Keenan, Gina N - DNR

From: Kevin Bartel <kevin.bartel@cedarcorp.com>
Sent: Tuesday, January 15, 2019 10:47 AM
To: Tim Swiggum
Cc: Brian Chapman; Keenan, Gina N - DNR; Brian Streveler; Dennis Schultz
Subject: RE: Owen Manufacturing VPLE
Attachments: 40180980_frc.pdf

Good Morning Tim.

I had a good New Year and I Hope you did as well.
I developed the wells on 11/15/2018 per our last communication. I performed the first round of groundwater sampling on 12/13/2018. The four new side gradient wells I installed in October 2018 all came back non-detect for VOC compounds and very low levels for PAH. I will be completing the additional round of groundwater sampling hopefully in early March 2019 (weather pending).

If you are curious about the results I have attached the analytical report from the first round of sampling. The new wells I installed were MW-7, PZ-7, MW-8 and MW-9.

Thank you,

Kevin Bartel
Staff Geologist
Cedar Corporation
1695 Bellevue St | Bellevue | WI | 54311
Office: 920-491-9081 | TF: 800-472-7372
kevin.bartel@cedarcorp.com
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From: Tim Swiggum <timswiggum@cityofowen.com>
Sent: 15 January, 2019 10:28
To: Kevin Bartel <kevin.bartel@cedarcorp.com>; Keenan, Gina N - DNR <Gina.Keenan@wisconsin.gov>; Brian Chapman <brian.chapman@cedarcorp.com>; Brian Streveler <brians@heartlandcooperativeservices.com>; Dennis Schultz <dschultz@heartlandcooperativeservices.com>
Subject: Re: Owen Manufacturing VPLE

Hello all,
I hope everyone is off and running for the New Year!
I am trying to catch up on things and was asked how the VPLE insurance is going. I believe that we are getting close to finishing this project which will certainly be a relief for many of us. It would be good for us to hear from Kevin and Gina as to how the first round of testing went and to clarify anything else the DNR will need to close this out and certify the insurance. I know that we have another round of testing to be done this early Spring and then, depending on the results I suppose, it is my hope that there will be only loose ends to tie up and a commitment to test for (?) years.
Thanks for all your past help and hopefully we will get it done soon,
Tim

On Tue, Nov 13, 2018 at 2:05 PM Kevin Bartel <kevin.bartel@cedarcorp.com> wrote:

Good Afternoon Tim,

I just wanted to give you a brief update on where we are at with this project. I installed the additional 4 monitoring wells in October. The next step would be to develop the wells (which I plan to do on this Thursday 11-15-2018) following the NR 141 requirements and then sample after a minimum of 1 week after development. After that first round of sampling is complete a second round needs to be completed after a minimum period of 90 days after the first sampling event.

Feel free to let Brian or myself know if you have any other questions.

Thank you,

Kevin Bartel

Staff Geologist

Cedar Corporation

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kevin.bartel@cedarcorp.com

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Tim Swiggum
Community Development Coordinator
City of Owen, Wisconsin
timswiggum@cityofowen.com
(715)613-1422

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

December 19, 2018

Kevin Bartel
Cedar Corporation
604 Wilson Avenue
Menomonie, WI 54751

RE: Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Dear Kevin Bartel:
Enclosed are the analytical results for sample(s) received by the laboratory on December 13, 2018. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steven Mleczko
steve.mleczko@pacelabs.com
(920)469-2436
Project Manager

Enclosures

cc: Matt Taylor, Cedar Corporation

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CERTIFICATIONS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky UST Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
New York Certification #: 12064
North Dakota Certification #: R-150
Virginia VELAP ID: 460263
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
Wisconsin Certification #: 405132750
Wisconsin DATCP Certification #: 105-444
USDA Soil Permit #: P330-16-00157
Federal Fish & Wildlife Permit #: LE51774A-0

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SAMPLE SUMMARY

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40180980001	**MW-1**	Water	12/13/18 11:20	12/13/18 16:00
40180980002	**PZ-1**	Water	12/13/18 11:30	12/13/18 16:00
40180980003	**MW-1A**	Water	12/13/18 11:40	12/13/18 16:00
40180980004	**MW-2**	Water	12/13/18 12:20	12/13/18 16:00
40180980005	**MW-3**	Water	12/13/18 12:30	12/13/18 16:00
40180980006	**MW-5**	Water	12/13/18 12:40	12/13/18 16:00
40180980007	**MW-6**	Water	12/13/18 12:50	12/13/18 16:00
40180980008	**PZ-6**	Water	12/13/18 13:00	12/13/18 16:00
40180980009	**MW-7**	Water	12/13/18 10:20	12/13/18 16:00
40180980010	**PZ-7**	Water	12/13/18 10:35	12/13/18 16:00
40180980011	**MW-8**	Water	12/13/18 10:50	12/13/18 16:00
40180980012	**MW-9**	Water	12/13/18 11:05	12/13/18 16:00

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SAMPLE ANALYTE COUNT

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40180980001	**MW-1**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980002	**PZ-1**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980003	**MW-1A**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980004	**MW-2**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980005	**MW-3**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980006	**MW-5**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980007	**MW-6**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980008	**PZ-6**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980009	**MW-7**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980010	**PZ-7**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980011	**MW-8**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G
40180980012	**MW-9**	WI MOD GRO	ALD	11	PASI-G
		EPA 8270 by HVI	TPO	20	PASI-G

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: MW-1 **Lab ID: 40180980001** Collected: 12/13/18 11:20 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<153**	ug/L	510	153	500		12/14/18 16:57	71-43-2	
Ethylbenzene	**627**	ug/L	550	164	500		12/14/18 16:57	100-41-4	
Methyl-tert-butyl ether	**<160**	ug/L	535	160	500		12/14/18 16:57	1634-04-4	
Naphthalene	**<253**	ug/L	840	253	500		12/14/18 16:57	91-20-3	
Toluene	**33900**	ug/L	815	244	500		12/14/18 16:57	108-88-3	
1,2,4-Trimethylbenzene	**<171**	ug/L	570	171	500		12/14/18 16:57	95-63-6	
1,3,5-Trimethylbenzene	**<164**	ug/L	545	164	500		12/14/18 16:57	108-67-8	
Xylene (Total)	**3280**	ug/L	1620	485	500		12/14/18 16:57	1330-20-7	
m&p-Xylene	**2290**	ug/L	1090	328	500		12/14/18 16:57	179601-23-1	
o-Xylene	**990**	ug/L	525	158	500		12/14/18 16:57	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	101	%	80-120		500		12/14/18 16:57	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.017J**	ug/L	0.027	0.0055	1	12/17/18 08:55	12/18/18 14:54	83-32-9	
Acenaphthylene	**<0.0045**	ug/L	0.022	0.0045	1	12/17/18 08:55	12/18/18 14:54	208-96-8	
Anthracene	**<0.0094**	ug/L	0.047	0.0094	1	12/17/18 08:55	12/18/18 14:54	120-12-7	
Benzo(a)anthracene	**0.0070J**	ug/L	0.034	0.0068	1	12/17/18 08:55	12/18/18 14:54	56-55-3	
Benzo(a)pyrene	**<0.0095**	ug/L	0.047	0.0095	1	12/17/18 08:55	12/18/18 14:54	50-32-8	
Benzo(b)fluoranthene	**<0.0052**	ug/L	0.026	0.0052	1	12/17/18 08:55	12/18/18 14:54	205-99-2	
Benzo(g,h,i)perylene	**0.010J**	ug/L	0.031	0.0061	1	12/17/18 08:55	12/18/18 14:54	191-24-2	
Benzo(k)fluoranthene	**<0.0068**	ug/L	0.034	0.0068	1	12/17/18 08:55	12/18/18 14:54	207-08-9	
Chrysene	**<0.012**	ug/L	0.059	0.012	1	12/17/18 08:55	12/18/18 14:54	218-01-9	
Dibenz(a,h)anthracene	**<0.0090**	ug/L	0.045	0.0090	1	12/17/18 08:55	12/18/18 14:54	53-70-3	
Fluoranthene	**<0.0096**	ug/L	0.048	0.0096	1	12/17/18 08:55	12/18/18 14:54	206-44-0	
Fluorene	**0.023J**	ug/L	0.036	0.0072	1	12/17/18 08:55	12/18/18 14:54	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.079	0.016	1	12/17/18 08:55	12/18/18 14:54	193-39-5	
1-Methylnaphthalene	**0.051**	ug/L	0.027	0.0053	1	12/17/18 08:55	12/18/18 14:54	90-12-0	
2-Methylnaphthalene	**0.089**	ug/L	0.022	0.0044	1	12/17/18 08:55	12/18/18 14:54	91-57-6	
Naphthalene	**2.8**	ug/L	0.083	0.017	1	12/17/18 08:55	12/18/18 14:54	91-20-3	
Phenanthrene	**0.014J**	ug/L	0.062	0.012	1	12/17/18 08:55	12/18/18 14:54	85-01-8	
Pyrene	**0.0075J**	ug/L	0.034	0.0069	1	12/17/18 08:55	12/18/18 14:54	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	56	%	29-80		1	12/17/18 08:55	12/18/18 14:54	321-60-8	
Terphenyl-d14 (S)	32	%	10-123		1	12/17/18 08:55	12/18/18 14:54	1718-51-0	

Sample: PZ-1 **Lab ID: 40180980002** Collected: 12/13/18 11:30 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**2.6**	ug/L	1.0	0.31	1		12/14/18 12:16	71-43-2	
Ethylbenzene	**115**	ug/L	1.1	0.33	1		12/14/18 12:16	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 12:16	1634-04-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: PZ-1 **Lab ID: 40180980002** Collected: 12/13/18 11:30 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 12:16	91-20-3	
Toluene	**6.1**	ug/L	1.6	0.49	1		12/14/18 12:16	108-88-3	
1,2,4-Trimethylbenzene	**2.5**	ug/L	1.1	0.34	1		12/14/18 12:16	95-63-6	
1,3,5-Trimethylbenzene	**0.70J**	ug/L	1.1	0.33	1		12/14/18 12:16	108-67-8	
Xylene (Total)	**684**	ug/L	3.2	0.97	1		12/14/18 12:16	1330-20-7	
m&p-Xylene	**449**	ug/L	2.2	0.66	1		12/14/18 12:16	179601-23-1	
o-Xylene	**235**	ug/L	1.0	0.32	1		12/14/18 12:16	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	104	%	80-120		1		12/14/18 12:16	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.019J**	ug/L	0.032	0.0063	1	12/17/18 08:55	12/18/18 15:44	83-32-9	
Acenaphthylene	**<0.0052**	ug/L	0.026	0.0052	1	12/17/18 08:55	12/18/18 15:44	208-96-8	
Anthracene	**0.025J**	ug/L	0.054	0.011	1	12/17/18 08:55	12/18/18 15:44	120-12-7	
Benzo(a)anthracene	**<0.0079**	ug/L	0.039	0.0079	1	12/17/18 08:55	12/18/18 15:44	56-55-3	
Benzo(a)pyrene	**<0.011**	ug/L	0.055	0.011	1	12/17/18 08:55	12/18/18 15:44	50-32-8	
Benzo(b)fluoranthene	**<0.0060**	ug/L	0.030	0.0060	1	12/17/18 08:55	12/18/18 15:44	205-99-2	
Benzo(g,h,i)perylene	**0.0093J**	ug/L	0.035	0.0071	1	12/17/18 08:55	12/18/18 15:44	191-24-2	
Benzo(k)fluoranthene	**<0.0079**	ug/L	0.039	0.0079	1	12/17/18 08:55	12/18/18 15:44	207-08-9	
Chrysene	**<0.014**	ug/L	0.068	0.014	1	12/17/18 08:55	12/18/18 15:44	218-01-9	
Dibenz(a,h)anthracene	**<0.010**	ug/L	0.052	0.010	1	12/17/18 08:55	12/18/18 15:44	53-70-3	
Fluoranthene	**<0.011**	ug/L	0.056	0.011	1	12/17/18 08:55	12/18/18 15:44	206-44-0	
Fluorene	**0.012J**	ug/L	0.042	0.0083	1	12/17/18 08:55	12/18/18 15:44	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.018**	ug/L	0.092	0.018	1	12/17/18 08:55	12/18/18 15:44	193-39-5	
1-Methylnaphthalene	**0.074**	ug/L	0.031	0.0061	1	12/17/18 08:55	12/18/18 15:44	90-12-0	
2-Methylnaphthalene	**0.080**	ug/L	0.026	0.0051	1	12/17/18 08:55	12/18/18 15:44	91-57-6	
Naphthalene	**0.11**	ug/L	0.095	0.019	1	12/17/18 08:55	12/18/18 15:44	91-20-3	
Phenanthrene	**0.015J**	ug/L	0.072	0.014	1	12/17/18 08:55	12/18/18 15:44	85-01-8	
Pyrene	**0.0086J**	ug/L	0.040	0.0080	1	12/17/18 08:55	12/18/18 15:44	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	59	%	29-80		1	12/17/18 08:55	12/18/18 15:44	321-60-8	
Terphenyl-d14 (S)	27	%	10-123		1	12/17/18 08:55	12/18/18 15:44	1718-51-0	

Sample: MW-1A **Lab ID: 40180980003** Collected: 12/13/18 11:40 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**1440**	ug/L	204	61.2	200		12/14/18 17:23	71-43-2	
Ethylbenzene	**2880**	ug/L	220	65.8	200		12/14/18 17:23	100-41-4	
Methyl-tert-butyl ether	**<64.0**	ug/L	214	64.0	200		12/14/18 17:23	1634-04-4	
Naphthalene	**452**	ug/L	336	101	200		12/14/18 17:23	91-20-3	
Toluene	**12200**	ug/L	326	97.8	200		12/14/18 17:23	108-88-3	
1,2,4-Trimethylbenzene	**2090**	ug/L	228	68.4	200		12/14/18 17:23	95-63-6	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: MW-1A **Lab ID: 40180980003** Collected: 12/13/18 11:40 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
1,3,5-Trimethylbenzene	**548**	ug/L	218	65.6	200		12/14/18 17:23	108-67-8	
Xylene (Total)	**13800**	ug/L	646	194	200		12/14/18 17:23	1330-20-7	
m&p-Xylene	**9740**	ug/L	436	131	200		12/14/18 17:23	179601-23-1	
o-Xylene	**4070**	ug/L	210	63.0	200		12/14/18 17:23	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	102	%	80-120		200		12/14/18 17:23	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.12**	ug/L	0.58	0.12	20	12/17/18 08:55	12/18/18 20:27	83-32-9	
Acenaphthylene	**<0.095**	ug/L	0.47	0.095	20	12/17/18 08:55	12/18/18 20:27	208-96-8	
Anthracene	**<0.20**	ug/L	1.0	0.20	20	12/17/18 08:55	12/18/18 20:27	120-12-7	
Benzo(a)anthracene	**<0.14**	ug/L	0.72	0.14	20	12/17/18 08:55	12/18/18 20:27	56-55-3	
Benzo(a)pyrene	**<0.20**	ug/L	1.0	0.20	20	12/17/18 08:55	12/18/18 20:27	50-32-8	
Benzo(b)fluoranthene	**<0.11**	ug/L	0.55	0.11	20	12/17/18 08:55	12/18/18 20:27	205-99-2	
Benzo(g,h,i)perylene	**<0.13**	ug/L	0.65	0.13	20	12/17/18 08:55	12/18/18 20:27	191-24-2	
Benzo(k)fluoranthene	**<0.14**	ug/L	0.72	0.14	20	12/17/18 08:55	12/18/18 20:27	207-08-9	
Chrysene	**<0.25**	ug/L	1.2	0.25	20	12/17/18 08:55	12/18/18 20:27	218-01-9	
Dibenz(a,h)anthracene	**<0.19**	ug/L	0.95	0.19	20	12/17/18 08:55	12/18/18 20:27	53-70-3	
Fluoranthene	**<0.20**	ug/L	1.0	0.20	20	12/17/18 08:55	12/18/18 20:27	206-44-0	
Fluorene	**<0.15**	ug/L	0.76	0.15	20	12/17/18 08:55	12/18/18 20:27	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.34**	ug/L	1.7	0.34	20	12/17/18 08:55	12/18/18 20:27	193-39-5	
1-Methylnaphthalene	**14.0**	ug/L	0.56	0.11	20	12/17/18 08:55	12/18/18 20:27	90-12-0	
2-Methylnaphthalene	**27.3**	ug/L	0.47	0.093	20	12/17/18 08:55	12/18/18 20:27	91-57-6	
Naphthalene	**185**	ug/L	1.7	0.35	20	12/17/18 08:55	12/18/18 20:27	91-20-3	
Phenanthrene	**<0.26**	ug/L	1.3	0.26	20	12/17/18 08:55	12/18/18 20:27	85-01-8	
Pyrene	**<0.15**	ug/L	0.73	0.15	20	12/17/18 08:55	12/18/18 20:27	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	31	%	29-80		20	12/17/18 08:55	12/18/18 20:27	321-60-8	
Terphenyl-d14 (S)	0	%	10-123		20	12/17/18 08:55	12/18/18 20:27	1718-51-0	S4

Sample: MW-2 **Lab ID: 40180980004** Collected: 12/13/18 12:20 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<1.5**	ug/L	5.1	1.5	5		12/14/18 17:48	71-43-2	
Ethylbenzene	**348**	ug/L	5.5	1.6	5		12/14/18 17:48	100-41-4	
Methyl-tert-butyl ether	**<1.6**	ug/L	5.4	1.6	5		12/14/18 17:48	1634-04-4	
Naphthalene	**<2.5**	ug/L	8.4	2.5	5		12/14/18 17:48	91-20-3	
Toluene	**179**	ug/L	8.2	2.4	5		12/14/18 17:48	108-88-3	
1,2,4-Trimethylbenzene	**7.8**	ug/L	5.7	1.7	5		12/14/18 17:48	95-63-6	
1,3,5-Trimethylbenzene	**<1.6**	ug/L	5.4	1.6	5		12/14/18 17:48	108-67-8	
Xylene (Total)	**157**	ug/L	16.2	4.8	5		12/14/18 17:48	1330-20-7	
m&p-Xylene	**95.7**	ug/L	10.9	3.3	5		12/14/18 17:48	179601-23-1	

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(920)469-2436

ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: MW-2 **Lab ID: 40180980004** Collected: 12/13/18 12:20 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
o-Xylene	**61.1**	ug/L	5.2	1.6	5		12/14/18 17:48	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	103	%	80-120		5		12/14/18 17:48	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.010J**	ug/L	0.029	0.0058	1	12/17/18 08:55	12/18/18 16:00	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.024	0.0047	1	12/17/18 08:55	12/18/18 16:00	208-96-8	
Anthracene	**<0.010**	ug/L	0.050	0.010	1	12/17/18 08:55	12/18/18 16:00	120-12-7	
Benzo(a)anthracene	**<0.0072**	ug/L	0.036	0.0072	1	12/17/18 08:55	12/18/18 16:00	56-55-3	
Benzo(a)pyrene	**<0.010**	ug/L	0.050	0.010	1	12/17/18 08:55	12/18/18 16:00	50-32-8	
Benzo(b)fluoranthene	**<0.0055**	ug/L	0.027	0.0055	1	12/17/18 08:55	12/18/18 16:00	205-99-2	
Benzo(g,h,i)perylene	**0.0087J**	ug/L	0.032	0.0065	1	12/17/18 08:55	12/18/18 16:00	191-24-2	
Benzo(k)fluoranthene	**<0.0072**	ug/L	0.036	0.0072	1	12/17/18 08:55	12/18/18 16:00	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	12/17/18 08:55	12/18/18 16:00	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.048	0.0095	1	12/17/18 08:55	12/18/18 16:00	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.051	0.010	1	12/17/18 08:55	12/18/18 16:00	206-44-0	
Fluorene	**0.014J**	ug/L	0.038	0.0076	1	12/17/18 08:55	12/18/18 16:00	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.084	0.017	1	12/17/18 08:55	12/18/18 16:00	193-39-5	
1-Methylnaphthalene	**0.045**	ug/L	0.028	0.0056	1	12/17/18 08:55	12/18/18 16:00	90-12-0	
2-Methylnaphthalene	**0.041**	ug/L	0.023	0.0047	1	12/17/18 08:55	12/18/18 16:00	91-57-6	
Naphthalene	**0.47**	ug/L	0.087	0.017	1	12/17/18 08:55	12/18/18 16:00	91-20-3	
Phenanthrene	**0.013J**	ug/L	0.066	0.013	1	12/17/18 08:55	12/18/18 16:00	85-01-8	
Pyrene	**<0.0073**	ug/L	0.036	0.0073	1	12/17/18 08:55	12/18/18 16:00	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	66	%	29-80		1	12/17/18 08:55	12/18/18 16:00	321-60-8	
Terphenyl-d14 (S)	30	%	10-123		1	12/17/18 08:55	12/18/18 16:00	1718-51-0	

Sample: MW-3 **Lab ID: 40180980005** Collected: 12/13/18 12:30 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		12/14/18 12:42	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 12:42	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 12:42	1634-04-4	
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 12:42	91-20-3	
Toluene	**<0.49**	ug/L	1.6	0.49	1		12/14/18 12:42	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		12/14/18 12:42	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 12:42	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		12/14/18 12:42	1330-20-7	
m&p-Xylene	**<0.66**	ug/L	2.2	0.66	1		12/14/18 12:42	179601-23-1	
o-Xylene	**<0.32**	ug/L	1.0	0.32	1		12/14/18 12:42	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%	80-120		1		12/14/18 12:42	98-08-8	

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: MW-3 **Lab ID: 40180980005** Collected: 12/13/18 12:30 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0058**	ug/L	0.029	0.0058	1	12/17/18 08:55	12/18/18 16:17	83-32-9	
Acenaphthylene	**<0.0048**	ug/L	0.024	0.0048	1	12/17/18 08:55	12/18/18 16:17	208-96-8	
Anthracene	**0.031J**	ug/L	0.050	0.010	1	12/17/18 08:55	12/18/18 16:17	120-12-7	
Benzo(a)anthracene	**<0.0073**	ug/L	0.036	0.0073	1	12/17/18 08:55	12/18/18 16:17	56-55-3	
Benzo(a)pyrene	**<0.010**	ug/L	0.051	0.010	1	12/17/18 08:55	12/18/18 16:17	50-32-8	
Benzo(b)fluoranthene	**<0.0055**	ug/L	0.028	0.0055	1	12/17/18 08:55	12/18/18 16:17	205-99-2	
Benzo(g,h,i)perylene	**0.0080J**	ug/L	0.033	0.0065	1	12/17/18 08:55	12/18/18 16:17	191-24-2	
Benzo(k)fluoranthene	**<0.0073**	ug/L	0.036	0.0073	1	12/17/18 08:55	12/18/18 16:17	207-08-9	
Chrysene	**<0.013**	ug/L	0.063	0.013	1	12/17/18 08:55	12/18/18 16:17	218-01-9	
Dibenz(a,h)anthracene	**<0.0096**	ug/L	0.048	0.0096	1	12/17/18 08:55	12/18/18 16:17	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.051	0.010	1	12/17/18 08:55	12/18/18 16:17	206-44-0	
Fluorene	**0.012J**	ug/L	0.038	0.0077	1	12/17/18 08:55	12/18/18 16:17	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.085	0.017	1	12/17/18 08:55	12/18/18 16:17	193-39-5	
1-Methylnaphthalene	**0.0069J**	ug/L	0.028	0.0057	1	12/17/18 08:55	12/18/18 16:17	90-12-0	
2-Methylnaphthalene	**0.0090J**	ug/L	0.024	0.0047	1	12/17/18 08:55	12/18/18 16:17	91-57-6	
Naphthalene	**<0.018**	ug/L	0.088	0.018	1	12/17/18 08:55	12/18/18 16:17	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.066	0.013	1	12/17/18 08:55	12/18/18 16:17	85-01-8	
Pyrene	**<0.0074**	ug/L	0.037	0.0074	1	12/17/18 08:55	12/18/18 16:17	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	67	%	29-80		1	12/17/18 08:55	12/18/18 16:17	321-60-8	
Terphenyl-d14 (S)	33	%	10-123		1	12/17/18 08:55	12/18/18 16:17	1718-51-0	

Sample: MW-5 **Lab ID: 40180980006** Collected: 12/13/18 12:40 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		12/14/18 20:22	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 20:22	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 20:22	1634-04-4	
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 20:22	91-20-3	
Toluene	**<0.49**	ug/L	1.6	0.49	1		12/14/18 20:22	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		12/14/18 20:22	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 20:22	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		12/14/18 20:22	1330-20-7	
m&p-Xylene	**<0.66**	ug/L	2.2	0.66	1		12/14/18 20:22	179601-23-1	
o-Xylene	**<0.32**	ug/L	1.0	0.32	1		12/14/18 20:22	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	100	%	80-120		1		12/14/18 20:22	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0060**	ug/L	0.030	0.0060	1	12/17/18 08:55	12/18/18 16:50	83-32-9	
Acenaphthylene	**<0.0049**	ug/L	0.025	0.0049	1	12/17/18 08:55	12/18/18 16:50	208-96-8	
Anthracene	**<0.010**	ug/L	0.052	0.010	1	12/17/18 08:55	12/18/18 16:50	120-12-7	

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: MW-5 **Lab ID: 40180980006** Collected: 12/13/18 12:40 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(a)anthracene	**<0.0075**	ug/L	0.037	0.0075	1	12/17/18 08:55	12/18/18 16:50	56-55-3	
Benzo(a)pyrene	**<0.010**	ug/L	0.052	0.010	1	12/17/18 08:55	12/18/18 16:50	50-32-8	
Benzo(b)fluoranthene	**<0.0057**	ug/L	0.028	0.0057	1	12/17/18 08:55	12/18/18 16:50	205-99-2	
Benzo(g,h,i)perylene	**0.0070J**	ug/L	0.034	0.0067	1	12/17/18 08:55	12/18/18 16:50	191-24-2	
Benzo(k)fluoranthene	**<0.0075**	ug/L	0.037	0.0075	1	12/17/18 08:55	12/18/18 16:50	207-08-9	
Chrysene	**<0.013**	ug/L	0.065	0.013	1	12/17/18 08:55	12/18/18 16:50	218-01-9	
Dibenz(a,h)anthracene	**<0.0099**	ug/L	0.050	0.0099	1	12/17/18 08:55	12/18/18 16:50	53-70-3	
Fluoranthene	**<0.011**	ug/L	0.053	0.011	1	12/17/18 08:55	12/18/18 16:50	206-44-0	
Fluorene	**<0.0079**	ug/L	0.039	0.0079	1	12/17/18 08:55	12/18/18 16:50	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.087	0.017	1	12/17/18 08:55	12/18/18 16:50	193-39-5	
1-Methylnaphthalene	**<0.0058**	ug/L	0.029	0.0058	1	12/17/18 08:55	12/18/18 16:50	90-12-0	
2-Methylnaphthalene	**<0.0049**	ug/L	0.024	0.0049	1	12/17/18 08:55	12/18/18 16:50	91-57-6	
Naphthalene	**<0.018**	ug/L	0.091	0.018	1	12/17/18 08:55	12/18/18 16:50	91-20-3	
Phenanthrene	**<0.014**	ug/L	0.068	0.014	1	12/17/18 08:55	12/18/18 16:50	85-01-8	
Pyrene	**<0.0076**	ug/L	0.038	0.0076	1	12/17/18 08:55	12/18/18 16:50	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	61	%	29-80		1	12/17/18 08:55	12/18/18 16:50	321-60-8	
Terphenyl-d14 (S)	33	%	10-123		1	12/17/18 08:55	12/18/18 16:50	1718-51-0	

Sample: MW-6 **Lab ID: 40180980007** Collected: 12/13/18 12:50 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		12/14/18 20:47	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 20:47	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 20:47	1634-04-4	
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 20:47	91-20-3	
Toluene	**<0.49**	ug/L	1.6	0.49	1		12/14/18 20:47	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		12/14/18 20:47	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 20:47	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		12/14/18 20:47	1330-20-7	
m&p-Xylene	**<0.66**	ug/L	2.2	0.66	1		12/14/18 20:47	179601-23-1	
o-Xylene	**<0.32**	ug/L	1.0	0.32	1		12/14/18 20:47	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	99	%	80-120		1		12/14/18 20:47	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0057**	ug/L	0.029	0.0057	1	12/17/18 08:55	12/18/18 17:07	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	12/17/18 08:55	12/18/18 17:07	208-96-8	
Anthracene	**<0.0099**	ug/L	0.049	0.0099	1	12/17/18 08:55	12/18/18 17:07	120-12-7	
Benzo(a)anthracene	**<0.0071**	ug/L	0.036	0.0071	1	12/17/18 08:55	12/18/18 17:07	56-55-3	
Benzo(a)pyrene	**<0.0099**	ug/L	0.050	0.0099	1	12/17/18 08:55	12/18/18 17:07	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	12/17/18 08:55	12/18/18 17:07	205-99-2	

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: MW-6 **Lab ID: 40180980007** Collected: 12/13/18 12:50 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Benzo(g,h,i)perylene	**0.0083J**	ug/L	0.032	0.0064	1	12/17/18 08:55	12/18/18 17:07	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.036	0.0071	1	12/17/18 08:55	12/18/18 17:07	207-08-9	
Chrysene	**<0.012**	ug/L	0.062	0.012	1	12/17/18 08:55	12/18/18 17:07	218-01-9	
Dibenz(a,h)anthracene	**<0.0095**	ug/L	0.047	0.0095	1	12/17/18 08:55	12/18/18 17:07	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	12/17/18 08:55	12/18/18 17:07	206-44-0	
Fluorene	**<0.0075**	ug/L	0.038	0.0075	1	12/17/18 08:55	12/18/18 17:07	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.017**	ug/L	0.083	0.017	1	12/17/18 08:55	12/18/18 17:07	193-39-5	
1-Methylnaphthalene	**<0.0056**	ug/L	0.028	0.0056	1	12/17/18 08:55	12/18/18 17:07	90-12-0	
2-Methylnaphthalene	**<0.0046**	ug/L	0.023	0.0046	1	12/17/18 08:55	12/18/18 17:07	91-57-6	
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	12/17/18 08:55	12/18/18 17:07	91-20-3	
Phenanthrene	**<0.013**	ug/L	0.065	0.013	1	12/17/18 08:55	12/18/18 17:07	85-01-8	
Pyrene	**<0.0072**	ug/L	0.036	0.0072	1	12/17/18 08:55	12/18/18 17:07	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	62	%	29-80		1	12/17/18 08:55	12/18/18 17:07	321-60-8	
Terphenyl-d14 (S)	38	%	10-123		1	12/17/18 08:55	12/18/18 17:07	1718-51-0	

Sample: PZ-6 **Lab ID: 40180980008** Collected: 12/13/18 13:00 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		12/14/18 13:08	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 13:08	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 13:08	1634-04-4	
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 13:08	91-20-3	
Toluene	**<0.49**	ug/L	1.6	0.49	1		12/14/18 13:08	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		12/14/18 13:08	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 13:08	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		12/14/18 13:08	1330-20-7	
m&p-Xylene	**<0.66**	ug/L	2.2	0.66	1		12/14/18 13:08	179601-23-1	
o-Xylene	**<0.32**	ug/L	1.0	0.32	1		12/14/18 13:08	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	97	%	80-120		1		12/14/18 13:08	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0063**	ug/L	0.031	0.0063	1	12/17/18 08:55	12/18/18 17:24	83-32-9	
Acenaphthylene	**<0.0051**	ug/L	0.026	0.0051	1	12/17/18 08:55	12/18/18 17:24	208-96-8	
Anthracene	**<0.011**	ug/L	0.054	0.011	1	12/17/18 08:55	12/18/18 17:24	120-12-7	
Benzo(a)anthracene	**<0.0078**	ug/L	0.039	0.0078	1	12/17/18 08:55	12/18/18 17:24	56-55-3	
Benzo(a)pyrene	**<0.011**	ug/L	0.054	0.011	1	12/17/18 08:55	12/18/18 17:24	50-32-8	
Benzo(b)fluoranthene	**<0.0059**	ug/L	0.030	0.0059	1	12/17/18 08:55	12/18/18 17:24	205-99-2	
Benzo(g,h,i)perylene	**0.0076J**	ug/L	0.035	0.0070	1	12/17/18 08:55	12/18/18 17:24	191-24-2	
Benzo(k)fluoranthene	**<0.0078**	ug/L	0.039	0.0078	1	12/17/18 08:55	12/18/18 17:24	207-08-9	
Chrysene	**<0.013**	ug/L	0.067	0.013	1	12/17/18 08:55	12/18/18 17:24	218-01-9	

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: PZ-6 **Lab ID: 40180980008** Collected: 12/13/18 13:00 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Dibenz(a,h)anthracene	**<0.010**	ug/L	0.052	0.010	1	12/17/18 08:55	12/18/18 17:24	53-70-3	
Fluoranthene	**<0.011**	ug/L	0.055	0.011	1	12/17/18 08:55	12/18/18 17:24	206-44-0	
Fluorene	**<0.0082**	ug/L	0.041	0.0082	1	12/17/18 08:55	12/18/18 17:24	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.018**	ug/L	0.091	0.018	1	12/17/18 08:55	12/18/18 17:24	193-39-5	
1-Methylnaphthalene	**<0.0061**	ug/L	0.030	0.0061	1	12/17/18 08:55	12/18/18 17:24	90-12-0	
2-Methylnaphthalene	**<0.0051**	ug/L	0.025	0.0051	1	12/17/18 08:55	12/18/18 17:24	91-57-6	
Naphthalene	**<0.019**	ug/L	0.094	0.019	1	12/17/18 08:55	12/18/18 17:24	91-20-3	
Phenanthrene	**<0.014**	ug/L	0.071	0.014	1	12/17/18 08:55	12/18/18 17:24	85-01-8	
Pyrene	**<0.0079**	ug/L	0.039	0.0079	1	12/17/18 08:55	12/18/18 17:24	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	62	%	29-80		1	12/17/18 08:55	12/18/18 17:24	321-60-8	
Terphenyl-d14 (S)	37	%	10-123		1	12/17/18 08:55	12/18/18 17:24	1718-51-0	

Sample: MW-7 **Lab ID: 40180980009** Collected: 12/13/18 10:20 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		12/14/18 13:33	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 13:33	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 13:33	1634-04-4	
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 13:33	91-20-3	
Toluene	**<0.49**	ug/L	1.6	0.49	1		12/14/18 13:33	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		12/14/18 13:33	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 13:33	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		12/14/18 13:33	1330-20-7	
m&p-Xylene	**<0.66**	ug/L	2.2	0.66	1		12/14/18 13:33	179601-23-1	
o-Xylene	**<0.32**	ug/L	1.0	0.32	1		12/14/18 13:33	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%	80-120		1		12/14/18 13:33	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0063**	ug/L	0.031	0.0063	1	12/17/18 08:55	12/18/18 17:40	83-32-9	
Acenaphthylene	**<0.0051**	ug/L	0.026	0.0051	1	12/17/18 08:55	12/18/18 17:40	208-96-8	
Anthracene	**<0.011**	ug/L	0.054	0.011	1	12/17/18 08:55	12/18/18 17:40	120-12-7	
Benzo(a)anthracene	**<0.0078**	ug/L	0.039	0.0078	1	12/17/18 08:55	12/18/18 17:40	56-55-3	
Benzo(a)pyrene	**<0.011**	ug/L	0.054	0.011	1	12/17/18 08:55	12/18/18 17:40	50-32-8	
Benzo(b)fluoranthene	**<0.0059**	ug/L	0.030	0.0059	1	12/17/18 08:55	12/18/18 17:40	205-99-2	
Benzo(g,h,i)perylene	**0.0096J**	ug/L	0.035	0.0070	1	12/17/18 08:55	12/18/18 17:40	191-24-2	
Benzo(k)fluoranthene	**<0.0078**	ug/L	0.039	0.0078	1	12/17/18 08:55	12/18/18 17:40	207-08-9	
Chrysene	**<0.013**	ug/L	0.067	0.013	1	12/17/18 08:55	12/18/18 17:40	218-01-9	
Dibenz(a,h)anthracene	**<0.010**	ug/L	0.052	0.010	1	12/17/18 08:55	12/18/18 17:40	53-70-3	
Fluoranthene	**<0.011**	ug/L	0.055	0.011	1	12/17/18 08:55	12/18/18 17:40	206-44-0	
Fluorene	**<0.0082**	ug/L	0.041	0.0082	1	12/17/18 08:55	12/18/18 17:40	86-73-7	

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: MW-7 **Lab ID: 40180980009** Collected: 12/13/18 10:20 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Indeno(1,2,3-cd)pyrene	**<0.018**	ug/L	0.091	0.018	1	12/17/18 08:55	12/18/18 17:40	193-39-5	
1-Methylnaphthalene	**<0.0061**	ug/L	0.030	0.0061	1	12/17/18 08:55	12/18/18 17:40	90-12-0	
2-Methylnaphthalene	**<0.0051**	ug/L	0.025	0.0051	1	12/17/18 08:55	12/18/18 17:40	91-57-6	
Naphthalene	**<0.019**	ug/L	0.094	0.019	1	12/17/18 08:55	12/18/18 17:40	91-20-3	
Phenanthrene	**<0.014**	ug/L	0.071	0.014	1	12/17/18 08:55	12/18/18 17:40	85-01-8	
Pyrene	**0.012J**	ug/L	0.039	0.0079	1	12/17/18 08:55	12/18/18 17:40	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	63	%	29-80		1	12/17/18 08:55	12/18/18 17:40	321-60-8	
Terphenyl-d14 (S)	39	%	10-123		1	12/17/18 08:55	12/18/18 17:40	1718-51-0	

Sample: PZ-7 **Lab ID: 40180980010** Collected: 12/13/18 10:35 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		12/14/18 13:59	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 13:59	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 13:59	1634-04-4	
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 13:59	91-20-3	
Toluene	**<0.49**	ug/L	1.6	0.49	1		12/14/18 13:59	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		12/14/18 13:59	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 13:59	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		12/14/18 13:59	1330-20-7	
m&p-Xylene	**<0.66**	ug/L	2.2	0.66	1		12/14/18 13:59	179601-23-1	
o-Xylene	**<0.32**	ug/L	1.0	0.32	1		12/14/18 13:59	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%	80-120		1		12/14/18 13:59	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.0065J**	ug/L	0.028	0.0057	1	12/17/18 08:55	12/18/18 18:14	83-32-9	
Acenaphthylene	**<0.0047**	ug/L	0.023	0.0047	1	12/17/18 08:55	12/18/18 18:14	208-96-8	
Anthracene	**<0.0098**	ug/L	0.049	0.0098	1	12/17/18 08:55	12/18/18 18:14	120-12-7	
Benzo(a)anthracene	**0.0079J**	ug/L	0.035	0.0071	1	12/17/18 08:55	12/18/18 18:14	56-55-3	
Benzo(a)pyrene	**<0.0098**	ug/L	0.049	0.0098	1	12/17/18 08:55	12/18/18 18:14	50-32-8	
Benzo(b)fluoranthene	**<0.0054**	ug/L	0.027	0.0054	1	12/17/18 08:55	12/18/18 18:14	205-99-2	
Benzo(g,h,i)perylene	**0.013J**	ug/L	0.032	0.0063	1	12/17/18 08:55	12/18/18 18:14	191-24-2	
Benzo(k)fluoranthene	**<0.0071**	ug/L	0.035	0.0071	1	12/17/18 08:55	12/18/18 18:14	207-08-9	
Chrysene	**<0.012**	ug/L	0.061	0.012	1	12/17/18 08:55	12/18/18 18:14	218-01-9	
Dibenz(a,h)anthracene	**<0.0094**	ug/L	0.047	0.0094	1	12/17/18 08:55	12/18/18 18:14	53-70-3	
Fluoranthene	**<0.010**	ug/L	0.050	0.010	1	12/17/18 08:55	12/18/18 18:14	206-44-0	
Fluorene	**0.012J**	ug/L	0.037	0.0074	1	12/17/18 08:55	12/18/18 18:14	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.016**	ug/L	0.082	0.016	1	12/17/18 08:55	12/18/18 18:14	193-39-5	
1-Methylnaphthalene	**0.021J**	ug/L	0.028	0.0055	1	12/17/18 08:55	12/18/18 18:14	90-12-0	
2-Methylnaphthalene	**0.031**	ug/L	0.023	0.0046	1	12/17/18 08:55	12/18/18 18:14	91-57-6	

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: PZ-7 **Lab ID: 40180980010** Collected: 12/13/18 10:35 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Naphthalene	**<0.017**	ug/L	0.086	0.017	1	12/17/18 08:55	12/18/18 18:14	91-20-3	
Phenanthrene	**0.036J**	ug/L	0.064	0.013	1	12/17/18 08:55	12/18/18 18:14	85-01-8	
Pyrene	**0.012J**	ug/L	0.036	0.0071	1	12/17/18 08:55	12/18/18 18:14	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	65	%	29-80		1	12/17/18 08:55	12/18/18 18:14	321-60-8	
Terphenyl-d14 (S)	47	%	10-123		1	12/17/18 08:55	12/18/18 18:14	1718-51-0	

Sample: MW-8 **Lab ID: 40180980011** Collected: 12/13/18 10:50 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		12/14/18 14:24	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 14:24	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 14:24	1634-04-4	
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 14:24	91-20-3	
Toluene	**<0.49**	ug/L	1.6	0.49	1		12/14/18 14:24	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		12/14/18 14:24	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 14:24	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		12/14/18 14:24	1330-20-7	
m&p-Xylene	**<0.66**	ug/L	2.2	0.66	1		12/14/18 14:24	179601-23-1	
o-Xylene	**<0.32**	ug/L	1.0	0.32	1		12/14/18 14:24	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%	80-120		1		12/14/18 14:24	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**0.0089J**	ug/L	0.032	0.0064	1	12/17/18 08:55	12/18/18 18:30	83-32-9	
Acenaphthylene	**<0.0052**	ug/L	0.026	0.0052	1	12/17/18 08:55	12/18/18 18:30	208-96-8	
Anthracene	**<0.011**	ug/L	0.055	0.011	1	12/17/18 08:55	12/18/18 18:30	120-12-7	
Benzo(a)anthracene	**<0.0079**	ug/L	0.040	0.0079	1	12/17/18 08:55	12/18/18 18:30	56-55-3	
Benzo(a)pyrene	**<0.011**	ug/L	0.055	0.011	1	12/17/18 08:55	12/18/18 18:30	50-32-8	
Benzo(b)fluoranthene	**0.0080J**	ug/L	0.030	0.0060	1	12/17/18 08:55	12/18/18 18:30	205-99-2	
Benzo(g,h,i)perylene	**0.012J**	ug/L	0.036	0.0071	1	12/17/18 08:55	12/18/18 18:30	191-24-2	
Benzo(k)fluoranthene	**<0.0079**	ug/L	0.040	0.0079	1	12/17/18 08:55	12/18/18 18:30	207-08-9	
Chrysene	**<0.014**	ug/L	0.069	0.014	1	12/17/18 08:55	12/18/18 18:30	218-01-9	
Dibenz(a,h)anthracene	**<0.011**	ug/L	0.053	0.011	1	12/17/18 08:55	12/18/18 18:30	53-70-3	
Fluoranthene	**0.015J**	ug/L	0.056	0.011	1	12/17/18 08:55	12/18/18 18:30	206-44-0	
Fluorene	**<0.0084**	ug/L	0.042	0.0084	1	12/17/18 08:55	12/18/18 18:30	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.019**	ug/L	0.093	0.019	1	12/17/18 08:55	12/18/18 18:30	193-39-5	
1-Methylnaphthalene	**0.023J**	ug/L	0.031	0.0062	1	12/17/18 08:55	12/18/18 18:30	90-12-0	
2-Methylnaphthalene	**0.0093J**	ug/L	0.026	0.0052	1	12/17/18 08:55	12/18/18 18:30	91-57-6	
Naphthalene	**0.029J**	ug/L	0.096	0.019	1	12/17/18 08:55	12/18/18 18:30	91-20-3	
Phenanthrene	**<0.015**	ug/L	0.073	0.015	1	12/17/18 08:55	12/18/18 18:30	85-01-8	
Pyrene	**0.017J**	ug/L	0.040	0.0081	1	12/17/18 08:55	12/18/18 18:30	129-00-0	

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ANALYTICAL RESULTS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Sample: MW-8 **Lab ID: 40180980011** Collected: 12/13/18 10:50 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Surrogates									
2-Fluorobiphenyl (S)	61	%	29-80		1	12/17/18 08:55	12/18/18 18:30	321-60-8	
Terphenyl-d14 (S)	30	%	10-123		1	12/17/18 08:55	12/18/18 18:30	1718-51-0	

Sample: MW-9 **Lab ID: 40180980012** Collected: 12/13/18 11:05 Received: 12/13/18 16:00 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
WIGRO GCV	Analytical Method: WI MOD GRO								
Benzene	**<0.31**	ug/L	1.0	0.31	1		12/14/18 14:50	71-43-2	
Ethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 14:50	100-41-4	
Methyl-tert-butyl ether	**<0.32**	ug/L	1.1	0.32	1		12/14/18 14:50	1634-04-4	
Naphthalene	**<0.51**	ug/L	1.7	0.51	1		12/14/18 14:50	91-20-3	
Toluene	**<0.49**	ug/L	1.6	0.49	1		12/14/18 14:50	108-88-3	
1,2,4-Trimethylbenzene	**<0.34**	ug/L	1.1	0.34	1		12/14/18 14:50	95-63-6	
1,3,5-Trimethylbenzene	**<0.33**	ug/L	1.1	0.33	1		12/14/18 14:50	108-67-8	
Xylene (Total)	**<0.97**	ug/L	3.2	0.97	1		12/14/18 14:50	1330-20-7	
m&p-Xylene	**<0.66**	ug/L	2.2	0.66	1		12/14/18 14:50	179601-23-1	
o-Xylene	**<0.32**	ug/L	1.0	0.32	1		12/14/18 14:50	95-47-6	
Surrogates									
a,a,a-Trifluorotoluene (S)	98	%	80-120		1		12/14/18 14:50	98-08-8	
8270 MSSV PAH by HVI	Analytical Method: EPA 8270 by HVI Preparation Method: EPA 3510								
Acenaphthene	**<0.0065**	ug/L	0.032	0.0065	1	12/17/18 08:55	12/18/18 18:47	83-32-9	
Acenaphthylene	**<0.0053**	ug/L	0.026	0.0053	1	12/17/18 08:55	12/18/18 18:47	208-96-8	
Anthracene	**<0.011**	ug/L	0.056	0.011	1	12/17/18 08:55	12/18/18 18:47	120-12-7	
Benzo(a)anthracene	**<0.0080**	ug/L	0.040	0.0080	1	12/17/18 08:55	12/18/18 18:47	56-55-3	
Benzo(a)pyrene	**<0.011**	ug/L	0.056	0.011	1	12/17/18 08:55	12/18/18 18:47	50-32-8	
Benzo(b)fluoranthene	**<0.0061**	ug/L	0.031	0.0061	1	12/17/18 08:55	12/18/18 18:47	205-99-2	
Benzo(g,h,i)perylene	**0.0083J**	ug/L	0.036	0.0072	1	12/17/18 08:55	12/18/18 18:47	191-24-2	
Benzo(k)fluoranthene	**<0.0080**	ug/L	0.040	0.0080	1	12/17/18 08:55	12/18/18 18:47	207-08-9	
Chrysene	**<0.014**	ug/L	0.069	0.014	1	12/17/18 08:55	12/18/18 18:47	218-01-9	
Dibenz(a,h)anthracene	**<0.011**	ug/L	0.053	0.011	1	12/17/18 08:55	12/18/18 18:47	53-70-3	
Fluoranthene	**<0.011**	ug/L	0.057	0.011	1	12/17/18 08:55	12/18/18 18:47	206-44-0	
Fluorene	**<0.0085**	ug/L	0.042	0.0085	1	12/17/18 08:55	12/18/18 18:47	86-73-7	
Indeno(1,2,3-cd)pyrene	**<0.019**	ug/L	0.094	0.019	1	12/17/18 08:55	12/18/18 18:47	193-39-5	
1-Methylnaphthalene	**<0.0063**	ug/L	0.031	0.0063	1	12/17/18 08:55	12/18/18 18:47	90-12-0	
2-Methylnaphthalene	**<0.0052**	ug/L	0.026	0.0052	1	12/17/18 08:55	12/18/18 18:47	91-57-6	
Naphthalene	**<0.020**	ug/L	0.097	0.020	1	12/17/18 08:55	12/18/18 18:47	91-20-3	
Phenanthrene	**<0.015**	ug/L	0.073	0.015	1	12/17/18 08:55	12/18/18 18:47	85-01-8	
Pyrene	**<0.0081**	ug/L	0.041	0.0081	1	12/17/18 08:55	12/18/18 18:47	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	69	%	29-80		1	12/17/18 08:55	12/18/18 18:47	321-60-8	
Terphenyl-d14 (S)	61	%	10-123		1	12/17/18 08:55	12/18/18 18:47	1718-51-0	

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

QC Batch: 309193 Analysis Method: WI MOD GRO
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water
Associated Lab Samples: 40180980001, 40180980002, 40180980003, 40180980004, 40180980005, 40180980006, 40180980007, 40180980008, 40180980009, 40180980010, 40180980011, 40180980012

METHOD BLANK: 1806064 Matrix: Water
Associated Lab Samples: 40180980001, 40180980002, 40180980003, 40180980004, 40180980005, 40180980006, 40180980007, 40180980008, 40180980009, 40180980010, 40180980011, 40180980012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.34	1.1	12/14/18 10:34	
1,3,5-Trimethylbenzene	ug/L	<0.33	1.1	12/14/18 10:34	
Benzene	ug/L	<0.31	1.0	12/14/18 10:34	
Ethylbenzene	ug/L	<0.33	1.1	12/14/18 10:34	
m&p-Xylene	ug/L	<0.66	2.2	12/14/18 10:34	
Methyl-tert-butyl ether	ug/L	<0.32	1.1	12/14/18 10:34	
Naphthalene	ug/L	<0.51	1.7	12/14/18 10:34	
o-Xylene	ug/L	<0.32	1.0	12/14/18 10:34	
Toluene	ug/L	<0.49	1.6	12/14/18 10:34	
Xylene (Total)	ug/L	<0.97	3.2	12/14/18 10:34	
a,a,a-Trifluorotoluene (S)	%	97	80-120	12/14/18 10:34	

LABORATORY CONTROL SAMPLE & LCSD: 1806065 1806066

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.5	20.5	102	103	80-120	0	20	
1,3,5-Trimethylbenzene	ug/L	20	19.9	20.0	99	100	80-120	1	20	
Benzene	ug/L	20	20.1	20.3	101	102	80-120	1	20	
Ethylbenzene	ug/L	20	20.4	20.6	102	103	80-120	1	20	
m&p-Xylene	ug/L	40	40.1	40.3	100	101	80-120	0	20	
Methyl-tert-butyl ether	ug/L	20	20.3	20.6	102	103	80-120	1	20	
Naphthalene	ug/L	20	20.2	20.6	101	103	80-120	2	20	
o-Xylene	ug/L	20	20.0	20.0	100	100	80-120	0	20	
Toluene	ug/L	20	20.1	20.3	101	101	80-120	1	20	
Xylene (Total)	ug/L	60	60.1	60.3	100	101	80-120	0	20	
a,a,a-Trifluorotoluene (S)	%				97	97	80-120			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1807248 1807249

Parameter	Units	40180980005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2,4-Trimethylbenzene	ug/L	<0.34	20	20	19.4	18.1	97	90	51-160	7	20	
1,3,5-Trimethylbenzene	ug/L	<0.33	20	20	18.3	17.2	92	86	56-146	6	20	
Benzene	ug/L	<0.31	20	20	21.2	21.1	106	106	71-137	0	20	
Ethylbenzene	ug/L	<0.33	20	20	21.6	21.4	108	107	71-141	1	20	
m&p-Xylene	ug/L	<0.66	40	40	40.7	39.7	102	99	66-141	2	20	
Methyl-tert-butyl ether	ug/L	<0.32	20	20	20.7	21.1	104	105	80-120	2	20	

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REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

QUALITY CONTROL DATA

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1807248 1807249

Parameter	Units	40180980005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Naphthalene	ug/L	<0.51	20	20	21.7	21.2	108	106	67-138	2	20	
o-Xylene	ug/L	<0.32	20	20	20.4	20.0	102	100	75-133	2	20	
Toluene	ug/L	<0.49	20	20	21.2	21.0	106	105	76-134	1	20	
Xylene (Total)	ug/L	<0.97	60	60	61.1	59.7	102	100	69-138	2	20	
a,a,a-Trifluorotoluene (S)	%						100	99	80-120			

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(920)469-2436

QUALITY CONTROL DATA

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

QC Batch: 309298 Analysis Method: EPA 8270 by HVI
QC Batch Method: EPA 3510 Analysis Description: 8270 Water PAH by HVI
Associated Lab Samples: 40180980001, 40180980002, 40180980003, 40180980004, 40180980005, 40180980006, 40180980007, 40180980008, 40180980009, 40180980010, 40180980011, 40180980012

METHOD BLANK: 1806706 Matrix: Water
Associated Lab Samples: 40180980001, 40180980002, 40180980003, 40180980004, 40180980005, 40180980006, 40180980007, 40180980008, 40180980009, 40180980010, 40180980011, 40180980012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	<0.0059	0.030	12/17/18 14:14	
2-Methylnaphthalene	ug/L	<0.0049	0.024	12/17/18 14:14	
Acenaphthene	ug/L	<0.0061	0.030	12/17/18 14:14	
Acenaphthylene	ug/L	<0.0050	0.025	12/17/18 14:14	
Anthracene	ug/L	<0.010	0.052	12/17/18 14:14	
Benzo(a)anthracene	ug/L	<0.0076	0.038	12/17/18 14:14	
Benzo(a)pyrene	ug/L	<0.011	0.053	12/17/18 14:14	
Benzo(b)fluoranthene	ug/L	<0.0057	0.029	12/17/18 14:14	
Benzo(g,h,i)perylene	ug/L	<0.0068	0.034	12/17/18 14:14	
Benzo(k)fluoranthene	ug/L	<0.0076	0.038	12/17/18 14:14	
Chrysene	ug/L	<0.013	0.065	12/17/18 14:14	
Dibenz(a,h)anthracene	ug/L	<0.010	0.050	12/17/18 14:14	
Fluoranthene	ug/L	<0.011	0.053	12/17/18 14:14	
Fluorene	ug/L	<0.0080	0.040	12/17/18 14:14	
Indeno(1,2,3-cd)pyrene	ug/L	<0.018	0.088	12/17/18 14:14	
Naphthalene	ug/L	<0.018	0.092	12/17/18 14:14	
Phenanthrene	ug/L	<0.014	0.069	12/17/18 14:14	
Pyrene	ug/L	<0.0076	0.038	12/17/18 14:14	
2-Fluorobiphenyl (S)	%	72	29-80	12/17/18 14:14	
Terphenyl-d14 (S)	%	97	10-123	12/17/18 14:14	

LABORATORY CONTROL SAMPLE: 1806707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	2	1.4	72	50-91	
2-Methylnaphthalene	ug/L	2	1.5	74	48-89	
Acenaphthene	ug/L	2	1.7	83	48-120	
Acenaphthylene	ug/L	2	1.6	79	44-84	
Anthracene	ug/L	2	1.7	84	57-120	
Benzo(a)anthracene	ug/L	2	1.9	93	33-108	
Benzo(a)pyrene	ug/L	2	1.9	96	55-108	
Benzo(b)fluoranthene	ug/L	2	2.1	104	47-106	
Benzo(g,h,i)perylene	ug/L	2	1.5	75	20-75	
Benzo(k)fluoranthene	ug/L	2	2.0	102	50-116	
Chrysene	ug/L	2	1.9	97	64-140	
Dibenz(a,h)anthracene	ug/L	2	1.4	70	14-70	
Fluoranthene	ug/L	2	1.8	90	61-112	
Fluorene	ug/L	2	1.8	92	53-120	

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(920)469-2436

QUALITY CONTROL DATA

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

LABORATORY CONTROL SAMPLE: 1806707

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Indeno(1,2,3-cd)pyrene	ug/L	2	1.9	94	43-105	
Naphthalene	ug/L	2	1.3	65	38-90	
Phenanthrene	ug/L	2	1.7	84	47-105	
Pyrene	ug/L	2	1.9	95	62-119	
2-Fluorobiphenyl (S)	%			78	29-80	
Terphenyl-d14 (S)	%			99	10-123	

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QUALIFIERS

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay

BATCH QUALIFIERS

Batch: 309411

[1]	This batch was extracted with an MS/MSD, but the parent sample was reported in a different batch. The MS / MSD passed all laboratory limits.

ANALYTE QUALIFIERS

S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 06015-001 OWEN UPLE
Pace Project No.: 40180980

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40180980001	**MW-1**	WI MOD GRO	309193		
40180980002	**PZ-1**	WI MOD GRO	309193		
40180980003	**MW-1A**	WI MOD GRO	309193		
40180980004	**MW-2**	WI MOD GRO	309193		
40180980005	**MW-3**	WI MOD GRO	309193		
40180980006	**MW-5**	WI MOD GRO	309193		
40180980007	**MW-6**	WI MOD GRO	309193		
40180980008	**PZ-6**	WI MOD GRO	309193		
40180980009	**MW-7**	WI MOD GRO	309193		
40180980010	**PZ-7**	WI MOD GRO	309193		
40180980011	**MW-8**	WI MOD GRO	309193		
40180980012	**MW-9**	WI MOD GRO	309193		
40180980001	**MW-1**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980002	**PZ-1**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980003	**MW-1A**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980004	**MW-2**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980005	**MW-3**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980006	**MW-5**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980007	**MW-6**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980008	**PZ-6**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980009	**MW-7**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980010	**PZ-7**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980011	**MW-8**	EPA 3510	309298	EPA 8270 by HVI	309411
40180980012	**MW-9**	EPA 3510	309298	EPA 8270 by HVI	309411

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UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

40180980

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	Cedar Corp
Branch/Location:	
Project Contact:	Kevin Bartel
Phone:	
Project Number:	06015-001
Project Name:	Owen UPLE
Project State:	WI
Sampled By (Print):	Kevin Bartel
Sampled By (Sign):	
PO #:	Regulatory Program:

Quote #:	
Mail To Contact:	
Mail To Company:	
Mail To Address:	same
Invoice To Contact:	
Invoice To Company:	
Invoice To Address:	
Invoice To Phone:	

Data Package Options (billable)
☐ EPA Level III
☐ EPA Level IV

MS/MSD
☐ On your sample (billable)
☐ NOT needed on your sample

Matrix Codes
A = Air, W = Water, B = Biota, DW = Drinking Water, C = Charcoal, GW = Ground Water, O = Oil, SW = Surface Water, S = Soil, WW = Waste Water, SI = Sludge, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PVOC + Nap	PAH	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile #
01	MW-1	12-13-18	1120	GW	N	B	X	X			
02	PZ-1		1130								
03	MW-1A		1140								
04	MW-2		1220								
05	MW-3		1230								
06	MW-5		1240								
07	MW-6		1250								
08	PZ-6		1300								
09	MW-7		1020								
10	PZ-7		1035								
11	MW-8		1050								
12	MW-9	↓	1105	↓	↓	↓	↓	↓			
+12	13/15/11										

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
	12/13/18 1600	Susan Wylie Pace	12/13/18 1600
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:
Relinquished By:	Date/Time:	Received By:	Date/Time:

PACE Project No. 40180980

Receipt Temp = ROT °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / ~~Not Present~~ Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

ORIGINAL

Pace Analytical Services, LLC
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Sample Preservation Receipt Form

Client Name: Cedar corp Project #: 40180980

All containers needing preservation have been checked and noted below: ☑Yes ☐No ☐N/A

Lab Lot# of pH paper: 12/19/07 1045268T Lab Std #ID of preservation (if pH adjusted): Initial when completed: Date/ Time:

Pace Lab #	Glass: AG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	Plastic: BP1U	BP2N	BP2Z	BP3U	BP3C	BP3N	BP3S	Vials: DG9A	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	WGFU	WPFU	General: SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001					2													3															2.5 / 5 / 10
002					2													3															2.5 / 5 / 10
003					2													3															2.5 / 5 / 10
004					2													3															2.5 / 5 / 10
005					2													3															2.5 / 5 / 10
006					2													3															2.5 / 5 / 10
007					2													3															2.5 / 5 / 10
008					2													3															2.5 / 5 / 10
009					2													3															2.5 / 5 / 10
010					2													3															2.5 / 5 / 10
011					2													3															2.5 / 5 / 10
012					2													3															2.5 / 5 / 10
013																																	2.5 / 5 / 10
014																																	2.5 / 5 / 10
015																																	2.5 / 5 / 10
016																																	2.5 / 5 / 10
017																																	2.5 / 5 / 10
018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm) : ☐Yes ☑No ☐N/A ***If yes look in headspace column**

AG1U	1 liter amber glass	BP1U	1 liter plastic unpres	DG9A	40 mL amber ascorbic	JGFU	4 oz amber jar unpres
AG1H	1 liter amber glass HCL	BP2N	500 mL plastic HNO3	DG9T	40 mL amber Na Thio	WGFU	4 oz clear jar unpres
AG4S	125 mL amber glass H2SO4	BP2Z	500 mL plastic NaOH, Znact	VG9U	40 mL clear vial unpres	WPFU	4 oz plastic jar unpres
AG4U	120 mL amber glass unpres	BP3U	250 mL plastic unpres	VG9H	40 mL clear vial HCL		
AG5U	100 mL amber glass unpres	BP3C	250 mL plastic NaOH	VG9M	40 mL clear vial MeOH	SP5T	120 mL plastic Na Thiosulfate
AG2S	500 mL amber glass H2SO4	BP3N	250 mL plastic HNO3	VG9D	40 mL clear vial DI	ZPLC	ziploc bag
BG3U	250 mL clear glass unpres	BP3S	250 mL plastic H2SO4			GN:	

Pace Analytical™ 1241 Bellevue Street, Green Bay, WI 54302	Document Name: Sample Condition Upon Receipt (SCUR)	Document Revised: 25Apr2018
	Document No.: F-GB-C-031-Rev.07	Issuing Authority: Pace Green Bay Quality Office

Sample Condition Upon Receipt Form (SCUR)

Project #: WO#: 40180980

Client Name: Cedar Corp

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco ☑ Client ☐ Pace Other: _____

Tracking #: _____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other _____

Thermometer Used SR - NA **Type of Ice:** Wet Blue Dry None ☐ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2.0 Corr: _____

Temp Blank Present: ☐ yes ☑ no **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 12/6/18
Initials: _____

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C.

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☑No	6.
Rush Turn Around Time Requested:	☐Yes ☑No	7.
Sufficient Volume: For Analysis: ☑Yes ☐No MS/MSD: ☐Yes ☑No ☐N/A		8.
Correct Containers Used:	☑Yes ☐No	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☑N/A	
Containers Intact:	☑Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
Trip Blank Present:	☐Yes ☑No ☐N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): _____		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 12/14/18