	1
Vinyl acetate	<0.25		18	0.25	ug/m3			06/27/19 15:51	1
Vinyl bromide	<0.22		0.87	0.22	ug/m3			06/27/19 15:51	1
Vinyl chloride	<0.17		0.51	0.17	ug/m3			06/27/19 15:51	1

Lab Sample ID: LCS 140-31066/1002
Matrix: Air
Analysis Batch: 31066

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	2.00	2.05		ppb v/v		103	70 - 130
1,1,2,2-Tetrachloroethane	2.00	2.11		ppb v/v		105	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	2.00	1.97		ppb v/v		98	70 - 130
1,1,2-Trichloroethane	2.00	1.97		ppb v/v		99	70 - 130
1,1-Dichloroethane	2.00	1.96		ppb v/v		98	70 - 130
1,1-Dichloroethene	2.00	1.92		ppb v/v		96	70 - 130
1,2,4-Trichlorobenzene	2.00	1.48		ppb v/v		74	60 - 140
1,2,4-Trimethylbenzene	2.00	2.01		ppb v/v		101	70 - 130
1,2-Dibromoethane (EDB)	2.00	2.04		ppb v/v		102	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	2.00	1.91		ppb v/v		96	60 - 140
1,2-Dichlorobenzene	2.00	1.81		ppb v/v		90	70 - 130
1,2-Dichloroethane	2.00	2.44		ppb v/v		122	70 - 130
1,2-Dichloropropane	2.00	2.15		ppb v/v		107	70 - 130
1,3,5-Trimethylbenzene	2.00	1.90		ppb v/v		95	70 - 130
1,3-Dichlorobenzene	2.00	1.81		ppb v/v		91	70 - 130
1,4-Dichlorobenzene	2.00	1.78		ppb v/v		89	70 - 130
1,4-Dioxane	2.00	2.21		ppb v/v		111	60 - 140
2-Butanone (MEK)	2.00	1.67		ppb v/v		84	60 - 140
4-Methyl-2-pentanone (MIBK)	2.00	2.45		ppb v/v		122	60 - 140
Acetone	6.00	5.27		ppb v/v		88	60 - 140
Benzene	2.00	2.08		ppb v/v		104	70 - 130
Benzyl chloride	2.00	2.27		ppb v/v		113	70 - 130

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-31066/1002
Matrix: Air
Analysis Batch: 31066

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	2.00	2.62	*	ppb v/v		131	70 - 130
Bromoform	2.00	2.43		ppb v/v		122	60 - 140
Bromomethane	2.00	1.95		ppb v/v		97	70 - 130
Carbon disulfide	2.00	2.01		ppb v/v		101	70 - 130
Carbon tetrachloride	2.00	2.77	*	ppb v/v		138	70 - 130
Chlorobenzene	2.00	1.91		ppb v/v		95	70 - 130
Chloroethane	2.00	1.98		ppb v/v		99	70 - 130
Chloroform	2.00	2.05		ppb v/v		103	70 - 130
Chloromethane	2.00	2.15		ppb v/v		107	60 - 140
cis-1,2-Dichloroethene	2.00	1.83		ppb v/v		91	70 - 130
cis-1,3-Dichloropropene	2.00	2.29		ppb v/v		115	70 - 130
Cyclohexane	2.00	2.46		ppb v/v		123	70 - 130
Dibromochloromethane	2.00	2.17		ppb v/v		109	70 - 130
Dichlorodifluoromethane	2.00	2.18		ppb v/v		109	60 - 140
Ethylbenzene	2.00	2.01		ppb v/v		100	70 - 130
Hexachlorobutadiene	2.00	1.41		ppb v/v		71	60 - 140
Hexane	2.00	2.08		ppb v/v		104	70 - 130
Isopropyl alcohol	6.00	7.14		ppb v/v		119	60 - 140
Isopropylbenzene	2.00	1.94		ppb v/v		97	70 - 130
Methyl tert-butyl ether	2.00	1.84		ppb v/v		92	60 - 140
Methylene Chloride	2.00	1.72		ppb v/v		86	70 - 130
m-Xylene & p-Xylene	4.00	4.14		ppb v/v		103	70 - 130
Naphthalene	2.00	1.38		ppb v/v		69	60 - 140
o-Xylene	2.00	2.05		ppb v/v		102	70 - 130
Styrene	2.00	2.27		ppb v/v		114	70 - 130
Tetrachloroethene	2.00	2.06		ppb v/v		103	70 - 130
Tetrahydrofuran	2.00	1.97	J	ppb v/v		98	60 - 140
Toluene	2.00	1.88		ppb v/v		94	70 - 130
trans-1,2-Dichloroethene	2.00	1.95		ppb v/v		98	70 - 130
trans-1,3-Dichloropropene	2.00	2.16		ppb v/v		108	70 - 130
Trichloroethene	2.00	2.19		ppb v/v		109	70 - 130
Trichlorofluoromethane	2.00	2.18		ppb v/v		109	60 - 140
Vinyl acetate	2.00	2.03		ppb v/v		101	60 - 140
Vinyl bromide	2.00	1.90		ppb v/v		95	60 - 140
Vinyl chloride	2.00	2.00		ppb v/v		100	70 - 130

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	11	11.2		ug/m3		103	70 - 130
1,1,2,2-Tetrachloroethane	14	14.5		ug/m3		105	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	15	15.1		ug/m3		98	70 - 130
1,1,2-Trichloroethane	11	10.8		ug/m3		99	70 - 130
1,1-Dichloroethane	8.1	7.92		ug/m3		98	70 - 130
1,1-Dichloroethene	7.9	7.60		ug/m3		96	70 - 130
1,2,4-Trichlorobenzene	15	11.0		ug/m3		74	60 - 140
1,2,4-Trimethylbenzene	9.8	9.89		ug/m3		101	70 - 130
1,2-Dibromoethane (EDB)	15	15.7		ug/m3		102	70 - 130
1,2-Dichloro-1,1,2,2-tetrafluoroethane	14	13.4		ug/m3		96	60 - 140

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

Lab Sample ID: LCS 140-31066/1002
Matrix: Air
Analysis Batch: 31066

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichlorobenzene	12	10.9		ug/m3		90	70 - 130
1,2-Dichloroethane	8.1	9.86		ug/m3		122	70 - 130
1,2-Dichloropropane	9.2	9.93		ug/m3		107	70 - 130
1,3,5-Trimethylbenzene	9.8	9.36		ug/m3		95	70 - 130
1,3-Dichlorobenzene	12	10.9		ug/m3		91	70 - 130
1,4-Dichlorobenzene	12	10.7		ug/m3		89	70 - 130
1,4-Dioxane	7.2	7.97		ug/m3		111	60 - 140
2-Butanone (MEK)	5.9	4.94		ug/m3		84	60 - 140
4-Methyl-2-pentanone (MIBK)	8.2	10.0		ug/m3		122	60 - 140
Acetone	14	12.5		ug/m3		88	60 - 140
Benzene	6.4	6.63		ug/m3		104	70 - 130
Benzyl chloride	10	11.7		ug/m3		113	70 - 130
Bromodichloromethane	13	17.5	*	ug/m3		131	70 - 130
Bromoform	21	25.2		ug/m3		122	60 - 140
Bromomethane	7.8	7.56		ug/m3		97	70 - 130
Carbon disulfide	6.2	6.26		ug/m3		101	70 - 130
Carbon tetrachloride	13	17.4	*	ug/m3		138	70 - 130
Chlorobenzene	9.2	8.77		ug/m3		95	70 - 130
Chloroethane	5.3	5.21		ug/m3		99	70 - 130
Chloroform	9.8	10.0		ug/m3		103	70 - 130
Chloromethane	4.1	4.43		ug/m3		107	60 - 140
cis-1,2-Dichloroethene	7.9	7.25		ug/m3		91	70 - 130
cis-1,3-Dichloropropene	9.1	10.4		ug/m3		115	70 - 130
Cyclohexane	6.9	8.48		ug/m3		123	70 - 130
Dibromochloromethane	17	18.5		ug/m3		109	70 - 130
Dichlorodifluoromethane	9.9	10.8		ug/m3		109	60 - 140
Ethylbenzene	8.7	8.73		ug/m3		100	70 - 130
Hexachlorobutadiene	21	15.1		ug/m3		71	60 - 140
Hexane	7.0	7.34		ug/m3		104	70 - 130
Isopropyl alcohol	15	17.5		ug/m3		119	60 - 140
Isopropylbenzene	9.8	9.52		ug/m3		97	70 - 130
Methyl tert-butyl ether	7.2	6.64		ug/m3		92	60 - 140
Methylene Chloride	6.9	5.96		ug/m3		86	70 - 130
m-Xylene & p-Xylene	17	18.0		ug/m3		103	70 - 130
Naphthalene	10	7.26		ug/m3		69	60 - 140
o-Xylene	8.7	8.89		ug/m3		102	70 - 130
Styrene	8.5	9.67		ug/m3		114	70 - 130
Tetrachloroethene	14	13.9		ug/m3		103	70 - 130
Tetrahydrofuran	5.9	5.81	J	ug/m3		98	60 - 140
Toluene	7.5	7.08		ug/m3		94	70 - 130
trans-1,2-Dichloroethene	7.9	7.75		ug/m3		98	70 - 130
trans-1,3-Dichloropropene	9.1	9.80		ug/m3		108	70 - 130
Trichloroethene	11	11.7		ug/m3		109	70 - 130
Trichlorofluoromethane	11	12.3		ug/m3		109	60 - 140
Vinyl acetate	7.0	7.13		ug/m3		101	60 - 140
Vinyl bromide	8.7	8.30		ug/m3		95	60 - 140
Vinyl chloride	5.1	5.12		ug/m3		100	70 - 130

QC Association Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Air - GC/MS VOA

Analysis Batch: 31066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-15765-1	JOHNSON_SUBSLAB_20190624	Total/NA	Air	TO-15	
MB 140-31066/8	Method Blank	Total/NA	Air	TO-15	
LCS 140-31066/1002	Lab Control Sample	Total/NA	Air	TO-15	

Lab Chronicle

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Client Sample ID: JOHNSON_SUBSLAB_20190624

Lab Sample ID: 140-15765-1

Date Collected: 06/24/19 10:22
Date Received: 06/26/19 10:00

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		600	40 mL	500 mL	31066	06/27/19 18:45	S1K	TAL KNX
	Instrument ID: MG									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-31066/8

Date Collected: N/A
Date Received: N/A

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	200 mL	500 mL	31066	06/27/19 15:51	S1K	TAL KNX
	Instrument ID: MG									

Client Sample ID: Lab Control Sample

Lab Sample ID: LCS 140-31066/1002

Date Collected: N/A
Date Received: N/A

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	TO-15		1	500 mL	500 mL	31066	06/27/19 13:31	S1K	TAL KNX
	Instrument ID: MG									

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Laboratory: Eurofins TestAmerica, Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
	AFCEE		N/A	
ANAB	Dept. of Defense ELAP		L2311	02-14-22
ANAB	Dept. of Energy		L2311.01	02-14-22
ANAB	DoD		L2311	02-13-22
ANAB	DOE		L2311.01	02-13-22
Arkansas DEQ	State Program	6	88-0688	06-16-20
California	State Program	9	2423	06-30-19 *
Colorado	State Program	8	TN00009	02-28-20
Connecticut	State Program	1	PH-0223	09-30-19
Florida	NELAP	4	E87177	06-30-20
Georgia	State Program	4	906	04-13-20
Hawaii	State Program	9	N/A	04-13-20
Kansas	NELAP	7	E-10349	10-31-19
Kentucky (DW)	State Program	4	90101	12-31-19
Louisiana	NELAP	6	83979	06-30-20
Louisiana (DW)	NELAP	6	LA160005	12-31-19
Maryland	State Program	3	277	03-31-20
Michigan	State Program	5	9933	04-13-20
Nevada	State Program	9	TN00009	07-31-19
New Hampshire	NELAP	1	2999	01-17-20
New Jersey	NELAP	2	TN001	06-30-20
New York	NELAP	2	10781	03-31-20
North Carolina (DW)	State Program	4	21705	07-31-19
North Carolina (WW/SW)	State Program	4	64	12-31-19
Ohio VAP	State Program	5	CL0059	08-28-20
Oklahoma	State		9415	08-31-19
Oklahoma	State Program	6	9415	08-31-19
Oregon	NELAP	10	TNI0189	01-01-20
Oregon	NELAP		TNI0189	06-30-19
Pennsylvania	NELAP	3	68-00576	12-31-19
Pennsylvania	NELAP		68-00576	12-31-19
Tennessee	State Program	4	2014	04-13-20
Texas	NELAP	6	T104704380-16-9	08-31-19
Texas	NELAP		T104704380-18-12	08-31-19
US Fish & Wildlife	Federal		LE-058448-0	07-31-19
USDA	Federal		P330-16-00262	08-20-19
Utah	NELAP	8	TN00009	07-31-19
Virginia	NELAP	3	460176	09-14-19
Washington	State Program	10	C593	01-19-20
West Virginia (DW)	State Program	3	9955C	12-31-19
West Virginia DEP	State Program	3	345	04-30-20
Wisconsin	State Program	5	998044300	08-31-19

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.

Method Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Method	Method Description	Protocol	Laboratory
TO-15	Volatile Organic Compounds in Ambient Air	EPA	TAL KNX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL KNX = Eurofins TestAmerica, Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 140-15765-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
140-15765-1	JOHNSON_SUBSLAB_20190624	Air	06/24/19 10:22	06/26/19 10:00	Air Canister (6-Liter) #09604

Eurofins TestAmerica, Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Phone 865-291-3000
Fax 865-584-4315

Canister Samples Chain of Custody Record

140-15765 Chain of Custody

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Client Contact Information	**Client Project Manager:** Mitch Evenson	**Samples Collected By:** AMB
Company Name: Cedar Corporation	**Phone:** 715-235-9081	COC No: 1 of 1 COCs
Address: 604 Wilson Ave	**Email:**	
City/State/Zip: Menomonie, WI 54751		**For Lab Use Only:**
Phone: 715-235-9081	**Site Contact:**	Walk-in Client:
FAX:	**Tel/Fax**	Lab Sampling:
Project Name: Johnson Property	**Analysis Turnaround Time**	
Site/Location: New Richmond, WI	Standard (Specific): X	Job / SDG No.:
P O #	Rush (Specifiy):	(See below for Add'l Items)

Sample Identification	Sample Start Date	Time Start	Sample End Date	Time Stop	Canister Vacuum in Field, "Hg (Start)	Canister Vacuum in Field, "Hg (Stop)	Flow Controller ID	Canister ID	TO-14/15 (Standard / Low Level)	TO-15 SIM	EPA 3C	EPA 25C	ASTM D-1946	EPA 15/16	Other (Please specify in notes section)	*Sample Type*	Indoor Air/Ambient Air	Sub-Slab	Soil Gas	Soil Vapor Extraction (SVE)	Landfill Gas	Other (Please specify in notes section)	Sample Specific Notes:
Johnson-Subslab-20190624	6/24/19	0930	6/24/19	1022	-30	-1	12041	09604	X									X					

	Interior	Ambient
Temperature (Fahrenheit)		
Start		
Stop	65 / 65	108/108
Pressure (inches of Hg)		
Start		
Stop	28.7/28.7	28.7/28.7

Received @ ambient, 1 box, Fedex So trk# 8138 6445 5296
Custody seal intact, KW 6/26/19

Special Instructions/QC Requirements & Comments:

Samples Shipped by: Anna Beckman	**Date / Time:** 6/25/19 0800	**Samples Received by:**	1 can 1 flow
Samples Relinquished by: Anna Beckman	**Date / Time:** 6/25/19 0800	**Received by:** [signature] 6/26/19 1000 TA-Knx	
Relinquished by:	**Date / Time:**	**Received by:**	
Lab Use Only: **Shipper Name:**	**Opened by:**	**Condition:**	

Form No. CA-C-WI-003, Rev. 2.13, dated 4/10/2019

Loc: 140
15765

TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST **Log In Number:**

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?	✓			☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID :_____ Correction factor: _____			✓	☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the.COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?	✓			☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:_____			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: 5000 6556 PM Instructions: _____

Sample Receiving Associate: _____ Date: 6/26/19

QA026R31.doc, 112618

TestAmerica Knoxville - Air Canister Initial Pressure Check

Gauge ID: G5
Date: 6/26/2019

Analyst	Sample ID	Asset #	Cleaning Job	Cert	Size (L)	Pressure @ Receipt (-in Hg or +psig)	Time	Comments
HMT	140-15765-A-1	09604	15609	B	6	0.0	17:30	

□ Receiving –Air Can –Calve Open (NCM #___________)
□ Air - Can P -24 to -25 " - Flow Contr. Works (NCM#_________)
□ Air - Can P -24 to -25 " - Flow Contr. Faulty (NCM#_________)
□ Air - Can P Out -26" - Flow Contr. Works (NCM#___________)
□ Air - Can P Out -26" - Flow Contr. Faulty (NCM#___________)
□ Air - Can P Low -24 to -25 " - Grab Sample (NCM#__________)
□ Air - Can P Low -26 "- Grab Sample (NCM#____________)

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-164167-1
Client Project/Site: Johnson Property

For:
Cedar Corporation
604 Wilson Avenue
Menomonie, Wisconsin 54751

Attn: Matt Taylor

Sandie Fredrick

Authorized for release by:
6/10/2019 4:54:55 PM

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

Table of Contents

Case Narrative

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

Job ID: 500-164167-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-164167-1

Comments
No additional comments.

Receipt
The sample was received on 5/29/2019 10:25 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8º C.

GC/MS VOA
The method blank for 488752 contained Styrene above the method detection limit and below the Reporting limit (RL). This target analyte concentration was not detected in the associated samples therefore: the data was reported.

The extraction LCS associated with preparation batch 487789 had several analytes recoveries above control limits. The instrument LCS associated with analytical batch 488721 had all analytes within control limits; therefore re-analysis was not performed. The data have been reported and qualified. SB-1 (1-3) (500-164076-1), SB-1 (4-6) (500-164076-2), SB-2 (2-4) (500-164076-3), SB-2 (6-8) (500-164076-4), SB-3 (2-4) (500-164076-5), SB-3 (8-10) (500-164076-6), SB-4 (2-4) (500-164076-7), SB-4 (6-8) (500-164076-8) and #1 (500-164167-1)

The method blank for 488721 contained Styrene and Naphthalene above the method detection limit and below the Reporting limit (RL). This target analyte concentration was not detected in the associated samples therefore: the data was reported.

The laboratory control sample (LCS) for 488752 recovered outside control limits for the following analyte: Methyl tert-butyl ether. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

The method blank for 488761 contained Styrene and Naphthalene above the method detection limit and below the Reporting limit (RL). This target analyte concentration was not detected in the associated samples therefore: the data was reported.

Methylene chloride was detected in the following sample: #1 (500-164167-1). The method blank associated with this sample was non-detect for Methylene chloride. Methylene chloride is known lab contaminant; therefore all low level detects for this compound should be suspected as 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.

Detection Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

Client Sample ID: #1

Lab Sample ID: 500-164167-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	98	J	280	92	ug/Kg	50	☼	8260B	Total/NA
Toluene	11	J	14	8.3	ug/Kg	50	☼	8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
5035	Closed System Purge and Trap	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: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-164167-1	#1	Solid	05/23/19 13:20	05/29/19 10:25	

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

Client Sample ID: #1
Date Collected: 05/23/19 13:20
Date Received: 05/29/19 10:25

Lab Sample ID: 500-164167-1
Matrix: Solid
Percent Solids: 93.6

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<8.2		14	8.2	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Bromobenzene	<20		56	20	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Bromochloromethane	<24	*	56	24	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Bromodichloromethane	<21	*	56	21	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Bromoform	<27	*	56	27	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Bromomethane	<45		170	45	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
n-Butylbenzene	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
sec-Butylbenzene	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
tert-Butylbenzene	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Carbon tetrachloride	<22	*	56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Chlorobenzene	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Dibromochloromethane	<28	*	56	28	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Chloroethane	<28		56	28	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Chloroform	<21	*	110	21	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Chloromethane	<18		56	18	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
2-Chlorotoluene	<18		56	18	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
4-Chlorotoluene	<20		56	20	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,2-Dibromo-3-Chloropropane	<110		280	110	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,2-Dibromoethane	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Dibromomethane	<15	*	56	15	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,2-Dichlorobenzene	<19		56	19	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,3-Dichlorobenzene	<23		56	23	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,4-Dichlorobenzene	<21		56	21	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Dichlorodifluoromethane	<38		170	38	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,1-Dichloroethane	<23		56	23	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,2-Dichloroethane	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,1-Dichloroethene	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
cis-1,2-Dichloroethene	<23	*	56	23	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
trans-1,2-Dichloroethene	<20		56	20	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,2-Dichloropropane	<24		56	24	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,3-Dichloropropane	<20		56	20	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
2,2-Dichloropropane	<25		56	25	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,1-Dichloropropene	<17		56	17	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
cis-1,3-Dichloropropene	<23		56	23	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
trans-1,3-Dichloropropene	<20		56	20	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Isopropyl ether	<16		56	16	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Ethylbenzene	<10		14	10	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Hexachlorobutadiene	<25		56	25	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Isopropylbenzene	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
p-Isopropyltoluene	<20		56	20	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Methylene Chloride	**98**	**J**	280	92	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Methyl tert-butyl ether	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Naphthalene	<19		56	19	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
N-Propylbenzene	<23		56	23	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Styrene	<22	*	56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,1,1,2-Tetrachloroethane	<26	*	56	26	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,1,2,2-Tetrachloroethane	<22		56	22	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Tetrachloroethene	<21		56	21	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Toluene	**11**	**J**	14	8.3	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

Client Sample ID: #1
Date Collected: 05/23/19 13:20
Date Received: 05/29/19 10:25

Lab Sample ID: 500-164167-1
Matrix: Solid
Percent Solids: 93.6

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<26		56	26	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,2,4-Trichlorobenzene	<19		56	19	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,1,1-Trichloroethane	<21	*	56	21	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,1,2-Trichloroethane	<20		56	20	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Trichloroethene	<9.3	*	28	9.3	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Trichlorofluoromethane	<24		56	24	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,2,3-Trichloropropane	<23		110	23	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,2,4-Trimethylbenzene	<20		56	20	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
1,3,5-Trimethylbenzene	<21		56	21	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Vinyl chloride	<15		56	15	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50
Xylenes, Total	<12		28	12	ug/Kg	☼	05/23/19 13:20	06/05/19 16:15	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*	*05/23/19 13:20*	*06/05/19 16:15*	*50*
Toluene-d8 (Surr)	*88*		*75 - 120*	*05/23/19 13:20*	*06/05/19 16:15*	*50*
4-Bromofluorobenzene (Surr)	*107*		*72 - 124*	*05/23/19 13:20*	*06/05/19 16:15*	*50*
Dibromofluoromethane	*93*		*75 - 120*	*05/23/19 13:20*	*06/05/19 16:15*	*50*

Definitions/Glossary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Reported value was between the limit of detection and the limit of quantitation.

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: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

GC/MS VOA

Prep Batch: 487789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164167-1	#1	Total/NA	Solid	5035	
LB3 500-487789/19-A	Method Blank	Total/NA	Solid	5035	
LCS 500-487789/20-A	Lab Control Sample	Total/NA	Solid	5035	

Analysis Batch: 488721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-488721/7	Method Blank	Total/NA	Solid	8260B	
LCS 500-487789/20-A	Lab Control Sample	Total/NA	Solid	8260B	487789

Analysis Batch: 488752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LB3 500-487789/19-A	Method Blank	Total/NA	Solid	8260B	487789
MB 500-488752/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-488752/4	Lab Control Sample	Total/NA	Solid	8260B	

Analysis Batch: 488761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164167-1	#1	Total/NA	Solid	8260B	487789
MB 500-488761/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-488761/4	Lab Control Sample	Total/NA	Solid	8260B	

General Chemistry

Analysis Batch: 489196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-164167-1	#1	Total/NA	Solid	Moisture	

Surrogate Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

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

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(75-126)	(75-120)	(72-124)	(75-120)
500-164167-1	#1	94	88	107	93
LB3 500-487789/19-A	Method Blank	110	96	101	102
LCS 500-487789/20-A	Lab Control Sample	99	91	86	109
LCS 500-488752/4	Lab Control Sample	106	96	94	106
LCS 500-488761/4	Lab Control Sample	91	90	99	95
MB 500-488721/7	Method Blank	98	93	85	105
MB 500-488752/6	Method Blank	109	96	103	104
MB 500-488761/6	Method Blank	94	87	101	94

Surrogate Legend

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

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

Lab Sample ID: LB3 500-487789/19-A
Matrix: Solid
Analysis Batch: 488752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487789

Analyte	LB3 Result	LB3 Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.3		13	7.3	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Bromobenzene	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Bromochloromethane	<21		50	21	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Bromodichloromethane	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Bromoform	<24		50	24	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Bromomethane	<40		150	40	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
n-Butylbenzene	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
sec-Butylbenzene	<20		50	20	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
tert-Butylbenzene	<20		50	20	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Carbon tetrachloride	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Chlorobenzene	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Dibromochloromethane	<24		50	24	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Chloroethane	<25		50	25	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Chloroform	<19		100	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Chloromethane	<16		50	16	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
2-Chlorotoluene	<16		50	16	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
4-Chlorotoluene	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2-Dibromo-3-Chloropropane	<100		250	100	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2-Dibromoethane	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Dibromomethane	<14		50	14	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Dichlorodifluoromethane	<34		150	34	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,1-Dichloroethane	<21		50	21	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2-Dichloroethane	<20		50	20	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,1-Dichloroethene	<20		50	20	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
cis-1,2-Dichloroethene	<20		50	20	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2-Dichloropropane	<21		50	21	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,3-Dichloropropane	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
2,2-Dichloropropane	<22		50	22	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,1-Dichloropropene	<15		50	15	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Isopropyl ether	<14		50	14	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Ethylbenzene	<9.2		13	9.2	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Hexachlorobutadiene	<22		50	22	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Isopropylbenzene	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
p-Isopropyltoluene	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Methylene Chloride	<82		250	82	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Methyl tert-butyl ether	<20		50	20	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Naphthalene	<17		50	17	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
N-Propylbenzene	<21		50	21	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Styrene	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,1,1,2-Tetrachloroethane	<23		50	23	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,1,2,2-Tetrachloroethane	<20		50	20	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Tetrachloroethene	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50

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

Lab Sample ID: LB3 500-487789/19-A
Matrix: Solid
Analysis Batch: 488752

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 487789

Analyte	LB3 Result	LB3 Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Toluene	<7.4		13	7.4	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,1,2-Trichloroethane	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Trichloroethene	<8.2		25	8.2	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Trichlorofluoromethane	<21		50	21	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2,3-Trichloropropane	<21		100	21	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Vinyl chloride	<13		50	13	ug/Kg		05/30/19 05:50	06/05/19 11:46	50
Xylenes, Total	<11		25	11	ug/Kg		05/30/19 05:50	06/05/19 11:46	50

Surrogate	*LB3 %Recovery*	*LB3 Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*75 - 126*	*05/30/19 05:50*	*06/05/19 11:46*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*05/30/19 05:50*	*06/05/19 11:46*	*50*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*	*05/30/19 05:50*	*06/05/19 11:46*	*50*
Dibromofluoromethane	*102*		*75 - 120*	*05/30/19 05:50*	*06/05/19 11:46*	*50*

Lab Sample ID: LCS 500-487789/20-A
Matrix: Solid
Analysis Batch: 488721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	2500	2940		ug/Kg		118	70 - 120
Bromobenzene	2500	2930		ug/Kg		117	70 - 122
Bromochloromethane	2500	3400	*	ug/Kg		136	65 - 122
Bromodichloromethane	2500	3210	*	ug/Kg		128	69 - 120
Bromoform	2500	3740	*	ug/Kg		150	56 - 132
Bromomethane	2500	2720		ug/Kg		109	40 - 152
n-Butylbenzene	2500	2720		ug/Kg		109	68 - 125
sec-Butylbenzene	2500	2800		ug/Kg		112	70 - 123
tert-Butylbenzene	2500	2710		ug/Kg		108	70 - 121
Carbon tetrachloride	2500	3600	*	ug/Kg		144	59 - 133
Chlorobenzene	2500	2990		ug/Kg		119	70 - 120
Dibromochloromethane	2500	3440	*	ug/Kg		138	68 - 125
Chloroethane	2500	2490		ug/Kg		99	48 - 136
Chloroform	2500	3020	*	ug/Kg		121	70 - 120
Chloromethane	2500	2090		ug/Kg		84	56 - 152
2-Chlorotoluene	2500	2770		ug/Kg		111	70 - 125
4-Chlorotoluene	2500	2760		ug/Kg		110	68 - 124
1,2-Dibromo-3-Chloropropane	2500	2820		ug/Kg		113	56 - 123
1,2-Dibromoethane	2500	2920		ug/Kg		117	70 - 125
Dibromomethane	2500	3100	*	ug/Kg		124	70 - 120
1,2-Dichlorobenzene	2500	2890		ug/Kg		115	70 - 125
1,3-Dichlorobenzene	2500	2880		ug/Kg		115	70 - 125
1,4-Dichlorobenzene	2500	2900		ug/Kg		116	70 - 120
Dichlorodifluoromethane	2500	1570		ug/Kg		63	40 - 159

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

Lab Sample ID: LCS 500-487789/20-A
Matrix: Solid
Analysis Batch: 488721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 487789

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	2500	3000		ug/Kg		120	70 - 125
1,2-Dichloroethane	2500	3070		ug/Kg		123	68 - 127
1,1-Dichloroethene	2500	2980		ug/Kg		119	67 - 122
cis-1,2-Dichloroethene	2500	3170	*	ug/Kg		127	70 - 125
trans-1,2-Dichloroethene	2500	3070		ug/Kg		123	70 - 125
1,2-Dichloropropane	2500	3030		ug/Kg		121	67 - 130
1,3-Dichloropropane	2500	2840		ug/Kg		113	62 - 136
2,2-Dichloropropane	2500	2870		ug/Kg		115	58 - 139
1,1-Dichloropropene	2500	2910		ug/Kg		117	70 - 121
cis-1,3-Dichloropropene	2500	2740		ug/Kg		110	64 - 127
trans-1,3-Dichloropropene	2500	2790		ug/Kg		111	62 - 128
Ethylbenzene	2500	3040		ug/Kg		121	70 - 123
Hexachlorobutadiene	2500	2490		ug/Kg		100	51 - 150
Isopropylbenzene	2500	2790		ug/Kg		112	70 - 126
p-Isopropyltoluene	2500	2740		ug/Kg		109	70 - 125
Methylene Chloride	2500	3050		ug/Kg		122	69 - 125
Methyl tert-butyl ether	2500	2950		ug/Kg		118	55 - 123
Naphthalene	2500	2720		ug/Kg		109	53 - 144
N-Propylbenzene	2500	2750		ug/Kg		110	69 - 127
Styrene	2500	3060	*	ug/Kg		123	70 - 120
1,1,1,2-Tetrachloroethane	2500	3300	*	ug/Kg		132	70 - 125
1,1,2,2-Tetrachloroethane	2500	2680		ug/Kg		107	62 - 140
Tetrachloroethene	2500	3080		ug/Kg		123	70 - 128
Toluene	2500	2790		ug/Kg		112	70 - 125
1,2,3-Trichlorobenzene	2500	2680		ug/Kg		107	51 - 145
1,2,4-Trichlorobenzene	2500	2650		ug/Kg		106	57 - 137
1,1,1-Trichloroethane	2500	3140	*	ug/Kg		126	70 - 125
1,1,2-Trichloroethane	2500	2890		ug/Kg		116	71 - 130
Trichloroethene	2500	3320	*	ug/Kg		133	70 - 125
Trichlorofluoromethane	2500	2930		ug/Kg		117	55 - 128
1,2,3-Trichloropropane	2500	2860		ug/Kg		115	50 - 133
1,2,4-Trimethylbenzene	2500	2740		ug/Kg		110	70 - 123
1,3,5-Trimethylbenzene	2500	2740		ug/Kg		110	70 - 123
Vinyl chloride	2500	2270		ug/Kg		91	64 - 126
Xylenes, Total	5000	5910		ug/Kg		118	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*75 - 126*
Toluene-d8 (Surr)	*91*		*75 - 120*
4-Bromofluorobenzene (Surr)	*86*		*72 - 124*
Dibromofluoromethane	*109*		*75 - 120*

Lab Sample ID: MB 500-488721/7
Matrix: Solid
Analysis Batch: 488721

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			06/05/19 11:12	1

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

Lab Sample ID: MB 500-488721/7
Matrix: Solid
Analysis Batch: 488721

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromobenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:12	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:12	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			06/05/19 11:12	1
Bromoform	<0.48		1.0	0.48	ug/Kg			06/05/19 11:12	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			06/05/19 11:12	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:12	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:12	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:12	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			06/05/19 11:12	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:12	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			06/05/19 11:12	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			06/05/19 11:12	1
Chloroform	<0.37		2.0	0.37	ug/Kg			06/05/19 11:12	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			06/05/19 11:12	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			06/05/19 11:12	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			06/05/19 11:12	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			06/05/19 11:12	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			06/05/19 11:12	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			06/05/19 11:12	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			06/05/19 11:12	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:12	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:12	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			06/05/19 11:12	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			06/05/19 11:12	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			06/05/19 11:12	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:12	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			06/05/19 11:12	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			06/05/19 11:12	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:12	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			06/05/19 11:12	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			06/05/19 11:12	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			06/05/19 11:12	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			06/05/19 11:12	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:12	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			06/05/19 11:12	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			06/05/19 11:12	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			06/05/19 11:12	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			06/05/19 11:12	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:12	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			06/05/19 11:12	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			06/05/19 11:12	1
Naphthalene	0.416	J	1.0	0.33	ug/Kg			06/05/19 11:12	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			06/05/19 11:12	1
Styrene	0.748	J	1.0	0.39	ug/Kg			06/05/19 11:12	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			06/05/19 11:12	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			06/05/19 11:12	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			06/05/19 11:12	1
Toluene	<0.15		0.25	0.15	ug/Kg			06/05/19 11:12	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			06/05/19 11:12	1

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

Lab Sample ID: MB 500-488721/7
Matrix: Solid
Analysis Batch: 488721

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			06/05/19 11:12	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			06/05/19 11:12	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			06/05/19 11:12	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			06/05/19 11:12	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:12	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			06/05/19 11:12	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:12	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			06/05/19 11:12	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			06/05/19 11:12	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			06/05/19 11:12	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*75 - 126*		*06/05/19 11:12*	*1*
Toluene-d8 (Surr)	*93*		*75 - 120*		*06/05/19 11:12*	*1*
4-Bromofluorobenzene (Surr)	*85*		*72 - 124*		*06/05/19 11:12*	*1*
Dibromofluoromethane	*105*		*75 - 120*		*06/05/19 11:12*	*1*

Lab Sample ID: MB 500-488752/6
Matrix: Solid
Analysis Batch: 488752

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			06/05/19 11:19	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:19	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:19	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			06/05/19 11:19	1
Bromoform	<0.48		1.0	0.48	ug/Kg			06/05/19 11:19	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			06/05/19 11:19	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:19	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:19	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:19	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			06/05/19 11:19	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:19	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			06/05/19 11:19	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			06/05/19 11:19	1
Chloroform	<0.37		2.0	0.37	ug/Kg			06/05/19 11:19	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			06/05/19 11:19	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			06/05/19 11:19	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			06/05/19 11:19	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			06/05/19 11:19	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			06/05/19 11:19	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			06/05/19 11:19	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			06/05/19 11:19	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:19	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:19	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			06/05/19 11:19	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			06/05/19 11:19	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			06/05/19 11:19	1

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

Lab Sample ID: MB 500-488752/6
Matrix: Solid
Analysis Batch: 488752

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:19	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			06/05/19 11:19	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			06/05/19 11:19	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:19	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			06/05/19 11:19	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			06/05/19 11:19	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			06/05/19 11:19	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			06/05/19 11:19	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:19	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			06/05/19 11:19	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			06/05/19 11:19	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			06/05/19 11:19	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			06/05/19 11:19	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:19	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			06/05/19 11:19	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			06/05/19 11:19	1
Naphthalene	<0.33		1.0	0.33	ug/Kg			06/05/19 11:19	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			06/05/19 11:19	1
Styrene	0.702	J	1.0	0.39	ug/Kg			06/05/19 11:19	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			06/05/19 11:19	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			06/05/19 11:19	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			06/05/19 11:19	1
Toluene	<0.15		0.25	0.15	ug/Kg			06/05/19 11:19	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			06/05/19 11:19	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			06/05/19 11:19	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			06/05/19 11:19	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			06/05/19 11:19	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			06/05/19 11:19	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:19	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			06/05/19 11:19	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:19	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			06/05/19 11:19	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			06/05/19 11:19	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			06/05/19 11:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*75 - 126*		*06/05/19 11:19*	*1*
Toluene-d8 (Surr)	*96*		*75 - 120*		*06/05/19 11:19*	*1*
4-Bromofluorobenzene (Surr)	*103*		*72 - 124*		*06/05/19 11:19*	*1*
Dibromofluoromethane	*104*		*75 - 120*		*06/05/19 11:19*	*1*

Lab Sample ID: LCS 500-488752/4
Matrix: Solid
Analysis Batch: 488752

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	48.4		ug/Kg		97	70 - 120		
Bromobenzene			50.0	51.0		ug/Kg		102	70 - 122		

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

Lab Sample ID: LCS 500-488752/4
Matrix: Solid
Analysis Batch: 488752

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromochloromethane	50.0	55.9		ug/Kg		112	65 - 122
Bromodichloromethane	50.0	51.2		ug/Kg		102	69 - 120
Bromoform	50.0	51.5		ug/Kg		103	56 - 132
Bromomethane	50.0	53.3		ug/Kg		107	40 - 152
n-Butylbenzene	50.0	48.2		ug/Kg		96	68 - 125
sec-Butylbenzene	50.0	47.3		ug/Kg		95	70 - 123
tert-Butylbenzene	50.0	49.7		ug/Kg		99	70 - 121
Carbon tetrachloride	50.0	55.1		ug/Kg		110	59 - 133
Chlorobenzene	50.0	51.2		ug/Kg		102	70 - 120
Dibromochloromethane	50.0	52.1		ug/Kg		104	68 - 125
Chloroethane	50.0	51.5		ug/Kg		103	48 - 136
Chloroform	50.0	51.2		ug/Kg		102	70 - 120
Chloromethane	50.0	42.3		ug/Kg		85	56 - 152
2-Chlorotoluene	50.0	44.9		ug/Kg		90	70 - 125
4-Chlorotoluene	50.0	44.7		ug/Kg		89	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	38.6		ug/Kg		77	56 - 123
1,2-Dibromoethane	50.0	47.6		ug/Kg		95	70 - 125
Dibromomethane	50.0	49.3		ug/Kg		99	70 - 120
1,2-Dichlorobenzene	50.0	48.0		ug/Kg		96	70 - 125
1,3-Dichlorobenzene	50.0	47.8		ug/Kg		96	70 - 125
1,4-Dichlorobenzene	50.0	47.0		ug/Kg		94	70 - 120
Dichlorodifluoromethane	50.0	47.8		ug/Kg		96	40 - 159
1,1-Dichloroethane	50.0	51.2		ug/Kg		102	70 - 125
1,2-Dichloroethane	50.0	53.7		ug/Kg		107	68 - 127
1,1-Dichloroethene	50.0	50.3		ug/Kg		101	67 - 122
cis-1,2-Dichloroethene	50.0	50.2		ug/Kg		100	70 - 125
trans-1,2-Dichloroethene	50.0	49.9		ug/Kg		100	70 - 125
1,2-Dichloropropane	50.0	50.2		ug/Kg		100	67 - 130
1,3-Dichloropropane	50.0	47.1		ug/Kg		94	62 - 136
2,2-Dichloropropane	50.0	45.9		ug/Kg		92	58 - 139
1,1-Dichloropropene	50.0	51.4		ug/Kg		103	70 - 121
cis-1,3-Dichloropropene	50.0	45.3		ug/Kg		91	64 - 127
trans-1,3-Dichloropropene	50.0	44.5		ug/Kg		89	62 - 128
Ethylbenzene	50.0	48.8		ug/Kg		98	70 - 123
Hexachlorobutadiene	50.0	58.1		ug/Kg		116	51 - 150
Isopropylbenzene	50.0	46.3		ug/Kg		93	70 - 126
p-Isopropyltoluene	50.0	50.1		ug/Kg		100	70 - 125
Methylene Chloride	50.0	48.1		ug/Kg		96	69 - 125
Methyl tert-butyl ether	50.0	64.5	*	ug/Kg		129	55 - 123
Naphthalene	50.0	51.0		ug/Kg		102	53 - 144
N-Propylbenzene	50.0	46.1		ug/Kg		92	69 - 127
Styrene	50.0	52.0		ug/Kg		104	70 - 120
1,1,1,2-Tetrachloroethane	50.0	51.5		ug/Kg		103	70 - 125
1,1,2,2-Tetrachloroethane	50.0	39.2		ug/Kg		78	62 - 140
Tetrachloroethene	50.0	57.3		ug/Kg		115	70 - 128
Toluene	50.0	44.5		ug/Kg		89	70 - 125
1,2,3-Trichlorobenzene	50.0	54.0		ug/Kg		108	51 - 145
1,2,4-Trichlorobenzene	50.0	52.6		ug/Kg		105	57 - 137
1,1,1-Trichloroethane	50.0	53.2		ug/Kg		106	70 - 125

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

Lab Sample ID: LCS 500-488752/4
Matrix: Solid
Analysis Batch: 488752

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	50.0	46.2		ug/Kg		92	71 - 130
Trichloroethene	50.0	55.5		ug/Kg		111	70 - 125
Trichlorofluoromethane	50.0	52.9		ug/Kg		106	55 - 128
1,2,3-Trichloropropane	50.0	41.8		ug/Kg		84	50 - 133
1,2,4-Trimethylbenzene	50.0	46.5		ug/Kg		93	70 - 123
1,3,5-Trimethylbenzene	50.0	46.8		ug/Kg		94	70 - 123
Vinyl chloride	50.0	45.6		ug/Kg		91	64 - 126
Xylenes, Total	100	98.8		ug/Kg		99	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*
Toluene-d8 (Surr)	*96*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*106*		*75 - 120*

Lab Sample ID: MB 500-488761/6
Matrix: Solid
Analysis Batch: 488761

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<0.15		0.25	0.15	ug/Kg			06/05/19 11:11	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:11	1
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:11	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			06/05/19 11:11	1
Bromoform	<0.48		1.0	0.48	ug/Kg			06/05/19 11:11	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			06/05/19 11:11	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:11	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:11	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:11	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			06/05/19 11:11	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:11	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			06/05/19 11:11	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			06/05/19 11:11	1
Chloroform	<0.37		2.0	0.37	ug/Kg			06/05/19 11:11	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			06/05/19 11:11	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			06/05/19 11:11	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			06/05/19 11:11	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			06/05/19 11:11	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			06/05/19 11:11	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			06/05/19 11:11	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			06/05/19 11:11	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			06/05/19 11:11	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:11	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			06/05/19 11:11	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			06/05/19 11:11	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			06/05/19 11:11	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			06/05/19 11:11	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			06/05/19 11:11	1

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

Lab Sample ID: MB 500-488761/6
Matrix: Solid
Analysis Batch: 488761

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			06/05/19 11:11	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:11	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			06/05/19 11:11	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			06/05/19 11:11	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			06/05/19 11:11	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			06/05/19 11:11	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:11	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			06/05/19 11:11	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			06/05/19 11:11	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			06/05/19 11:11	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			06/05/19 11:11	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:11	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			06/05/19 11:11	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			06/05/19 11:11	1
Naphthalene	0.526	J	1.0	0.33	ug/Kg			06/05/19 11:11	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			06/05/19 11:11	1
Styrene	0.699	J	1.0	0.39	ug/Kg			06/05/19 11:11	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			06/05/19 11:11	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			06/05/19 11:11	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			06/05/19 11:11	1
Toluene	<0.15		0.25	0.15	ug/Kg			06/05/19 11:11	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			06/05/19 11:11	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			06/05/19 11:11	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			06/05/19 11:11	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			06/05/19 11:11	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			06/05/19 11:11	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			06/05/19 11:11	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			06/05/19 11:11	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			06/05/19 11:11	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			06/05/19 11:11	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			06/05/19 11:11	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			06/05/19 11:11	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*75 - 126*		*06/05/19 11:11*	*1*
Toluene-d8 (Surr)	*87*		*75 - 120*		*06/05/19 11:11*	*1*
4-Bromofluorobenzene (Surr)	*101*		*72 - 124*		*06/05/19 11:11*	*1*
Dibromofluoromethane	*94*		*75 - 120*		*06/05/19 11:11*	*1*

Lab Sample ID: LCS 500-488761/4
Matrix: Solid
Analysis Batch: 488761

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	42.4		ug/Kg		85	70 - 120
Bromobenzene	50.0	46.5		ug/Kg		93	70 - 122
Bromochloromethane	50.0	47.4		ug/Kg		95	65 - 122
Bromodichloromethane	50.0	41.1		ug/Kg		82	69 - 120

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

Lab Sample ID: LCS 500-488761/4
Matrix: Solid
Analysis Batch: 488761

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromoform	50.0	41.5		ug/Kg		83	56 - 132
Bromomethane	50.0	32.4		ug/Kg		65	40 - 152
n-Butylbenzene	50.0	41.3		ug/Kg		83	68 - 125
sec-Butylbenzene	50.0	43.6		ug/Kg		87	70 - 123
tert-Butylbenzene	50.0	45.8		ug/Kg		92	70 - 121
Carbon tetrachloride	50.0	43.1		ug/Kg		86	59 - 133
Chlorobenzene	50.0	44.6		ug/Kg		89	70 - 120
Dibromochloromethane	50.0	41.6		ug/Kg		83	68 - 125
Chloroethane	50.0	28.7		ug/Kg		57	48 - 136
Chloroform	50.0	41.8		ug/Kg		84	70 - 120
Chloromethane	50.0	48.3		ug/Kg		97	56 - 152
2-Chlorotoluene	50.0	43.5		ug/Kg		87	70 - 125
4-Chlorotoluene	50.0	43.6		ug/Kg		87	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	36.8		ug/Kg		74	56 - 123
1,2-Dibromoethane	50.0	44.4		ug/Kg		89	70 - 125
Dibromomethane	50.0	44.0		ug/Kg		88	70 - 120
1,2-Dichlorobenzene	50.0	45.1		ug/Kg		90	70 - 125
1,3-Dichlorobenzene	50.0	45.3		ug/Kg		91	70 - 125
1,4-Dichlorobenzene	50.0	45.9		ug/Kg		92	70 - 120
Dichlorodifluoromethane	50.0	43.4		ug/Kg		87	40 - 159
1,1-Dichloroethane	50.0	44.6		ug/Kg		89	70 - 125
1,2-Dichloroethane	50.0	40.3		ug/Kg		81	68 - 127
1,1-Dichloroethene	50.0	41.9		ug/Kg		84	67 - 122
cis-1,2-Dichloroethene	50.0	44.1		ug/Kg		88	70 - 125
trans-1,2-Dichloroethene	50.0	43.4		ug/Kg		87	70 - 125
1,2-Dichloropropane	50.0	47.6		ug/Kg		95	67 - 130
1,3-Dichloropropane	50.0	42.3		ug/Kg		85	62 - 136
2,2-Dichloropropane	50.0	43.2		ug/Kg		86	58 - 139
1,1-Dichloropropene	50.0	43.1		ug/Kg		86	70 - 121
cis-1,3-Dichloropropene	50.0	41.6		ug/Kg		83	64 - 127
trans-1,3-Dichloropropene	50.0	40.8		ug/Kg		82	62 - 128
Ethylbenzene	50.0	42.8		ug/Kg		86	70 - 123
Hexachlorobutadiene	50.0	41.1		ug/Kg		82	51 - 150
Isopropylbenzene	50.0	45.2		ug/Kg		90	70 - 126
p-Isopropyltoluene	50.0	45.6		ug/Kg		91	70 - 125
Methylene Chloride	50.0	42.6		ug/Kg		85	69 - 125
Methyl tert-butyl ether	50.0	41.2		ug/Kg		82	55 - 123
Naphthalene	50.0	47.9		ug/Kg		96	53 - 144
N-Propylbenzene	50.0	44.3		ug/Kg		89	69 - 127
Styrene	50.0	46.7		ug/Kg		93	70 - 120
1,1,1,2-Tetrachloroethane	50.0	42.5		ug/Kg		85	70 - 125
1,1,2,2-Tetrachloroethane	50.0	40.7		ug/Kg		81	62 - 140
Tetrachloroethene	50.0	46.8		ug/Kg		94	70 - 128
Toluene	50.0	42.8		ug/Kg		86	70 - 125
1,2,3-Trichlorobenzene	50.0	50.1		ug/Kg		100	51 - 145
1,2,4-Trichlorobenzene	50.0	48.8		ug/Kg		98	57 - 137
1,1,1-Trichloroethane	50.0	45.2		ug/Kg		90	70 - 125
1,1,2-Trichloroethane	50.0	43.0		ug/Kg		86	71 - 130
Trichloroethene	50.0	47.5		ug/Kg		95	70 - 125

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

Lab Sample ID: LCS 500-488761/4
Matrix: Solid
Analysis Batch: 488761

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Trichlorofluoromethane	50.0	41.7		ug/Kg		83	55 - 128
1,2,3-Trichloropropane	50.0	42.8		ug/Kg		86	50 - 133
1,2,4-Trimethylbenzene	50.0	44.8		ug/Kg		90	70 - 123
1,3,5-Trimethylbenzene	50.0	44.9		ug/Kg		90	70 - 123
Vinyl chloride	50.0	41.2		ug/Kg		82	64 - 126
Xylenes, Total	100	86.9		ug/Kg		87	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 126*
Toluene-d8 (Surr)	*90*		*75 - 120*
4-Bromofluorobenzene (Surr)	*99*		*72 - 124*
Dibromofluoromethane	*95*		*75 - 120*

Lab Chronicle

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

Client Sample ID: #1
Date Collected: 05/23/19 13:20
Date Received: 05/29/19 10:25

Lab Sample ID: 500-164167-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	489196	06/07/19 10:55	LWN	TAL CHI

Client Sample ID: #1
Date Collected: 05/23/19 13:20
Date Received: 05/29/19 10:25

Lab Sample ID: 500-164167-1
Matrix: Solid
Percent Solids: 93.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			487789	05/23/19 13:20	WRE	TAL CHI
Total/NA	Analysis	8260B		50	488761	06/05/19 16:15	JLC	TAL CHI

Laboratory References:

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

Accreditation/Certification Summary

Client: Cedar Corporation
Project/Site: Johnson Property

Job ID: 500-164167-1

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

Report To (optional)
Contact:
Company:
Address:
Address:
Phone:
Fax:
E-Mail:

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

Chain of Custody Record

Lab Job #: 500-164167
Chain of Custody Number:
Page ___ of ___
Temperature °C of Cooler: 1.8

Client: Cedar Corp.
Client Project #:
Project Name: Johnson Property
Project Location/State: New Richmond/WI
Lab Project #:
Sampler: Matt Taylor
Lab PM:

500-164167 COC

Lab ID	MS/MSD	Sample ID	Sampling Date	Sampling Time	# of Containers	Matrix	VOC (Preservative / Parameter)									Comments
1		#1	5/23	1320	2	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 X 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
M. Taylor	Cedar	5/28/19	0730	Paula Buckley	TACHI	5/29/19	1025

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:

TAL-4124-500 (1208)

Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-164167-1

Login Number: 164167
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	1.8
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").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	