Cedar corporation

engineering | architecture | environmental | surveying
landscape architecture | planning | economic development

604 Wilson Avenue
Menomonie, WI 54751
715-235-9081
800-472-7372
FAX 715-235-2727
www.cedarcorp.com

October 1, 2019

Mr. Phil Richard
WDNR
875 South Fourth Avenue
Park Falls, WI 54552-1130

SUBJECT: Former Penta Wood Products – Siren, WI

Dear Mr. Richard,

On August 21, 2019, Cedar Corporation conducted field work at the former Penta Wood Products site at 8682 Daniels 70 in rural Siren, WI to remove two suspected underground storage tanks (Figure 1). Personnel on site during the field work included Cedar Corporation (Matt Taylor), WDNR (Phil Richard), Advanced Tank Service (Justin Peloquin - Certified Tank Remover/cleaner), and Hopkins Sand & Gravel (excavator).

Upon arrival, the excavator began removing overburden along the west end of the suspected UST location. It was quickly determined the suspected tank was a dry well typical of older septic systems. The east end of the suspected tank was similarly a dry well type structure. Typical sanitation piping was noted to run between the two structures. Both structures were buried approximately 1-2 feet and extended approximately 6 feet to their open bottoms. No staining or odors indicative of a release were observed in soils beneath either structure. Photos of the two structures and post restoration are attached. As the work determined no underground storage tank was present, the two structures were knocked in and backfilled by the excavator following collection of soil samples.

In order to document that no illicit discharges into the septic systems had occurred, soil samples were collected from the base of each dry well for laboratory analysis of Volatile Organic Compounds + Pentachloro Phenol, Polynuclear Aromatic Hydrocarbons, and Diesel Range Organics. The samples collected were immediately placed in laboratory supplied sampling containers and placed on ice. The samples were shipped on ice to Europhins Test America's facility in University Park, IL for analysis.

The lab reported detection of Diesel Range Organics in the ES (east sump) and WS (west sump) samples at 2.7 and 1.3 mg/Kg, respectively. Both results were "J" flagged as being reported between the laboratory's limit of detection and the limit of quantitation. All

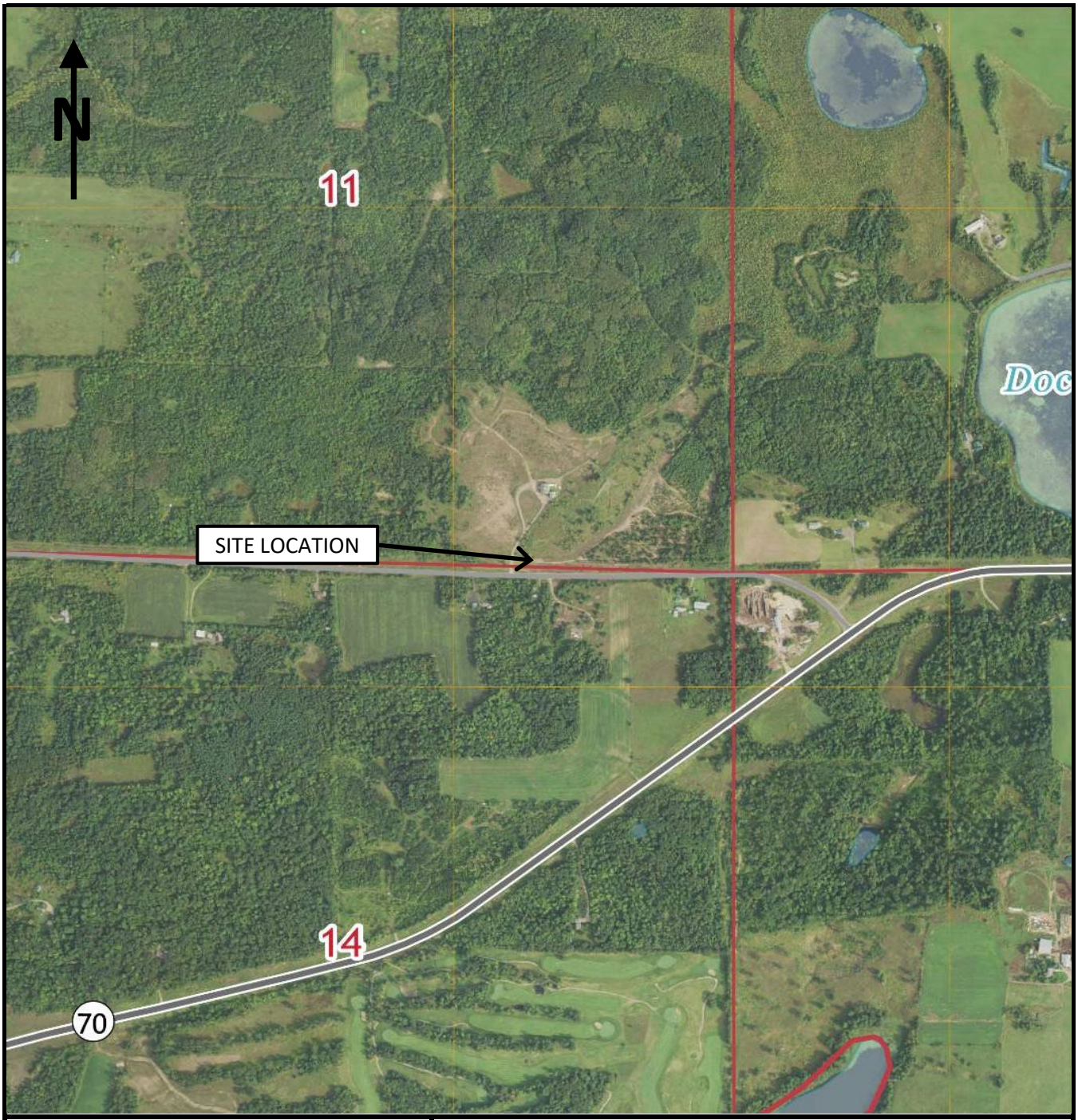
other compounds were reported to have no detections. A complete copy of the laboratory report is attached.

If there are any questions regarding this report please feel free to contact me at your convenience.

Sincerely;
CEDAR CORPORATION

Matthew A. Taylor, P.G.
Hydrogeologist

Att.



LEGEND

SIREN WEST, WI
USGS TOPOGRAPHIC QUADRANGLE
7.5 MINUTE SERIES, 2018

CONTOUR INTERVAL = 10
SE 1/4 OF THE SE 1/4 SECTION 11,
TOWNSHIP 38 N, RANGE 17 W,
BURNETT COUNTY, WI

Cedar corporation
604 Wilson Avenue
Menomonie, WI 54751
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SOURCE	SITE LOCATION MAP	DRAWN BY
USGS	Former Penta Wood Products 8682 Daniels 70 Siren, WI	MAT
DATE		JOB NO.
10/19		W0590-0007
SCALE		FIGURE
1"=1000'		1

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
WI Department of Natural Resources	Former Penta Wood Products, 8682 Daniels 70, Siren, WI	W0590-0007

Photo No.	Date:
1	8/21/19

Direction Photo Taken:

Description:

Looking into west dry well.

Photo No.	Date:
2	8/21/19

Direction Photo Taken:

Description:

Looking into east dry well.

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
WI Department of Natural Resources	Former Penta Wood Products, 8682 Daniels 70, Siren, WI	W0590-0007

Photo No.	Date:
3	8/21/19

Direction Photo Taken:

Description:

Excavation along side of east dry well. .

Photo No.	Date:
4	8/21/19

Direction Photo Taken:

Description:

Pipe running between east and west dry wells.

PHOTOGRAPH LOG

Client Name:	Site Location:	Project No.
WI Department of Natural Resources	Former Penta Wood Products, 8682 Daniels 70, Siren, WI	W0590-0007

Photo No.	Date:
5	8/21/19

Direction Photo Taken:

Description:

Post restoration of area looking easterly with Daniels 70 to right side of photo.

Photo No.	Date:

Direction Photo Taken:

Description:

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 500-168860-1
Client Project/Site: Penta Wood

For:
Cedar Corporation
604 Wilson Avenue
Menomonie, Wisconsin 54751

Attn: Mitch Evenson

Authorized for release by:
9/9/2019 11:49:40 AM

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

Table of Contents

Job ID: 500-168860-1

Laboratory: Eurofins TestAmerica, Chicago

Narrative

Job Narrative
500-168860-1

Comments
No additional comments.

Receipt
The samples were received on 8/23/2019 8:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2º C.

GC/MS VOA
Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 501998 and 501999 recovered above the upper control limit for Bromoform. The samples associated with this CCV were non-detects for the affected analyte; therefore, the data have been reported. The following samples are impacted: ES (500-168860-1), WS (500-168860-2), TRIP BLANK (500-168860-3), (CCVIS 500-501998/7) and (CCVIS 500-501999/7).

Methylene chloride was detected in the following sample: TRIP BLANK (500-168860-3). 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.

traction LCS associated with preparation batch 501507 had several analytes recoveries above control limits. The instrument LCS associated with analytical batch 501589 had all analytes within control limits; therefore re-analysis was not performed. The data have been reported and qualified. ES (500-168860-1) and WS (500-168860-2)

The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 501998 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recoveries for Bromoform and 1,2-Dibromo-3-chloropropane were outside limit and all the other analytes were within acceptance limits.

The method blank for 501998 and 501999 contained Naphthalene above the method detection limit and below the Reporting limit (RL). This target analyte concentration were detected in the associated samples; therefore, re-analysis of samples was not performed. Naphthalene results have been flagged in the associated samples with a "B" flag denote the presence in the blank and possible lab contamination.

The laboratory control sample (LCS) for 501998 and 501999 recovered outside control limits for the following analytes: Bromoform and 1,2-Dibromo-3-chloropropane. These analytes were biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

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

GC/MS Semi VOA
Method(s) 8270D: The continuing calibration verification (CCVIS) analyzed in batch 500-503437 was outside the method criteria for Pentachlorophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte is considered estimated.

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

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

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

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

Detection Summary

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

Client Sample ID: ES — Lab Sample ID: 500-168860-1

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	2.7	J	3.5	1.4	mg/Kg	1	☼	WI-DRO	Total/NA

Client Sample ID: WS — Lab Sample ID: 500-168860-2

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
WI Diesel Range Organics (C10-C28)	1.3	J	3.1	1.2	mg/Kg	1	☼	WI-DRO	Total/NA

Client Sample ID: TRIP BLANK — Lab Sample ID: 500-168860-3

Analyte	Result	Qualifier	LOQ	DL	Unit	Dil Fac	D	Method	Prep Type
Methylene Chloride	3.3	J	5.0	1.6	ug/L	1		8260B	Total/NA
Naphthalene	0.41	J B	1.0	0.34	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
8270D	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CHI
WI-DRO	Wisconsin - Diesel Range Organics (GC)	WI-DRO	TAL CHI
Moisture	Percent Moisture	EPA	TAL CHI
3541	Automated Soxhlet Extraction	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI
5035	Closed System Purge and Trap	SW846	TAL CHI
WI DRO PREP	Wisconsin Extraction (Diesel Range Organics)	WI-DRO	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.

WI-DRO = "Modified DRO: Method For Determining Diesel Range Organics", Wisconsin DNR, Publ-SW-141, September, 1995.

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: Penta Wood

Job ID: 500-168860-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
500-168860-1	ES	Solid	08/21/19 13:30	08/23/19 08:45	
500-168860-2	WS	Solid	08/21/19 13:00	08/23/19 08:45	
500-168860-3	TRIP BLANK	Water	08/21/19 00:00	08/23/19 08:45	

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

Client Sample ID: ES
Date Collected: 08/21/19 13:30
Date Received: 08/23/19 08:45

Lab Sample ID: 500-168860-1
Matrix: Solid
Percent Solids: 97.1

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.2	*	12	7.2	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Bromobenzene	<18	*	49	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Bromochloromethane	<21		49	21	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Bromodichloromethane	<18	*	49	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Bromoform	<24	* ^c	49	24	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Bromomethane	<39		150	39	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
n-Butylbenzene	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
sec-Butylbenzene	<20		49	20	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
tert-Butylbenzene	<20		49	20	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Carbon tetrachloride	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Chlorobenzene	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Dibromochloromethane	<24		49	24	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Chloroethane	<25		49	25	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Chloroform	<18	*	99	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Chloromethane	<16		49	16	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
2-Chlorotoluene	<15		49	15	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
4-Chlorotoluene	<17		49	17	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,2-Dibromo-3-Chloropropane	<98	*	250	98	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,2-Dibromoethane	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Dibromomethane	<13	*	49	13	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,2-Dichlorobenzene	<16		49	16	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,3-Dichlorobenzene	<20		49	20	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,4-Dichlorobenzene	<18		49	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Dichlorodifluoromethane	<33		150	33	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,1-Dichloroethane	<20		49	20	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,2-Dichloroethane	<19	*	49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,1-Dichloroethene	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
cis-1,2-Dichloroethene	<20		49	20	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
trans-1,2-Dichloroethene	<17		49	17	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,2-Dichloropropane	<21		49	21	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,3-Dichloropropane	<18		49	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
2,2-Dichloropropane	<22		49	22	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,1-Dichloropropene	<15		49	15	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
cis-1,3-Dichloropropene	<21		49	21	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
trans-1,3-Dichloropropene	<18		49	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Isopropyl ether	<14		49	14	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Ethylbenzene	<9.0		12	9.0	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Hexachlorobutadiene	<22		49	22	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Isopropylbenzene	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
p-Isopropyltoluene	<18		49	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Methylene Chloride	<80		250	80	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Methyl tert-butyl ether	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Naphthalene	<16		49	16	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
N-Propylbenzene	<20		49	20	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Styrene	<19	*	49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,1,1,2-Tetrachloroethane	<23		49	23	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,1,2,2-Tetrachloroethane	<20		49	20	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Tetrachloroethene	<18		49	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Toluene	<7.3		12	7.3	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

Client Sample ID: ES
Date Collected: 08/21/19 13:30
Date Received: 08/23/19 08:45

Lab Sample ID: 500-168860-1
Matrix: Solid
Percent Solids: 97.1

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichlorobenzene	<23		49	23	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,2,4-Trichlorobenzene	<17		49	17	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,1,1-Trichloroethane	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,1,2-Trichloroethane	<17		49	17	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Trichloroethene	<8.1		25	8.1	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Trichlorofluoromethane	<21		49	21	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,2,3-Trichloropropane	<20		99	20	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,2,4-Trimethylbenzene	<18		49	18	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
1,3,5-Trimethylbenzene	<19		49	19	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Vinyl chloride	<13		49	13	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50
Xylenes, Total	<11		25	11	ug/Kg	☼	08/21/19 13:30	08/28/19 17:21	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 126*	*08/21/19 13:30*	*08/28/19 17:21*	*50*
Toluene-d8 (Surr)	*94*		*75 - 120*	*08/21/19 13:30*	*08/28/19 17:21*	*50*
4-Bromofluorobenzene (Surr)	*92*		*72 - 124*	*08/21/19 13:30*	*08/28/19 17:21*	*50*
Dibromofluoromethane	*107*		*75 - 120*	*08/21/19 13:30*	*08/28/19 17:21*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.0		66	8.0	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
2-Methylnaphthalene	<6.0		66	6.0	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Acenaphthene	<5.9		32	5.9	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Acenaphthylene	<4.3		32	4.3	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Anthracene	<5.5		32	5.5	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Benzo[a]anthracene	<4.4		32	4.4	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Benzo[a]pyrene	<6.3		32	6.3	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Benzo[b]fluoranthene	<7.0		32	7.0	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Benzo[g,h,i]perylene	<11		32	11	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Benzo[k]fluoranthene	<9.6		32	9.6	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Chrysene	<8.9		32	8.9	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Dibenz(a,h)anthracene	<6.3		32	6.3	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Fluoranthene	<6.1		32	6.1	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Fluorene	<4.6		32	4.6	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Indeno[1,2,3-cd]pyrene	<8.5		32	8.5	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Naphthalene	<5.0		32	5.0	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Pentachlorophenol	<520	^c	660	520	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Phenanthrene	<4.5		32	4.5	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1
Pyrene	<6.5		32	6.5	ug/Kg	☼	09/04/19 08:18	09/06/19 01:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*73*		*31 - 143*	*09/04/19 08:18*	*09/06/19 01:55*	*1*
2-Fluorobiphenyl (Surr)	*78*		*43 - 145*	*09/04/19 08:18*	*09/06/19 01:55*	*1*
2-Fluorophenol (Surr)	*77*		*31 - 166*	*09/04/19 08:18*	*09/06/19 01:55*	*1*
Nitrobenzene-d5 (Surr)	*66*		*37 - 147*	*09/04/19 08:18*	*09/06/19 01:55*	*1*
Phenol-d5 (Surr)	*65*		*30 - 153*	*09/04/19 08:18*	*09/06/19 01:55*	*1*
Terphenyl-d14 (Surr)	*88*		*42 - 157*	*09/04/19 08:18*	*09/06/19 01:55*	*1*

Client Sample ID: ES

Lab Sample ID: 500-168860-1

Date Collected: 08/21/19 13:30
Matrix: Solid
Date Received: 08/23/19 08:45
Percent Solids: 97.1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	2.7	J	3.5	1.4	mg/Kg	☼	08/28/19 10:17	08/28/19 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*71*		*44 - 148*	*08/28/19 10:17*	*08/28/19 17:14*	*1*

Client Sample ID: WS

Lab Sample ID: 500-168860-2

Date Collected: 08/21/19 13:00
Matrix: Solid
Date Received: 08/23/19 08:45
Percent Solids: 95.5

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	<7.3	*	13	7.3	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Bromobenzene	<18	* F1	50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Bromochloromethane	<21	F1	50	21	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Bromodichloromethane	<19	* F1	50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Bromoform	<24	* ^c F1	50	24	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Bromomethane	<40		150	40	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
n-Butylbenzene	<19		50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
sec-Butylbenzene	<20		50	20	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
tert-Butylbenzene	<20		50	20	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Carbon tetrachloride	<19		50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Chlorobenzene	<19		50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Dibromochloromethane	<24	F1	50	24	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Chloroethane	<25		50	25	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Chloroform	<19	* F1	100	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Chloromethane	<16		50	16	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
2-Chlorotoluene	<16		50	16	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
4-Chlorotoluene	<18		50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2-Dibromo-3-Chloropropane	<100	* F1	250	100	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2-Dibromoethane	<19	F1	50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Dibromomethane	<14	* F1	50	14	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2-Dichlorobenzene	<17		50	17	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,3-Dichlorobenzene	<20		50	20	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,4-Dichlorobenzene	<18		50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Dichlorodifluoromethane	<34		150	34	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,1-Dichloroethane	<21		50	21	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2-Dichloroethane	<20	*	50	20	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,1-Dichloroethene	<20		50	20	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
cis-1,2-Dichloroethene	<20	F1	50	20	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
trans-1,2-Dichloroethene	<18		50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2-Dichloropropane	<21		50	21	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,3-Dichloropropane	<18		50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
2,2-Dichloropropane	<22		50	22	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,1-Dichloropropene	<15		50	15	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
cis-1,3-Dichloropropene	<21		50	21	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
trans-1,3-Dichloropropene	<18		50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Isopropyl ether	<14		50	14	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Ethylbenzene	<9.2		13	9.2	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Hexachlorobutadiene	<22		50	22	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50

Client Sample ID: WS
Date Collected: 08/21/19 13:00
Date Received: 08/23/19 08:45

Lab Sample ID: 500-168860-2
Matrix: Solid
Percent Solids: 95.5

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	<19		50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
p-Isopropyltoluene	<18		50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Methylene Chloride	<82	F1	250	82	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Methyl tert-butyl ether	<20	F1	50	20	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Naphthalene	<17		50	17	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
N-Propylbenzene	<21		50	21	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Styrene	<19	*	50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,1,1,2-Tetrachloroethane	<23	F1	50	23	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,1,2,2-Tetrachloroethane	<20	F1	50	20	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Tetrachloroethene	<19		50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Toluene	<7.4		13	7.4	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2,3-Trichlorobenzene	<23		50	23	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2,4-Trichlorobenzene	<17		50	17	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,1,1-Trichloroethane	<19		50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,1,2-Trichloroethane	<18	F1	50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Trichloroethene	<8.2		25	8.2	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Trichlorofluoromethane	<21		50	21	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2,3-Trichloropropane	<21	F1	100	21	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,2,4-Trimethylbenzene	<18		50	18	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
1,3,5-Trimethylbenzene	<19		50	19	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Vinyl chloride	<13		50	13	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50
Xylenes, Total	<11		25	11	ug/Kg	☼	08/21/19 13:00	08/28/19 17:48	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*75 - 126*	*08/21/19 13:00*	*08/28/19 17:48*	*50*
Toluene-d8 (Surr)	*96*		*75 - 120*	*08/21/19 13:00*	*08/28/19 17:48*	*50*
4-Bromofluorobenzene (Surr)	*95*		*72 - 124*	*08/21/19 13:00*	*08/28/19 17:48*	*50*
Dibromofluoromethane	*105*		*75 - 120*	*08/21/19 13:00*	*08/28/19 17:48*	*50*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.1		67	8.1	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
2-Methylnaphthalene	<6.1		67	6.1	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Acenaphthene	<6.0		33	6.0	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Acenaphthylene	<4.4		33	4.4	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Anthracene	<5.6		33	5.6	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Benzo[a]anthracene	<4.5		33	4.5	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Benzo[a]pyrene	<6.5		33	6.5	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Benzo[b]fluoranthene	<7.2		33	7.2	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Benzo[g,h,i]perylene	<11		33	11	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Benzo[k]fluoranthene	<9.8		33	9.8	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Chrysene	<9.1		33	9.1	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Dibenz(a,h)anthracene	<6.4		33	6.4	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Fluoranthene	<6.2		33	6.2	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Fluorene	<4.7		33	4.7	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Indeno[1,2,3-cd]pyrene	<8.6		33	8.6	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Naphthalene	<5.1		33	5.1	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Pentachlorophenol	<530	^c	670	530	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Phenanthrene	<4.6		33	4.6	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1
Pyrene	<6.6		33	6.6	ug/Kg	☼	09/04/19 08:18	09/06/19 02:23	1

Client Sample ID: WS

Lab Sample ID: 500-168860-2

Date Collected: 08/21/19 13:00
Matrix: Solid
Date Received: 08/23/19 08:45
Percent Solids: 95.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol (Surr)	51		31 - 143	09/04/19 08:18	09/06/19 02:23	1
2-Fluorobiphenyl (Surr)	73		43 - 145	09/04/19 08:18	09/06/19 02:23	1
2-Fluorophenol (Surr)	69		31 - 166	09/04/19 08:18	09/06/19 02:23	1
Nitrobenzene-d5 (Surr)	63		37 - 147	09/04/19 08:18	09/06/19 02:23	1
Phenol-d5 (Surr)	58		30 - 153	09/04/19 08:18	09/06/19 02:23	1
Terphenyl-d14 (Surr)	83		42 - 157	09/04/19 08:18	09/06/19 02:23	1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	1.3	J	3.1	1.2	mg/Kg	☼	08/28/19 10:17	08/28/19 17:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Nonane	68		44 - 148	08/28/19 10:17	08/28/19 17:40	1

Client Sample ID: TRIP BLANK

Lab Sample ID: 500-168860-3

Date Collected: 08/21/19 00:00
Matrix: Water
Date Received: 08/23/19 08:45

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			08/28/19 11:30	1
Bromobenzene	<0.36		1.0	0.36	ug/L			08/28/19 11:30	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			08/28/19 11:30	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			08/28/19 11:30	1
Bromoform	<0.48	* ^c	1.0	0.48	ug/L			08/28/19 11:30	1
Bromomethane	<0.80		3.0	0.80	ug/L			08/28/19 11:30	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			08/28/19 11:30	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			08/28/19 11:30	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			08/28/19 11:30	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			08/28/19 11:30	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			08/28/19 11:30	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			08/28/19 11:30	1
Chloroethane	<0.51		1.0	0.51	ug/L			08/28/19 11:30	1
Chloroform	<0.37		2.0	0.37	ug/L			08/28/19 11:30	1
Chloromethane	<0.32		1.0	0.32	ug/L			08/28/19 11:30	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			08/28/19 11:30	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			08/28/19 11:30	1
1,2-Dibromo-3-Chloropropane	<2.0	*	5.0	2.0	ug/L			08/28/19 11:30	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			08/28/19 11:30	1
Dibromomethane	<0.27		1.0	0.27	ug/L			08/28/19 11:30	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			08/28/19 11:30	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			08/28/19 11:30	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			08/28/19 11:30	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			08/28/19 11:30	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			08/28/19 11:30	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			08/28/19 11:30	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			08/28/19 11:30	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			08/28/19 11:30	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			08/28/19 11:30	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			08/28/19 11:30	1

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

Client Sample ID: TRIP BLANK

Date Collected: 08/21/19 00:00
Date Received: 08/23/19 08:45

Lab Sample ID: 500-168860-3

Matrix: Water

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

Analyte	Result	Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			08/28/19 11:30	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			08/28/19 11:30	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			08/28/19 11:30	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			08/28/19 11:30	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			08/28/19 11:30	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			08/28/19 11:30	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			08/28/19 11:30	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			08/28/19 11:30	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			08/28/19 11:30	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			08/28/19 11:30	1
Methylene Chloride	**3.3**	**J**	5.0	1.6	ug/L			08/28/19 11:30	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			08/28/19 11:30	1
Naphthalene	**0.41**	**J B**	1.0	0.34	ug/L			08/28/19 11:30	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			08/28/19 11:30	1
Styrene	<0.39		1.0	0.39	ug/L			08/28/19 11:30	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			08/28/19 11:30	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			08/28/19 11:30	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			08/28/19 11:30	1
Toluene	<0.15		0.50	0.15	ug/L			08/28/19 11:30	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			08/28/19 11:30	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			08/28/19 11:30	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			08/28/19 11:30	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			08/28/19 11:30	1
Trichloroethene	<0.16		0.50	0.16	ug/L			08/28/19 11:30	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			08/28/19 11:30	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			08/28/19 11:30	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			08/28/19 11:30	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			08/28/19 11:30	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			08/28/19 11:30	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			08/28/19 11:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*		*08/28/19 11:30*	*1*
Toluene-d8 (Surr)	*98*		*75 - 120*		*08/28/19 11:30*	*1*
4-Bromofluorobenzene (Surr)	*89*		*72 - 124*		*08/28/19 11:30*	*1*
Dibromofluoromethane	*101*		*75 - 120*		*08/28/19 11:30*	*1*

Definitions/Glossary

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

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.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Reported value was between the limit of detection and the limit of quantitation.

GC/MS Semi VOA

Qualifier	Qualifier Description
^c	CCV Recovery is outside acceptance limits.

GC Semi VOA

Qualifier	Qualifier Description
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: Penta Wood

Job ID: 500-168860-1

GC/MS VOA

Prep Batch: 501507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-1	ES	Total/NA	Solid	5035	
500-168860-2	WS	Total/NA	Solid	5035	
500-168860-2 MS	WS	Total/NA	Solid	5035	
500-168860-2 MSD	WS	Total/NA	Solid	5035	

Analysis Batch: 501998

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-1	ES	Total/NA	Solid	8260B	501507
500-168860-2	WS	Total/NA	Solid	8260B	501507
MB 500-501998/6	Method Blank	Total/NA	Solid	8260B	
LCS 500-501998/4	Lab Control Sample	Total/NA	Solid	8260B	
500-168860-2 MS	WS	Total/NA	Solid	8260B	501507
500-168860-2 MSD	WS	Total/NA	Solid	8260B	501507

Analysis Batch: 501999

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-3	TRIP BLANK	Total/NA	Water	8260B	
MB 500-501999/6	Method Blank	Total/NA	Water	8260B	
LCS 500-501999/4	Lab Control Sample	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 503055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-1	ES	Total/NA	Solid	3541	
500-168860-2	WS	Total/NA	Solid	3541	
MB 500-503055/1-A	Method Blank	Total/NA	Solid	3541	
LCS 500-503055/2-A	Lab Control Sample	Total/NA	Solid	3541	

Analysis Batch: 503141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 500-503055/1-A	Method Blank	Total/NA	Solid	8270D	503055
LCS 500-503055/2-A	Lab Control Sample	Total/NA	Solid	8270D	503055

Analysis Batch: 503437

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-1	ES	Total/NA	Solid	8270D	503055
500-168860-2	WS	Total/NA	Solid	8270D	503055

GC Semi VOA

Prep Batch: 502071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-1	ES	Total/NA	Solid	WI DRO PREP	
500-168860-2	WS	Total/NA	Solid	WI DRO PREP	
MB 500-502071/1-A	Method Blank	Total/NA	Solid	WI DRO PREP	
LCS 500-502071/2-A	Lab Control Sample	Total/NA	Solid	WI DRO PREP	
LCSD 500-502071/3-A	Lab Control Sample Dup	Total/NA	Solid	WI DRO PREP	

Analysis Batch: 502117

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-1	ES	Total/NA	Solid	WI-DRO	502071

GC Semi VOA (Continued)

Analysis Batch: 502117 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-2	WS	Total/NA	Solid	WI-DRO	502071
MB 500-502071/1-A	Method Blank	Total/NA	Solid	WI-DRO	502071
LCS 500-502071/2-A	Lab Control Sample	Total/NA	Solid	WI-DRO	502071
LCSD 500-502071/3-A	Lab Control Sample Dup	Total/NA	Solid	WI-DRO	502071

General Chemistry

Analysis Batch: 502065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-168860-1	ES	Total/NA	Solid	Moisture	
500-168860-2	WS	Total/NA	Solid	Moisture	
500-168860-1 DU	ES	Total/NA	Solid	Moisture	

Surrogate Summary

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

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)
500-168860-1	ES	105	94	92	107
500-168860-2	WS	106	96	95	105
500-168860-2 MS	WS	105	94	94	108
500-168860-2 MSD	WS	108	94	91	108
LCS 500-501998/4	Lab Control Sample	95	100	94	98
MB 500-501998/6	Method Blank	103	95	91	107

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)
500-168860-3	TRIP BLANK	95	98	89	101
LCS 500-501999/4	Lab Control Sample	95	100	94	98
MB 500-501999/6	Method Blank	103	95	91	107

Surrogate Legend

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

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

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

		Percent Surrogate Recovery (Acceptance Limits)					
		TBP	FBP	2FP	NBZ	PHL	TPHL
Lab Sample ID	Client Sample ID	(31-143)	(43-145)	(31-166)	(37-147)	(30-153)	(42-157)
500-168860-1	ES	73	78	77	66	65	88
500-168860-2	WS	51	73	69	63	58	83
LCS 500-503055/2-A	Lab Control Sample	113	95	91	85	85	103
MB 500-503055/1-A	Method Blank	65	93	91	82	77	109

Surrogate Legend

TBP = 2,4,6-Tribromophenol (Surr)
FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Surrogate Summary

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Matrix: Solid

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)								
Lab Sample ID	Client Sample ID	C9 (44-148)								
500-168860-1	ES	71								
500-168860-2	WS	68								
LCS 500-502071/2-A	Lab Control Sample	79								
LCSD 500-502071/3-A	Lab Control Sample Dup	77								
MB 500-502071/1-A	Method Blank	81								

Surrogate Legend

C9 = n-Nonane

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

Lab Sample ID: 500-168860-2 MS
Matrix: Solid
Analysis Batch: 501998

Client Sample ID: WS
Prep Type: Total/NA
Prep Batch: 501507

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	<7.3	*	2510	2510		ug/Kg	☼	100	70 - 120
Bromobenzene	<18	* F1	2510	2540		ug/Kg	☼	101	70 - 122
Bromochloromethane	<21	F1	2510	2910		ug/Kg	☼	116	65 - 122
Bromodichloromethane	<19	* F1	2510	2870		ug/Kg	☼	114	69 - 120
Bromoform	<24	* ^c F1	2510	3710	F1	ug/Kg	☼	148	56 - 132
Bromomethane	<40		2510	2400		ug/Kg	☼	96	40 - 152
n-Butylbenzene	<19		2510	2090		ug/Kg	☼	83	68 - 125
sec-Butylbenzene	<20		2510	2160		ug/Kg	☼	86	70 - 123
tert-Butylbenzene	<20		2510	2160		ug/Kg	☼	86	70 - 121
Carbon tetrachloride	<19		2510	2690		ug/Kg	☼	107	59 - 133
Chlorobenzene	<19		2510	2430		ug/Kg	☼	97	70 - 120
Dibromochloromethane	<24	F1	2510	3080		ug/Kg	☼	123	68 - 125
Chloroethane	<25		2510	1760		ug/Kg	☼	70	48 - 136
Chloroform	<19	* F1	2510	2540		ug/Kg	☼	101	70 - 120
Chloromethane	<16		2510	1640		ug/Kg	☼	65	56 - 152
2-Chlorotoluene	<16		2510	2260		ug/Kg	☼	90	70 - 125
4-Chlorotoluene	<18		2510	2280		ug/Kg	☼	91	68 - 124
1,2-Dibromo-3-Chloropropane	<100	* F1	2510	3140	F1	ug/Kg	☼	125	56 - 123
1,2-Dibromoethane	<19	F1	2510	2830		ug/Kg	☼	113	70 - 125
Dibromomethane	<14	* F1	2510	2950		ug/Kg	☼	118	70 - 120
1,2-Dichlorobenzene	<17		2510	2450		ug/Kg	☼	98	70 - 125
1,3-Dichlorobenzene	<20		2510	2430		ug/Kg	☼	97	70 - 125
1,4-Dichlorobenzene	<18		2510	2400		ug/Kg	☼	96	70 - 120
Dichlorodifluoromethane	<34		2510	1360		ug/Kg	☼	54	40 - 159
1,1-Dichloroethane	<21		2510	2290		ug/Kg	☼	91	70 - 125
1,2-Dichloroethane	<20	*	2510	2630		ug/Kg	☼	105	68 - 127
1,1-Dichloroethene	<20		2510	2330		ug/Kg	☼	93	67 - 122
cis-1,2-Dichloroethene	<20	F1	2510	2730		ug/Kg	☼	109	70 - 125
trans-1,2-Dichloroethene	<18		2510	2440		ug/Kg	☼	97	70 - 125
1,2-Dichloropropane	<21		2510	2460		ug/Kg	☼	98	67 - 130
1,3-Dichloropropane	<18		2510	2790		ug/Kg	☼	111	62 - 136
2,2-Dichloropropane	<22		2510	2150		ug/Kg	☼	86	58 - 139
1,1-Dichloropropene	<15		2510	2350		ug/Kg	☼	94	70 - 121
cis-1,3-Dichloropropene	<21		2510	2450		ug/Kg	☼	98	64 - 127
trans-1,3-Dichloropropene	<18		2510	2580		ug/Kg	☼	103	62 - 128
Ethylbenzene	<9.2		2510	2490		ug/Kg	☼	99	70 - 123
Hexachlorobutadiene	<22		2510	1880		ug/Kg	☼	75	51 - 150
Isopropylbenzene	<19		2510	2230		ug/Kg	☼	89	70 - 126
p-Isopropyltoluene	<18		2510	2190		ug/Kg	☼	87	70 - 125
Methylene Chloride	<82	F1	2510	2740		ug/Kg	☼	109	69 - 125
Methyl tert-butyl ether	<20	F1	2510	2760		ug/Kg	☼	110	55 - 123
Naphthalene	<17		2510	2570		ug/Kg	☼	103	53 - 144
N-Propylbenzene	<21		2510	2190		ug/Kg	☼	87	69 - 127
Styrene	<19	*	2510	2540		ug/Kg	☼	101	70 - 120
1,1,1,2-Tetrachloroethane	<23	F1	2510	2810		ug/Kg	☼	112	70 - 125
1,1,2,2-Tetrachloroethane	<20	F1	2510	2820		ug/Kg	☼	112	62 - 140
Tetrachloroethene	<19		2510	2410		ug/Kg	☼	96	70 - 128
Toluene	<7.4		2510	2260		ug/Kg	☼	90	70 - 125

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

Lab Sample ID: 500-168860-2 MS
Matrix: Solid
Analysis Batch: 501998

Client Sample ID: WS
Prep Type: Total/NA
Prep Batch: 501507

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichlorobenzene	<23		2510	2280		ug/Kg	☼	91	51 - 145
1,2,4-Trichlorobenzene	<17		2510	2230		ug/Kg	☼	89	57 - 137
1,1,1-Trichloroethane	<19		2510	2460		ug/Kg	☼	98	70 - 125
1,1,2-Trichloroethane	<18	F1	2510	2780		ug/Kg	☼	111	71 - 130
Trichloroethene	<8.2		2510	2530		ug/Kg	☼	101	70 - 125
Trichlorofluoromethane	<21		2510	2130		ug/Kg	☼	85	55 - 128
1,2,3-Trichloropropane	<21	F1	2510	2910		ug/Kg	☼	116	50 - 133
1,2,4-Trimethylbenzene	<18		2510	2240		ug/Kg	☼	89	70 - 123
1,3,5-Trimethylbenzene	<19		2510	2260		ug/Kg	☼	90	70 - 123
Vinyl chloride	<13		2510	1820		ug/Kg	☼	72	64 - 126
Xylenes, Total	<11		5020	4860		ug/Kg	☼	97	70 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*75 - 126*
Toluene-d8 (Surr)	*94*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*108*		*75 - 120*

Lab Sample ID: 500-168860-2 MSD
Matrix: Solid
Analysis Batch: 501998

Client Sample ID: WS
Prep Type: Total/NA
Prep Batch: 501507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	<7.3	*	2510	3020		ug/Kg	☼	120	70 - 120	18	30
Bromobenzene	<18	* F1	2510	3080	F1	ug/Kg	☼	123	70 - 122	19	30
Bromochloromethane	<21	F1	2510	3540	F1	ug/Kg	☼	141	65 - 122	19	30
Bromodichloromethane	<19	* F1	2510	3510	F1	ug/Kg	☼	140	69 - 120	20	30
Bromoform	<24	* ^c F1	2510	4650	F1	ug/Kg	☼	185	56 - 132	23	30
Bromomethane	<40		2510	2580		ug/Kg	☼	103	40 - 152	7	30
n-Butylbenzene	<19		2510	2480		ug/Kg	☼	99	68 - 125	17	30
sec-Butylbenzene	<20		2510	2580		ug/Kg	☼	103	70 - 123	18	30
tert-Butylbenzene	<20		2510	2590		ug/Kg	☼	103	70 - 121	18	30
Carbon tetrachloride	<19		2510	3180		ug/Kg	☼	127	59 - 133	17	30
Chlorobenzene	<19		2510	2940		ug/Kg	☼	117	70 - 120	19	30
Dibromochloromethane	<24	F1	2510	3840	F1	ug/Kg	☼	153	68 - 125	22	30
Chloroethane	<25		2510	2100		ug/Kg	☼	84	48 - 136	18	30
Chloroform	<19	* F1	2510	3090	F1	ug/Kg	☼	123	70 - 120	19	30
Chloromethane	<16		2510	1830		ug/Kg	☼	73	56 - 152	11	30
2-Chlorotoluene	<16		2510	2770		ug/Kg	☼	110	70 - 125	20	30
4-Chlorotoluene	<18		2510	2720		ug/Kg	☼	108	68 - 124	17	30
1,2-Dibromo-3-Chloropropane	<100	* F1	2510	3910	F1	ug/Kg	☼	156	56 - 123	22	30
1,2-Dibromoethane	<19	F1	2510	3600	F1	ug/Kg	☼	144	70 - 125	24	30
Dibromomethane	<14	* F1	2510	3570	F1	ug/Kg	☼	142	70 - 120	19	30
1,2-Dichlorobenzene	<17		2510	3000		ug/Kg	☼	120	70 - 125	20	30
1,3-Dichlorobenzene	<20		2510	2900		ug/Kg	☼	116	70 - 125	18	30
1,4-Dichlorobenzene	<18		2510	2910		ug/Kg	☼	116	70 - 120	19	30
Dichlorodifluoromethane	<34		2510	1490		ug/Kg	☼	60	40 - 159	10	30
1,1-Dichloroethane	<21		2510	2740		ug/Kg	☼	109	70 - 125	18	30

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

Lab Sample ID: 500-168860-2 MSD
Matrix: Solid
Analysis Batch: 501998

Client Sample ID: WS
Prep Type: Total/NA
Prep Batch: 501507

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dichloroethane	<20	*	2510	3110		ug/Kg	☼	124	68 - 127	17	30
1,1-Dichloroethene	<20		2510	2800		ug/Kg	☼	112	67 - 122	18	30
cis-1,2-Dichloroethene	<20	F1	2510	3190	F1	ug/Kg	☼	127	70 - 125	16	30
trans-1,2-Dichloroethene	<18		2510	2940		ug/Kg	☼	117	70 - 125	19	30
1,2-Dichloropropane	<21		2510	2910		ug/Kg	☼	116	67 - 130	17	30
1,3-Dichloropropane	<18		2510	3320		ug/Kg	☼	132	62 - 136	17	30
2,2-Dichloropropane	<22		2510	2520		ug/Kg	☼	100	58 - 139	16	30
1,1-Dichloropropene	<15		2510	2800		ug/Kg	☼	112	70 - 121	17	30
cis-1,3-Dichloropropene	<21		2510	3040		ug/Kg	☼	121	64 - 127	21	30
trans-1,3-Dichloropropene	<18		2510	3120		ug/Kg	☼	124	62 - 128	19	30
Ethylbenzene	<9.2		2510	2970		ug/Kg	☼	118	70 - 123	18	30
Hexachlorobutadiene	<22		2510	2270		ug/Kg	☼	90	51 - 150	19	30
Isopropylbenzene	<19		2510	2670		ug/Kg	☼	106	70 - 126	18	30
p-Isopropyltoluene	<18		2510	2620		ug/Kg	☼	105	70 - 125	18	30
Methylene Chloride	<82	F1	2510	3330	F1	ug/Kg	☼	133	69 - 125	19	30
Methyl tert-butyl ether	<20	F1	2510	3430	F1	ug/Kg	☼	137	55 - 123	21	30
Naphthalene	<17		2510	3370		ug/Kg	☼	134	53 - 144	27	30
N-Propylbenzene	<21		2510	2600		ug/Kg	☼	104	69 - 127	17	30
Styrene	<19	*	2510	3020		ug/Kg	☼	120	70 - 120	17	30
1,1,1,2-Tetrachloroethane	<23	F1	2510	3370	F1	ug/Kg	☼	134	70 - 125	18	30
1,1,2,2-Tetrachloroethane	<20	F1	2510	3630	F1	ug/Kg	☼	145	62 - 140	25	30
Tetrachloroethene	<19		2510	2820		ug/Kg	☼	112	70 - 128	16	30
Toluene	<7.4		2510	2670		ug/Kg	☼	106	70 - 125	16	30
1,2,3-Trichlorobenzene	<23		2510	2890		ug/Kg	☼	115	51 - 145	24	30
1,2,4-Trichlorobenzene	<17		2510	2740		ug/Kg	☼	109	57 - 137	21	30
1,1,1-Trichloroethane	<19		2510	2980		ug/Kg	☼	119	70 - 125	19	30
1,1,2-Trichloroethane	<18	F1	2510	3490	F1	ug/Kg	☼	139	71 - 130	23	30
Trichloroethene	<8.2		2510	3090		ug/Kg	☼	123	70 - 125	20	30
Trichlorofluoromethane	<21		2510	2400		ug/Kg	☼	96	55 - 128	12	30
1,2,3-Trichloropropane	<21	F1	2510	3880	F1	ug/Kg	☼	155	50 - 133	28	30
1,2,4-Trimethylbenzene	<18		2510	2680		ug/Kg	☼	107	70 - 123	18	30
1,3,5-Trimethylbenzene	<19		2510	2690		ug/Kg	☼	107	70 - 123	17	30
Vinyl chloride	<13		2510	1870		ug/Kg	☼	75	64 - 126	3	30
Xylenes, Total	<11		5020	5840		ug/Kg	☼	116	70 - 125	18	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*108*		*75 - 126*
Toluene-d8 (Surr)	*94*		*75 - 120*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*
Dibromofluoromethane	*108*		*75 - 120*

Lab Sample ID: MB 500-501998/6
Matrix: Solid
Analysis Batch: 501998

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			08/28/19 11:03	1
Bromobenzene	<0.36		1.0	0.36	ug/Kg			08/28/19 11:03	1

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

Lab Sample ID: MB 500-501998/6
Matrix: Solid
Analysis Batch: 501998

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromochloromethane	<0.43		1.0	0.43	ug/Kg			08/28/19 11:03	1
Bromodichloromethane	<0.37		1.0	0.37	ug/Kg			08/28/19 11:03	1
Bromoform	<0.48		1.0	0.48	ug/Kg			08/28/19 11:03	1
Bromomethane	<0.80		3.0	0.80	ug/Kg			08/28/19 11:03	1
n-Butylbenzene	<0.39		1.0	0.39	ug/Kg			08/28/19 11:03	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/Kg			08/28/19 11:03	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/Kg			08/28/19 11:03	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/Kg			08/28/19 11:03	1
Chlorobenzene	<0.39		1.0	0.39	ug/Kg			08/28/19 11:03	1
Dibromochloromethane	<0.49		1.0	0.49	ug/Kg			08/28/19 11:03	1
Chloroethane	<0.50		1.0	0.50	ug/Kg			08/28/19 11:03	1
Chloroform	<0.37		2.0	0.37	ug/Kg			08/28/19 11:03	1
Chloromethane	<0.32		1.0	0.32	ug/Kg			08/28/19 11:03	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/Kg			08/28/19 11:03	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/Kg			08/28/19 11:03	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/Kg			08/28/19 11:03	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/Kg			08/28/19 11:03	1
Dibromomethane	<0.27		1.0	0.27	ug/Kg			08/28/19 11:03	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/Kg			08/28/19 11:03	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/Kg			08/28/19 11:03	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/Kg			08/28/19 11:03	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/Kg			08/28/19 11:03	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/Kg			08/28/19 11:03	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/Kg			08/28/19 11:03	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/Kg			08/28/19 11:03	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/Kg			08/28/19 11:03	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/Kg			08/28/19 11:03	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/Kg			08/28/19 11:03	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/Kg			08/28/19 11:03	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/Kg			08/28/19 11:03	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/Kg			08/28/19 11:03	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/Kg			08/28/19 11:03	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/Kg			08/28/19 11:03	1
Isopropyl ether	<0.28		1.0	0.28	ug/Kg			08/28/19 11:03	1
Ethylbenzene	<0.18		0.25	0.18	ug/Kg			08/28/19 11:03	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/Kg			08/28/19 11:03	1
Isopropylbenzene	<0.38		1.0	0.38	ug/Kg			08/28/19 11:03	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/Kg			08/28/19 11:03	1
Methylene Chloride	<1.6		5.0	1.6	ug/Kg			08/28/19 11:03	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/Kg			08/28/19 11:03	1
Naphthalene	0.783	J	1.0	0.33	ug/Kg			08/28/19 11:03	1
N-Propylbenzene	<0.41		1.0	0.41	ug/Kg			08/28/19 11:03	1
Styrene	<0.39		1.0	0.39	ug/Kg			08/28/19 11:03	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/Kg			08/28/19 11:03	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/Kg			08/28/19 11:03	1
Tetrachloroethene	<0.37		1.0	0.37	ug/Kg			08/28/19 11:03	1
Toluene	<0.15		0.25	0.15	ug/Kg			08/28/19 11:03	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/Kg			08/28/19 11:03	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/Kg			08/28/19 11:03	1

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

Lab Sample ID: MB 500-501998/6
Matrix: Solid
Analysis Batch: 501998

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/Kg			08/28/19 11:03	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/Kg			08/28/19 11:03	1
Trichloroethene	<0.16		0.50	0.16	ug/Kg			08/28/19 11:03	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/Kg			08/28/19 11:03	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/Kg			08/28/19 11:03	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/Kg			08/28/19 11:03	1
1,3,5-Trimethylbenzene	<0.38		1.0	0.38	ug/Kg			08/28/19 11:03	1
Vinyl chloride	<0.26		1.0	0.26	ug/Kg			08/28/19 11:03	1
Xylenes, Total	<0.22		0.50	0.22	ug/Kg			08/28/19 11:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 126*		*08/28/19 11:03*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*08/28/19 11:03*	*1*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*		*08/28/19 11:03*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*08/28/19 11:03*	*1*

Lab Sample ID: LCS 500-501998/4
Matrix: Solid
Analysis Batch: 501998

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	51.9		ug/Kg		104	70 - 120
Bromobenzene	50.0	53.4		ug/Kg		107	70 - 122
Bromochloromethane	50.0	55.7		ug/Kg		111	65 - 122
Bromodichloromethane	50.0	55.4		ug/Kg		111	69 - 120
Bromoform	50.0	74.7	*	ug/Kg		149	56 - 132
Bromomethane	50.0	47.5		ug/Kg		95	40 - 152
n-Butylbenzene	50.0	51.6		ug/Kg		103	68 - 125
sec-Butylbenzene	50.0	53.7		ug/Kg		107	70 - 123
tert-Butylbenzene	50.0	52.3		ug/Kg		105	70 - 121
Carbon tetrachloride	50.0	66.1		ug/Kg		132	59 - 133
Chlorobenzene	50.0	51.6		ug/Kg		103	70 - 120
Dibromochloromethane	50.0	62.4		ug/Kg		125	68 - 125
Chloroethane	50.0	38.2		ug/Kg		76	48 - 136
Chloroform	50.0	51.3		ug/Kg		103	70 - 120
Chloromethane	50.0	33.0		ug/Kg		66	56 - 152
2-Chlorotoluene	50.0	51.1		ug/Kg		102	70 - 125
4-Chlorotoluene	50.0	50.4		ug/Kg		101	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	63.5	*	ug/Kg		127	56 - 123
1,2-Dibromoethane	50.0	57.1		ug/Kg		114	70 - 125
Dibromomethane	50.0	53.6		ug/Kg		107	70 - 120
1,2-Dichlorobenzene	50.0	50.6		ug/Kg		101	70 - 125
1,3-Dichlorobenzene	50.0	52.5		ug/Kg		105	70 - 125
1,4-Dichlorobenzene	50.0	53.0		ug/Kg		106	70 - 120
Dichlorodifluoromethane	50.0	36.3		ug/Kg		73	40 - 159
1,1-Dichloroethane	50.0	47.7		ug/Kg		95	70 - 125
1,2-Dichloroethane	50.0	48.6		ug/Kg		97	68 - 127
1,1-Dichloroethene	50.0	55.9		ug/Kg		112	67 - 122

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

Lab Sample ID: LCS 500-501998/4
Matrix: Solid
Analysis Batch: 501998

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	50.0	53.7		ug/Kg		107	70 - 125
trans-1,2-Dichloroethene	50.0	54.2		ug/Kg		108	70 - 125
1,2-Dichloropropane	50.0	48.2		ug/Kg		96	67 - 130
1,3-Dichloropropane	50.0	54.6		ug/Kg		109	62 - 136
2,2-Dichloropropane	50.0	51.3		ug/Kg		103	58 - 139
1,1-Dichloropropene	50.0	55.1		ug/Kg		110	70 - 121
cis-1,3-Dichloropropene	50.0	52.1		ug/Kg		104	64 - 127
trans-1,3-Dichloropropene	50.0	53.8		ug/Kg		108	62 - 128
Ethylbenzene	50.0	57.1		ug/Kg		114	70 - 123
Hexachlorobutadiene	50.0	47.1		ug/Kg		94	51 - 150
Isopropylbenzene	50.0	53.9		ug/Kg		108	70 - 126
p-Isopropyltoluene	50.0	53.1		ug/Kg		106	70 - 125
Methylene Chloride	50.0	54.2		ug/Kg		108	69 - 125
Methyl tert-butyl ether	50.0	51.5		ug/Kg		103	55 - 123
Naphthalene	50.0	52.9		ug/Kg		106	53 - 144
N-Propylbenzene	50.0	52.6		ug/Kg		105	69 - 127
Styrene	50.0	53.1		ug/Kg		106	70 - 120
1,1,1,2-Tetrachloroethane	50.0	58.3		ug/Kg		117	70 - 125
1,1,2,2-Tetrachloroethane	50.0	57.6		ug/Kg		115	62 - 140
Tetrachloroethene	50.0	58.2		ug/Kg		116	70 - 128
Toluene	50.0	50.3		ug/Kg		101	70 - 125
1,2,3-Trichlorobenzene	50.0	48.9		ug/Kg		98	51 - 145
1,2,4-Trichlorobenzene	50.0	49.0		ug/Kg		98	57 - 137
1,1,1-Trichloroethane	50.0	56.9		ug/Kg		114	70 - 125
1,1,2-Trichloroethane	50.0	55.9		ug/Kg		112	71 - 130
Trichloroethene	50.0	56.2		ug/Kg		112	70 - 125
Trichlorofluoromethane	50.0	50.5		ug/Kg		101	55 - 128
1,2,3-Trichloropropane	50.0	58.0		ug/Kg		116	50 - 133
1,2,4-Trimethylbenzene	50.0	50.3		ug/Kg		101	70 - 123
1,3,5-Trimethylbenzene	50.0	52.1		ug/Kg		104	70 - 123
Vinyl chloride	50.0	37.9		ug/Kg		76	64 - 126
Xylenes, Total	100	108		ug/Kg		108	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*
Toluene-d8 (Surr)	*100*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*98*		*75 - 120*

Lab Sample ID: MB 500-501999/6
Matrix: Water
Analysis Batch: 501999

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			08/28/19 11:03	1
Bromobenzene	<0.36		1.0	0.36	ug/L			08/28/19 11:03	1
Bromochloromethane	<0.43		1.0	0.43	ug/L			08/28/19 11:03	1
Bromodichloromethane	<0.37		1.0	0.37	ug/L			08/28/19 11:03	1

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

Lab Sample ID: MB 500-501999/6
Matrix: Water
Analysis Batch: 501999

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	<0.48		1.0	0.48	ug/L			08/28/19 11:03	1
Bromomethane	<0.80		3.0	0.80	ug/L			08/28/19 11:03	1
n-Butylbenzene	<0.39		1.0	0.39	ug/L			08/28/19 11:03	1
sec-Butylbenzene	<0.40		1.0	0.40	ug/L			08/28/19 11:03	1
tert-Butylbenzene	<0.40		1.0	0.40	ug/L			08/28/19 11:03	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			08/28/19 11:03	1
Chlorobenzene	<0.39		1.0	0.39	ug/L			08/28/19 11:03	1
Dibromochloromethane	<0.49		1.0	0.49	ug/L			08/28/19 11:03	1
Chloroethane	<0.51		1.0	0.51	ug/L			08/28/19 11:03	1
Chloroform	<0.37		2.0	0.37	ug/L			08/28/19 11:03	1
Chloromethane	<0.32		1.0	0.32	ug/L			08/28/19 11:03	1
2-Chlorotoluene	<0.31		1.0	0.31	ug/L			08/28/19 11:03	1
4-Chlorotoluene	<0.35		1.0	0.35	ug/L			08/28/19 11:03	1
1,2-Dibromo-3-Chloropropane	<2.0		5.0	2.0	ug/L			08/28/19 11:03	1
1,2-Dibromoethane	<0.39		1.0	0.39	ug/L			08/28/19 11:03	1
Dibromomethane	<0.27		1.0	0.27	ug/L			08/28/19 11:03	1
1,2-Dichlorobenzene	<0.33		1.0	0.33	ug/L			08/28/19 11:03	1
1,3-Dichlorobenzene	<0.40		1.0	0.40	ug/L			08/28/19 11:03	1
1,4-Dichlorobenzene	<0.36		1.0	0.36	ug/L			08/28/19 11:03	1
Dichlorodifluoromethane	<0.67		3.0	0.67	ug/L			08/28/19 11:03	1
1,1-Dichloroethane	<0.41		1.0	0.41	ug/L			08/28/19 11:03	1
1,2-Dichloroethane	<0.39		1.0	0.39	ug/L			08/28/19 11:03	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			08/28/19 11:03	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			08/28/19 11:03	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			08/28/19 11:03	1
1,2-Dichloropropane	<0.43		1.0	0.43	ug/L			08/28/19 11:03	1
1,3-Dichloropropane	<0.36		1.0	0.36	ug/L			08/28/19 11:03	1
2,2-Dichloropropane	<0.44		1.0	0.44	ug/L			08/28/19 11:03	1
1,1-Dichloropropene	<0.30		1.0	0.30	ug/L			08/28/19 11:03	1
cis-1,3-Dichloropropene	<0.42		1.0	0.42	ug/L			08/28/19 11:03	1
trans-1,3-Dichloropropene	<0.36		1.0	0.36	ug/L			08/28/19 11:03	1
Isopropyl ether	<0.28		1.0	0.28	ug/L			08/28/19 11:03	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			08/28/19 11:03	1
Hexachlorobutadiene	<0.45		1.0	0.45	ug/L			08/28/19 11:03	1
Isopropylbenzene	<0.39		1.0	0.39	ug/L			08/28/19 11:03	1
p-Isopropyltoluene	<0.36		1.0	0.36	ug/L			08/28/19 11:03	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			08/28/19 11:03	1
Methyl tert-butyl ether	<0.39		1.0	0.39	ug/L			08/28/19 11:03	1
Naphthalene	0.783	J	1.0	0.34	ug/L			08/28/19 11:03	1
N-Propylbenzene	<0.41		1.0	0.41	ug/L			08/28/19 11:03	1
Styrene	<0.39		1.0	0.39	ug/L			08/28/19 11:03	1
1,1,1,2-Tetrachloroethane	<0.46		1.0	0.46	ug/L			08/28/19 11:03	1
1,1,2,2-Tetrachloroethane	<0.40		1.0	0.40	ug/L			08/28/19 11:03	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			08/28/19 11:03	1
Toluene	<0.15		0.50	0.15	ug/L			08/28/19 11:03	1
1,2,3-Trichlorobenzene	<0.46		1.0	0.46	ug/L			08/28/19 11:03	1
1,2,4-Trichlorobenzene	<0.34		1.0	0.34	ug/L			08/28/19 11:03	1
1,1,1-Trichloroethane	<0.38		1.0	0.38	ug/L			08/28/19 11:03	1
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			08/28/19 11:03	1

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

Lab Sample ID: MB 500-501999/6
Matrix: Water
Analysis Batch: 501999

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

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	<0.16		0.50	0.16	ug/L			08/28/19 11:03	1
Trichlorofluoromethane	<0.43		1.0	0.43	ug/L			08/28/19 11:03	1
1,2,3-Trichloropropane	<0.41		2.0	0.41	ug/L			08/28/19 11:03	1
1,2,4-Trimethylbenzene	<0.36		1.0	0.36	ug/L			08/28/19 11:03	1
1,3,5-Trimethylbenzene	<0.25		1.0	0.25	ug/L			08/28/19 11:03	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			08/28/19 11:03	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			08/28/19 11:03	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 126*		*08/28/19 11:03*	*1*
Toluene-d8 (Surr)	*95*		*75 - 120*		*08/28/19 11:03*	*1*
4-Bromofluorobenzene (Surr)	*91*		*72 - 124*		*08/28/19 11:03*	*1*
Dibromofluoromethane	*107*		*75 - 120*		*08/28/19 11:03*	*1*

Lab Sample ID: LCS 500-501999/4
Matrix: Water
Analysis Batch: 501999

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	51.9		ug/L		104	70 - 120
Bromobenzene	50.0	53.4		ug/L		107	70 - 122
Bromochloromethane	50.0	55.7		ug/L		111	65 - 122
Bromodichloromethane	50.0	55.4		ug/L		111	69 - 120
Bromoform	50.0	74.7	*	ug/L		149	56 - 132
Bromomethane	50.0	47.5		ug/L		95	40 - 152
n-Butylbenzene	50.0	51.6		ug/L		103	68 - 125
sec-Butylbenzene	50.0	53.7		ug/L		107	70 - 123
tert-Butylbenzene	50.0	52.3		ug/L		105	70 - 121
Carbon tetrachloride	50.0	66.1		ug/L		132	59 - 133
Chlorobenzene	50.0	51.6		ug/L		103	70 - 120
Dibromochloromethane	50.0	62.4		ug/L		125	68 - 125
Chloroethane	50.0	38.2		ug/L		76	48 - 136
Chloroform	50.0	51.3		ug/L		103	70 - 120
Chloromethane	50.0	33.0		ug/L		66	56 - 152
2-Chlorotoluene	50.0	51.1		ug/L		102	70 - 125
4-Chlorotoluene	50.0	50.4		ug/L		101	68 - 124
1,2-Dibromo-3-Chloropropane	50.0	63.5	*	ug/L		127	56 - 123
1,2-Dibromoethane	50.0	57.1		ug/L		114	70 - 125
Dibromomethane	50.0	53.6		ug/L		107	70 - 120
1,2-Dichlorobenzene	50.0	50.6		ug/L		101	70 - 125
1,3-Dichlorobenzene	50.0	52.5		ug/L		105	70 - 125
1,4-Dichlorobenzene	50.0	53.0		ug/L		106	70 - 120
Dichlorodifluoromethane	50.0	36.3		ug/L		73	40 - 159
1,1-Dichloroethane	50.0	47.7		ug/L		95	70 - 125
1,2-Dichloroethane	50.0	48.6		ug/L		97	68 - 127
1,1-Dichloroethene	50.0	55.9		ug/L		112	67 - 122
cis-1,2-Dichloroethene	50.0	53.7		ug/L		107	70 - 125
trans-1,2-Dichloroethene	50.0	54.2		ug/L		108	70 - 125

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

Lab Sample ID: LCS 500-501999/4
Matrix: Water
Analysis Batch: 501999

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	50.0	48.2		ug/L		96	67 - 130
1,3-Dichloropropane	50.0	54.6		ug/L		109	62 - 136
2,2-Dichloropropane	50.0	51.3		ug/L		103	58 - 139
1,1-Dichloropropene	50.0	55.1		ug/L		110	70 - 121
cis-1,3-Dichloropropene	50.0	52.1		ug/L		104	64 - 127
trans-1,3-Dichloropropene	50.0	53.8		ug/L		108	62 - 128
Ethylbenzene	50.0	57.1		ug/L		114	70 - 123
Hexachlorobutadiene	50.0	47.1		ug/L		94	51 - 150
Isopropylbenzene	50.0	53.9		ug/L		108	70 - 126
p-Isopropyltoluene	50.0	53.1		ug/L		106	70 - 125
Methylene Chloride	50.0	54.2		ug/L		108	69 - 125
Methyl tert-butyl ether	50.0	51.5		ug/L		103	55 - 123
Naphthalene	50.0	52.9		ug/L		106	53 - 144
N-Propylbenzene	50.0	52.6		ug/L		105	69 - 127
Styrene	50.0	53.1		ug/L		106	70 - 120
1,1,1,2-Tetrachloroethane	50.0	58.3		ug/L		117	70 - 125
1,1,2,2-Tetrachloroethane	50.0	57.6		ug/L		115	62 - 140
Tetrachloroethene	50.0	58.2		ug/L		116	70 - 128
Toluene	50.0	50.3		ug/L		101	70 - 125
1,2,3-Trichlorobenzene	50.0	48.9		ug/L		98	51 - 145
1,2,4-Trichlorobenzene	50.0	49.0		ug/L		98	57 - 137
1,1,1-Trichloroethane	50.0	56.9		ug/L		114	70 - 125
1,1,2-Trichloroethane	50.0	55.9		ug/L		112	71 - 130
Trichloroethene	50.0	56.2		ug/L		112	70 - 125
Trichlorofluoromethane	50.0	50.5		ug/L		101	55 - 128
1,2,3-Trichloropropane	50.0	58.0		ug/L		116	50 - 133
1,2,4-Trimethylbenzene	50.0	50.3		ug/L		101	70 - 123
1,3,5-Trimethylbenzene	50.0	52.1		ug/L		104	70 - 123
Vinyl chloride	50.0	37.9		ug/L		76	64 - 126
Xylenes, Total	100	108		ug/L		108	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 126*
Toluene-d8 (Surr)	*100*		*75 - 120*
4-Bromofluorobenzene (Surr)	*94*		*72 - 124*
Dibromofluoromethane	*98*		*75 - 120*

Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-503055/1-A
Matrix: Solid
Analysis Batch: 503141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 503055

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
1-Methylnaphthalene	<8.1		67	8.1	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
2-Methylnaphthalene	<6.1		67	6.1	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Acenaphthene	<6.0		33	6.0	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Acenaphthylene	<4.4		33	4.4	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Anthracene	<5.6		33	5.6	ug/Kg		09/04/19 08:18	09/04/19 21:44	1

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-503055/1-A
Matrix: Solid
Analysis Batch: 503141

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 503055

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
Benzo[a]anthracene	<4.5		33	4.5	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Benzo[a]pyrene	<6.4		33	6.4	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Benzo[b]fluoranthene	<7.2		33	7.2	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Benzo[g,h,i]perylene	<11		33	11	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Benzo[k]fluoranthene	<9.8		33	9.8	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Chrysene	<9.1		33	9.1	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Dibenz(a,h)anthracene	<6.4		33	6.4	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Fluoranthene	<6.2		33	6.2	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Fluorene	<4.7		33	4.7	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Indeno[1,2,3-cd]pyrene	<8.6		33	8.6	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Naphthalene	<5.1		33	5.1	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Pentachlorophenol	<530		670	530	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Phenanthrene	<4.6		33	4.6	ug/Kg		09/04/19 08:18	09/04/19 21:44	1
Pyrene	<6.6		33	6.6	ug/Kg		09/04/19 08:18	09/04/19 21:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol (Surr)	*65*		*31 - 143*	*09/04/19 08:18*	*09/04/19 21:44*	*1*
2-Fluorobiphenyl (Surr)	*93*		*43 - 145*	*09/04/19 08:18*	*09/04/19 21:44*	*1*
2-Fluorophenol (Surr)	*91*		*31 - 166*	*09/04/19 08:18*	*09/04/19 21:44*	*1*
Nitrobenzene-d5 (Surr)	*82*		*37 - 147*	*09/04/19 08:18*	*09/04/19 21:44*	*1*
Phenol-d5 (Surr)	*77*		*30 - 153*	*09/04/19 08:18*	*09/04/19 21:44*	*1*
Terphenyl-d14 (Surr)	*109*		*42 - 157*	*09/04/19 08:18*	*09/04/19 21:44*	*1*

Lab Sample ID: LCS 500-503055/2-A
Matrix: Solid
Analysis Batch: 503141

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 503055

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1-Methylnaphthalene	1330	1230		ug/Kg		93	68 - 111
2-Methylnaphthalene	1330	1230		ug/Kg		92	69 - 112
Acenaphthene	1330	1240		ug/Kg		93	65 - 124
Acenaphthylene	1330	1220		ug/Kg		92	68 - 120
Anthracene	1330	1280		ug/Kg		96	70 - 114
Benzo[a]anthracene	1330	1260		ug/Kg		95	67 - 122
Benzo[a]pyrene	1330	1300		ug/Kg		97	65 - 133
Benzo[b]fluoranthene	1330	1240		ug/Kg		93	69 - 129
Benzo[g,h,i]perylene	1330	1310		ug/Kg		98	72 - 131
Benzo[k]fluoranthene	1330	1260		ug/Kg		94	68 - 127
Chrysene	1330	1310		ug/Kg		98	63 - 120
Dibenz(a,h)anthracene	1330	1320		ug/Kg		99	64 - 131
Fluoranthene	1330	1320		ug/Kg		99	62 - 120
Fluorene	1330	1270		ug/Kg		95	62 - 120
Indeno[1,2,3-cd]pyrene	1330	1310		ug/Kg		99	68 - 130
Naphthalene	1330	1220		ug/Kg		92	63 - 110
Pentachlorophenol	2670	1340		ug/Kg		50	13 - 112
Phenanthrene	1330	1250		ug/Kg		94	62 - 120
Pyrene	1330	1260		ug/Kg		94	61 - 128

Method: 8270D - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 500-503055/2-A
Matrix: Solid
Analysis Batch: 503141

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 503055

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
2,4,6-Tribromophenol (Surr)	*113*		*31 - 143*
2-Fluorobiphenyl (Surr)	*95*		*43 - 145*
2-Fluorophenol (Surr)	*91*		*31 - 166*
Nitrobenzene-d5 (Surr)	*85*		*37 - 147*
Phenol-d5 (Surr)	*85*		*30 - 153*
Terphenyl-d14 (Surr)	*103*		*42 - 157*

Method: WI-DRO - Wisconsin - Diesel Range Organics (GC)

Lab Sample ID: MB 500-502071/1-A
Matrix: Solid
Analysis Batch: 502117

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 502071

Analyte	MB Result	MB Qualifier	LOQ	DL	Unit	D	Prepared	Analyzed	Dil Fac
WI Diesel Range Organics (C10-C28)	<1.6		4.0	1.6	mg/Kg		08/28/19 10:17	08/28/19 15:30	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Nonane	*81*		*44 - 148*	*08/28/19 10:17*	*08/28/19 15:30*	*1*

Lab Sample ID: LCS 500-502071/2-A
Matrix: Solid
Analysis Batch: 502117

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 502071

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
WI Diesel Range Organics (C10-C28)			20.0	22.0		mg/Kg		110	70 - 120		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Nonane	*79*		*44 - 148*

Lab Sample ID: LCSD 500-502071/3-A
Matrix: Solid
Analysis Batch: 502117

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 502071

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
WI Diesel Range Organics (C10-C28)			20.0	23.6		mg/Kg		118	70 - 120	7	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
n-Nonane	*77*		*44 - 148*

Lab Chronicle

Client: Cedar Corporation
Project/Site: Penta Wood

Job ID: 500-168860-1

Client Sample ID: ES
Lab Sample ID: 500-168860-1
Date Collected: 08/21/19 13:30
Matrix: Solid
Date Received: 08/23/19 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	502065	08/28/19 09:36	LWN	TAL CHI

Client Sample ID: ES
Lab Sample ID: 500-168860-1
Date Collected: 08/21/19 13:30
Matrix: Solid
Date Received: 08/23/19 08:45
Percent Solids: 97.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			501507	08/21/19 13:30	WRE	TAL CHI
Total/NA	Analysis	8260B		50	501998	08/28/19 17:21	JLC	TAL CHI
Total/NA	Prep	3541			503055	09/04/19 08:18	DX	TAL CHI
Total/NA	Analysis	8270D		1	503437	09/06/19 01:55	NRJ	TAL CHI
Total/NA	Prep	WI DRO PREP			502071	08/28/19 10:17	JVD	TAL CHI
Total/NA	Analysis	WI-DRO		1	502117	08/28/19 17:14	JBJ	TAL CHI

Client Sample ID: WS
Lab Sample ID: 500-168860-2
Date Collected: 08/21/19 13:00
Matrix: Solid
Date Received: 08/23/19 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	502065	08/28/19 09:36	LWN	TAL CHI

Client Sample ID: WS
Lab Sample ID: 500-168860-2
Date Collected: 08/21/19 13:00
Matrix: Solid
Date Received: 08/23/19 08:45
Percent Solids: 95.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			501507	08/21/19 13:00	WRE	TAL CHI
Total/NA	Analysis	8260B		50	501998	08/28/19 17:48	JLC	TAL CHI
Total/NA	Prep	3541			503055	09/04/19 08:18	DX	TAL CHI
Total/NA	Analysis	8270D		1	503437	09/06/19 02:23	NRJ	TAL CHI
Total/NA	Prep	WI DRO PREP			502071	08/28/19 10:17	JVD	TAL CHI
Total/NA	Analysis	WI-DRO		1	502117	08/28/19 17:40	JBJ	TAL CHI

Client Sample ID: TRIP BLANK
Lab Sample ID: 500-168860-3
Date Collected: 08/21/19 00:00
Matrix: Water
Date Received: 08/23/19 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	501999	08/28/19 11:30	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: Penta Wood

Job ID: 500-168860-1

Laboratory: Eurofins TestAmerica, Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State Program	999580010	08-31-20

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

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

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

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

500-168860 COC

Chain of Custody Record

Lab Job #: 500-168860

Chain of Custody Number:

Page ____ of ____

Temperature °C of Cooler: 3.2

Client	Client Project #	Preservative										
Cedar Corp.												
Project Name: Penta Wood		Parameter	VOC PCP, PAH, DRO									
Project Location/State: Siren / WI	Lab Project #											
Sampler: Matt Taylor	Lab PM											

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									Comments
1		ES	8/21	1330	4	S	X								
2		WS	8/21	1300	4	S	X								

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	8/22/19	830	[signature]	TA	8/23/19	0845
Relinquished By	Company	Date	Time	Received By	Company	Date	Time
Relinquished By	Company	Date	Time	Received By	Company	Date	Time

Lab Courier
Shipped
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: PCP - pentachlorophenol

Lab Comments:

TAL-4124-500 (1209)

9/9/2019

Login Sample Receipt Checklist

Client: Cedar Corporation

Job Number: 500-168860-1

Login Number: 168860
List Number: 1
Creator: James, Jeff A

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	3.2
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	