Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 10, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 02, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170356001	**316-318**	Water	06/02/14 07:53	06/02/14 13:20
60170356002	**TRIP BLANK**	Water	06/02/14 07:53	06/02/14 13:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170356001	**316-318**	EPA 200.7	NDJ, SMW	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170356002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Sample: 316-318 **Lab ID: 60170356001** Collected: 06/02/14 07:53 Received: 06/02/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6900**	ug/L	750	2	06/03/14 17:30	06/04/14 14:33	7429-90-5	
Antimony	ND	ug/L	100	2	06/03/14 17:30	06/04/14 14:33	7440-36-0	D3
Arsenic	**1150**	ug/L	50.0	1	06/03/14 17:30	06/04/14 14:31	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/03/14 17:30	06/04/14 14:31	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:31	7440-43-9	
Chromium	**233**	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:31	7440-47-3	
Cobalt	**35.1**	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:31	7440-48-4	
Copper	ND	ug/L	50.0	1	06/03/14 17:30	06/04/14 14:31	7440-50-8	
Iron	**580000**	ug/L	500	2	06/03/14 17:30	06/05/14 13:02	7439-89-6	
Lead	**86.1**	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:31	7439-92-1	
Nickel	**131**	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:31	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/03/14 17:30	06/04/14 14:31	7782-49-2	
Silver	ND	ug/L	35.0	1	06/03/14 17:30	06/04/14 14:31	7440-22-4	
Thallium	ND	ug/L	100	1	06/03/14 17:30	06/04/14 14:31	7440-28-0	
Zinc	**4550**	ug/L	500	2	06/03/14 17:30	06/04/14 14:33	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1840**	ug/L	750	2	06/04/14 17:00	06/10/14 12:35	7429-90-5	
Antimony, Dissolved	**81.5**	ug/L	50.0	1	06/04/14 17:00	06/10/14 11:34	7440-36-0	
Arsenic, Dissolved	**1080**	ug/L	50.0	1	06/04/14 17:00	06/10/14 11:34	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/04/14 17:00	06/10/14 11:34	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:34	7440-43-9	
Chromium, Dissolved	**197**	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:34	7440-47-3	
Cobalt, Dissolved	**26.6**	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:34	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/04/14 17:00	06/10/14 11:34	7440-50-8	
Iron, Dissolved	**351000**	ug/L	250	1	06/04/14 17:00	06/10/14 11:34	7439-89-6	
Lead, Dissolved	**25.4**	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:34	7439-92-1	
Nickel, Dissolved	**107**	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:34	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/04/14 17:00	06/10/14 11:34	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/04/14 17:00	06/10/14 11:34	7440-22-4	
Thallium, Dissolved	ND	ug/L	200	2	06/04/14 17:00	06/10/14 12:35	7440-28-0	
Zinc, Dissolved	**4090**	ug/L	500	2	06/04/14 17:00	06/10/14 12:35	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/05/14 13:00	06/06/14 12:52	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/05/14 13:00	06/06/14 12:29	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/05/14 00:00	06/06/14 12:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/05/14 00:00	06/06/14 12:22	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6480**	ug/L	4000	2	06/05/14 00:00	06/06/14 12:22		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Sample: 316-318 **Lab ID: 60170356001** Collected: 06/02/14 07:53 Received: 06/02/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1170**	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	87-86-5	
Phenol	**7940**	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	125	%	33-120	2	06/05/14 00:00	06/06/14 12:22	4165-60-0	S0
2-Fluorobiphenyl (S)	64	%	39-120	2	06/05/14 00:00	06/06/14 12:22	321-60-8	
Terphenyl-d14 (S)	64	%	45-120	2	06/05/14 00:00	06/06/14 12:22	1718-51-0	
Phenol-d6 (S)	25	%	11-120	2	06/05/14 00:00	06/06/14 12:22	13127-88-3	
2-Fluorophenol (S)	36	%	17-120	2	06/05/14 00:00	06/06/14 12:22	367-12-4	
2,4,6-Tribromophenol (S)	75	%	39-120	2	06/05/14 00:00	06/06/14 12:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**103000**	ug/L	2500	250		06/03/14 13:06	67-64-1	N2
Benzene	ND	ug/L	250	250		06/03/14 13:06	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/03/14 13:06	75-27-4	
Bromoform	ND	ug/L	250	250		06/03/14 13:06	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/03/14 13:06	74-83-9	
2-Butanone (MEK)	**41100**	ug/L	2500	250		06/03/14 13:06	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/03/14 13:06	56-23-5	
Chloroethane	ND	ug/L	250	250		06/03/14 13:06	75-00-3	
Chloroform	ND	ug/L	250	250		06/03/14 13:06	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/03/14 13:06	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/03/14 13:06	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/03/14 13:06	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/03/14 13:06	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/03/14 13:06	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/03/14 13:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/03/14 13:06	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/03/14 13:06	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/03/14 13:06	127-18-4	
Toluene	ND	ug/L	250	250		06/03/14 13:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/03/14 13:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/03/14 13:06	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/03/14 13:06	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/03/14 13:06	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/03/14 13:06	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	250		06/03/14 13:06	460-00-4	
Toluene-d8 (S)	100	%	80-120	250		06/03/14 13:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	250		06/03/14 13:06	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/03/14 13:06		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1430**	mg/L	5.0	1		06/03/14 10:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Sample: 316-318 **Lab ID: 60170356001** Collected: 06/02/14 07:53 Received: 06/02/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**7.0**	mg/L	5.0	1		06/04/14 10:27		M1
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5500**	mg/L	5.0	1		06/05/14 09:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/03/14 13:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29200**	mg/L	2.0	1	06/02/14 15:42	06/07/14 07:01		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**658**	mg/L	20.0	200		06/04/14 14:07	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55000**	mg/L	5000	500		06/04/14 07:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Sample: TRIP BLANK **Lab ID: 60170356002** Collected: 06/02/14 07:53 Received: 06/02/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/03/14 12:04	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/03/14 12:04	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/03/14 12:04	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/03/14 12:04	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/03/14 12:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/03/14 12:04	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/03/14 12:04	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/03/14 12:04	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/03/14 12:04	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/03/14 12:04	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/03/14 12:04	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/03/14 12:04	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/03/14 12:04	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/03/14 12:04	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/03/14 12:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/03/14 12:04	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/03/14 12:04	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/03/14 12:04	127-18-4	
Toluene	ND	ug/L	1.0	1		06/03/14 12:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/03/14 12:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/03/14 12:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/03/14 12:04	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/03/14 12:04	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/03/14 12:04	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		06/03/14 12:04	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		06/03/14 12:04	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		06/03/14 12:04	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/03/14 12:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: MERP/8463
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170356001

METHOD BLANK: 1389350 Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/06/14 12:36	

LABORATORY CONTROL SAMPLE: 1389351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	109	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389352 1389353

Parameter	Units	60170139001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.3	4.2	87	84	70-130	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: MERP/8462
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170356001

METHOD BLANK: 1389341 Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/06/14 12:16	

LABORATORY CONTROL SAMPLE: 1389342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389343 1389344

Parameter	Units	60170311001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	92.4	92.7	62	62	70-130	0	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: MPRP/27481
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170356001

METHOD BLANK: 1387985 Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/04/14 14:06	
Antimony	ug/L	ND	10.0	06/04/14 14:06	
Arsenic	ug/L	ND	10.0	06/04/14 14:06	
Beryllium	ug/L	ND	1.0	06/04/14 14:06	
Cadmium	ug/L	ND	5.0	06/04/14 14:06	
Chromium	ug/L	ND	5.0	06/04/14 14:06	
Cobalt	ug/L	ND	5.0	06/04/14 14:06	
Copper	ug/L	ND	10.0	06/04/14 14:06	
Iron	ug/L	ND	50.0	06/05/14 12:52	
Lead	ug/L	ND	5.0	06/04/14 14:06	
Nickel	ug/L	ND	5.0	06/04/14 14:06	
Selenium	ug/L	ND	15.0	06/04/14 14:06	
Silver	ug/L	ND	7.0	06/04/14 14:06	
Thallium	ug/L	ND	20.0	06/04/14 14:06	
Zinc	ug/L	ND	50.0	06/04/14 14:06	

LABORATORY CONTROL SAMPLE: 1387986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	8850	88	85-115	
Antimony	ug/L	1000	964	96	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	915	92	85-115	
Cadmium	ug/L	1000	943	94	85-115	
Chromium	ug/L	1000	948	95	85-115	
Cobalt	ug/L	1000	952	95	85-115	
Copper	ug/L	1000	901	90	85-115	
Iron	ug/L	10000	9510	95	85-115	
Lead	ug/L	1000	955	95	85-115	
Nickel	ug/L	1000	997	100	85-115	
Selenium	ug/L	1000	979	98	85-115	
Silver	ug/L	500	448	90	85-115	
Thallium	ug/L	1000	967	97	85-115	
Zinc	ug/L	1000	962	96	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1387987 1387988

Parameter	Units	60170311001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4320	50000	50000	50300	50200	92	92	70-130	0	8	
Antimony	ug/L	ND	5000	5000	4810	4930	95	98	70-130	3	7	
Arsenic	ug/L	1210	5000	5000	6360	6350	103	103	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4500	4580	90	92	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	4910	4860	98	97	70-130	1	10	
Chromium	ug/L	216	5000	5000	4930	4990	94	95	70-130	1	10	
Cobalt	ug/L	34.1	5000	5000	4590	4550	91	90	70-130	1	6	
Copper	ug/L	ND	5000	5000	4980	4980	100	100	70-130	0	11	
Iron	ug/L	471000	50000	50000	472000	507000	1	72	70-130	7	10	M1
Lead	ug/L	59.2	5000	5000	4430	4390	87	87	70-130	1	10	
Nickel	ug/L	126	5000	5000	4810	4770	94	93	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5560	5470	110	109	70-130	2	10	
Silver	ug/L	ND	2500	2500	2550	2550	101	102	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4310	4290	86	86	70-130	1	6	
Zinc	ug/L	4970	5000	5000	9090	9270	82	86	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: MPRP/27502
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170356001

METHOD BLANK: 1388726
Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/10/14 11:08	
Antimony, Dissolved	ug/L	ND	10.0	06/10/14 11:08	
Arsenic, Dissolved	ug/L	ND	10.0	06/10/14 11:08	
Beryllium, Dissolved	ug/L	ND	1.0	06/10/14 11:08	
Cadmium, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Chromium, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Cobalt, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Copper, Dissolved	ug/L	ND	10.0	06/10/14 11:08	
Iron, Dissolved	ug/L	ND	50.0	06/10/14 11:08	
Lead, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Nickel, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Selenium, Dissolved	ug/L	ND	15.0	06/10/14 11:08	
Silver, Dissolved	ug/L	ND	7.0	06/10/14 11:08	
Thallium, Dissolved	ug/L	ND	20.0	06/10/14 11:08	
Zinc, Dissolved	ug/L	ND	50.0	06/10/14 11:08	

LABORATORY CONTROL SAMPLE: 1388727

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9980	100	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	988	99	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1000	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	10500	105	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	494	99	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1388728 1388729

Parameter	Units	60170311001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1770	50000	50000	52200	52200	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	81.2	5000	5000	5360	5330	106	105	70-130	1	7	
Arsenic, Dissolved	ug/L	1060	5000	5000	6700	6730	113	113	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4860	98	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5320	5290	106	105	70-130	1	10	
Chromium, Dissolved	ug/L	192	5000	5000	5020	4980	97	96	70-130	1	10	
Cobalt, Dissolved	ug/L	28.8	5000	5000	4850	4800	96	95	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5320	5300	106	105	70-130	0	11	
Iron, Dissolved	ug/L	347000	50000	50000	416000	419000	137	144	70-130	1	10	M1
Lead, Dissolved	ug/L	29.3	5000	5000	4590	4550	91	90	70-130	1	10	
Nickel, Dissolved	ug/L	94.0	5000	5000	4900	4850	96	95	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6100	6090	121	121	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2650	2630	105	105	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4230	4160	85	83	70-130	2	6	
Zinc, Dissolved	ug/L	4450	5000	5000	9320	9310	97	97	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: MSV/62014
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60170356001, 60170356002

METHOD BLANK: 1387834
Matrix: Water
Associated Lab Samples: 60170356001, 60170356002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/03/14 11:33	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/03/14 11:33	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/03/14 11:33	
1,2-Dichloroethane	ug/L	ND	1.0	06/03/14 11:33	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/03/14 11:33	
2-Butanone (MEK)	ug/L	ND	10.0	06/03/14 11:33	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/03/14 11:33	N2
Acetone	ug/L	ND	10.0	06/03/14 11:33	N2
Benzene	ug/L	ND	1.0	06/03/14 11:33	
Bromodichloromethane	ug/L	ND	1.0	06/03/14 11:33	
Bromoform	ug/L	ND	1.0	06/03/14 11:33	
Bromomethane	ug/L	ND	5.0	06/03/14 11:33	
Carbon tetrachloride	ug/L	ND	1.0	06/03/14 11:33	
Chloroethane	ug/L	ND	1.0	06/03/14 11:33	
Chloroform	ug/L	ND	1.0	06/03/14 11:33	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/03/14 11:33	N2
Ethylbenzene	ug/L	ND	1.0	06/03/14 11:33	
Methylene chloride	ug/L	ND	1.0	06/03/14 11:33	
Tetrachloroethene	ug/L	ND	1.0	06/03/14 11:33	
Toluene	ug/L	ND	1.0	06/03/14 11:33	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/03/14 11:33	
Trichloroethene	ug/L	ND	1.0	06/03/14 11:33	
Vinyl chloride	ug/L	ND	1.0	06/03/14 11:33	
Xylene (Total)	ug/L	ND	3.0	06/03/14 11:33	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	06/03/14 11:33	
4-Bromofluorobenzene (S)	%	100	80-120	06/03/14 11:33	
Toluene-d8 (S)	%	101	80-120	06/03/14 11:33	

LABORATORY CONTROL SAMPLE: 1387835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.0	95	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.0	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.9	100	67-124	
1,2-Dichloroethane	ug/L	20	19.0	95	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	102	102	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	110	110	59-131	N2
Acetone	ug/L	100	98.8	99	38-134	N2
Benzene	ug/L	20	18.8	94	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

LABORATORY CONTROL SAMPLE: 1387835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.7	98	68-125	
Bromoform	ug/L	20	19.9	100	65-127	
Bromomethane	ug/L	20	13.4	67	13-157	
Carbon tetrachloride	ug/L	20	19.0	95	70-131	
Chloroethane	ug/L	20	19.0	95	47-133	
Chloroform	ug/L	20	18.9	94	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	68-127	N2
Ethylbenzene	ug/L	20	19.1	96	74-122	
Methylene chloride	ug/L	20	18.4	92	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	18.4	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.3	92	66-129	
Trichloroethene	ug/L	20	18.1	91	71-123	
Vinyl chloride	ug/L	20	17.4	87	43-129	
Xylene (Total)	ug/L	60	57.4	96	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1387836

Parameter	Units	60170355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4560	91	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5170	103	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4580	92	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	288	5000	4730	89	33-140	
2-Butanone (MEK)	ug/L	41200	25000	62600	85	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	24700	97	40-160	N2
Acetone	ug/L	102000	25000	118000	61	10-160	N2
Benzene	ug/L	ND	5000	4320	86	37-151	
Bromodichloromethane	ug/L	ND	5000	4530	91	35-142	
Bromoform	ug/L	ND	5000	4540	91	45-142	
Bromomethane	ug/L	ND	5000	3250	64	10-158	
Carbon tetrachloride	ug/L	ND	5000	4760	95	70-140	
Chloroethane	ug/L	ND	5000	4070	81	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4480	90	34-147	N2
Ethylbenzene	ug/L	ND	5000	4570	91	40-142	
Methylene chloride	ug/L	ND	5000	4040	78	31-144	
Tetrachloroethene	ug/L	ND	5000	4670	93	64-148	
Toluene	ug/L	ND	5000	4460	89	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4260	85	54-151	
Trichloroethene	ug/L	ND	5000	4300	86	71-149	
Vinyl chloride	ug/L	ND	5000	3850	77	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

MATRIX SPIKE SAMPLE: 1387836

Parameter	Units	60170355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13700	91	37-144	N2
1,2-Dichloroethane-d4 (S)	%				97	80-120	
4-Bromofluorobenzene (S)	%				106	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: OEXT/44501
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60170356001

METHOD BLANK: 1389069
Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/06/14 09:13	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/06/14 09:13	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/06/14 09:13	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/06/14 09:13	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/06/14 09:13	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/06/14 09:13	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/06/14 09:13	
Hexachloroethane	ug/L	ND	5.0	06/06/14 09:13	
Naphthalene	ug/L	ND	5.0	06/06/14 09:13	
Nitrobenzene	ug/L	ND	5.0	06/06/14 09:13	
Pentachlorophenol	ug/L	ND	5.0	06/06/14 09:13	
Phenol	ug/L	ND	5.0	06/06/14 09:13	
2,4,6-Tribromophenol (S)	%	78	39-120	06/06/14 09:13	
2-Fluorobiphenyl (S)	%	69	39-120	06/06/14 09:13	
2-Fluorophenol (S)	%	38	17-120	06/06/14 09:13	
Nitrobenzene-d5 (S)	%	72	33-120	06/06/14 09:13	
Phenol-d6 (S)	%	25	11-120	06/06/14 09:13	
Terphenyl-d14 (S)	%	66	45-120	06/06/14 09:13	

LABORATORY CONTROL SAMPLE: 1389070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.2	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.4	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.9	58	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.4	55	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.6	87	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.8	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	62.3	62	24-120	
Hexachloroethane	ug/L	50	39.7	79	43-113	
Naphthalene	ug/L	50	40.2	80	48-120	
Nitrobenzene	ug/L	50	41.2	82	48-120	
Pentachlorophenol	ug/L	50	38.8	78	47-120	
Phenol	ug/L	50	12.2	24	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			78	39-120	
2-Fluorophenol (S)	%			37	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			23	11-120	
Terphenyl-d14 (S)	%			78	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

MATRIX SPIKE SAMPLE: 1389071

Parameter	Units	60170477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.2	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.6	73	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	22.5	45	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	24.6	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	39.5	79	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	38.1	76	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	60.5	60	11-120	
Hexachloroethane	ug/L	ND	50	36.2	72	40-113	
Naphthalene	ug/L	ND	50	36.5	73	45-120	
Nitrobenzene	ug/L	ND	50	46.7	93	38-120	
Pentachlorophenol	ug/L	ND	50	36.8	74	43-135	
Phenol	ug/L	ND	50	10.7	21	13-112	
2,4,6-Tribromophenol (S)	%				84	39-120	
2-Fluorobiphenyl (S)	%				73	39-120	
2-Fluorophenol (S)	%				33	17-120	
Nitrobenzene-d5 (S)	%				76	33-120	
Phenol-d6 (S)	%				23	11-120	
Terphenyl-d14 (S)	%				75	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: WET/48194
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170356001

METHOD BLANK: 1387827 Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/03/14 10:41	

LABORATORY CONTROL SAMPLE: 1387828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.9	92	78-114	

MATRIX SPIKE SAMPLE: 1387849

Parameter	Units	60170130001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1670	167	2160	290	78-114	M1

SAMPLE DUPLICATE: 1387850

Parameter	Units	60170239001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1200	1160	4	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: WET/48214 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170356001

METHOD BLANK: 1388457 Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/04/14 10:25	

LABORATORY CONTROL SAMPLE: 1388458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.6	118	64-132	

MATRIX SPIKE SAMPLE: 1388460

Parameter	Units	60170356001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.0	76.9	115	141	64-132	M1

SAMPLE DUPLICATE: 1388459

Parameter	Units	60169935001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	148	118	23	34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: WET/48239
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170356001

METHOD BLANK: 1389165
Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/05/14 09:13	

SAMPLE DUPLICATE: 1389166

Parameter	Units	60170381001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	847	817	4	10	

SAMPLE DUPLICATE: 1389167

Parameter	Units	60170421004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	87.0	79.0	10	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: WET/48195
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170356001

SAMPLE DUPLICATE: 1387831

Parameter	Units	60170381001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.8	1	5	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: WET/48181 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170356001

METHOD BLANK: 1387259 Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/07/14 06:39	

LABORATORY CONTROL SAMPLE: 1387260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	171	86	85-115	

SAMPLE DUPLICATE: 1387261

Parameter	Units	60170356001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	29200	29800	2	17	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: WETA/29696
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170356001

METHOD BLANK: 1388432 Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/04/14 13:35	

LABORATORY CONTROL SAMPLE: 1388433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	104	90-110	

MATRIX SPIKE SAMPLE: 1388434

Parameter	Units	60170128002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	14.6	10	22.7	81	90-110	M1

MATRIX SPIKE SAMPLE: 1388435

Parameter	Units	60170174002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.11	2	2.0	97	90-110	

SAMPLE DUPLICATE: 1388436

Parameter	Units	60170226004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

QC Batch: WETA/29666
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60170356001

METHOD BLANK: 1387646 Matrix: Water
Associated Lab Samples: 60170356001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/04/14 07:18	

LABORATORY CONTROL SAMPLE: 1387647

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.2	102	90-110	

MATRIX SPIKE SAMPLE: 1387648

Parameter	Units	60170279001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	60.6	115	90-110	M1

MATRIX SPIKE SAMPLE: 1387650

Parameter	Units	60170355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	56100	25000	78800	91	90-110	

SAMPLE DUPLICATE: 1387649

Parameter	Units	60170073001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	65.7	64.8	1	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-318
Pace Project No.: 60170356

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170356001	**316-318**	EPA 200.7	MPRP/27481	EPA 200.7	ICP/20801
60170356001	**316-318**	EPA 200.7	MPRP/27502	EPA 200.7	ICP/20811
60170356001	**316-318**	EPA 245.1	MERP/8463	EPA 245.1	MERC/8418
60170356001	**316-318**	EPA 245.1	MERP/8462	EPA 245.1	MERC/8417
60170356001	**316-318**	EPA 625	OEXT/44501	EPA 625	MSSV/14242
60170356001	**316-318**	EPA 624 Low	MSV/62014		
60170356002	**TRIP BLANK**	EPA 624 Low	MSV/62014		
60170356001	**316-318**	EPA 1664A	WET/48194		
60170356001	**316-318**	EPA 1664A	WET/48214		
60170356001	**316-318**	SM 2540D	WET/48239		
60170356001	**316-318**	SM 4500-H+B	WET/48195		
60170356001	**316-318**	SM 5210B	WET/48181	SM 5210B	WET/48316
60170356001	**316-318**	EPA 350.1	WETA/29696		
60170356001	**316-318**	EPA 410.4	WETA/29666		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60170356

60170356

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Hand's

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

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

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 5.8

Date and initials of person examining contents: 6/2/14

Temperature should be above freezing to 6°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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	HNO3 initial pH ~5.0; added 2.5 ml, final pH ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H2SO4 initial pH ~5.0; added 2 ml, final pH ~3.0
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed: Lot # of added preservative: 12513-23-2, 12522-2-7
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): May 08		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/4/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60170356 2(AE3S) 2(AG1U) BP3U 2(BP2U) BG3S BP3N
1	316-318	OT	G	6/3/14	0753	—	—		12	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(OGev) 01
2	TRIP BLANK	—		—	—	—	—		2	2																X						2(DGEv) 02
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	6-2-14	9:00am	Bill Stone [signature]	6-2-14	9:00am				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	6/2/14	1320	5.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/3/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 10, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 02, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170357001	**316-317**	Water	06/01/14 08:30	06/02/14 13:20
60170357002	**TRIP BLANK**	Water	06/01/14 08:30	06/02/14 13:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170357001	**316-317**	EPA 200.7	NDJ, SMW	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170357002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Sample: 316-317 **Lab ID: 60170357001** Collected: 06/01/14 08:30 Received: 06/02/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4770**	ug/L	750	2	06/03/14 17:30	06/04/14 14:38	7429-90-5	
Antimony	ND	ug/L	100	2	06/03/14 17:30	06/04/14 14:38	7440-36-0	D3
Arsenic	**1230**	ug/L	50.0	1	06/03/14 17:30	06/04/14 14:35	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/03/14 17:30	06/04/14 14:35	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:35	7440-43-9	
Chromium	**221**	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:35	7440-47-3	
Cobalt	**34.5**	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:35	7440-48-4	
Copper	**65.6**	ug/L	50.0	1	06/03/14 17:30	06/04/14 14:35	7440-50-8	
Iron	**447000**	ug/L	500	2	06/03/14 17:30	06/05/14 13:04	7439-89-6	
Lead	**57.0**	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:35	7439-92-1	
Nickel	**134**	ug/L	25.0	1	06/03/14 17:30	06/04/14 14:35	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/03/14 17:30	06/04/14 14:35	7782-49-2	
Silver	ND	ug/L	35.0	1	06/03/14 17:30	06/04/14 14:35	7440-22-4	
Thallium	ND	ug/L	100	1	06/03/14 17:30	06/04/14 14:35	7440-28-0	
Zinc	**4870**	ug/L	500	2	06/03/14 17:30	06/04/14 14:38	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1750**	ug/L	750	2	06/04/14 17:00	06/10/14 11:42	7429-90-5	
Antimony, Dissolved	**77.5**	ug/L	50.0	1	06/04/14 17:00	06/10/14 11:39	7440-36-0	
Arsenic, Dissolved	**1190**	ug/L	50.0	1	06/04/14 17:00	06/10/14 11:39	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/04/14 17:00	06/10/14 11:39	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:39	7440-43-9	
Chromium, Dissolved	**213**	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:39	7440-47-3	
Cobalt, Dissolved	**28.9**	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:39	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/04/14 17:00	06/10/14 11:39	7440-50-8	
Iron, Dissolved	**361000**	ug/L	250	1	06/04/14 17:00	06/10/14 11:39	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:39	7439-92-1	
Nickel, Dissolved	**108**	ug/L	25.0	1	06/04/14 17:00	06/10/14 11:39	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/04/14 17:00	06/10/14 11:39	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/04/14 17:00	06/10/14 11:39	7440-22-4	
Thallium, Dissolved	ND	ug/L	200	2	06/04/14 17:00	06/10/14 11:42	7440-28-0	
Zinc, Dissolved	**4270**	ug/L	500	2	06/04/14 17:00	06/10/14 11:42	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/05/14 13:00	06/06/14 12:54	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/05/14 13:00	06/06/14 12:32	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/05/14 00:00	06/06/14 12:44	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/05/14 00:00	06/06/14 12:44	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6210**	ug/L	4000	2	06/05/14 00:00	06/06/14 12:44		N2

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Sample: 316-317 **Lab ID: 60170357001** Collected: 06/01/14 08:30 Received: 06/02/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	87-86-5	
Phenol	**8400**	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 12:44	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	143	%	33-120	2	06/05/14 00:00	06/06/14 12:44	4165-60-0	S0
2-Fluorobiphenyl (S)	72	%	39-120	2	06/05/14 00:00	06/06/14 12:44	321-60-8	
Terphenyl-d14 (S)	70	%	45-120	2	06/05/14 00:00	06/06/14 12:44	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	06/05/14 00:00	06/06/14 12:44	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	06/05/14 00:00	06/06/14 12:44	367-12-4	
2,4,6-Tribromophenol (S)	80	%	39-120	2	06/05/14 00:00	06/06/14 12:44	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**100000**	ug/L	2500	250		06/03/14 13:22	67-64-1	N2
Benzene	ND	ug/L	250	250		06/03/14 13:22	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/03/14 13:22	75-27-4	
Bromoform	ND	ug/L	250	250		06/03/14 13:22	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/03/14 13:22	74-83-9	
2-Butanone (MEK)	**40600**	ug/L	2500	250		06/03/14 13:22	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/03/14 13:22	56-23-5	
Chloroethane	ND	ug/L	250	250		06/03/14 13:22	75-00-3	
Chloroform	ND	ug/L	250	250		06/03/14 13:22	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/03/14 13:22	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/03/14 13:22	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/03/14 13:22	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/03/14 13:22	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/03/14 13:22	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/03/14 13:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/03/14 13:22	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/03/14 13:22	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/03/14 13:22	127-18-4	
Toluene	ND	ug/L	250	250		06/03/14 13:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/03/14 13:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/03/14 13:22	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/03/14 13:22	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/03/14 13:22	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/03/14 13:22	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	250		06/03/14 13:22	460-00-4	
Toluene-d8 (S)	99	%	80-120	250		06/03/14 13:22	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	250		06/03/14 13:22	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/03/14 13:22		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**758**	mg/L	5.0	1		06/05/14 08:18		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Sample: 316-317 **Lab ID: 60170357001** Collected: 06/01/14 08:30 Received: 06/02/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.2**	mg/L	5.0	1		06/05/14 08:39		M1
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5320**	mg/L	5.0	1		06/05/14 09:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/03/14 13:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29300**	mg/L	2.0	1	06/02/14 15:39	06/07/14 06:55		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**639**	mg/L	20.0	200		06/04/14 14:09	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**52300**	mg/L	5000	500		06/04/14 07:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Sample: TRIP BLANK **Lab ID: 60170357002** Collected: 06/01/14 08:30 Received: 06/02/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/03/14 12:20	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/03/14 12:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/03/14 12:20	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/03/14 12:20	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/03/14 12:20	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/03/14 12:20	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/03/14 12:20	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/03/14 12:20	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/03/14 12:20	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/03/14 12:20	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/03/14 12:20	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/03/14 12:20	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/03/14 12:20	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/03/14 12:20	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/03/14 12:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/03/14 12:20	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/03/14 12:20	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/03/14 12:20	127-18-4	
Toluene	ND	ug/L	1.0	1		06/03/14 12:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/03/14 12:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/03/14 12:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/03/14 12:20	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/03/14 12:20	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/03/14 12:20	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		06/03/14 12:20	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		06/03/14 12:20	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		06/03/14 12:20	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/03/14 12:20		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: MERP/8463
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170357001

METHOD BLANK: 1389350 Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/06/14 12:36	

LABORATORY CONTROL SAMPLE: 1389351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	109	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389352 1389353

Parameter	Units	60170139001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.3	4.2	87	84	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: MERP/8462
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170357001

METHOD BLANK: 1389341 Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/06/14 12:16	

LABORATORY CONTROL SAMPLE: 1389342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389343 1389344

Parameter	Units	60170311001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	92.4	92.7	62	62	70-130	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: MPRP/27481
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170357001

METHOD BLANK: 1387985 Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/04/14 14:06	
Antimony	ug/L	ND	10.0	06/04/14 14:06	
Arsenic	ug/L	ND	10.0	06/04/14 14:06	
Beryllium	ug/L	ND	1.0	06/04/14 14:06	
Cadmium	ug/L	ND	5.0	06/04/14 14:06	
Chromium	ug/L	ND	5.0	06/04/14 14:06	
Cobalt	ug/L	ND	5.0	06/04/14 14:06	
Copper	ug/L	ND	10.0	06/04/14 14:06	
Iron	ug/L	ND	50.0	06/05/14 12:52	
Lead	ug/L	ND	5.0	06/04/14 14:06	
Nickel	ug/L	ND	5.0	06/04/14 14:06	
Selenium	ug/L	ND	15.0	06/04/14 14:06	
Silver	ug/L	ND	7.0	06/04/14 14:06	
Thallium	ug/L	ND	20.0	06/04/14 14:06	
Zinc	ug/L	ND	50.0	06/04/14 14:06	

LABORATORY CONTROL SAMPLE: 1387986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	8850	88	85-115	
Antimony	ug/L	1000	964	96	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	915	92	85-115	
Cadmium	ug/L	1000	943	94	85-115	
Chromium	ug/L	1000	948	95	85-115	
Cobalt	ug/L	1000	952	95	85-115	
Copper	ug/L	1000	901	90	85-115	
Iron	ug/L	10000	9510	95	85-115	
Lead	ug/L	1000	955	95	85-115	
Nickel	ug/L	1000	997	100	85-115	
Selenium	ug/L	1000	979	98	85-115	
Silver	ug/L	500	448	90	85-115	
Thallium	ug/L	1000	967	97	85-115	
Zinc	ug/L	1000	962	96	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1387987 1387988

Parameter	Units	60170311001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4320	50000	50000	50300	50200	92	92	70-130	0	8	
Antimony	ug/L	ND	5000	5000	4810	4930	95	98	70-130	3	7	
Arsenic	ug/L	1210	5000	5000	6360	6350	103	103	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4500	4580	90	92	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	4910	4860	98	97	70-130	1	10	
Chromium	ug/L	216	5000	5000	4930	4990	94	95	70-130	1	10	
Cobalt	ug/L	34.1	5000	5000	4590	4550	91	90	70-130	1	6	
Copper	ug/L	ND	5000	5000	4980	4980	100	100	70-130	0	11	
Iron	ug/L	471000	50000	50000	472000	507000	1	72	70-130	7	10	M1
Lead	ug/L	59.2	5000	5000	4430	4390	87	87	70-130	1	10	
Nickel	ug/L	126	5000	5000	4810	4770	94	93	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5560	5470	110	109	70-130	2	10	
Silver	ug/L	ND	2500	2500	2550	2550	101	102	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4310	4290	86	86	70-130	1	6	
Zinc	ug/L	4970	5000	5000	9090	9270	82	86	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: MPRP/27502
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170357001

METHOD BLANK: 1388726
Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/10/14 11:08	
Antimony, Dissolved	ug/L	ND	10.0	06/10/14 11:08	
Arsenic, Dissolved	ug/L	ND	10.0	06/10/14 11:08	
Beryllium, Dissolved	ug/L	ND	1.0	06/10/14 11:08	
Cadmium, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Chromium, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Cobalt, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Copper, Dissolved	ug/L	ND	10.0	06/10/14 11:08	
Iron, Dissolved	ug/L	ND	50.0	06/10/14 11:08	
Lead, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Nickel, Dissolved	ug/L	ND	5.0	06/10/14 11:08	
Selenium, Dissolved	ug/L	ND	15.0	06/10/14 11:08	
Silver, Dissolved	ug/L	ND	7.0	06/10/14 11:08	
Thallium, Dissolved	ug/L	ND	20.0	06/10/14 11:08	
Zinc, Dissolved	ug/L	ND	50.0	06/10/14 11:08	

LABORATORY CONTROL SAMPLE: 1388727

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9980	100	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	988	99	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1000	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	10500	105	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	494	99	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1388728 1388729

Parameter	Units	60170311001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1770	50000	50000	52200	52200	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	81.2	5000	5000	5360	5330	106	105	70-130	1	7	
Arsenic, Dissolved	ug/L	1060	5000	5000	6700	6730	113	113	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4860	98	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5320	5290	106	105	70-130	1	10	
Chromium, Dissolved	ug/L	192	5000	5000	5020	4980	97	96	70-130	1	10	
Cobalt, Dissolved	ug/L	28.8	5000	5000	4850	4800	96	95	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5320	5300	106	105	70-130	0	11	
Iron, Dissolved	ug/L	347000	50000	50000	416000	419000	137	144	70-130	1	10	M1
Lead, Dissolved	ug/L	29.3	5000	5000	4590	4550	91	90	70-130	1	10	
Nickel, Dissolved	ug/L	94.0	5000	5000	4900	4850	96	95	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6100	6090	121	121	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2650	2630	105	105	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4230	4160	85	83	70-130	2	6	
Zinc, Dissolved	ug/L	4450	5000	5000	9320	9310	97	97	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: MSV/62014
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60170357001, 60170357002

METHOD BLANK: 1387834
Matrix: Water
Associated Lab Samples: 60170357001, 60170357002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/03/14 11:33	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/03/14 11:33	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/03/14 11:33	
1,2-Dichloroethane	ug/L	ND	1.0	06/03/14 11:33	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/03/14 11:33	
2-Butanone (MEK)	ug/L	ND	10.0	06/03/14 11:33	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/03/14 11:33	N2
Acetone	ug/L	ND	10.0	06/03/14 11:33	N2
Benzene	ug/L	ND	1.0	06/03/14 11:33	
Bromodichloromethane	ug/L	ND	1.0	06/03/14 11:33	
Bromoform	ug/L	ND	1.0	06/03/14 11:33	
Bromomethane	ug/L	ND	5.0	06/03/14 11:33	
Carbon tetrachloride	ug/L	ND	1.0	06/03/14 11:33	
Chloroethane	ug/L	ND	1.0	06/03/14 11:33	
Chloroform	ug/L	ND	1.0	06/03/14 11:33	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/03/14 11:33	N2
Ethylbenzene	ug/L	ND	1.0	06/03/14 11:33	
Methylene chloride	ug/L	ND	1.0	06/03/14 11:33	
Tetrachloroethene	ug/L	ND	1.0	06/03/14 11:33	
Toluene	ug/L	ND	1.0	06/03/14 11:33	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/03/14 11:33	
Trichloroethene	ug/L	ND	1.0	06/03/14 11:33	
Vinyl chloride	ug/L	ND	1.0	06/03/14 11:33	
Xylene (Total)	ug/L	ND	3.0	06/03/14 11:33	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	06/03/14 11:33	
4-Bromofluorobenzene (S)	%	100	80-120	06/03/14 11:33	
Toluene-d8 (S)	%	101	80-120	06/03/14 11:33	

LABORATORY CONTROL SAMPLE: 1387835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.0	95	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.0	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.9	100	67-124	
1,2-Dichloroethane	ug/L	20	19.0	95	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	102	102	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	110	110	59-131	N2
Acetone	ug/L	100	98.8	99	38-134	N2
Benzene	ug/L	20	18.8	94	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

LABORATORY CONTROL SAMPLE: 1387835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.7	98	68-125	
Bromoform	ug/L	20	19.9	100	65-127	
Bromomethane	ug/L	20	13.4	67	13-157	
Carbon tetrachloride	ug/L	20	19.0	95	70-131	
Chloroethane	ug/L	20	19.0	95	47-133	
Chloroform	ug/L	20	18.9	94	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	68-127	N2
Ethylbenzene	ug/L	20	19.1	96	74-122	
Methylene chloride	ug/L	20	18.4	92	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	18.4	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.3	92	66-129	
Trichloroethene	ug/L	20	18.1	91	71-123	
Vinyl chloride	ug/L	20	17.4	87	43-129	
Xylene (Total)	ug/L	60	57.4	96	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1387836

Parameter	Units	60170355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4560	91	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5170	103	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4580	92	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	288	5000	4730	89	33-140	
2-Butanone (MEK)	ug/L	41200	25000	62600	85	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	24700	97	40-160	N2
Acetone	ug/L	102000	25000	118000	61	10-160	N2
Benzene	ug/L	ND	5000	4320	86	37-151	
Bromodichloromethane	ug/L	ND	5000	4530	91	35-142	
Bromoform	ug/L	ND	5000	4540	91	45-142	
Bromomethane	ug/L	ND	5000	3250	64	10-158	
Carbon tetrachloride	ug/L	ND	5000	4760	95	70-140	
Chloroethane	ug/L	ND	5000	4070	81	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4480	90	34-147	N2
Ethylbenzene	ug/L	ND	5000	4570	91	40-142	
Methylene chloride	ug/L	ND	5000	4040	78	31-144	
Tetrachloroethene	ug/L	ND	5000	4670	93	64-148	
Toluene	ug/L	ND	5000	4460	89	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4260	85	54-151	
Trichloroethene	ug/L	ND	5000	4300	86	71-149	
Vinyl chloride	ug/L	ND	5000	3850	77	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

MATRIX SPIKE SAMPLE: 1387836

Parameter	Units	60170355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13700	91	37-144	N2
1,2-Dichloroethane-d4 (S)	%				97	80-120	
4-Bromofluorobenzene (S)	%				106	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: OEXT/44501
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60170357001

METHOD BLANK: 1389069
Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/06/14 09:13	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/06/14 09:13	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/06/14 09:13	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/06/14 09:13	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/06/14 09:13	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/06/14 09:13	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/06/14 09:13	
Hexachloroethane	ug/L	ND	5.0	06/06/14 09:13	
Naphthalene	ug/L	ND	5.0	06/06/14 09:13	
Nitrobenzene	ug/L	ND	5.0	06/06/14 09:13	
Pentachlorophenol	ug/L	ND	5.0	06/06/14 09:13	
Phenol	ug/L	ND	5.0	06/06/14 09:13	
2,4,6-Tribromophenol (S)	%	78	39-120	06/06/14 09:13	
2-Fluorobiphenyl (S)	%	69	39-120	06/06/14 09:13	
2-Fluorophenol (S)	%	38	17-120	06/06/14 09:13	
Nitrobenzene-d5 (S)	%	72	33-120	06/06/14 09:13	
Phenol-d6 (S)	%	25	11-120	06/06/14 09:13	
Terphenyl-d14 (S)	%	66	45-120	06/06/14 09:13	

LABORATORY CONTROL SAMPLE: 1389070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.2	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.4	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.9	58	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.4	55	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.6	87	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.8	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	62.3	62	24-120	
Hexachloroethane	ug/L	50	39.7	79	43-113	
Naphthalene	ug/L	50	40.2	80	48-120	
Nitrobenzene	ug/L	50	41.2	82	48-120	
Pentachlorophenol	ug/L	50	38.8	78	47-120	
Phenol	ug/L	50	12.2	24	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			78	39-120	
2-Fluorophenol (S)	%			37	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			23	11-120	
Terphenyl-d14 (S)	%			78	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

MATRIX SPIKE SAMPLE: 1389071

Parameter	Units	60170477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.2	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.6	73	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	22.5	45	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	24.6	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	39.5	79	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	38.1	76	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	60.5	60	11-120	
Hexachloroethane	ug/L	ND	50	36.2	72	40-113	
Naphthalene	ug/L	ND	50	36.5	73	45-120	
Nitrobenzene	ug/L	ND	50	46.7	93	38-120	
Pentachlorophenol	ug/L	ND	50	36.8	74	43-135	
Phenol	ug/L	ND	50	10.7	21	13-112	
2,4,6-Tribromophenol (S)	%				84	39-120	
2-Fluorobiphenyl (S)	%				73	39-120	
2-Fluorophenol (S)	%				33	17-120	
Nitrobenzene-d5 (S)	%				76	33-120	
Phenol-d6 (S)	%				23	11-120	
Terphenyl-d14 (S)	%				75	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: WET/48233 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170357001

METHOD BLANK: 1388900 Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/05/14 08:11	

LABORATORY CONTROL SAMPLE: 1388901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.1	85	78-114	

MATRIX SPIKE SAMPLE: 1389107

Parameter	Units	60170357001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	758	167	991	140	78-114	M1

SAMPLE DUPLICATE: 1389108

Parameter	Units	60170509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	890	932	5	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: WET/48238 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170357001

METHOD BLANK: 1389113 Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/05/14 08:37	

LABORATORY CONTROL SAMPLE: 1389114

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	24.0	120	64-132	

MATRIX SPIKE SAMPLE: 1389115

Parameter	Units	60170357001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.2	83.3	33.3	29	64-132	M1

SAMPLE DUPLICATE: 1389116

Parameter	Units	60170509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	15.7	14.3	9	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: WET/48239
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170357001

METHOD BLANK: 1389165
Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/05/14 09:13	

SAMPLE DUPLICATE: 1389166

Parameter	Units	60170381001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	847	817	4	10	

SAMPLE DUPLICATE: 1389167

Parameter	Units	60170421004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	87.0	79.0	10	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: WET/48195
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170357001

SAMPLE DUPLICATE: 1387831

Parameter	Units	60170381001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.8	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: WET/48181 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170357001

METHOD BLANK: 1387259 Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/07/14 06:39	

LABORATORY CONTROL SAMPLE: 1387260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	171	86	85-115	

SAMPLE DUPLICATE: 1387261

Parameter	Units	60170356001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	29200	29800	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: WETA/29696
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170357001

METHOD BLANK: 1388432 Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/04/14 13:35	

LABORATORY CONTROL SAMPLE: 1388433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	104	90-110	

MATRIX SPIKE SAMPLE: 1388434

Parameter	Units	60170128002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	14.6	10	22.7	81	90-110	M1

MATRIX SPIKE SAMPLE: 1388435

Parameter	Units	60170174002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.11	2	2.0	97	90-110	

SAMPLE DUPLICATE: 1388436

Parameter	Units	60170226004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

QC Batch: WETA/29666
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60170357001

METHOD BLANK: 1387646 Matrix: Water
Associated Lab Samples: 60170357001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/04/14 07:18	

LABORATORY CONTROL SAMPLE: 1387647

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.2	102	90-110	

MATRIX SPIKE SAMPLE: 1387648

Parameter	Units	60170279001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	60.6	115	90-110	M1

MATRIX SPIKE SAMPLE: 1387650

Parameter	Units	60170355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	56100	25000	78800	91	90-110	

SAMPLE DUPLICATE: 1387649

Parameter	Units	60170073001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	65.7	64.8	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-317
Pace Project No.: 60170357

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170357001	**316-317**	EPA 200.7	MPRP/27481	EPA 200.7	ICP/20801
60170357001	**316-317**	EPA 200.7	MPRP/27502	EPA 200.7	ICP/20811
60170357001	**316-317**	EPA 245.1	MERP/8463	EPA 245.1	MERC/8418
60170357001	**316-317**	EPA 245.1	MERP/8462	EPA 245.1	MERC/8417
60170357001	**316-317**	EPA 625	OEXT/44501	EPA 625	MSSV/14242
60170357001	**316-317**	EPA 624 Low	MSV/62014		
60170357002	**TRIP BLANK**	EPA 624 Low	MSV/62014		
60170357001	**316-317**	EPA 1664A	WET/48233		
60170357001	**316-317**	EPA 1664A	WET/48238		
60170357001	**316-317**	SM 2540D	WET/48239		
60170357001	**316-317**	SM 4500-H+B	WET/48195		
60170357001	**316-317**	SM 5210B	WET/48181	SM 5210B	WET/48316
60170357001	**316-317**	EPA 350.1	WETA/29696		
60170357001	**316-317**	EPA 410.4	WETA/29666		

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Sample Condition Upon Receipt

WO#: 60170357

60170357

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Xroads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

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

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 6/2/14

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	HNO3 initial pH ~5.0; added 2.5 ml; final pH ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H2SO4 initial pH ~5.0; added 2 ml; final pH ~3.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed: [illegible] Lot # of added preservative: 12513-23-2, 12522-2-7
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): May 08		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: ND

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 6/3/14

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60170357 2(AE4U) 3(AE3S) 2(BP2U) BP3N BP3S 2.0 BP3N 4.0
1	316-317	OT	G	6/1/14	0830	—	—		15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		5(DG9U) 01
2	TRIP BLANK	—		—		—			2	2																X					2(DG9U) 02
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FOI	6-2-14	9:00AM	[signature] 5/12	6-2-14	9:00AM				
SITE ADDRESS: BRIDGETON LF				[signature] /PACE	6/2/14	1320	4.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/1/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 11, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 04, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170509001	**316-319**	Water	06/03/14 09:12	06/04/14 02:05
60170509002	**TRIP BLANK**	Water	06/03/14 00:00	06/04/14 02:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170509001	**316-319**	EPA 200.7	NDJ	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	DJR	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170509002	**TRIP BLANK**	EPA 624 Low	EAK	28

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Sample: 316-319 **Lab ID: 60170509001** Collected: 06/03/14 09:12 Received: 06/04/14 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6920**	ug/L	750	2	06/05/14 10:55	06/10/14 17:20	7429-90-5	
Antimony	**150**	ug/L	50.0	1	06/05/14 10:55	06/10/14 17:34	7440-36-0	
Arsenic	**1400**	ug/L	50.0	1	06/05/14 10:55	06/10/14 17:34	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/05/14 10:55	06/10/14 17:34	7440-41-7	
Cadmium	**32.4**	ug/L	25.0	1	06/05/14 10:55	06/10/14 17:34	7440-43-9	
Chromium	**310**	ug/L	25.0	1	06/05/14 10:55	06/10/14 17:34	7440-47-3	
Cobalt	**39.0**	ug/L	25.0	1	06/05/14 10:55	06/10/14 17:34	7440-48-4	
Copper	ND	ug/L	50.0	1	06/05/14 10:55	06/10/14 17:34	7440-50-8	
Iron	**742000**	ug/L	250	1	06/05/14 10:55	06/11/14 10:47	7439-89-6	M1
Lead	**77.0**	ug/L	25.0	1	06/05/14 10:55	06/10/14 17:34	7439-92-1	
Nickel	**150**	ug/L	25.0	1	06/05/14 10:55	06/10/14 17:34	7440-02-0	
Selenium	**78.0**	ug/L	75.0	1	06/05/14 10:55	06/10/14 17:34	7782-49-2	M1
Silver	ND	ug/L	35.0	1	06/05/14 10:55	06/10/14 17:34	7440-22-4	
Thallium	ND	ug/L	200	2	06/05/14 10:55	06/10/14 17:20	7440-28-0	D3
Zinc	**5430**	ug/L	500	2	06/05/14 10:55	06/10/14 17:20	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1740**	ug/L	750	2	06/06/14 10:45	06/10/14 17:41	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/06/14 10:45	06/11/14 08:25	7440-36-0	D3
Arsenic, Dissolved	**1020**	ug/L	50.0	1	06/06/14 10:45	06/11/14 08:21	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/06/14 10:45	06/10/14 17:37	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/06/14 10:45	06/11/14 08:21	7440-43-9	
Chromium, Dissolved	**191**	ug/L	25.0	1	06/06/14 10:45	06/10/14 17:37	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/06/14 10:45	06/11/14 08:21	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/06/14 10:45	06/10/14 17:37	7440-50-8	
Iron, Dissolved	**370000**	ug/L	250	1	06/06/14 10:45	06/10/14 17:37	7439-89-6	M1
Lead, Dissolved	**44.0**	ug/L	25.0	1	06/06/14 10:45	06/11/14 08:21	7439-92-1	
Nickel, Dissolved	**104**	ug/L	25.0	1	06/06/14 10:45	06/11/14 08:21	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/06/14 10:45	06/11/14 08:21	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/06/14 10:45	06/10/14 17:37	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/06/14 10:45	06/11/14 08:21	7440-28-0	
Zinc, Dissolved	**4210**	ug/L	500	2	06/06/14 10:45	06/11/14 08:25	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**10.5**	ug/L	6.0	1	06/05/14 13:00	06/06/14 13:03	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/05/14 13:00	06/06/14 12:34	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/05/14 00:00	06/06/14 13:05	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/05/14 00:00	06/06/14 13:05	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6480**	ug/L	4000	2	06/05/14 00:00	06/06/14 13:05		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Sample: 316-319 **Lab ID: 60170509001** Collected: 06/03/14 09:12 Received: 06/04/14 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	87-86-5	
Phenol	**8460**	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:05	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	131	%	33-120	2	06/05/14 00:00	06/06/14 13:05	4165-60-0	S0
2-Fluorobiphenyl (S)	72	%	39-120	2	06/05/14 00:00	06/06/14 13:05	321-60-8	
Terphenyl-d14 (S)	71	%	45-120	2	06/05/14 00:00	06/06/14 13:05	1718-51-0	
Phenol-d6 (S)	29	%	11-120	2	06/05/14 00:00	06/06/14 13:05	13127-88-3	
2-Fluorophenol (S)	41	%	17-120	2	06/05/14 00:00	06/06/14 13:05	367-12-4	
2,4,6-Tribromophenol (S)	87	%	39-120	2	06/05/14 00:00	06/06/14 13:05	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**101000**	ug/L	2500	250		06/06/14 20:10	67-64-1	M1,N2
Benzene	ND	ug/L	250	250		06/06/14 20:10	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/06/14 20:10	75-27-4	
Bromoform	ND	ug/L	250	250		06/06/14 20:10	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/06/14 20:10	74-83-9	
2-Butanone (MEK)	**43000**	ug/L	2500	250		06/06/14 20:10	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/06/14 20:10	56-23-5	
Chloroethane	ND	ug/L	250	250		06/06/14 20:10	75-00-3	
Chloroform	ND	ug/L	250	250		06/06/14 20:10	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/06/14 20:10	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/06/14 20:10	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/06/14 20:10	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/06/14 20:10	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/06/14 20:10	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/06/14 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/06/14 20:10	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/06/14 20:10	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/06/14 20:10	127-18-4	
Toluene	ND	ug/L	250	250		06/06/14 20:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/06/14 20:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/06/14 20:10	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/06/14 20:10	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/06/14 20:10	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/06/14 20:10	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	250		06/06/14 20:10	460-00-4	
Toluene-d8 (S)	98	%	80-120	250		06/06/14 20:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	250		06/06/14 20:10	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/06/14 20:10		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**890**	mg/L	5.0	1		06/05/14 08:19		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Sample: 316-319 **Lab ID: 60170509001** Collected: 06/03/14 09:12 Received: 06/04/14 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**15.7**	mg/L	5.0	1		06/05/14 08:40		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4800**	mg/L	5.0	1		06/09/14 09:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units		1		06/06/13 15:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**32300**	mg/L	2.0	1	06/04/14 17:37	06/09/14 14:42		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**674**	mg/L	20.0	200		06/06/14 13:54	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55300**	mg/L	5000	500		06/09/14 07:37		M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Sample: TRIP BLANK **Lab ID: 60170509002** Collected: 06/03/14 00:00 Received: 06/04/14 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/06/14 19:39	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/06/14 19:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/06/14 19:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/06/14 19:39	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/06/14 19:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/06/14 19:39	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/06/14 19:39	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/06/14 19:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/06/14 19:39	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/06/14 19:39	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/06/14 19:39	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/06/14 19:39	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/06/14 19:39	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/06/14 19:39	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/06/14 19:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/06/14 19:39	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/06/14 19:39	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/06/14 19:39	127-18-4	
Toluene	ND	ug/L	1.0	1		06/06/14 19:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/06/14 19:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/06/14 19:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/06/14 19:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/06/14 19:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/06/14 19:39	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		06/06/14 19:39	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		06/06/14 19:39	2037-26-5	
1,2-Dichloroethane-d4 (S)	91	%	80-120	1		06/06/14 19:39	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/06/14 19:39		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: MERP/8463
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170509001

METHOD BLANK: 1389350 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/06/14 12:36	

LABORATORY CONTROL SAMPLE: 1389351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	109	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389352 1389353

Parameter	Units	60170139001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.3	4.2	87	84	70-130	3	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: MERP/8462
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170509001

METHOD BLANK: 1389341 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/06/14 12:16	

LABORATORY CONTROL SAMPLE: 1389342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389343 1389344

Parameter	Units	60170311001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	92.4	92.7	62	62	70-130	0	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: MPRP/27501
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170509001

METHOD BLANK: 1388722
Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/10/14 17:18	
Antimony	ug/L	ND	10.0	06/10/14 17:18	
Arsenic	ug/L	ND	10.0	06/10/14 17:18	
Beryllium	ug/L	ND	1.0	06/10/14 17:18	
Cadmium	ug/L	ND	5.0	06/10/14 17:18	
Chromium	ug/L	ND	5.0	06/10/14 17:18	
Cobalt	ug/L	ND	5.0	06/10/14 17:18	
Copper	ug/L	ND	10.0	06/10/14 17:18	
Iron	ug/L	ND	50.0	06/11/14 10:26	
Lead	ug/L	ND	5.0	06/10/14 17:18	
Nickel	ug/L	ND	5.0	06/10/14 17:18	
Selenium	ug/L	ND	15.0	06/10/14 17:18	
Silver	ug/L	ND	7.0	06/10/14 17:18	
Thallium	ug/L	ND	20.0	06/10/14 17:18	
Zinc	ug/L	ND	50.0	06/10/14 17:18	

LABORATORY CONTROL SAMPLE: 1388723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1060	106	85-115	
Arsenic	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1070	107	85-115	
Cadmium	ug/L	1000	1040	104	85-115	
Chromium	ug/L	1000	1040	104	85-115	
Cobalt	ug/L	1000	1060	106	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9780	98	85-115	
Lead	ug/L	1000	1080	108	85-115	
Nickel	ug/L	1000	1090	109	85-115	
Selenium	ug/L	1000	1060	106	85-115	
Silver	ug/L	500	522	104	85-115	
Thallium	ug/L	1000	1070	107	85-115	
Zinc	ug/L	1000	1070	107	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1388724 1388725

Parameter	Units	60170509001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	6920	50000	50000	64800	61900	116	110	70-130	5	8	
Antimony	ug/L	150	5000	5000	5780	5740	113	112	70-130	1	7	
Arsenic	ug/L	1400	5000	5000	7440	7200	121	116	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	5160	5160	103	103	70-130	0	7	
Cadmium	ug/L	32.4	5000	5000	5650	5610	112	112	70-130	1	10	
Chromium	ug/L	310	5000	5000	5400	5360	102	101	70-130	1	10	
Cobalt	ug/L	39.0	5000	5000	5120	5120	102	102	70-130	0	6	
Copper	ug/L	ND	5000	5000	5720	5650	114	112	70-130	1	11	
Iron	ug/L	742000	50000	50000	818000	760000	154	37	70-130	7	10	M1
Lead	ug/L	77.0	5000	5000	4910	4910	97	97	70-130	0	10	
Nickel	ug/L	150	5000	5000	5280	5280	103	102	70-130	0	10	
Selenium	ug/L	78.0	5000	5000	6720	6600	133	130	70-130	2	10	M1
Silver	ug/L	ND	2500	2500	2900	2860	115	114	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4350	4400	87	88	70-130	1	6	
Zinc	ug/L	5430	5000	5000	10500	9760	101	87	70-130	7	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: MPRP/27537
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170509001

METHOD BLANK: 1390159
Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/10/14 17:34	
Antimony, Dissolved	ug/L	ND	10.0	06/11/14 08:14	
Arsenic, Dissolved	ug/L	ND	10.0	06/11/14 08:14	
Beryllium, Dissolved	ug/L	ND	1.0	06/10/14 17:34	
Cadmium, Dissolved	ug/L	ND	5.0	06/11/14 08:14	
Chromium, Dissolved	ug/L	ND	5.0	06/10/14 17:34	
Cobalt, Dissolved	ug/L	ND	5.0	06/11/14 08:14	
Copper, Dissolved	ug/L	ND	10.0	06/10/14 17:34	
Iron, Dissolved	ug/L	ND	50.0	06/10/14 17:34	
Lead, Dissolved	ug/L	ND	5.0	06/11/14 08:14	
Nickel, Dissolved	ug/L	ND	5.0	06/11/14 08:14	
Selenium, Dissolved	ug/L	ND	15.0	06/11/14 08:14	
Silver, Dissolved	ug/L	ND	7.0	06/10/14 17:34	
Thallium, Dissolved	ug/L	ND	20.0	06/11/14 08:14	
Zinc, Dissolved	ug/L	ND	50.0	06/11/14 08:14	

LABORATORY CONTROL SAMPLE: 1390160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9210	92	85-115	
Antimony, Dissolved	ug/L	1000	986	99	85-115	
Arsenic, Dissolved	ug/L	1000	959	96	85-115	
Beryllium, Dissolved	ug/L	1000	950	95	85-115	
Cadmium, Dissolved	ug/L	1000	982	98	85-115	
Chromium, Dissolved	ug/L	1000	927	93	85-115	
Cobalt, Dissolved	ug/L	1000	983	98	85-115	
Copper, Dissolved	ug/L	1000	925	93	85-115	
Iron, Dissolved	ug/L	10000	9390	94	85-115	
Lead, Dissolved	ug/L	1000	989	99	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	970	97	85-115	
Silver, Dissolved	ug/L	500	457	91	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	972	97	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1390161 1390162

Parameter	Units	60170509001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1740	50000	50000	48400	47700	93	92	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5310	5240	106	104	70-130	1	7	
Arsenic, Dissolved	ug/L	1020	5000	5000	6560	6440	111	108	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4770	4690	95	94	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5350	5290	107	106	70-130	1	10	
Chromium, Dissolved	ug/L	191	5000	5000	5020	4870	97	94	70-130	3	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4820	97	96	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	4830	4740	97	95	70-130	2	11	
Iron, Dissolved	ug/L	370000	50000	50000	420000	397000	99	54	70-130	5	10	M1
Lead, Dissolved	ug/L	44.0	5000	5000	4670	4630	93	92	70-130	1	10	
Nickel, Dissolved	ug/L	104	5000	5000	5060	5000	99	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5860	5780	116	114	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2520	2490	100	99	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4470	4440	89	89	70-130	1	6	
Zinc, Dissolved	ug/L	4210	5000	5000	9140	8820	99	92	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: MSV/62126 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60170509001, 60170509002

METHOD BLANK: 1390435 Matrix: Water
Associated Lab Samples: 60170509001, 60170509002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/06/14 19:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/06/14 19:24	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/06/14 19:24	
1,2-Dichloroethane	ug/L	ND	1.0	06/06/14 19:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/06/14 19:24	
2-Butanone (MEK)	ug/L	ND	10.0	06/06/14 19:24	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/06/14 19:24	N2
Acetone	ug/L	ND	10.0	06/06/14 19:24	N2
Benzene	ug/L	ND	1.0	06/06/14 19:24	
Bromodichloromethane	ug/L	ND	1.0	06/06/14 19:24	
Bromoform	ug/L	ND	1.0	06/06/14 19:24	
Bromomethane	ug/L	ND	5.0	06/06/14 19:24	
Carbon tetrachloride	ug/L	ND	1.0	06/06/14 19:24	
Chloroethane	ug/L	ND	1.0	06/06/14 19:24	
Chloroform	ug/L	ND	1.0	06/06/14 19:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/06/14 19:24	N2
Ethylbenzene	ug/L	ND	1.0	06/06/14 19:24	
Methylene chloride	ug/L	ND	1.0	06/06/14 19:24	
Tetrachloroethene	ug/L	ND	1.0	06/06/14 19:24	
Toluene	ug/L	ND	1.0	06/06/14 19:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/06/14 19:24	
Trichloroethene	ug/L	ND	1.0	06/06/14 19:24	
Vinyl chloride	ug/L	ND	1.0	06/06/14 19:24	
Xylene (Total)	ug/L	ND	3.0	06/06/14 19:24	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/06/14 19:24	
4-Bromofluorobenzene (S)	%	99	80-120	06/06/14 19:24	
Toluene-d8 (S)	%	98	80-120	06/06/14 19:24	

LABORATORY CONTROL SAMPLE: 1390436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.6	88	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.7	104	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.8	99	67-124	
1,2-Dichloroethane	ug/L	20	18.3	92	70-126	
1,4-Dichlorobenzene	ug/L	20	18.4	92	74-120	
2-Butanone (MEK)	ug/L	100	103	103	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	59-131	N2
Acetone	ug/L	100	94.7	95	38-134	N2
Benzene	ug/L	20	18.3	91	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

LABORATORY CONTROL SAMPLE: 1390436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.6	93	68-125	
Bromoform	ug/L	20	17.1	86	65-127	
Bromomethane	ug/L	20	4.3J	21	13-157	
Carbon tetrachloride	ug/L	20	16.7	84	70-131	
Chloroethane	ug/L	20	22.4	112	47-133	
Chloroform	ug/L	20	18.1	90	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	68-127	N2
Ethylbenzene	ug/L	20	18.2	91	74-122	
Methylene chloride	ug/L	20	17.4	87	64-129	
Tetrachloroethene	ug/L	20	17.9	89	73-125	
Toluene	ug/L	20	17.5	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.9	84	66-129	
Trichloroethene	ug/L	20	17.5	87	71-123	
Vinyl chloride	ug/L	20	12.9	65	43-129	
Xylene (Total)	ug/L	60	56.5	94	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1390437

Parameter	Units	60170509001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4210	84	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4550	91	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4460	89	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3970	79	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4410	86	33-140	
2-Butanone (MEK)	ug/L	43000	25000	73600	122	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23200	91	40-160	N2
Acetone	ug/L	101000	25000	144000	172	10-160	M1,N2
Benzene	ug/L	ND	5000	4140	83	37-151	
Bromodichloromethane	ug/L	ND	5000	4020	80	35-142	
Bromoform	ug/L	ND	5000	4130	83	45-142	
Bromomethane	ug/L	ND	5000	1450	29	10-158	
Carbon tetrachloride	ug/L	ND	5000	4160	83	70-140	
Chloroethane	ug/L	ND	5000	3740	75	19-152	
Chloroform	ug/L	ND	5000	4130	83	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4340	87	34-147	N2
Ethylbenzene	ug/L	ND	5000	4330	87	40-142	
Methylene chloride	ug/L	ND	5000	3960	78	31-144	
Tetrachloroethene	ug/L	ND	5000	4530	91	64-148	
Toluene	ug/L	ND	5000	4140	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3970	79	54-151	
Trichloroethene	ug/L	ND	5000	4010	80	71-149	
Vinyl chloride	ug/L	ND	5000	3150	63	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

MATRIX SPIKE SAMPLE: 1390437

Parameter	Units	60170509001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13100	87	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: OEXT/44501 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60170509001

METHOD BLANK: 1389069 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/06/14 09:13	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/06/14 09:13	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/06/14 09:13	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/06/14 09:13	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/06/14 09:13	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/06/14 09:13	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/06/14 09:13	
Hexachloroethane	ug/L	ND	5.0	06/06/14 09:13	
Naphthalene	ug/L	ND	5.0	06/06/14 09:13	
Nitrobenzene	ug/L	ND	5.0	06/06/14 09:13	
Pentachlorophenol	ug/L	ND	5.0	06/06/14 09:13	
Phenol	ug/L	ND	5.0	06/06/14 09:13	
2,4,6-Tribromophenol (S)	%	78	39-120	06/06/14 09:13	
2-Fluorobiphenyl (S)	%	69	39-120	06/06/14 09:13	
2-Fluorophenol (S)	%	38	17-120	06/06/14 09:13	
Nitrobenzene-d5 (S)	%	72	33-120	06/06/14 09:13	
Phenol-d6 (S)	%	25	11-120	06/06/14 09:13	
Terphenyl-d14 (S)	%	66	45-120	06/06/14 09:13	

LABORATORY CONTROL SAMPLE: 1389070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.2	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.4	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.9	58	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.4	55	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.6	87	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.8	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	62.3	62	24-120	
Hexachloroethane	ug/L	50	39.7	79	43-113	
Naphthalene	ug/L	50	40.2	80	48-120	
Nitrobenzene	ug/L	50	41.2	82	48-120	
Pentachlorophenol	ug/L	50	38.8	78	47-120	
Phenol	ug/L	50	12.2	24	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			78	39-120	
2-Fluorophenol (S)	%			37	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			23	11-120	
Terphenyl-d14 (S)	%			78	45-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

MATRIX SPIKE SAMPLE: 1389071

Parameter	Units	60170477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.2	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.6	73	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	22.5	45	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	24.6	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	39.5	79	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	38.1	76	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	60.5	60	11-120	
Hexachloroethane	ug/L	ND	50	36.2	72	40-113	
Naphthalene	ug/L	ND	50	36.5	73	45-120	
Nitrobenzene	ug/L	ND	50	46.7	93	38-120	
Pentachlorophenol	ug/L	ND	50	36.8	74	43-135	
Phenol	ug/L	ND	50	10.7	21	13-112	
2,4,6-Tribromophenol (S)	%				84	39-120	
2-Fluorobiphenyl (S)	%				73	39-120	
2-Fluorophenol (S)	%				33	17-120	
Nitrobenzene-d5 (S)	%				76	33-120	
Phenol-d6 (S)	%				23	11-120	
Terphenyl-d14 (S)	%				75	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: WET/48233 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170509001

METHOD BLANK: 1388900 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/05/14 08:11	

LABORATORY CONTROL SAMPLE: 1388901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.1	85	78-114	

MATRIX SPIKE SAMPLE: 1389107

Parameter	Units	60170357001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	758	167	991	140	78-114	M1

SAMPLE DUPLICATE: 1389108

Parameter	Units	60170509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	890	932	5	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: WET/48238 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170509001

METHOD BLANK: 1389113 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/05/14 08:37	

LABORATORY CONTROL SAMPLE: 1389114

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	24.0	120	64-132	

MATRIX SPIKE SAMPLE: 1389115

Parameter	Units	60170357001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.2	83.3	33.3	29	64-132	M1

SAMPLE DUPLICATE: 1389116

Parameter	Units	60170509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	15.7	14.3	9	34	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: WET/48296 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170509001

METHOD BLANK: 1390809 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/09/14 09:09	

SAMPLE DUPLICATE: 1390810

Parameter	Units	60170509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4800	4420	8	10	

SAMPLE DUPLICATE: 1390811

Parameter	Units	60170447001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	178	214	19	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: WET/48278
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170509001

SAMPLE DUPLICATE: 1390360

Parameter	Units	60170617003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: WET/48231 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170509001

METHOD BLANK: 1388876 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/09/14 14:06	

LABORATORY CONTROL SAMPLE: 1388877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	89	85-115	

SAMPLE DUPLICATE: 1388878

Parameter	Units	60170514001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	7.8	15.0	63	17	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: WETA/29740 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170509001

METHOD BLANK: 1390129 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/06/14 13:34	

LABORATORY CONTROL SAMPLE: 1390130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1390131

Parameter	Units	60170484001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.2	2	3.1	96	90-110	

MATRIX SPIKE SAMPLE: 1390132

Parameter	Units	60170500003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.97	2	2.7	88	90-110	M1

SAMPLE DUPLICATE: 1390133

Parameter	Units	60170645001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	2.8	2.8	0	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

QC Batch: WETA/29734 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60170509001

METHOD BLANK: 1389976 Matrix: Water
Associated Lab Samples: 60170509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/09/14 07:36	

LABORATORY CONTROL SAMPLE: 1389977

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.5	97	90-110	

MATRIX SPIKE SAMPLE: 1389978

Parameter	Units	60170509001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	55300	25000	77600	89	90-110	M1

MATRIX SPIKE SAMPLE: 1389980

Parameter	Units	60170381002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69.9	50	114	88	90-110	M1

SAMPLE DUPLICATE: 1389979

Parameter	Units	60170659001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	46.5	45.5	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-319
Pace Project No.: 60170509

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170509001	**316-319**	EPA 200.7	MPRP/27501	EPA 200.7	ICP/20821
60170509001	**316-319**	EPA 200.7	MPRP/27537	EPA 200.7	ICP/20833
60170509001	**316-319**	EPA 245.1	MERP/8463	EPA 245.1	MERC/8418
60170509001	**316-319**	EPA 245.1	MERP/8462	EPA 245.1	MERC/8417
60170509001	**316-319**	EPA 625	OEXT/44501	EPA 625	MSSV/14242
60170509001	**316-319**	EPA 624 Low	MSV/62126		
60170509002	**TRIP BLANK**	EPA 624 Low	MSV/62126		
60170509001	**316-319**	EPA 1664A	WET/48233		
60170509001	**316-319**	EPA 1664A	WET/48238		
60170509001	**316-319**	SM 2540D	WET/48296		
60170509001	**316-319**	SM 4500-H+B	WET/48278		
60170509001	**316-319**	SM 5210B	WET/48231	SM 5210B	WET/48317
60170509001	**316-319**	EPA 350.1	WETA/29740		
60170509001	**316-319**	EPA 410.4	WETA/29734		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60170509

60170509

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ x-Reads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ Zplc

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 12.0 melted ice (circle one)

Date and initials of person examining contents: 6/4/14

Temperature should be above freezing to 6°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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, ph
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	initial ph BP4N 5-5, added 2.5mL HNO3 final 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	initial ph BP3S 4.5, added 2.5mL H2SO4 final 3.0 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: Lot # of added preservative: HNO3 - 12513-23-2, H2SO4 - 12522-2-7
Trip Blank present: Pace Trip Blank lot # (if purchased): Covered	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☐N/A	1 of 5 Dhgu 16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: NO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/4

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency:

State / Location: Missouri

MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

60170509

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-319 3 AG3S, 2 BP24, BP3U	OT	G	6/3/14	0912	—	—		~~44~~ 45	10	4	1	0	5	D049		U		X	X	X	X	X	X	X	X	X	X	X	2AG4U, BP3N[4.0], BP3S[3.0] W1	
2	TRIP BLANK	—	—	—		—	—		2	2				2	D049		U									X					02
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FSI	6-3-14	2:45pm	[signature]	6-3-14	2:45pm				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	6/4/14	0205	12.0	N	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/3/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 12, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Dear Ed Galbraith:

Enclosed are the analytical results for sample(s) received by the laboratory on June 05, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Emily Webb for
Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170631001	**316-320**	Water	06/04/14 09:09	06/05/14 01:50
60170631002	**TRIP BLANK**	Water	06/04/14 09:09	06/05/14 01:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170631001	**316-320**	EPA 200.7	NDJ	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	DJR	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170631002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Sample: 316-320 **Lab ID: 60170631001** Collected: 06/04/14 09:09 Received: 06/05/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**3120**	ug/L	750	2	06/06/14 10:45	06/10/14 12:40	7429-90-5	
Antimony	**98.8**	ug/L	50.0	1	06/06/14 10:45	06/10/14 11:51	7440-36-0	
Arsenic	**1130**	ug/L	50.0	1	06/06/14 10:45	06/10/14 11:51	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/06/14 10:45	06/10/14 11:51	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/06/14 10:45	06/10/14 11:51	7440-43-9	
Chromium	**210**	ug/L	25.0	1	06/06/14 10:45	06/10/14 11:51	7440-47-3	
Cobalt	**26.6**	ug/L	25.0	1	06/06/14 10:45	06/10/14 11:51	7440-48-4	
Copper	ND	ug/L	50.0	1	06/06/14 10:45	06/10/14 11:51	7440-50-8	
Iron	**417000**	ug/L	250	1	06/06/14 10:45	06/10/14 11:51	7439-89-6	M1
Lead	**37.0**	ug/L	25.0	1	06/06/14 10:45	06/10/14 11:51	7439-92-1	
Nickel	**111**	ug/L	25.0	1	06/06/14 10:45	06/10/14 11:51	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/06/14 10:45	06/10/14 11:51	7782-49-2	
Silver	ND	ug/L	35.0	1	06/06/14 10:45	06/10/14 11:51	7440-22-4	
Thallium	ND	ug/L	200	2	06/06/14 10:45	06/10/14 12:40	7440-28-0	
Zinc	**4400**	ug/L	500	2	06/06/14 10:45	06/10/14 12:40	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1450**	ug/L	750	2	06/06/14 10:45	06/10/14 18:09	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/06/14 10:45	06/11/14 08:46	7440-36-0	D3
Arsenic, Dissolved	**874**	ug/L	50.0	1	06/06/14 10:45	06/11/14 08:42	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/06/14 10:45	06/10/14 17:59	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/06/14 10:45	06/11/14 08:42	7440-43-9	
Chromium, Dissolved	**155**	ug/L	25.0	1	06/06/14 10:45	06/10/14 17:59	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/06/14 10:45	06/11/14 08:42	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/06/14 10:45	06/10/14 17:59	7440-50-8	
Iron, Dissolved	**292000**	ug/L	250	1	06/06/14 10:45	06/10/14 17:59	7439-89-6	
Lead, Dissolved	**41.6**	ug/L	25.0	1	06/06/14 10:45	06/11/14 08:42	7439-92-1	D9
Nickel, Dissolved	**92.8**	ug/L	25.0	1	06/06/14 10:45	06/11/14 08:42	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/06/14 10:45	06/11/14 08:42	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/06/14 10:45	06/10/14 17:59	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/06/14 10:45	06/11/14 08:42	7440-28-0	
Zinc, Dissolved	**3680**	ug/L	500	2	06/06/14 10:45	06/11/14 08:46	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**16.8**	ug/L	6.0	1	06/05/14 13:00	06/06/14 13:12	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/10/14 14:00	06/11/14 10:44	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/05/14 00:00	06/06/14 13:26	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/05/14 00:00	06/06/14 13:26	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**8530**	ug/L	4000	2	06/05/14 00:00	06/06/14 13:26		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Sample: 316-320 **Lab ID: 60170631001** Collected: 06/04/14 09:09 Received: 06/05/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1890**	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	87-86-5	
Phenol	**11100**	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/05/14 00:00	06/06/14 13:26	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	156	%	33-120	2	06/05/14 00:00	06/06/14 13:26	4165-60-0	S0
2-Fluorobiphenyl (S)	71	%	39-120	2	06/05/14 00:00	06/06/14 13:26	321-60-8	
Terphenyl-d14 (S)	69	%	45-120	2	06/05/14 00:00	06/06/14 13:26	1718-51-0	
Phenol-d6 (S)	39	%	11-120	2	06/05/14 00:00	06/06/14 13:26	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	06/05/14 00:00	06/06/14 13:26	367-12-4	
2,4,6-Tribromophenol (S)	80	%	39-120	2	06/05/14 00:00	06/06/14 13:26	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**88100**	ug/L	2500	250		06/06/14 20:41	67-64-1	N2
Benzene	ND	ug/L	250	250		06/06/14 20:41	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/06/14 20:41	75-27-4	
Bromoform	ND	ug/L	250	250		06/06/14 20:41	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/06/14 20:41	74-83-9	
2-Butanone (MEK)	**34500**	ug/L	2500	250		06/06/14 20:41	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/06/14 20:41	56-23-5	
Chloroethane	ND	ug/L	250	250		06/06/14 20:41	75-00-3	
Chloroform	ND	ug/L	250	250		06/06/14 20:41	67-66-3	
1,4-Dichlorobenzene	**335**	ug/L	250	250		06/06/14 20:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/06/14 20:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/06/14 20:41	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/06/14 20:41	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/06/14 20:41	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/06/14 20:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/06/14 20:41	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/06/14 20:41	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/06/14 20:41	127-18-4	
Toluene	ND	ug/L	250	250		06/06/14 20:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/06/14 20:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/06/14 20:41	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/06/14 20:41	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/06/14 20:41	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/06/14 20:41	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	250		06/06/14 20:41	460-00-4	HS
Toluene-d8 (S)	98	%	80-120	250		06/06/14 20:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	250		06/06/14 20:41	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/06/14 20:41		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1240**	mg/L	5.0	1		06/06/14 12:50		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Sample: 316-320 **Lab ID: 60170631001** Collected: 06/04/14 09:09 Received: 06/05/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**13.2**	mg/L	5.0	1		06/06/14 16:06		M1
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5120**	mg/L	5.0	1		06/10/14 09:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units		1		06/06/13 15:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**33200**	mg/L	2.0	1	06/05/14 15:38	06/10/14 12:45		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**660**	mg/L	20.0	200		06/06/14 14:03	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55900**	mg/L	5000	500		06/09/14 07:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Sample: TRIP BLANK **Lab ID: 60170631002** Collected: 06/04/14 09:09 Received: 06/05/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/12/14 13:03	67-64-1	H1,N2
Benzene	ND	ug/L	1.0	1		06/12/14 13:03	71-43-2	H1
Bromodichloromethane	ND	ug/L	1.0	1		06/12/14 13:03	75-27-4	H1
Bromoform	ND	ug/L	1.0	1		06/12/14 13:03	75-25-2	H1
Bromomethane	ND	ug/L	5.0	1		06/12/14 13:03	74-83-9	H1
2-Butanone (MEK)	ND	ug/L	10.0	1		06/12/14 13:03	78-93-3	H1,N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/12/14 13:03	56-23-5	H1
Chloroethane	ND	ug/L	1.0	1		06/12/14 13:03	75-00-3	H1
Chloroform	ND	ug/L	1.0	1		06/12/14 13:03	67-66-3	H1
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/12/14 13:03	106-46-7	H1
1,2-Dichloroethane	ND	ug/L	1.0	1		06/12/14 13:03	107-06-2	H1
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/12/14 13:03	156-59-2	H1,N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/12/14 13:03	156-60-5	H1
Ethylbenzene	ND	ug/L	1.0	1		06/12/14 13:03	100-41-4	H1
Methylene chloride	ND	ug/L	1.0	1		06/12/14 13:03	75-09-2	H1
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/12/14 13:03	108-10-1	H1,N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/12/14 13:03	79-34-5	H1,N2
Tetrachloroethene	ND	ug/L	1.0	1		06/12/14 13:03	127-18-4	H1
Toluene	ND	ug/L	1.0	1		06/12/14 13:03	108-88-3	H1
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/12/14 13:03	71-55-6	H1
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/12/14 13:03	79-00-5	H1
Trichloroethene	ND	ug/L	1.0	1		06/12/14 13:03	79-01-6	H1
Vinyl chloride	ND	ug/L	1.0	1		06/12/14 13:03	75-01-4	H1
Xylene (Total)	ND	ug/L	3.0	1		06/12/14 13:03	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		06/12/14 13:03	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		06/12/14 13:03	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		06/12/14 13:03	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/12/14 13:03		H1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: MERP/8463
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170631001

METHOD BLANK: 1389350 Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/06/14 12:36	

LABORATORY CONTROL SAMPLE: 1389351

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	109	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389352 1389353

Parameter	Units	60170139001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.3	4.2	87	84	70-130	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: MERP/8474
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170631001

METHOD BLANK: 1391846
Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/11/14 10:39	

LABORATORY CONTROL SAMPLE: 1391847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391848 1391849

Parameter	Units	60170631001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	142	141	95	94	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: MPRP/27534
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170631001

METHOD BLANK: 1390151
Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/10/14 11:46	
Antimony	ug/L	ND	10.0	06/10/14 11:46	
Arsenic	ug/L	ND	10.0	06/10/14 11:46	
Beryllium	ug/L	ND	1.0	06/10/14 11:46	
Cadmium	ug/L	ND	5.0	06/10/14 11:46	
Chromium	ug/L	ND	5.0	06/10/14 11:46	
Cobalt	ug/L	ND	5.0	06/10/14 11:46	
Copper	ug/L	ND	10.0	06/10/14 11:46	
Iron	ug/L	ND	50.0	06/10/14 11:46	
Lead	ug/L	ND	5.0	06/10/14 11:46	
Nickel	ug/L	ND	5.0	06/10/14 11:46	
Selenium	ug/L	ND	15.0	06/10/14 11:46	
Silver	ug/L	ND	7.0	06/10/14 11:46	
Thallium	ug/L	ND	20.0	06/10/14 11:46	
Zinc	ug/L	ND	50.0	06/10/14 11:46	

LABORATORY CONTROL SAMPLE: 1390152

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9850	99	85-115	
Antimony	ug/L	1000	994	99	85-115	
Arsenic	ug/L	1000	978	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	997	100	85-115	
Chromium	ug/L	1000	995	99	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	986	99	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	487	97	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1390153 1390154

Parameter	Units	60170631001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	3120	50000	50000	55400	56300	105	106	70-130	2	8	
Antimony	ug/L	98.8	5000	5000	5520	5470	108	107	70-130	1	7	
Arsenic	ug/L	1130	5000	5000	6940	7000	116	117	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4950	4900	99	98	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5440	5460	108	109	70-130	0	10	
Chromium	ug/L	210	5000	5000	5140	5100	99	98	70-130	1	10	
Cobalt	ug/L	26.6	5000	5000	4950	4880	98	97	70-130	1	6	
Copper	ug/L	ND	5000	5000	5450	5380	108	107	70-130	1	11	
Iron	ug/L	417000	50000	50000	493000	522000	153	211	70-130	6	10	M1
Lead	ug/L	37.0	5000	5000	4690	4570	93	91	70-130	3	10	
Nickel	ug/L	111	5000	5000	5040	4920	99	96	70-130	2	10	
Selenium	ug/L	ND	5000	5000	6420	6380	127	126	70-130	1	10	
Silver	ug/L	ND	2500	2500	2730	2680	109	107	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4230	4260	85	85	70-130	1	6	
Zinc	ug/L	4400	5000	5000	9290	9590	98	104	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: MPRP/27537
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170631001

METHOD BLANK: 1390159
Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/10/14 17:34	
Antimony, Dissolved	ug/L	ND	10.0	06/11/14 08:14	
Arsenic, Dissolved	ug/L	ND	10.0	06/11/14 08:14	
Beryllium, Dissolved	ug/L	ND	1.0	06/10/14 17:34	
Cadmium, Dissolved	ug/L	ND	5.0	06/11/14 08:14	
Chromium, Dissolved	ug/L	ND	5.0	06/10/14 17:34	
Cobalt, Dissolved	ug/L	ND	5.0	06/11/14 08:14	
Copper, Dissolved	ug/L	ND	10.0	06/10/14 17:34	
Iron, Dissolved	ug/L	ND	50.0	06/10/14 17:34	
Lead, Dissolved	ug/L	ND	5.0	06/11/14 08:14	
Nickel, Dissolved	ug/L	ND	5.0	06/11/14 08:14	
Selenium, Dissolved	ug/L	ND	15.0	06/11/14 08:14	
Silver, Dissolved	ug/L	ND	7.0	06/10/14 17:34	
Thallium, Dissolved	ug/L	ND	20.0	06/11/14 08:14	
Zinc, Dissolved	ug/L	ND	50.0	06/11/14 08:14	

LABORATORY CONTROL SAMPLE: 1390160

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9210	92	85-115	
Antimony, Dissolved	ug/L	1000	986	99	85-115	
Arsenic, Dissolved	ug/L	1000	959	96	85-115	
Beryllium, Dissolved	ug/L	1000	950	95	85-115	
Cadmium, Dissolved	ug/L	1000	982	98	85-115	
Chromium, Dissolved	ug/L	1000	927	93	85-115	
Cobalt, Dissolved	ug/L	1000	983	98	85-115	
Copper, Dissolved	ug/L	1000	925	93	85-115	
Iron, Dissolved	ug/L	10000	9390	94	85-115	
Lead, Dissolved	ug/L	1000	989	99	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	970	97	85-115	
Silver, Dissolved	ug/L	500	457	91	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	972	97	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1390161 1390162

Parameter	Units	60170509001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1740	50000	50000	48400	47700	93	92	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5310	5240	106	104	70-130	1	7	
Arsenic, Dissolved	ug/L	1020	5000	5000	6560	6440	111	108	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4770	4690	95	94	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5350	5290	107	106	70-130	1	10	
Chromium, Dissolved	ug/L	191	5000	5000	5020	4870	97	94	70-130	3	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4820	97	96	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	4830	4740	97	95	70-130	2	11	
Iron, Dissolved	ug/L	370000	50000	50000	420000	397000	99	54	70-130	5	10	M1
Lead, Dissolved	ug/L	44.0	5000	5000	4670	4630	93	92	70-130	1	10	
Nickel, Dissolved	ug/L	104	5000	5000	5060	5000	99	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5860	5780	116	114	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2520	2490	100	99	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4470	4440	89	89	70-130	1	6	
Zinc, Dissolved	ug/L	4210	5000	5000	9140	8820	99	92	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: MSV/62126
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60170631001

METHOD BLANK: 1390435
Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/06/14 19:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/06/14 19:24	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/06/14 19:24	
1,2-Dichloroethane	ug/L	ND	1.0	06/06/14 19:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/06/14 19:24	
2-Butanone (MEK)	ug/L	ND	10.0	06/06/14 19:24	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/06/14 19:24	N2
Acetone	ug/L	ND	10.0	06/06/14 19:24	N2
Benzene	ug/L	ND	1.0	06/06/14 19:24	
Bromodichloromethane	ug/L	ND	1.0	06/06/14 19:24	
Bromoform	ug/L	ND	1.0	06/06/14 19:24	
Bromomethane	ug/L	ND	5.0	06/06/14 19:24	
Carbon tetrachloride	ug/L	ND	1.0	06/06/14 19:24	
Chloroethane	ug/L	ND	1.0	06/06/14 19:24	
Chloroform	ug/L	ND	1.0	06/06/14 19:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/06/14 19:24	N2
Ethylbenzene	ug/L	ND	1.0	06/06/14 19:24	
Methylene chloride	ug/L	ND	1.0	06/06/14 19:24	
Tetrachloroethene	ug/L	ND	1.0	06/06/14 19:24	
Toluene	ug/L	ND	1.0	06/06/14 19:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/06/14 19:24	
Trichloroethene	ug/L	ND	1.0	06/06/14 19:24	
Vinyl chloride	ug/L	ND	1.0	06/06/14 19:24	
Xylene (Total)	ug/L	ND	3.0	06/06/14 19:24	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/06/14 19:24	
4-Bromofluorobenzene (S)	%	99	80-120	06/06/14 19:24	
Toluene-d8 (S)	%	98	80-120	06/06/14 19:24	

LABORATORY CONTROL SAMPLE: 1390436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.6	88	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.7	104	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.8	99	67-124	
1,2-Dichloroethane	ug/L	20	18.3	92	70-126	
1,4-Dichlorobenzene	ug/L	20	18.4	92	74-120	
2-Butanone (MEK)	ug/L	100	103	103	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	59-131	N2
Acetone	ug/L	100	94.7	95	38-134	N2
Benzene	ug/L	20	18.3	91	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

LABORATORY CONTROL SAMPLE: 1390436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.6	93	68-125	
Bromoform	ug/L	20	17.1	86	65-127	
Bromomethane	ug/L	20	4.3J	21	13-157	
Carbon tetrachloride	ug/L	20	16.7	84	70-131	
Chloroethane	ug/L	20	22.4	112	47-133	
Chloroform	ug/L	20	18.1	90	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	68-127	N2
Ethylbenzene	ug/L	20	18.2	91	74-122	
Methylene chloride	ug/L	20	17.4	87	64-129	
Tetrachloroethene	ug/L	20	17.9	89	73-125	
Toluene	ug/L	20	17.5	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.9	84	66-129	
Trichloroethene	ug/L	20	17.5	87	71-123	
Vinyl chloride	ug/L	20	12.9	65	43-129	
Xylene (Total)	ug/L	60	56.5	94	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1390437

Parameter	Units	60170509001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4210	84	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4550	91	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4460	89	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3970	79	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4410	86	33-140	
2-Butanone (MEK)	ug/L	43000	25000	73600	122	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23200	91	40-160	N2
Acetone	ug/L	101000	25000	144000	172	10-160	M1,N2
Benzene	ug/L	ND	5000	4140	83	37-151	
Bromodichloromethane	ug/L	ND	5000	4020	80	35-142	
Bromoform	ug/L	ND	5000	4130	83	45-142	
Bromomethane	ug/L	ND	5000	1450	29	10-158	
Carbon tetrachloride	ug/L	ND	5000	4160	83	70-140	
Chloroethane	ug/L	ND	5000	3740	75	19-152	
Chloroform	ug/L	ND	5000	4130	83	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4340	87	34-147	N2
Ethylbenzene	ug/L	ND	5000	4330	87	40-142	
Methylene chloride	ug/L	ND	5000	3960	78	31-144	
Tetrachloroethene	ug/L	ND	5000	4530	91	64-148	
Toluene	ug/L	ND	5000	4140	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3970	79	54-151	
Trichloroethene	ug/L	ND	5000	4010	80	71-149	
Vinyl chloride	ug/L	ND	5000	3150	63	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

MATRIX SPIKE SAMPLE: 1390437

Parameter	Units	60170509001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13100	87	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: MSV/62245
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60170631002

METHOD BLANK: 1392971
Matrix: Water
Associated Lab Samples: 60170631002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/12/14 12:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/12/14 12:47	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/12/14 12:47	
1,2-Dichloroethane	ug/L	ND	1.0	06/12/14 12:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/12/14 12:47	
2-Butanone (MEK)	ug/L	ND	10.0	06/12/14 12:47	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/12/14 12:47	N2
Acetone	ug/L	ND	10.0	06/12/14 12:47	N2
Benzene	ug/L	ND	1.0	06/12/14 12:47	
Bromodichloromethane	ug/L	ND	1.0	06/12/14 12:47	
Bromoform	ug/L	ND	1.0	06/12/14 12:47	
Bromomethane	ug/L	ND	5.0	06/12/14 12:47	
Carbon tetrachloride	ug/L	ND	1.0	06/12/14 12:47	
Chloroethane	ug/L	ND	1.0	06/12/14 12:47	
Chloroform	ug/L	ND	1.0	06/12/14 12:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/12/14 12:47	N2
Ethylbenzene	ug/L	ND	1.0	06/12/14 12:47	
Methylene chloride	ug/L	ND	1.0	06/12/14 12:47	
Tetrachloroethene	ug/L	ND	1.0	06/12/14 12:47	
Toluene	ug/L	ND	1.0	06/12/14 12:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/12/14 12:47	
Trichloroethene	ug/L	ND	1.0	06/12/14 12:47	
Vinyl chloride	ug/L	ND	1.0	06/12/14 12:47	
Xylene (Total)	ug/L	ND	3.0	06/12/14 12:47	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/12/14 12:47	
4-Bromofluorobenzene (S)	%	101	80-120	06/12/14 12:47	
Toluene-d8 (S)	%	97	80-120	06/12/14 12:47	

LABORATORY CONTROL SAMPLE: 1392972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.3	96	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.7	109	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.4	107	67-124	
1,2-Dichloroethane	ug/L	20	19.1	95	70-126	
1,4-Dichlorobenzene	ug/L	20	19.3	97	74-120	
2-Butanone (MEK)	ug/L	100	107	107	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	59-131	N2
Acetone	ug/L	100	104	104	38-134	N2
Benzene	ug/L	20	19.8	99	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

LABORATORY CONTROL SAMPLE: 1392972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.5	103	68-125	
Bromoform	ug/L	20	21.2	106	65-127	
Bromomethane	ug/L	20	13.3	66	13-157	
Carbon tetrachloride	ug/L	20	19.1	96	70-131	
Chloroethane	ug/L	20	18.9	94	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.9	99	68-127	N2
Ethylbenzene	ug/L	20	20.0	100	74-122	
Methylene chloride	ug/L	20	18.9	94	64-129	
Tetrachloroethene	ug/L	20	19.9	99	73-125	
Toluene	ug/L	20	19.0	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.7	93	66-129	
Trichloroethene	ug/L	20	19.7	99	71-123	
Vinyl chloride	ug/L	20	17.9	90	43-129	
Xylene (Total)	ug/L	60	58.1	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: OEXT/44501
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60170631001

METHOD BLANK: 1389069
Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/06/14 09:13	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/06/14 09:13	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/06/14 09:13	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/06/14 09:13	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/06/14 09:13	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/06/14 09:13	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/06/14 09:13	
Hexachloroethane	ug/L	ND	5.0	06/06/14 09:13	
Naphthalene	ug/L	ND	5.0	06/06/14 09:13	
Nitrobenzene	ug/L	ND	5.0	06/06/14 09:13	
Pentachlorophenol	ug/L	ND	5.0	06/06/14 09:13	
Phenol	ug/L	ND	5.0	06/06/14 09:13	
2,4,6-Tribromophenol (S)	%	78	39-120	06/06/14 09:13	
2-Fluorobiphenyl (S)	%	69	39-120	06/06/14 09:13	
2-Fluorophenol (S)	%	38	17-120	06/06/14 09:13	
Nitrobenzene-d5 (S)	%	72	33-120	06/06/14 09:13	
Phenol-d6 (S)	%	25	11-120	06/06/14 09:13	
Terphenyl-d14 (S)	%	66	45-120	06/06/14 09:13	

LABORATORY CONTROL SAMPLE: 1389070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.2	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.4	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.9	58	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.4	55	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.6	87	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.8	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	62.3	62	24-120	
Hexachloroethane	ug/L	50	39.7	79	43-113	
Naphthalene	ug/L	50	40.2	80	48-120	
Nitrobenzene	ug/L	50	41.2	82	48-120	
Pentachlorophenol	ug/L	50	38.8	78	47-120	
Phenol	ug/L	50	12.2	24	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			78	39-120	
2-Fluorophenol (S)	%			37	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			23	11-120	
Terphenyl-d14 (S)	%			78	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

MATRIX SPIKE SAMPLE: 1389071

Parameter	Units	60170477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.2	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.6	73	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	22.5	45	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	24.6	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	39.5	79	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	38.1	76	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	60.5	60	11-120	
Hexachloroethane	ug/L	ND	50	36.2	72	40-113	
Naphthalene	ug/L	ND	50	36.5	73	45-120	
Nitrobenzene	ug/L	ND	50	46.7	93	38-120	
Pentachlorophenol	ug/L	ND	50	36.8	74	43-135	
Phenol	ug/L	ND	50	10.7	21	13-112	
2,4,6-Tribromophenol (S)	%				84	39-120	
2-Fluorobiphenyl (S)	%				73	39-120	
2-Fluorophenol (S)	%				33	17-120	
Nitrobenzene-d5 (S)	%				76	33-120	
Phenol-d6 (S)	%				23	11-120	
Terphenyl-d14 (S)	%				75	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: WET/48275
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170631001

METHOD BLANK: 1390252 Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/06/14 12:47	

LABORATORY CONTROL SAMPLE: 1390253

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.8	92	78-114	

MATRIX SPIKE SAMPLE: 1390254

Parameter	Units	60170631001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1240	160	1150	-59	78-114	M1

SAMPLE DUPLICATE: 1390255

Parameter	Units	60170714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	2.6J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: WET/48284 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170631001

METHOD BLANK: 1390602 Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/06/14 16:05	

LABORATORY CONTROL SAMPLE: 1390603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.1	110	64-132	

MATRIX SPIKE SAMPLE: 1390604

Parameter	Units	60170631001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.2	80	46.4	42	64-132	M1

SAMPLE DUPLICATE: 1390605

Parameter	Units	60170714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.7J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: WET/48325 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170631001

METHOD BLANK: 1391598 Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/10/14 09:05	

SAMPLE DUPLICATE: 1391599

Parameter	Units	60170729008 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	11.0	9	10	

SAMPLE DUPLICATE: 1391600

Parameter	Units	60170729018 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	11.0	12.0	9	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: WET/48278
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170631001

SAMPLE DUPLICATE: 1390360

Parameter	Units	60170617003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: WET/48250 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170631001

METHOD BLANK: 1389443 Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/10/14 12:10	

LABORATORY CONTROL SAMPLE: 1389444

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	171	86	85-115	

SAMPLE DUPLICATE: 1389445

Parameter	Units	60170620002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	770	954	21	17	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: WETA/29740
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170631001

METHOD BLANK: 1390129 Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/06/14 13:34	

LABORATORY CONTROL SAMPLE: 1390130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1390131

Parameter	Units	60170484001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.2	2	3.1	96	90-110	

MATRIX SPIKE SAMPLE: 1390132

Parameter	Units	60170500003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.97	2	2.7	88	90-110	M1

SAMPLE DUPLICATE: 1390133

Parameter	Units	60170645001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	2.8	2.8	0	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

QC Batch: WETA/29734 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60170631001

METHOD BLANK: 1389976 Matrix: Water
Associated Lab Samples: 60170631001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/09/14 07:36	

LABORATORY CONTROL SAMPLE: 1389977

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.5	97	90-110	

MATRIX SPIKE SAMPLE: 1389978

Parameter	Units	60170509001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	55300	25000	77600	89	90-110	M1

MATRIX SPIKE SAMPLE: 1389980

Parameter	Units	60170381002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69.9	50	114	88	90-110	M1

SAMPLE DUPLICATE: 1389979

Parameter	Units	60170659001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	46.5	45.5	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

BATCH QUALIFIERS

Batch: MSV/62245

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-320
Pace Project No.: 60170631

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170631001	**316-320**	EPA 200.7	MPRP/27534	EPA 200.7	ICP/20834
60170631001	**316-320**	EPA 200.7	MPRP/27537	EPA 200.7	ICP/20833
60170631001	**316-320**	EPA 245.1	MERP/8463	EPA 245.1	MERC/8418
60170631001	**316-320**	EPA 245.1	MERP/8474	EPA 245.1	MERC/8429
60170631001	**316-320**	EPA 625	OEXT/44501	EPA 625	MSSV/14242
60170631001	**316-320**	EPA 624 Low	MSV/62126		
60170631002	**TRIP BLANK**	EPA 624 Low	MSV/62245		
60170631001	**316-320**	EPA 1664A	WET/48275		
60170631001	**316-320**	EPA 1664A	WET/48284		
60170631001	**316-320**	SM 2540D	WET/48325		
60170631001	**316-320**	SM 4500-H+B	WET/48278		
60170631001	**316-320**	SM 5210B	WET/48250	SM 5210B	WET/48345
60170631001	**316-320**	EPA 350.1	WETA/29740		
60170631001	**316-320**	EPA 410.4	WETA/29734		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60170631

60170631

Optional
Proj Due Date:
Proj Name:

Client Name: Barr Eng.

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other ☐ XPonds

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: ~~DNS~~ 6/5/14 935

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: Water		13.
All containers needing preservation have been checked.	☑Yes ☐No ☒N/A	BPNT + BOD unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☒N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed MA / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☒N/A	
Pace Trip Blank lot # (if purchased): N/A		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	headspace in all sample vials. no headspace in Trip blanks.
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: mw for AKB Date: 6/5/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	
Missouri	

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60170631
1	316-320	OT	G	6/4/14	0909			45	10	4	1	0						X	X	X	X	X	X	X	X	X	X	2(BP2U) 1(BP3U) 2(AG4U) 5(DG9U) 3(VG9H) 1(BP3S)[1.5] 1(BP3N)[1.5]
2	TRIP BLANK								2	2														X				2(DG9U)
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

METALS LIST total & LF Dis:
Al, Sb, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Zn and Mercury

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	6-4-14	2:20p	SSA	6.4.14	2:20p				
SITE ADDRESS: BRIDGETON LF					6/5/14	150	2.0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Arron Weber		
SIGNATURE of SAMPLER:	Arron Weber	DATE Signed:	6/4/14

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

Pace Analytical Services, Inc.
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(913)599-5665

June 13, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Emily Webb for
Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170799001	**T4 TEST WATER**	Water	06/05/14 12:38	06/06/14 02:30
60170799002	**T4 TEST WATER BOD**	Water	06/05/14 12:38	06/06/14 02:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170799001	**T4 TEST WATER**	EPA 200.7	JGP	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 2540F	JML	1
		SM 4500-H+B	DJR	1
		EPA 300.0	OL	2
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170799002	**T4 TEST WATER BOD**	SM 5210B	NDL	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

Sample: T4 TEST WATER **Lab ID: 60170799001** Collected: 06/05/14 12:38 Received: 06/06/14 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Iron	ND	ug/L	50.0	1	06/09/14 17:45	06/10/14 13:09	7439-89-6	
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	ND	mg/L	5.0	1		06/06/14 12:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	ND	mg/L	5.0	1		06/09/14 09:03		
2540F Total Settleable Solids	Analytical Method: SM 2540F							
Total Settleable Solids	ND	mL/L/hr	0.20	1		06/06/14 16:00		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**9.9**	Std. Units	0.10	1		06/06/14 14:00		H6
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Chloride	**24.3**	mg/L	2.0	2		06/06/14 13:47	16887-00-6	
Sulfate	**170**	mg/L	10.0	10		06/06/14 13:19	14808-79-8	
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**0.49**	mg/L	0.10	1		06/06/14 14:26	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	ND	mg/L	10.0	1		06/09/14 15:19		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

Sample: T4 TEST WATER BOD **Lab ID: 60170799002** Collected: 06/05/14 12:38 Received: 06/06/14 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	ND	mg/L	2.0	1	06/06/14 16:28	06/11/14 15:04		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

QC Batch: MPRP/27538
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170799001

METHOD BLANK: 1390256 Matrix: Water
Associated Lab Samples: 60170799001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron	ug/L	ND	50.0	06/10/14 13:05	

LABORATORY CONTROL SAMPLE: 1390257

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron	ug/L	10000	10500	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1390258 1390259

Parameter	Units	60170799001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Iron	ug/L	ND	10000	10000	10200	10400	102	103	70-130	1	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

QC Batch: WET/48275 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170799001

METHOD BLANK: 1390252 Matrix: Water
Associated Lab Samples: 60170799001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/06/14 12:47	

LABORATORY CONTROL SAMPLE: 1390253

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.8	92	78-114	

MATRIX SPIKE SAMPLE: 1390254

Parameter	Units	60170631001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1240	160	1150	-59	78-114	M1

SAMPLE DUPLICATE: 1390255

Parameter	Units	60170714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	2.6J		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

QC Batch: WET/48295
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170799001

METHOD BLANK: 1390806 Matrix: Water
Associated Lab Samples: 60170799001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/09/14 09:03	

SAMPLE DUPLICATE: 1390807

Parameter	Units	60170799001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1390808

Parameter	Units	1234161002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	13.0	11.0	17	10	D6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

QC Batch: WET/48281
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170799001

SAMPLE DUPLICATE: 1390363

Parameter	Units	60170806003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	11.7	11.7	0	5	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

QC Batch: WET/48287
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170799002

METHOD BLANK: 1390633 Matrix: Water
Associated Lab Samples: 60170799002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/11/14 14:52	

LABORATORY CONTROL SAMPLE: 1390634

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	176	89	85-115	

SAMPLE DUPLICATE: 1390635

Parameter	Units	60170842001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1330	1360	2	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

QC Batch: WETA/29736
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60170799001

METHOD BLANK: 1389993 Matrix: Water
Associated Lab Samples: 60170799001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	06/06/14 09:13	
Sulfate	mg/L	ND	1.0	06/06/14 09:13	

LABORATORY CONTROL SAMPLE: 1389994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	5	4.9	97	90-110	
Sulfate	mg/L	5	5.0	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1389995 1389996

Parameter	Units	60170667001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	21.4	100	100	105	106	84	84	80-120	1	15	
Sulfate	mg/L	201	100	100	300	306	99	105	80-120	2	15	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

QC Batch: WETA/29743
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170799001

METHOD BLANK: 1390320 Matrix: Water
Associated Lab Samples: 60170799001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/06/14 14:10	

LABORATORY CONTROL SAMPLE: 1390321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1390323

Parameter	Units	60170557002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	92	90-110	

SAMPLE DUPLICATE: 1390322

Parameter	Units	60170557002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

QC Batch: WETA/29757 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60170799001

METHOD BLANK: 1390938 Matrix: Water
Associated Lab Samples: 60170799001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/09/14 15:19	

LABORATORY CONTROL SAMPLE: 1390939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.2	108	90-110	

MATRIX SPIKE SAMPLE: 1390940

Parameter	Units	60170799001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	56.0	98	90-110	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON T4 TEST WATER
Pace Project No.: 60170799

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170799001	**T4 TEST WATER**	EPA 200.7	MPRP/27538	EPA 200.7	ICP/20839
60170799001	**T4 TEST WATER**	EPA 1664A	WET/48275		
60170799001	**T4 TEST WATER**	SM 2540D	WET/48295		
60170799001	**T4 TEST WATER**	SM 2540F	WET/48290		
60170799001	**T4 TEST WATER**	SM 4500-H+B	WET/48281		
60170799002	**T4 TEST WATER BOD**	SM 5210B	WET/48287	SM 5210B	WET/48384
60170799001	**T4 TEST WATER**	EPA 300.0	WETA/29736		
60170799001	**T4 TEST WATER**	EPA 350.1	WETA/29743		
60170799001	**T4 TEST WATER**	EPA 410.4	WETA/29757		

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Sample Condition Upon Receipt

WO# : 60170799

60170799

Client Name: Barr Eng

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ xroad

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ Zpic

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JV 6/6/14

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. SS pH BOD
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MN

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/6/14

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PACE RAPID RESPONSE TEAM

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

****RAPID RESPONSE SAMPLES****

60170799

Page: 1 of 1

Section A Required Client Information:
- Company: Barr Engineering
- Address:
- Email To: bgalbraith@barrengineering.com
- Phone:
- Fax:
- Requested Due Date/TAT: ASAP

Section B Required Project Information:
- Report To: Ed Galbraith
- Copy To:
- Purchase Order No.:
- Project Name: BRIDGETON LEACHATE
- Project Number:

Section C Invoice Information:
- Attention:
- Company Name:
- Address:
- Pace Quote Reference:
- Pace Project Manager:
- Pace Profile #: TSS5 -6

REGULATORY AGENCY
- [x] NPDES [ ] GROUND WATER [ ] DRINKING WATER
- [ ] UST [ ] RCRA [ ] OTHER ______

SITE LOCATION
- [ ] GA [ ] IL [ ] IN [ ] MI [ ] NC
- [ ] OH [ ] SC [ ] WI [x] OTHER MO

Filtered (Y/N)

Requested Analysis: COD + AMMONIA; BOD 5210B; O&G 1664; TSS + pH; TOTAL FE 200.7; Cl + SO4; SET SOLIDS; Residual Chlorine (Y/N)

Section D Required Client Information

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Samples IDs MUST BE UNIQUE

Valid Matrix Codes: MATRIX / CODE — DRINKING WATER DW; WATER WT; WASTE WATER WW; PRODUCT P; SOIL/SOLID SL; OIL OL; WIPE WP; AIR AR; OTHER OT; TISSUE TS

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE G=GRAB C=COMP	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	COD + AMMONIA	BOD 5210B	O&G 1664	TSS + pH	TOTAL FE 200.7	Cl + SO4	SET SOLIDS	Residual Chlorine (Y/N)	Pace Project Number Lab I.D.
1	T4 TEST WATER 1BP3U 2BP2U 1BP1U	DW	G	—		6/5/14	1238		9	4	4	1						✓	✓	✓	✓	✓	✓	✓	3AG3S 1BP3S 1BP3N	[illegible]
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
[signature] FST	6-5-14	1:25pm	JS BVS	6-5-14	1:25pm		Y/N	Y/N	Y/N
			[signature] PASI	6/6/14	0230	4.0	Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N
							Y/N	Y/N	Y/N

SAMPLE CONDITIONS

****RAPID RESPONSE SAMPLES****

SAMPLER NAME AND SIGNATURE
- PRINT Name of SAMPLER: WILLIAM ABERNATHY
- SIGNATURE of SAMPLER: [signature]
- DATE Signed (MM / DD / YY): 6/5/14

E-File,(ALLQ020rev.3,31Mar05), 13Jun2005

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(913)599-5665

June 13, 2014

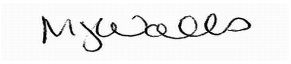
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,



Mary Jane Walls for
Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170803001	**316-321**	Water	06/05/14 09:30	06/06/14 02:30
60170803002	**TRIP BLANK**	Water	06/05/14 09:30	06/06/14 02:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170803001	**316-321**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	DJR	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170803002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Sample: 316-321 **Lab ID: 60170803001** Collected: 06/05/14 09:30 Received: 06/06/14 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7820**	ug/L	750	2	06/10/14 11:25	06/12/14 12:44	7429-90-5	
Antimony	**119**	ug/L	50.0	1	06/10/14 11:25	06/12/14 12:42	7440-36-0	
Arsenic	**1200**	ug/L	50.0	1	06/10/14 11:25	06/12/14 12:42	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/10/14 11:25	06/12/14 12:42	7440-41-7	
Cadmium	**28.8**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:42	7440-43-9	
Chromium	**267**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:42	7440-47-3	
Cobalt	**41.3**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:42	7440-48-4	
Copper	ND	ug/L	50.0	1	06/10/14 11:25	06/12/14 12:42	7440-50-8	
Iron	**747000**	ug/L	250	1	06/10/14 11:25	06/12/14 12:42	7439-89-6	
Lead	**94.9**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:42	7439-92-1	
Nickel	**135**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:42	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/10/14 11:25	06/12/14 12:42	7782-49-2	
Silver	ND	ug/L	35.0	1	06/10/14 11:25	06/12/14 12:42	7440-22-4	
Thallium	ND	ug/L	100	1	06/10/14 11:25	06/12/14 12:42	7440-28-0	
Zinc	**5290**	ug/L	500	2	06/10/14 11:25	06/12/14 12:44	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1810**	ug/L	750	2	06/10/14 16:00	06/12/14 13:34	7429-90-5	
Antimony, Dissolved	**70.4**	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:27	7440-36-0	
Arsenic, Dissolved	**918**	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:27	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/10/14 16:00	06/12/14 13:27	7440-41-7	
Cadmium, Dissolved	**25.4**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:27	7440-43-9	
Chromium, Dissolved	**176**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:27	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:27	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:27	7440-50-8	
Iron, Dissolved	**322000**	ug/L	250	1	06/10/14 16:00	06/12/14 13:27	7439-89-6	M1
Lead, Dissolved	ND	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:27	7439-92-1	
Nickel, Dissolved	**94.2**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:27	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/10/14 16:00	06/12/14 13:27	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/10/14 16:00	06/12/14 13:27	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/10/14 16:00	06/12/14 13:27	7440-28-0	
Zinc, Dissolved	**4220**	ug/L	500	2	06/10/14 16:00	06/12/14 13:34	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/09/14 17:15	06/10/14 10:39	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/10/14 14:00	06/11/14 10:50	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/10/14 00:00	06/11/14 11:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/10/14 00:00	06/11/14 11:22	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7610**	ug/L	4000	2	06/10/14 00:00	06/11/14 11:22		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Sample: 316-321 **Lab ID: 60170803001** Collected: 06/05/14 09:30 Received: 06/06/14 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	87-86-5	
Phenol	**10100**	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	139	%	33-120	2	06/10/14 00:00	06/11/14 11:22	4165-60-0	S0
2-Fluorobiphenyl (S)	71	%	39-120	2	06/10/14 00:00	06/11/14 11:22	321-60-8	
Terphenyl-d14 (S)	67	%	45-120	2	06/10/14 00:00	06/11/14 11:22	1718-51-0	
Phenol-d6 (S)	28	%	11-120	2	06/10/14 00:00	06/11/14 11:22	13127-88-3	
2-Fluorophenol (S)	39	%	17-120	2	06/10/14 00:00	06/11/14 11:22	367-12-4	
2,4,6-Tribromophenol (S)	83	%	39-120	2	06/10/14 00:00	06/11/14 11:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**86300**	ug/L	2500	250		06/09/14 15:54	67-64-1	N2
Benzene	ND	ug/L	250	250		06/09/14 15:54	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/09/14 15:54	75-27-4	
Bromoform	ND	ug/L	250	250		06/09/14 15:54	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/09/14 15:54	74-83-9	
2-Butanone (MEK)	**33400**	ug/L	2500	250		06/09/14 15:54	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/09/14 15:54	56-23-5	
Chloroethane	ND	ug/L	250	250		06/09/14 15:54	75-00-3	
Chloroform	ND	ug/L	250	250		06/09/14 15:54	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/09/14 15:54	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/09/14 15:54	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/09/14 15:54	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/09/14 15:54	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/09/14 15:54	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/09/14 15:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/09/14 15:54	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/09/14 15:54	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/09/14 15:54	127-18-4	
Toluene	ND	ug/L	250	250		06/09/14 15:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/09/14 15:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/09/14 15:54	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/09/14 15:54	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/09/14 15:54	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/09/14 15:54	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	250		06/09/14 15:54	460-00-4	
Toluene-d8 (S)	99	%	80-120	250		06/09/14 15:54	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	250		06/09/14 15:54	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/09/14 15:54		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1230**	mg/L	5.0	1		06/06/14 12:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Sample: 316-321 **Lab ID: 60170803001** Collected: 06/05/14 09:30 Received: 06/06/14 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**11.2**	mg/L	5.0	1		06/06/14 16:07		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4720**	mg/L	5.0	1		06/11/14 14:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/06/14 13:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**32000**	mg/L	2.0	1	06/06/14 15:09	06/11/14 14:14		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**657**	mg/L	20.0	200		06/06/14 14:13	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**57300**	mg/L	5000	500		06/11/14 08:24		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Sample: TRIP BLANK **Lab ID: 60170803002** Collected: 06/05/14 09:30 Received: 06/06/14 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/09/14 15:38	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/09/14 15:38	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/09/14 15:38	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/09/14 15:38	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/09/14 15:38	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/09/14 15:38	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/09/14 15:38	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/09/14 15:38	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/09/14 15:38	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/09/14 15:38	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/09/14 15:38	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/09/14 15:38	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/09/14 15:38	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/09/14 15:38	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/09/14 15:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/09/14 15:38	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/09/14 15:38	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/09/14 15:38	127-18-4	
Toluene	ND	ug/L	1.0	1		06/09/14 15:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/09/14 15:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/09/14 15:38	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/09/14 15:38	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/09/14 15:38	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/09/14 15:38	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	1		06/09/14 15:38	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		06/09/14 15:38	2037-26-5	
1,2-Dichloroethane-d4 (S)	91	%	80-120	1		06/09/14 15:38	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/09/14 15:38		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: MERP/8470
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170803001

METHOD BLANK: 1391435 Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/10/14 10:10	

LABORATORY CONTROL SAMPLE: 1391436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391437 1391438

Parameter	Units	60170884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	2.8	2.8	55	54	70-130	1	20	M1

MATRIX SPIKE SAMPLE: 1391439

Parameter	Units	60170484001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	91	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: MERP/8474
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170803001

METHOD BLANK: 1391846 Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/11/14 10:39	

LABORATORY CONTROL SAMPLE: 1391847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391848 1391849

Parameter	Units	60170631001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	142	141	95	94	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: MPRP/27579
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170803001

METHOD BLANK: 1391731
Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/12/14 12:39	
Antimony	ug/L	ND	10.0	06/12/14 12:39	
Arsenic	ug/L	ND	10.0	06/12/14 12:39	
Beryllium	ug/L	ND	1.0	06/12/14 12:39	
Cadmium	ug/L	ND	5.0	06/12/14 12:39	
Chromium	ug/L	ND	5.0	06/12/14 12:39	
Cobalt	ug/L	ND	5.0	06/12/14 12:39	
Copper	ug/L	ND	10.0	06/12/14 12:39	
Iron	ug/L	ND	50.0	06/12/14 12:39	
Lead	ug/L	ND	5.0	06/12/14 12:39	
Nickel	ug/L	ND	5.0	06/12/14 12:39	
Selenium	ug/L	ND	15.0	06/12/14 12:39	
Silver	ug/L	ND	7.0	06/12/14 12:39	
Thallium	ug/L	ND	20.0	06/12/14 12:39	
Zinc	ug/L	ND	50.0	06/12/14 12:39	

LABORATORY CONTROL SAMPLE: 1391732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	985	99	85-115	
Arsenic	ug/L	1000	931	93	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	954	95	85-115	
Chromium	ug/L	1000	1060	106	85-115	
Cobalt	ug/L	1000	987	99	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	999	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	970	97	85-115	
Silver	ug/L	500	504	101	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	980	98	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391733 1391734

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7820	50000	50000	63000	63800	110	112	70-130	1	8	
Antimony	ug/L	119	5000	5000	5230	5200	102	102	70-130	0	7	
Arsenic	ug/L	1200	5000	5000	6520	6560	107	107	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	5010	5000	100	100	70-130	0	7	
Cadmium	ug/L	28.8	5000	5000	5090	5100	101	101	70-130	0	10	
Chromium	ug/L	267	5000	5000	5400	5420	103	103	70-130	0	10	
Cobalt	ug/L	41.3	5000	5000	4690	4700	93	93	70-130	0	6	
Copper	ug/L	ND	5000	5000	5490	5420	109	107	70-130	1	11	
Iron	ug/L	747000	50000	50000	800000	805000	105	116	70-130	1	10	
Lead	ug/L	94.9	5000	5000	4530	4560	89	89	70-130	1	10	
Nickel	ug/L	135	5000	5000	4870	4880	95	95	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6000	6020	119	119	70-130	0	10	
Silver	ug/L	ND	2500	2500	2750	2740	109	109	70-130	0	10	
Thallium	ug/L	ND	5000	5000	3910	3920	78	78	70-130	0	6	
Zinc	ug/L	5290	5000	5000	9880	9800	92	90	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: MPRP/27584
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170803001

METHOD BLANK: 1391834
Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/12/14 13:25	
Antimony, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Arsenic, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Beryllium, Dissolved	ug/L	ND	1.0	06/12/14 13:25	
Cadmium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Chromium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Cobalt, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Copper, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Iron, Dissolved	ug/L	ND	50.0	06/12/14 13:25	
Lead, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Nickel, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Selenium, Dissolved	ug/L	ND	15.0	06/12/14 13:25	
Silver, Dissolved	ug/L	ND	7.0	06/12/14 13:25	
Thallium, Dissolved	ug/L	ND	20.0	06/12/14 13:25	
Zinc, Dissolved	ug/L	ND	50.0	06/12/14 13:25	

LABORATORY CONTROL SAMPLE: 1391835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9860	99	85-115	
Antimony, Dissolved	ug/L	1000	957	96	85-115	
Arsenic, Dissolved	ug/L	1000	924	92	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	942	94	85-115	
Chromium, Dissolved	ug/L	1000	1040	104	85-115	
Cobalt, Dissolved	ug/L	1000	971	97	85-115	
Copper, Dissolved	ug/L	1000	976	98	85-115	
Iron, Dissolved	ug/L	10000	9910	99	85-115	
Lead, Dissolved	ug/L	1000	987	99	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	966	97	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	952	95	85-115	
Zinc, Dissolved	ug/L	1000	996	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391836 1391837

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1810	50000	50000	52200	52300	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	70.4	5000	5000	5200	5180	102	102	70-130	0	7	
Arsenic, Dissolved	ug/L	918	5000	5000	6380	6210	109	106	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4900	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	25.4	5000	5000	5060	5040	101	100	70-130	0	10	
Chromium, Dissolved	ug/L	176	5000	5000	5260	5220	102	101	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4630	4640	92	92	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5450	5400	108	107	70-130	1	11	
Iron, Dissolved	ug/L	322000	50000	50000	404000	387000	163	129	70-130	4	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4500	4490	89	89	70-130	0	10	
Nickel, Dissolved	ug/L	94.2	5000	5000	4820	4820	94	94	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5990	5920	119	118	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2730	2710	108	107	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	3960	3940	79	79	70-130	0	6	
Zinc, Dissolved	ug/L	4220	5000	5000	9240	8970	100	95	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: MSV/62158 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60170803001, 60170803002

METHOD BLANK: 1391117 Matrix: Water
Associated Lab Samples: 60170803001, 60170803002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/09/14 12:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/09/14 12:47	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/09/14 12:47	
1,2-Dichloroethane	ug/L	ND	1.0	06/09/14 12:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/09/14 12:47	
2-Butanone (MEK)	ug/L	ND	10.0	06/09/14 12:47	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/09/14 12:47	N2
Acetone	ug/L	ND	10.0	06/09/14 12:47	N2
Benzene	ug/L	ND	1.0	06/09/14 12:47	
Bromodichloromethane	ug/L	ND	1.0	06/09/14 12:47	
Bromoform	ug/L	ND	1.0	06/09/14 12:47	
Bromomethane	ug/L	ND	5.0	06/09/14 12:47	
Carbon tetrachloride	ug/L	ND	1.0	06/09/14 12:47	
Chloroethane	ug/L	ND	1.0	06/09/14 12:47	
Chloroform	ug/L	ND	1.0	06/09/14 12:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/09/14 12:47	N2
Ethylbenzene	ug/L	ND	1.0	06/09/14 12:47	
Methylene chloride	ug/L	ND	1.0	06/09/14 12:47	
Tetrachloroethene	ug/L	ND	1.0	06/09/14 12:47	
Toluene	ug/L	ND	1.0	06/09/14 12:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/09/14 12:47	
Trichloroethene	ug/L	ND	1.0	06/09/14 12:47	
Vinyl chloride	ug/L	ND	1.0	06/09/14 12:47	
Xylene (Total)	ug/L	ND	3.0	06/09/14 12:47	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	06/09/14 12:47	
4-Bromofluorobenzene (S)	%	99	80-120	06/09/14 12:47	
Toluene-d8 (S)	%	97	80-120	06/09/14 12:47	

LABORATORY CONTROL SAMPLE: 1391118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.9	90	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.4	102	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	98	67-124	
1,2-Dichloroethane	ug/L	20	18.1	90	70-126	
1,4-Dichlorobenzene	ug/L	20	18.0	90	74-120	
2-Butanone (MEK)	ug/L	100	104	104	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	110	110	59-131	N2
Acetone	ug/L	100	101	101	38-134	N2
Benzene	ug/L	20	18.1	90	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

LABORATORY CONTROL SAMPLE: 1391118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.2	96	68-125	
Bromoform	ug/L	20	19.8	99	65-127	
Bromomethane	ug/L	20	8.9	44	13-157	
Carbon tetrachloride	ug/L	20	17.6	88	70-131	
Chloroethane	ug/L	20	15.3	77	47-133	
Chloroform	ug/L	20	17.9	90	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	68-127	N2
Ethylbenzene	ug/L	20	18.4	92	74-122	
Methylene chloride	ug/L	20	16.7	84	64-129	
Tetrachloroethene	ug/L	20	18.7	94	73-125	
Toluene	ug/L	20	17.8	89	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.2	86	66-129	
Trichloroethene	ug/L	20	17.6	88	71-123	
Vinyl chloride	ug/L	20	12.4	62	43-129	
Xylene (Total)	ug/L	60	54.9	92	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1391119

Parameter	Units	60170883001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	17.6	88	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.6	103	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	20	18.6	93	52-143	
1,2-Dichloroethane	ug/L	ND	20	15.7	78	49-144	
1,4-Dichlorobenzene	ug/L	ND	20	18.3	-737	33-140	M1
2-Butanone (MEK)	ug/L	39900	100	242	-39617	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	101	-437	40-160	M1,N2
Acetone	ug/L	95000	100	456	-94524	10-160	M1,N2
Benzene	ug/L	ND	20	16.7	83	37-151	
Bromodichloromethane	ug/L	ND	20	17.3	87	35-142	
Bromoform	ug/L	ND	20	17.8	89	45-142	
Bromomethane	ug/L	ND	20	9.3	47	10-158	
Carbon tetrachloride	ug/L	ND	20	18.3	91	70-140	
Chloroethane	ug/L	ND	20	15.7	79	19-152	
Chloroform	ug/L	ND	20	16.6	83	51-138	
cis-1,2-Dichloroethene	ug/L	ND	20	17.0	85	34-147	N2
Ethylbenzene	ug/L	ND	20	18.3	92	40-142	
Methylene chloride	ug/L	ND	20	15.1	75	31-144	
Tetrachloroethene	ug/L	ND	20	18.8	94	64-148	
Toluene	ug/L	ND	20	16.6	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	20	16.1	81	54-151	
Trichloroethene	ug/L	ND	20	16.8	84	71-149	
Vinyl chloride	ug/L	ND	20	14.4	72	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

MATRIX SPIKE SAMPLE: 1391119

Parameter	Units	60170883001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	60	53.7	89	37-144	MS,N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	HS
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: OEXT/44574 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60170803001

METHOD BLANK: 1391527 Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/11/14 08:55	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/11/14 08:55	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/11/14 08:55	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/11/14 08:55	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/11/14 08:55	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/11/14 08:55	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/11/14 08:55	
Hexachloroethane	ug/L	ND	5.0	06/11/14 08:55	
Naphthalene	ug/L	ND	5.0	06/11/14 08:55	
Nitrobenzene	ug/L	ND	5.0	06/11/14 08:55	
Pentachlorophenol	ug/L	ND	5.0	06/11/14 08:55	
Phenol	ug/L	ND	5.0	06/11/14 08:55	
2,4,6-Tribromophenol (S)	%	84	39-120	06/11/14 08:55	
2-Fluorobiphenyl (S)	%	78	39-120	06/11/14 08:55	
2-Fluorophenol (S)	%	44	17-120	06/11/14 08:55	
Nitrobenzene-d5 (S)	%	77	33-120	06/11/14 08:55	
Phenol-d6 (S)	%	29	11-120	06/11/14 08:55	
Terphenyl-d14 (S)	%	80	45-120	06/11/14 08:55	

LABORATORY CONTROL SAMPLE: 1391528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.0	74	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.8	78	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.3	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.2	50	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.0	86	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.1	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	60.1	60	24-120	
Hexachloroethane	ug/L	50	34.2	68	43-113	
Naphthalene	ug/L	50	38.4	77	48-120	
Nitrobenzene	ug/L	50	40.0	80	48-120	
Pentachlorophenol	ug/L	50	37.6	75	47-120	
Phenol	ug/L	50	11.6	23	16-112	
2,4,6-Tribromophenol (S)	%			88	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			38	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

MATRIX SPIKE SAMPLE: 1391529

Parameter	Units	60170805001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	34.6	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	40.5	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	28.1	56	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	26.0	52	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	44.1	88	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	33.7	67	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	64.3	64	11-120	
Hexachloroethane	ug/L	ND	50	30.7	61	40-113	
Naphthalene	ug/L	ND	50	35.9	72	45-120	
Nitrobenzene	ug/L	ND	50	37.3	75	38-120	
Pentachlorophenol	ug/L	ND	50	44.2	88	43-135	
Phenol	ug/L	ND	50	11.9	24	13-112	
2,4,6-Tribromophenol (S)	%				87	39-120	
2-Fluorobiphenyl (S)	%				80	39-120	
2-Fluorophenol (S)	%				35	17-120	
Nitrobenzene-d5 (S)	%				77	33-120	
Phenol-d6 (S)	%				23	11-120	
Terphenyl-d14 (S)	%				80	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: WET/48275
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170803001

METHOD BLANK: 1390252 Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/06/14 12:47	

LABORATORY CONTROL SAMPLE: 1390253

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.8	92	78-114	

MATRIX SPIKE SAMPLE: 1390254

Parameter	Units	60170631001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1240	160	1150	-59	78-114	M1

SAMPLE DUPLICATE: 1390255

Parameter	Units	60170714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	2.6J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: WET/48284 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170803001

METHOD BLANK: 1390602 Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/06/14 16:05	

LABORATORY CONTROL SAMPLE: 1390603

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.1	110	64-132	

MATRIX SPIKE SAMPLE: 1390604

Parameter	Units	60170631001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.2	80	46.4	42	64-132	M1

SAMPLE DUPLICATE: 1390605

Parameter	Units	60170714001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.7J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: WET/48375
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170803001

METHOD BLANK: 1392513
Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/11/14 14:12	

SAMPLE DUPLICATE: 1392514

Parameter	Units	60170867001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	13.0	48	10	D6

SAMPLE DUPLICATE: 1392515

Parameter	Units	60170688001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	8.0	0	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: WET/48280
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170803001

SAMPLE DUPLICATE: 1390362

Parameter	Units	60170725001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.1	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: WET/48283 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170803001

METHOD BLANK: 1390388 Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/11/14 13:29	

LABORATORY CONTROL SAMPLE: 1390389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	170	86	85-115	

SAMPLE DUPLICATE: 1390390

Parameter	Units	60170802001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	754	791	5	17	

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: WETA/29743 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170803001

METHOD BLANK: 1390320 Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/06/14 14:10	

LABORATORY CONTROL SAMPLE: 1390321

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1390323

Parameter	Units	60170557002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	92	90-110	

SAMPLE DUPLICATE: 1390322

Parameter	Units	60170557002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

QC Batch: WETA/29766 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60170803001

METHOD BLANK: 1391504 Matrix: Water
Associated Lab Samples: 60170803001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/11/14 08:22	

LABORATORY CONTROL SAMPLE: 1391505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.3	109	90-110	

MATRIX SPIKE SAMPLE: 1391506

Parameter	Units	60170803001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	57300	25000	71800	58	90-110	M1

MATRIX SPIKE SAMPLE: 1391508

Parameter	Units	60170421003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	77.8	50	131	106	90-110	

SAMPLE DUPLICATE: 1391507

Parameter	Units	60170816002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	4J		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-321
Pace Project No.: 60170803

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170803001	**316-321**	EPA 200.7	MPRP/27579	EPA 200.7	ICP/20855
60170803001	**316-321**	EPA 200.7	MPRP/27584	EPA 200.7	ICP/20856
60170803001	**316-321**	EPA 245.1	MERP/8470	EPA 245.1	MERC/8425
60170803001	**316-321**	EPA 245.1	MERP/8474	EPA 245.1	MERC/8429
60170803001	**316-321**	EPA 625	OEXT/44574	EPA 625	MSSV/14271
60170803001	**316-321**	EPA 624 Low	MSV/62158		
60170803002	**TRIP BLANK**	EPA 624 Low	MSV/62158		
60170803001	**316-321**	EPA 1664A	WET/48275		
60170803001	**316-321**	EPA 1664A	WET/48284		
60170803001	**316-321**	SM 2540D	WET/48375		
60170803001	**316-321**	SM 4500-H+B	WET/48280		
60170803001	**316-321**	SM 5210B	WET/48283	SM 5210B	WET/48378
60170803001	**316-321**	EPA 350.1	WETA/29743		
60170803001	**316-321**	EPA 410.4	WETA/29766		

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Sample Condition Upon Receipt

WO# : 60170803

60170803

Client Name: Barr Engineering

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ x-Reals

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☐ No ☐ Seals intact: Yes ☑ No ☐

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

Thermometer Used: T-239 / T-194 Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 5.2

Temperature should be above freezing to 6°C

Optional
Proj Due Date:
Proj Name:

Date and initials of person examining contents: 6/6/14 ⑨

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13. "316-321" 6/5/14 @ 930
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	14. initial pH BP3N 5-5, added 2.5 mL HNO3 final 4-0 initial pH BP3S 4-0, added 2.5mL H_2SO_4 final 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed ⑨ Lot # of added preservative 12513-27-2 HNO3 12520-2-7 H_2SO_4
Trip Blank present: Pace Trip Blank lot # (if purchased): 040714-3DEZ	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MN

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/9/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60170803
1	2BP2U, BP3U, 3AG3S, 5ON4U, 2AG4U	OT	G	BP3N 10:40		BP3S 11:35			14	10	4	1	0						X	X	X	X	X	X	X	X	X	X		
2	TRIP BLANK 2ON4U (TB)								2	2																X				
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

METALS LIST total & LF Dis:
Al, Sb, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Zn and Mercury

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FOI	6-5-14	1:25pm	JS EVS	6-5-14	1:25pm				
SITE ADDRESS: BRIDGETON LF				E Brackett / Pace	6/6/14	0230	5.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Arron Weber					
SIGNATURE of SAMPLER:	Arron Weber	DATE Signed: 6-5-2014				

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

June 16, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 07, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170883001	**316-322**	Water	06/06/14 08:50	06/07/14 00:30
60170883002	**TRIP BLANK**	Water	06/06/14 08:50	06/07/14 00:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170883001	**316-322**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170883002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Sample: 316-322 **Lab ID: 60170883001** Collected: 06/06/14 08:50 Received: 06/07/14 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6030**	ug/L	750	2	06/10/14 11:25	06/12/14 12:59	7429-90-5	
Antimony	**110**	ug/L	50.0	1	06/10/14 11:25	06/12/14 12:56	7440-36-0	
Arsenic	**1160**	ug/L	50.0	1	06/10/14 11:25	06/12/14 12:56	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/10/14 11:25	06/12/14 12:56	7440-41-7	
Cadmium	**30.5**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:56	7440-43-9	
Chromium	**259**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:56	7440-47-3	
Cobalt	**39.2**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:56	7440-48-4	
Copper	ND	ug/L	50.0	1	06/10/14 11:25	06/12/14 12:56	7440-50-8	
Iron	**688000**	ug/L	250	1	06/10/14 11:25	06/12/14 12:56	7439-89-6	
Lead	**85.8**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:56	7439-92-1	
Nickel	**131**	ug/L	25.0	1	06/10/14 11:25	06/12/14 12:56	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/10/14 11:25	06/12/14 12:56	7782-49-2	
Silver	ND	ug/L	35.0	1	06/10/14 11:25	06/12/14 12:56	7440-22-4	
Thallium	ND	ug/L	200	2	06/10/14 11:25	06/12/14 12:59	7440-28-0	D3
Zinc	**5950**	ug/L	500	2	06/10/14 11:25	06/12/14 12:59	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2220**	ug/L	750	2	06/10/14 16:00	06/12/14 13:49	7429-90-5	
Antimony, Dissolved	**65.2**	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:46	7440-36-0	
Arsenic, Dissolved	**1020**	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:46	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/10/14 16:00	06/12/14 13:46	7440-41-7	
Cadmium, Dissolved	**25.0**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:46	7440-43-9	
Chromium, Dissolved	**203**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:46	7440-47-3	
Cobalt, Dissolved	**32.9**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:46	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:46	7440-50-8	
Iron, Dissolved	**386000**	ug/L	250	1	06/10/14 16:00	06/12/14 13:46	7439-89-6	
Lead, Dissolved	**36.8**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:46	7439-92-1	
Nickel, Dissolved	**104**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:46	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/10/14 16:00	06/12/14 13:46	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/10/14 16:00	06/12/14 13:46	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/10/14 16:00	06/12/14 13:46	7440-28-0	
Zinc, Dissolved	**5280**	ug/L	500	2	06/10/14 16:00	06/12/14 13:49	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**21.5**	ug/L	6.0	1	06/09/14 17:15	06/10/14 10:48	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/10/14 14:00	06/11/14 10:52	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/10/14 00:00	06/11/14 11:43	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/10/14 00:00	06/11/14 11:43	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**8480**	ug/L	4000	2	06/10/14 00:00	06/11/14 11:43		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Sample: 316-322 **Lab ID: 60170883001** Collected: 06/06/14 08:50 Received: 06/07/14 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1240**	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	87-86-5	
Phenol	**11200**	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/10/14 00:00	06/11/14 11:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	156	%	33-120	2	06/10/14 00:00	06/11/14 11:43	4165-60-0	S0
2-Fluorobiphenyl (S)	81	%	39-120	2	06/10/14 00:00	06/11/14 11:43	321-60-8	
Terphenyl-d14 (S)	78	%	45-120	2	06/10/14 00:00	06/11/14 11:43	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	06/10/14 00:00	06/11/14 11:43	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	06/10/14 00:00	06/11/14 11:43	367-12-4	
2,4,6-Tribromophenol (S)	94	%	39-120	2	06/10/14 00:00	06/11/14 11:43	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**95000**	ug/L	2500	250		06/09/14 16:09	67-64-1	M1,N2
Benzene	ND	ug/L	250	250		06/09/14 16:09	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/09/14 16:09	75-27-4	
Bromoform	ND	ug/L	250	250		06/09/14 16:09	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/09/14 16:09	74-83-9	
2-Butanone (MEK)	**39900**	ug/L	2500	250		06/09/14 16:09	78-93-3	M1,N2
Carbon tetrachloride	ND	ug/L	250	250		06/09/14 16:09	56-23-5	
Chloroethane	ND	ug/L	250	250		06/09/14 16:09	75-00-3	
Chloroform	ND	ug/L	250	250		06/09/14 16:09	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/09/14 16:09	106-46-7	M1
1,2-Dichloroethane	ND	ug/L	250	250		06/09/14 16:09	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/09/14 16:09	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/09/14 16:09	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/09/14 16:09	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/09/14 16:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/09/14 16:09	108-10-1	M1,N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/09/14 16:09	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/09/14 16:09	127-18-4	
Toluene	ND	ug/L	250	250		06/09/14 16:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/09/14 16:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/09/14 16:09	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/09/14 16:09	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/09/14 16:09	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/09/14 16:09	1330-20-7	MS,N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	250		06/09/14 16:09	460-00-4	HS
Toluene-d8 (S)	97	%	80-120	250		06/09/14 16:09	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	250		06/09/14 16:09	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/09/14 16:09		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**785**	mg/L	5.0	1		06/11/14 10:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Sample: 316-322 **Lab ID: 60170883001** Collected: 06/06/14 08:50 Received: 06/07/14 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		06/11/14 12:25		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5440**	mg/L	5.0	1		06/12/14 14:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		06/10/14 16:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31700**	mg/L	2.0	1	06/07/14 08:58	06/12/14 15:33		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**632**	mg/L	20.0	200		06/10/14 12:13	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**48500**	mg/L	5000	500		06/11/14 08:27		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Sample: TRIP BLANK **Lab ID: 60170883002** Collected: 06/06/14 08:50 Received: 06/07/14 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/11/14 14:45	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/11/14 14:45	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/11/14 14:45	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/11/14 14:45	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/11/14 14:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/11/14 14:45	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/11/14 14:45	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/11/14 14:45	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/11/14 14:45	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/11/14 14:45	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/11/14 14:45	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 14:45	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 14:45	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/11/14 14:45	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/11/14 14:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/11/14 14:45	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/11/14 14:45	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/11/14 14:45	127-18-4	
Toluene	ND	ug/L	1.0	1		06/11/14 14:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/11/14 14:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/11/14 14:45	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/11/14 14:45	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/11/14 14:45	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/11/14 14:45	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		06/11/14 14:45	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		06/11/14 14:45	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		06/11/14 14:45	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/11/14 14:45		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: MERP/8470
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170883001

METHOD BLANK: 1391435 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/10/14 10:10	

LABORATORY CONTROL SAMPLE: 1391436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391437 1391438

Parameter	Units	60170884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	2.8	2.8	55	54	70-130	1	20	M1

MATRIX SPIKE SAMPLE: 1391439

Parameter	Units	60170484001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	91	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: MERP/8474
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170883001

METHOD BLANK: 1391846 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/11/14 10:39	

LABORATORY CONTROL SAMPLE: 1391847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391848 1391849

Parameter	Units	60170631001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	142	141	95	94	70-130	0	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: MPRP/27579
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170883001

METHOD BLANK: 1391731
Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/12/14 12:39	
Antimony	ug/L	ND	10.0	06/12/14 12:39	
Arsenic	ug/L	ND	10.0	06/12/14 12:39	
Beryllium	ug/L	ND	1.0	06/12/14 12:39	
Cadmium	ug/L	ND	5.0	06/12/14 12:39	
Chromium	ug/L	ND	5.0	06/12/14 12:39	
Cobalt	ug/L	ND	5.0	06/12/14 12:39	
Copper	ug/L	ND	10.0	06/12/14 12:39	
Iron	ug/L	ND	50.0	06/12/14 12:39	
Lead	ug/L	ND	5.0	06/12/14 12:39	
Nickel	ug/L	ND	5.0	06/12/14 12:39	
Selenium	ug/L	ND	15.0	06/12/14 12:39	
Silver	ug/L	ND	7.0	06/12/14 12:39	
Thallium	ug/L	ND	20.0	06/12/14 12:39	
Zinc	ug/L	ND	50.0	06/12/14 12:39	

LABORATORY CONTROL SAMPLE: 1391732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	985	99	85-115	
Arsenic	ug/L	1000	931	93	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	954	95	85-115	
Chromium	ug/L	1000	1060	106	85-115	
Cobalt	ug/L	1000	987	99	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	999	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	970	97	85-115	
Silver	ug/L	500	504	101	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391733 1391734

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7820	50000	50000	63000	63800	110	112	70-130	1	8	
Antimony	ug/L	119	5000	5000	5230	5200	102	102	70-130	0	7	
Arsenic	ug/L	1200	5000	5000	6520	6560	107	107	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	5010	5000	100	100	70-130	0	7	
Cadmium	ug/L	28.8	5000	5000	5090	5100	101	101	70-130	0	10	
Chromium	ug/L	267	5000	5000	5400	5420	103	103	70-130	0	10	
Cobalt	ug/L	41.3	5000	5000	4690	4700	93	93	70-130	0	6	
Copper	ug/L	ND	5000	5000	5490	5420	109	107	70-130	1	11	
Iron	ug/L	747000	50000	50000	800000	805000	105	116	70-130	1	10	
Lead	ug/L	94.9	5000	5000	4530	4560	89	89	70-130	1	10	
Nickel	ug/L	135	5000	5000	4870	4880	95	95	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6000	6020	119	119	70-130	0	10	
Silver	ug/L	ND	2500	2500	2750	2740	109	109	70-130	0	10	
Thallium	ug/L	ND	5000	5000	3910	3920	78	78	70-130	0	6	
Zinc	ug/L	5290	5000	5000	9880	9800	92	90	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: MPRP/27584
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170883001

METHOD BLANK: 1391834
Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/12/14 13:25	
Antimony, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Arsenic, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Beryllium, Dissolved	ug/L	ND	1.0	06/12/14 13:25	
Cadmium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Chromium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Cobalt, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Copper, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Iron, Dissolved	ug/L	ND	50.0	06/12/14 13:25	
Lead, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Nickel, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Selenium, Dissolved	ug/L	ND	15.0	06/12/14 13:25	
Silver, Dissolved	ug/L	ND	7.0	06/12/14 13:25	
Thallium, Dissolved	ug/L	ND	20.0	06/12/14 13:25	
Zinc, Dissolved	ug/L	ND	50.0	06/12/14 13:25	

LABORATORY CONTROL SAMPLE: 1391835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9860	99	85-115	
Antimony, Dissolved	ug/L	1000	957	96	85-115	
Arsenic, Dissolved	ug/L	1000	924	92	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	942	94	85-115	
Chromium, Dissolved	ug/L	1000	1040	104	85-115	
Cobalt, Dissolved	ug/L	1000	971	97	85-115	
Copper, Dissolved	ug/L	1000	976	98	85-115	
Iron, Dissolved	ug/L	10000	9910	99	85-115	
Lead, Dissolved	ug/L	1000	987	99	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	966	97	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	952	95	85-115	
Zinc, Dissolved	ug/L	1000	996	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391836 1391837

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1810	50000	50000	52200	52300	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	70.4	5000	5000	5200	5180	102	102	70-130	0	7	
Arsenic, Dissolved	ug/L	918	5000	5000	6380	6210	109	106	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4900	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	25.4	5000	5000	5060	5040	101	100	70-130	0	10	
Chromium, Dissolved	ug/L	176	5000	5000	5260	5220	102	101	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4630	4640	92	92	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5450	5400	108	107	70-130	1	11	
Iron, Dissolved	ug/L	322000	50000	50000	404000	387000	163	129	70-130	4	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4500	4490	89	89	70-130	0	10	
Nickel, Dissolved	ug/L	94.2	5000	5000	4820	4820	94	94	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5990	5920	119	118	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2730	2710	108	107	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	3960	3940	79	79	70-130	0	6	
Zinc, Dissolved	ug/L	4220	5000	5000	9240	8970	100	95	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: MSV/62158
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60170883001

METHOD BLANK: 1391117
Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/09/14 12:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/09/14 12:47	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/09/14 12:47	
1,2-Dichloroethane	ug/L	ND	1.0	06/09/14 12:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/09/14 12:47	
2-Butanone (MEK)	ug/L	ND	10.0	06/09/14 12:47	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/09/14 12:47	N2
Acetone	ug/L	ND	10.0	06/09/14 12:47	N2
Benzene	ug/L	ND	1.0	06/09/14 12:47	
Bromodichloromethane	ug/L	ND	1.0	06/09/14 12:47	
Bromoform	ug/L	ND	1.0	06/09/14 12:47	
Bromomethane	ug/L	ND	5.0	06/09/14 12:47	
Carbon tetrachloride	ug/L	ND	1.0	06/09/14 12:47	
Chloroethane	ug/L	ND	1.0	06/09/14 12:47	
Chloroform	ug/L	ND	1.0	06/09/14 12:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/09/14 12:47	N2
Ethylbenzene	ug/L	ND	1.0	06/09/14 12:47	
Methylene chloride	ug/L	ND	1.0	06/09/14 12:47	
Tetrachloroethene	ug/L	ND	1.0	06/09/14 12:47	
Toluene	ug/L	ND	1.0	06/09/14 12:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/09/14 12:47	
Trichloroethene	ug/L	ND	1.0	06/09/14 12:47	
Vinyl chloride	ug/L	ND	1.0	06/09/14 12:47	
Xylene (Total)	ug/L	ND	3.0	06/09/14 12:47	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	06/09/14 12:47	
4-Bromofluorobenzene (S)	%	99	80-120	06/09/14 12:47	
Toluene-d8 (S)	%	97	80-120	06/09/14 12:47	

LABORATORY CONTROL SAMPLE: 1391118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.9	90	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.4	102	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	98	67-124	
1,2-Dichloroethane	ug/L	20	18.1	90	70-126	
1,4-Dichlorobenzene	ug/L	20	18.0	90	74-120	
2-Butanone (MEK)	ug/L	100	104	104	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	110	110	59-131	N2
Acetone	ug/L	100	101	101	38-134	N2
Benzene	ug/L	20	18.1	90	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

LABORATORY CONTROL SAMPLE: 1391118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.2	96	68-125	
Bromoform	ug/L	20	19.8	99	65-127	
Bromomethane	ug/L	20	8.9	44	13-157	
Carbon tetrachloride	ug/L	20	17.6	88	70-131	
Chloroethane	ug/L	20	15.3	77	47-133	
Chloroform	ug/L	20	17.9	90	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	68-127	N2
Ethylbenzene	ug/L	20	18.4	92	74-122	
Methylene chloride	ug/L	20	16.7	84	64-129	
Tetrachloroethene	ug/L	20	18.7	94	73-125	
Toluene	ug/L	20	17.8	89	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.2	86	66-129	
Trichloroethene	ug/L	20	17.6	88	71-123	
Vinyl chloride	ug/L	20	12.4	62	43-129	
Xylene (Total)	ug/L	60	54.9	92	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1391119

Parameter	Units	60170883001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	17.6	88	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20.6	103	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	20	18.6	93	52-143	
1,2-Dichloroethane	ug/L	ND	20	15.7	78	49-144	
1,4-Dichlorobenzene	ug/L	ND	20	18.3	-737	33-140	M1
2-Butanone (MEK)	ug/L	39900	100	242	-39617	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	101	-437	40-160	M1,N2
Acetone	ug/L	95000	100	456	-94524	10-160	M1,N2
Benzene	ug/L	ND	20	16.7	83	37-151	
Bromodichloromethane	ug/L	ND	20	17.3	87	35-142	
Bromoform	ug/L	ND	20	17.8	89	45-142	
Bromomethane	ug/L	ND	20	9.3	47	10-158	
Carbon tetrachloride	ug/L	ND	20	18.3	91	70-140	
Chloroethane	ug/L	ND	20	15.7	79	19-152	
Chloroform	ug/L	ND	20	16.6	83	51-138	
cis-1,2-Dichloroethene	ug/L	ND	20	17.0	85	34-147	N2
Ethylbenzene	ug/L	ND	20	18.3	92	40-142	
Methylene chloride	ug/L	ND	20	15.1	75	31-144	
Tetrachloroethene	ug/L	ND	20	18.8	94	64-148	
Toluene	ug/L	ND	20	16.6	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	20	16.1	81	54-151	
Trichloroethene	ug/L	ND	20	16.8	84	71-149	
Vinyl chloride	ug/L	ND	20	14.4	72	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

MATRIX SPIKE SAMPLE: 1391119

Parameter	Units	60170883001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	60	53.7	89	37-144	MS,N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	HS
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: MSV/62196
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60170883002

METHOD BLANK: 1391793
Matrix: Water
Associated Lab Samples: 60170883002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/11/14 12:26	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,2-Dichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/11/14 12:26	
2-Butanone (MEK)	ug/L	ND	10.0	06/11/14 12:26	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/11/14 12:26	N2
Acetone	ug/L	ND	10.0	06/11/14 12:26	N2
Benzene	ug/L	ND	1.0	06/11/14 12:26	
Bromodichloromethane	ug/L	ND	1.0	06/11/14 12:26	
Bromoform	ug/L	ND	1.0	06/11/14 12:26	
Bromomethane	ug/L	ND	5.0	06/11/14 12:26	
Carbon tetrachloride	ug/L	ND	1.0	06/11/14 12:26	
Chloroethane	ug/L	ND	1.0	06/11/14 12:26	
Chloroform	ug/L	ND	1.0	06/11/14 12:26	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	N2
Ethylbenzene	ug/L	ND	1.0	06/11/14 12:26	
Methylene chloride	ug/L	ND	1.0	06/11/14 12:26	
Tetrachloroethene	ug/L	ND	1.0	06/11/14 12:26	
Toluene	ug/L	ND	1.0	06/11/14 12:26	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Trichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Vinyl chloride	ug/L	ND	1.0	06/11/14 12:26	
Xylene (Total)	ug/L	ND	3.0	06/11/14 12:26	N2
1,2-Dichloroethane-d4 (S)	%	94	80-120	06/11/14 12:26	
4-Bromofluorobenzene (S)	%	99	80-120	06/11/14 12:26	
Toluene-d8 (S)	%	95	80-120	06/11/14 12:26	

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	94	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	103	103	38-134	N2
Benzene	ug/L	20	19.3	96	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.6	98	68-125	
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	14.6	73	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	19.7	99	47-133	
Chloroform	ug/L	20	18.7	93	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	68-127	N2
Ethylbenzene	ug/L	20	18.3	92	74-122	
Methylene chloride	ug/L	20	18.8	94	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	18.2	91	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	66-129	
Trichloroethene	ug/L	20	18.1	91	71-123	
Vinyl chloride	ug/L	20	19.5	97	43-129	
Xylene (Total)	ug/L	60	57.0	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4540	91	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4990	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4750	95	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4220	84	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4750	93	33-140	
2-Butanone (MEK)	ug/L	43000	25000	64500	86	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25000	98	40-160	N2
Acetone	ug/L	102000	25000	119000	68	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4490	90	35-142	
Bromoform	ug/L	ND	5000	4600	92	45-142	
Bromomethane	ug/L	ND	5000	2820	56	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4600	92	34-147	N2
Ethylbenzene	ug/L	ND	5000	4800	96	40-142	
Methylene chloride	ug/L	ND	5000	4310	82	31-144	
Tetrachloroethene	ug/L	ND	5000	5060	101	64-148	
Toluene	ug/L	ND	5000	4360	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4350	87	54-151	
Trichloroethene	ug/L	ND	5000	4430	89	71-149	
Vinyl chloride	ug/L	ND	5000	3180	64	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	14200	94	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	HS
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: OEXT/44574 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60170883001

METHOD BLANK: 1391527 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/11/14 08:55	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/11/14 08:55	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/11/14 08:55	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/11/14 08:55	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/11/14 08:55	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/11/14 08:55	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/11/14 08:55	
Hexachloroethane	ug/L	ND	5.0	06/11/14 08:55	
Naphthalene	ug/L	ND	5.0	06/11/14 08:55	
Nitrobenzene	ug/L	ND	5.0	06/11/14 08:55	
Pentachlorophenol	ug/L	ND	5.0	06/11/14 08:55	
Phenol	ug/L	ND	5.0	06/11/14 08:55	
2,4,6-Tribromophenol (S)	%	84	39-120	06/11/14 08:55	
2-Fluorobiphenyl (S)	%	78	39-120	06/11/14 08:55	
2-Fluorophenol (S)	%	44	17-120	06/11/14 08:55	
Nitrobenzene-d5 (S)	%	77	33-120	06/11/14 08:55	
Phenol-d6 (S)	%	29	11-120	06/11/14 08:55	
Terphenyl-d14 (S)	%	80	45-120	06/11/14 08:55	

LABORATORY CONTROL SAMPLE: 1391528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.0	74	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.8	78	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.3	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.2	50	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.0	86	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.1	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	60.1	60	24-120	
Hexachloroethane	ug/L	50	34.2	68	43-113	
Naphthalene	ug/L	50	38.4	77	48-120	
Nitrobenzene	ug/L	50	40.0	80	48-120	
Pentachlorophenol	ug/L	50	37.6	75	47-120	
Phenol	ug/L	50	11.6	23	16-112	
2,4,6-Tribromophenol (S)	%			88	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			38	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

MATRIX SPIKE SAMPLE: 1391529

Parameter	Units	60170805001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	34.6	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	40.5	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	28.1	56	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	26.0	52	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	44.1	88	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	33.7	67	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	64.3	64	11-120	
Hexachloroethane	ug/L	ND	50	30.7	61	40-113	
Naphthalene	ug/L	ND	50	35.9	72	45-120	
Nitrobenzene	ug/L	ND	50	37.3	75	38-120	
Pentachlorophenol	ug/L	ND	50	44.2	88	43-135	
Phenol	ug/L	ND	50	11.9	24	13-112	
2,4,6-Tribromophenol (S)	%				87	39-120	
2-Fluorobiphenyl (S)	%				80	39-120	
2-Fluorophenol (S)	%				35	17-120	
Nitrobenzene-d5 (S)	%				77	33-120	
Phenol-d6 (S)	%				23	11-120	
Terphenyl-d14 (S)	%				80	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: WET/48359 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170883001

METHOD BLANK: 1392165 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/11/14 09:59	

LABORATORY CONTROL SAMPLE: 1392166

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.5	89	78-114	

MATRIX SPIKE SAMPLE: 1392167

Parameter	Units	60170834001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1.6J	44	41.5	91	78-114	

SAMPLE DUPLICATE: 1392168

Parameter	Units	60170883001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	785	691	13	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: WET/48360 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170883001

METHOD BLANK: 1392177 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/11/14 12:23	

LABORATORY CONTROL SAMPLE: 1392178

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	24.9	124	64-132	

MATRIX SPIKE SAMPLE: 1392179

Parameter	Units	60170834001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22	15.8	68	64-132	

SAMPLE DUPLICATE: 1392180

Parameter	Units	60170883001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.6	8.3	14	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: WET/48403 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170883001

METHOD BLANK: 1393090 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/12/14 14:15	

SAMPLE DUPLICATE: 1393091

Parameter	Units	60170917001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	46.0	45.0	2	10	

SAMPLE DUPLICATE: 1393092

Parameter	Units	60170826001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	77.0	80.0	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: WET/48332
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170883001

SAMPLE DUPLICATE: 1391630

Parameter	Units	60170969001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: WET/48297 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170883001

METHOD BLANK: 1390828 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/12/14 14:43	

LABORATORY CONTROL SAMPLE: 1390829

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	169	85	85-115	

SAMPLE DUPLICATE: 1390830

Parameter	Units	60170857001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	2640	2580	2	17	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: WETA/29765 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170883001

METHOD BLANK: 1391447 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/10/14 11:44	

LABORATORY CONTROL SAMPLE: 1391448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1391449

Parameter	Units	60170771002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1391450

Parameter	Units	60170772001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	10	10	19.1	92	90-110	

SAMPLE DUPLICATE: 1391451

Parameter	Units	60170823001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

QC Batch: WETA/29766 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60170883001

METHOD BLANK: 1391504 Matrix: Water
Associated Lab Samples: 60170883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/11/14 08:22	

LABORATORY CONTROL SAMPLE: 1391505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.3	109	90-110	

MATRIX SPIKE SAMPLE: 1391506

Parameter	Units	60170803001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	57300	25000	71800	58	90-110	M1

MATRIX SPIKE SAMPLE: 1391508

Parameter	Units	60170421003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	77.8	50	131	106	90-110	

SAMPLE DUPLICATE: 1391507

Parameter	Units	60170816002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	4J		25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-322
Pace Project No.: 60170883

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170883001	**316-322**	EPA 200.7	MPRP/27579	EPA 200.7	ICP/20855
60170883001	**316-322**	EPA 200.7	MPRP/27584	EPA 200.7	ICP/20856
60170883001	**316-322**	EPA 245.1	MERP/8470	EPA 245.1	MERC/8425
60170883001	**316-322**	EPA 245.1	MERP/8474	EPA 245.1	MERC/8429
60170883001	**316-322**	EPA 625	OEXT/44574	EPA 625	MSSV/14271
60170883001	**316-322**	EPA 624 Low	MSV/62158		
60170883002	**TRIP BLANK**	EPA 624 Low	MSV/62196		
60170883001	**316-322**	EPA 1664A	WET/48359		
60170883001	**316-322**	EPA 1664A	WET/48360		
60170883001	**316-322**	SM 2540D	WET/48403		
60170883001	**316-322**	SM 4500-H+B	WET/48332		
60170883001	**316-322**	SM 5210B	WET/48297	SM 5210B	WET/48416
60170883001	**316-322**	EPA 350.1	WETA/29765		
60170883001	**316-322**	EPA 410.4	WETA/29766		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60170883

60170883

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐ X Ranch

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: ~~T-239~~ / T-194 **Type of Ice:** ~~Wet~~ Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JNS 6/7/14 735

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☑Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☐Yes ☐No ☒N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3S + BP3S unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: MM / Lot # of added preservative:
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 040714-3		15.
Headspace in VOA vials (>6mm):	☒Yes ☒No ☐N/A	5 of 5 sample vials have headspace
		16. -Apply F.N. PER HISTORICAL INSTRUCTIONS AG
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/9/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60170883
1	316-322	OT	G	6-6-14	8:40	6-6-14	8:50		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			2(BP2U) 1(BG1N) 2(AG4W) 3(AG5S) [illegible] 001
2	TRIP BLANK								2	2																X						2(DG9H) 002
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sarah M. Sehie	6/6/14	2:37P	Bennett Garth	6/6/14	2:37				
SITE ADDRESS: BRIDGETON LF				[signature] / Pace	6/7/14	0930	2.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Arron Weber

SIGNATURE of SAMPLER: Arron Weber DATE Signed: 6-6-14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 16, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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(913)599-5665

SAMPLE SUMMARY

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170941001	**316-323**	Water	06/07/14 11:30	06/09/14 13:15
60170941002	**TRIP BLANK**	Water	06/08/14 11:30	06/09/14 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170941001	**316-323**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170941002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Date: June 16, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Sample: 316-323 **Lab ID: 60170941001** Collected: 06/07/14 11:30 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6120**	ug/L	750	2	06/10/14 11:25	06/12/14 13:08	7429-90-5	
Antimony	**120**	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:06	7440-36-0	
Arsenic	**1110**	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:06	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/10/14 11:25	06/12/14 13:06	7440-41-7	
Cadmium	**29.5**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:06	7440-43-9	
Chromium	**250**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:06	7440-47-3	
Cobalt	**36.0**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:06	7440-48-4	
Copper	ND	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:06	7440-50-8	
Iron	**709000**	ug/L	250	1	06/10/14 11:25	06/12/14 13:06	7439-89-6	
Lead	**88.2**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:06	7439-92-1	
Nickel	**117**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:06	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/10/14 11:25	06/12/14 13:06	7782-49-2	
Silver	ND	ug/L	35.0	1	06/10/14 11:25	06/12/14 13:06	7440-22-4	
Thallium	ND	ug/L	100	1	06/10/14 11:25	06/12/14 13:06	7440-28-0	
Zinc	**5870**	ug/L	500	2	06/10/14 11:25	06/12/14 13:08	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2090**	ug/L	750	2	06/10/14 16:00	06/12/14 13:54	7429-90-5	
Antimony, Dissolved	**78.0**	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:51	7440-36-0	
Arsenic, Dissolved	**1000**	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:51	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/10/14 16:00	06/12/14 13:51	7440-41-7	
Cadmium, Dissolved	**28.1**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:51	7440-43-9	
Chromium, Dissolved	**204**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:51	7440-47-3	
Cobalt, Dissolved	**25.9**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:51	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:51	7440-50-8	
Iron, Dissolved	**387000**	ug/L	250	1	06/10/14 16:00	06/12/14 13:51	7439-89-6	
Lead, Dissolved	**27.5**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:51	7439-92-1	
Nickel, Dissolved	**105**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:51	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/10/14 16:00	06/12/14 13:51	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/10/14 16:00	06/12/14 13:51	7440-22-4	
Thallium, Dissolved	ND	ug/L	200	2	06/10/14 16:00	06/12/14 13:54	7440-28-0	D3
Zinc, Dissolved	**5430**	ug/L	500	2	06/10/14 16:00	06/12/14 13:54	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**36.0**	ug/L	6.0	1	06/09/14 17:15	06/10/14 10:50	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/10/14 14:00	06/11/14 10:55	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/12/14 00:00	06/13/14 09:18	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/12/14 00:00	06/13/14 09:18	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7790**	ug/L	4000	2	06/12/14 00:00	06/13/14 09:18		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Sample: 316-323 **Lab ID: 60170941001** Collected: 06/07/14 11:30 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	87-86-5	
Phenol	**10600**	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:18	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	151	%	33-120	2	06/12/14 00:00	06/13/14 09:18	4165-60-0	S0
2-Fluorobiphenyl (S)	79	%	39-120	2	06/12/14 00:00	06/13/14 09:18	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	2	06/12/14 00:00	06/13/14 09:18	1718-51-0	
Phenol-d6 (S)	33	%	11-120	2	06/12/14 00:00	06/13/14 09:18	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	06/12/14 00:00	06/13/14 09:18	367-12-4	
2,4,6-Tribromophenol (S)	94	%	39-120	2	06/12/14 00:00	06/13/14 09:18	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**102000**	ug/L	2500	250		06/11/14 16:03	67-64-1	N2
Benzene	ND	ug/L	250	250		06/11/14 16:03	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/11/14 16:03	75-27-4	
Bromoform	ND	ug/L	250	250		06/11/14 16:03	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/11/14 16:03	74-83-9	
2-Butanone (MEK)	**43000**	ug/L	2500	250		06/11/14 16:03	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/11/14 16:03	56-23-5	
Chloroethane	ND	ug/L	250	250		06/11/14 16:03	75-00-3	
Chloroform	ND	ug/L	250	250		06/11/14 16:03	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/11/14 16:03	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/11/14 16:03	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/11/14 16:03	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/11/14 16:03	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/11/14 16:03	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/11/14 16:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/11/14 16:03	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/11/14 16:03	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/11/14 16:03	127-18-4	
Toluene	ND	ug/L	250	250		06/11/14 16:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/11/14 16:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/11/14 16:03	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/11/14 16:03	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/11/14 16:03	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/11/14 16:03	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	250		06/11/14 16:03	460-00-4	HS
Toluene-d8 (S)	96	%	80-120	250		06/11/14 16:03	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	250		06/11/14 16:03	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/11/14 16:03		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**939**	mg/L	5.0	1		06/11/14 16:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Sample: 316-323 **Lab ID: 60170941001** Collected: 06/07/14 11:30 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		06/11/14 16:22		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5460**	mg/L	5.0	1		06/13/14 10:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/10/14 16:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**36300**	mg/L	2.0	1	06/09/14 16:42	06/14/14 08:50		H3
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**627**	mg/L	20.0	200		06/10/14 12:14	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**59700**	mg/L	5000	500		06/13/14 08:25		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Sample: TRIP BLANK **Lab ID: 60170941002** Collected: 06/08/14 11:30 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/11/14 15:01	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/11/14 15:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/11/14 15:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/11/14 15:01	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/11/14 15:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/11/14 15:01	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/11/14 15:01	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/11/14 15:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/11/14 15:01	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/11/14 15:01	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/11/14 15:01	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 15:01	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 15:01	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/11/14 15:01	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/11/14 15:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/11/14 15:01	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/11/14 15:01	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/11/14 15:01	127-18-4	
Toluene	ND	ug/L	1.0	1		06/11/14 15:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/11/14 15:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/11/14 15:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/11/14 15:01	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/11/14 15:01	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/11/14 15:01	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		06/11/14 15:01	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		06/11/14 15:01	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		06/11/14 15:01	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/11/14 15:01		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: MERP/8470
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170941001

METHOD BLANK: 1391435 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/10/14 10:10	

LABORATORY CONTROL SAMPLE: 1391436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391437 1391438

Parameter	Units	60170884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	2.8	2.8	55	54	70-130	1	20	M1

MATRIX SPIKE SAMPLE: 1391439

Parameter	Units	60170484001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	91	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: MERP/8474
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170941001

METHOD BLANK: 1391846 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/11/14 10:39	

LABORATORY CONTROL SAMPLE: 1391847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391848 1391849

Parameter	Units	60170631001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	142	141	95	94	70-130	0	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: MPRP/27579
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170941001

METHOD BLANK: 1391731
Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/12/14 12:39	
Antimony	ug/L	ND	10.0	06/12/14 12:39	
Arsenic	ug/L	ND	10.0	06/12/14 12:39	
Beryllium	ug/L	ND	1.0	06/12/14 12:39	
Cadmium	ug/L	ND	5.0	06/12/14 12:39	
Chromium	ug/L	ND	5.0	06/12/14 12:39	
Cobalt	ug/L	ND	5.0	06/12/14 12:39	
Copper	ug/L	ND	10.0	06/12/14 12:39	
Iron	ug/L	ND	50.0	06/12/14 12:39	
Lead	ug/L	ND	5.0	06/12/14 12:39	
Nickel	ug/L	ND	5.0	06/12/14 12:39	
Selenium	ug/L	ND	15.0	06/12/14 12:39	
Silver	ug/L	ND	7.0	06/12/14 12:39	
Thallium	ug/L	ND	20.0	06/12/14 12:39	
Zinc	ug/L	ND	50.0	06/12/14 12:39	

LABORATORY CONTROL SAMPLE: 1391732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	985	99	85-115	
Arsenic	ug/L	1000	931	93	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	954	95	85-115	
Chromium	ug/L	1000	1060	106	85-115	
Cobalt	ug/L	1000	987	99	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	999	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	970	97	85-115	
Silver	ug/L	500	504	101	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391733 1391734

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7820	50000	50000	63000	63800	110	112	70-130	1	8	
Antimony	ug/L	119	5000	5000	5230	5200	102	102	70-130	0	7	
Arsenic	ug/L	1200	5000	5000	6520	6560	107	107	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	5010	5000	100	100	70-130	0	7	
Cadmium	ug/L	28.8	5000	5000	5090	5100	101	101	70-130	0	10	
Chromium	ug/L	267	5000	5000	5400	5420	103	103	70-130	0	10	
Cobalt	ug/L	41.3	5000	5000	4690	4700	93	93	70-130	0	6	
Copper	ug/L	ND	5000	5000	5490	5420	109	107	70-130	1	11	
Iron	ug/L	747000	50000	50000	800000	805000	105	116	70-130	1	10	
Lead	ug/L	94.9	5000	5000	4530	4560	89	89	70-130	1	10	
Nickel	ug/L	135	5000	5000	4870	4880	95	95	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6000	6020	119	119	70-130	0	10	
Silver	ug/L	ND	2500	2500	2750	2740	109	109	70-130	0	10	
Thallium	ug/L	ND	5000	5000	3910	3920	78	78	70-130	0	6	
Zinc	ug/L	5290	5000	5000	9880	9800	92	90	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: MPRP/27584
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170941001

METHOD BLANK: 1391834
Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/12/14 13:25	
Antimony, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Arsenic, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Beryllium, Dissolved	ug/L	ND	1.0	06/12/14 13:25	
Cadmium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Chromium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Cobalt, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Copper, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Iron, Dissolved	ug/L	ND	50.0	06/12/14 13:25	
Lead, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Nickel, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Selenium, Dissolved	ug/L	ND	15.0	06/12/14 13:25	
Silver, Dissolved	ug/L	ND	7.0	06/12/14 13:25	
Thallium, Dissolved	ug/L	ND	20.0	06/12/14 13:25	
Zinc, Dissolved	ug/L	ND	50.0	06/12/14 13:25	

LABORATORY CONTROL SAMPLE: 1391835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9860	99	85-115	
Antimony, Dissolved	ug/L	1000	957	96	85-115	
Arsenic, Dissolved	ug/L	1000	924	92	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	942	94	85-115	
Chromium, Dissolved	ug/L	1000	1040	104	85-115	
Cobalt, Dissolved	ug/L	1000	971	97	85-115	
Copper, Dissolved	ug/L	1000	976	98	85-115	
Iron, Dissolved	ug/L	10000	9910	99	85-115	
Lead, Dissolved	ug/L	1000	987	99	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	966	97	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	952	95	85-115	
Zinc, Dissolved	ug/L	1000	996	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391836 1391837

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1810	50000	50000	52200	52300	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	70.4	5000	5000	5200	5180	102	102	70-130	0	7	
Arsenic, Dissolved	ug/L	918	5000	5000	6380	6210	109	106	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4900	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	25.4	5000	5000	5060	5040	101	100	70-130	0	10	
Chromium, Dissolved	ug/L	176	5000	5000	5260	5220	102	101	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4630	4640	92	92	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5450	5400	108	107	70-130	1	11	
Iron, Dissolved	ug/L	322000	50000	50000	404000	387000	163	129	70-130	4	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4500	4490	89	89	70-130	0	10	
Nickel, Dissolved	ug/L	94.2	5000	5000	4820	4820	94	94	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5990	5920	119	118	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2730	2710	108	107	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	3960	3940	79	79	70-130	0	6	
Zinc, Dissolved	ug/L	4220	5000	5000	9240	8970	100	95	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: MSV/62196 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60170941001, 60170941002

METHOD BLANK: 1391793 Matrix: Water
Associated Lab Samples: 60170941001, 60170941002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/11/14 12:26	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,2-Dichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/11/14 12:26	
2-Butanone (MEK)	ug/L	ND	10.0	06/11/14 12:26	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/11/14 12:26	N2
Acetone	ug/L	ND	10.0	06/11/14 12:26	N2
Benzene	ug/L	ND	1.0	06/11/14 12:26	
Bromodichloromethane	ug/L	ND	1.0	06/11/14 12:26	
Bromoform	ug/L	ND	1.0	06/11/14 12:26	
Bromomethane	ug/L	ND	5.0	06/11/14 12:26	
Carbon tetrachloride	ug/L	ND	1.0	06/11/14 12:26	
Chloroethane	ug/L	ND	1.0	06/11/14 12:26	
Chloroform	ug/L	ND	1.0	06/11/14 12:26	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	N2
Ethylbenzene	ug/L	ND	1.0	06/11/14 12:26	
Methylene chloride	ug/L	ND	1.0	06/11/14 12:26	
Tetrachloroethene	ug/L	ND	1.0	06/11/14 12:26	
Toluene	ug/L	ND	1.0	06/11/14 12:26	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Trichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Vinyl chloride	ug/L	ND	1.0	06/11/14 12:26	
Xylene (Total)	ug/L	ND	3.0	06/11/14 12:26	N2
1,2-Dichloroethane-d4 (S)	%	94	80-120	06/11/14 12:26	
4-Bromofluorobenzene (S)	%	99	80-120	06/11/14 12:26	
Toluene-d8 (S)	%	95	80-120	06/11/14 12:26	

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	94	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	103	103	38-134	N2
Benzene	ug/L	20	19.3	96	75-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.6	98	68-125	
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	14.6	73	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	19.7	99	47-133	
Chloroform	ug/L	20	18.7	93	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	68-127	N2
Ethylbenzene	ug/L	20	18.3	92	74-122	
Methylene chloride	ug/L	20	18.8	94	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	18.2	91	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	66-129	
Trichloroethene	ug/L	20	18.1	91	71-123	
Vinyl chloride	ug/L	20	19.5	97	43-129	
Xylene (Total)	ug/L	60	57.0	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4540	91	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4990	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4750	95	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4220	84	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4750	93	33-140	
2-Butanone (MEK)	ug/L	43000	25000	64500	86	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25000	98	40-160	N2
Acetone	ug/L	102000	25000	119000	68	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4490	90	35-142	
Bromoform	ug/L	ND	5000	4600	92	45-142	
Bromomethane	ug/L	ND	5000	2820	56	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4600	92	34-147	N2
Ethylbenzene	ug/L	ND	5000	4800	96	40-142	
Methylene chloride	ug/L	ND	5000	4310	82	31-144	
Tetrachloroethene	ug/L	ND	5000	5060	101	64-148	
Toluene	ug/L	ND	5000	4360	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4350	87	54-151	
Trichloroethene	ug/L	ND	5000	4430	89	71-149	
Vinyl chloride	ug/L	ND	5000	3180	64	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	14200	94	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	HS
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: OEXT/44615 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60170941001

METHOD BLANK: 1392788 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/13/14 08:15	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/13/14 08:15	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/13/14 08:15	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/13/14 08:15	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/13/14 08:15	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/13/14 08:15	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/13/14 08:15	
Hexachloroethane	ug/L	ND	5.0	06/13/14 08:15	
Naphthalene	ug/L	ND	5.0	06/13/14 08:15	
Nitrobenzene	ug/L	ND	5.0	06/13/14 08:15	
Pentachlorophenol	ug/L	ND	5.0	06/13/14 08:15	
Phenol	ug/L	ND	5.0	06/13/14 08:15	
2,4,6-Tribromophenol (S)	%	98	39-120	06/13/14 08:15	
2-Fluorobiphenyl (S)	%	89	39-120	06/13/14 08:15	
2-Fluorophenol (S)	%	47	17-120	06/13/14 08:15	
Nitrobenzene-d5 (S)	%	90	33-120	06/13/14 08:15	
Phenol-d6 (S)	%	29	11-120	06/13/14 08:15	
Terphenyl-d14 (S)	%	92	45-120	06/13/14 08:15	

LABORATORY CONTROL SAMPLE: 1392789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.0	86	46-120	
2,4,6-Trichlorophenol	ug/L	50	48.2	96	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.1	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	34.1	68	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	53.1	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.7	85	44-116	
Hexachlorocyclopentadiene	ug/L	100	80.3	80	24-120	
Hexachloroethane	ug/L	50	43.1	86	43-113	
Naphthalene	ug/L	50	45.2	90	48-120	
Nitrobenzene	ug/L	50	47.0	94	48-120	
Pentachlorophenol	ug/L	50	50.5	101	47-120	
Phenol	ug/L	50	16.3	33	16-112	
2,4,6-Tribromophenol (S)	%			107	39-120	
2-Fluorobiphenyl (S)	%			95	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			95	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			98	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

MATRIX SPIKE SAMPLE: 1392790

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3420	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4070	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3910	78	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7790	5000	13000	104	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4180J	84	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3430	69	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6560	66	11-120	
Hexachloroethane	ug/L	ND	5000	3620	72	40-113	
Naphthalene	ug/L	ND	5000	4540	74	45-120	
Nitrobenzene	ug/L	ND	5000	4060	81	38-120	
Pentachlorophenol	ug/L	ND	5000	4520	90	43-135	
Phenol	ug/L	10600	5000	15800	105	13-112	
2,4,6-Tribromophenol (S)	%				90	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				54	17-120	
Nitrobenzene-d5 (S)	%				157	33-120	S0
Phenol-d6 (S)	%				38	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: WET/48381 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170941001

METHOD BLANK: 1392599 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/11/14 16:05	

LABORATORY CONTROL SAMPLE: 1392600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.7	87	78-114	

MATRIX SPIKE SAMPLE: 1392601

Parameter	Units	60170811001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	41.4	86	78-114	

SAMPLE DUPLICATE: 1392602

Parameter	Units	60170812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.8J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: WET/48382 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170941001

METHOD BLANK: 1392604 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/11/14 16:21	

LABORATORY CONTROL SAMPLE: 1392605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.8	114	64-132	

MATRIX SPIKE SAMPLE: 1392606

Parameter	Units	60170811001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.3	14.8	58	64-132	M1

SAMPLE DUPLICATE: 1392607

Parameter	Units	60170812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: WET/48426 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170941001

METHOD BLANK: 1393610 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/13/14 10:22	

SAMPLE DUPLICATE: 1393611

Parameter	Units	60170919001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	14.0	14.0	0	10	

SAMPLE DUPLICATE: 1393612

Parameter	Units	60170944001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4760	4560	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: WET/48332
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170941001

SAMPLE DUPLICATE: 1391630

Parameter	Units	60170969001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: WET/48318 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170941001

METHOD BLANK: 1391401 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/14/14 08:43	

LABORATORY CONTROL SAMPLE: 1391402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	90	85-115	

SAMPLE DUPLICATE: 1391403

Parameter	Units	60170944001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	33600	30300	10	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: WETA/29765 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170941001

METHOD BLANK: 1391447 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/10/14 11:44	

LABORATORY CONTROL SAMPLE: 1391448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1391449

Parameter	Units	60170771002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1391450

Parameter	Units	60170772001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	10	10	19.1	92	90-110	

SAMPLE DUPLICATE: 1391451

Parameter	Units	60170823001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

QC Batch: WETA/29817 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60170941001

METHOD BLANK: 1392765 Matrix: Water
Associated Lab Samples: 60170941001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/13/14 08:07	

LABORATORY CONTROL SAMPLE: 1392766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.1	106	90-110	

MATRIX SPIKE SAMPLE: 1392767

Parameter	Units	60170800001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	150	100	265	116	90-110	M1

MATRIX SPIKE SAMPLE: 1392769

Parameter	Units	60170943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58800	25000	83400	98	90-110	

SAMPLE DUPLICATE: 1392768

Parameter	Units	60170800003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	90.3	89.7	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

SAMPLE QUALIFIERS

Sample: 60170941002

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H3	Sample was received or analysis requested beyond the recognized method holding time.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-323
Pace Project No.: 60170941

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170941001	**316-323**	EPA 200.7	MPRP/27579	EPA 200.7	ICP/20855
60170941001	**316-323**	EPA 200.7	MPRP/27584	EPA 200.7	ICP/20856
60170941001	**316-323**	EPA 245.1	MERP/8470	EPA 245.1	MERC/8425
60170941001	**316-323**	EPA 245.1	MERP/8474	EPA 245.1	MERC/8429
60170941001	**316-323**	EPA 625	OEXT/44615	EPA 625	MSSV/14284
60170941001	**316-323**	EPA 624 Low	MSV/62196		
60170941002	**TRIP BLANK**	EPA 624 Low	MSV/62196		
60170941001	**316-323**	EPA 1664A	WET/48381		
60170941001	**316-323**	EPA 1664A	WET/48382		
60170941001	**316-323**	SM 2540D	WET/48426		
60170941001	**316-323**	SM 4500-H+B	WET/48332		
60170941001	**316-323**	SM 5210B	WET/48318	SM 5210B	WET/48454
60170941001	**316-323**	EPA 350.1	WETA/29765		
60170941001	**316-323**	EPA 410.4	WETA/29817		

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Sample Condition Upon Receipt

WO#: 60170941

60170941

Client Name: Republic - Barr Eng.

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐ XRoads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☒ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 6.4

Date and initials of person examining contents: JS 6/9/14 1540

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2. temp 7.6°C
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3. ice melted
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☒No ☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	14. BP3NT 8335 unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed: ok / Lot # of added preservative:
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 060714-3		15.
Headspace in VOA vials (>6mm):	☒Yes ☒No ☐N/A	16. 5 of 5 sample vials have headspace. -Apply HS footnote BASED ON HISTORICAL INSTRUCTION A
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: MN

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/10/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	State / Location
	Missouri

MATRIX CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6017 0941 2(B3W) 1(B3W) 2(AG4U)
1	316-323	OT	G			6/7/14	1130		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			3(P[illegible]) 3(DG9M) 1(BP3N) 1(BP3S)
2	TRIP BLANK								2	2																X						2(DG9M)
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	6-9-14	9:00am	Bill S[illegible] 4/12	6-9-14	9:00am				
SITE ADDRESS: BRIDGETON LF				[signature] / Pace	6/9/14	1315	8.4	N	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 6/7/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 16, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

Pace Analytical Services, Inc.
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(913)599-5665

SAMPLE SUMMARY

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170943001	**316-324**	Water	06/08/14 15:00	06/09/14 13:15
60170943002	**TRIP BLANK**	Water	06/08/14 15:00	06/09/14 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170943001	**316-324**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170943002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Sample: 316-324 **Lab ID: 60170943001** Collected: 06/08/14 15:00 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**8900**	ug/L	1120	3	06/10/14 11:25	06/12/14 13:21	7429-90-5	
Antimony	**125**	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:11	7440-36-0	
Arsenic	**1160**	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:11	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/10/14 11:25	06/12/14 13:11	7440-41-7	
Cadmium	**31.7**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:11	7440-43-9	
Chromium	**277**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:11	7440-47-3	
Cobalt	**41.3**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:11	7440-48-4	
Copper	ND	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:11	7440-50-8	
Iron	**803000**	ug/L	250	1	06/10/14 11:25	06/12/14 13:11	7439-89-6	
Lead	**115**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:11	7439-92-1	
Nickel	**132**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:11	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/10/14 11:25	06/12/14 13:11	7782-49-2	
Silver	ND	ug/L	35.0	1	06/10/14 11:25	06/12/14 13:11	7440-22-4	
Thallium	ND	ug/L	300	3	06/10/14 11:25	06/12/14 13:21	7440-28-0	D3
Zinc	**5900**	ug/L	750	3	06/10/14 11:25	06/12/14 13:21	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1980**	ug/L	750	2	06/10/14 16:00	06/12/14 14:03	7429-90-5	
Antimony, Dissolved	**68.2**	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:56	7440-36-0	
Arsenic, Dissolved	**866**	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:56	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/10/14 16:00	06/12/14 13:56	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:56	7440-43-9	
Chromium, Dissolved	**183**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:56	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:56	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/10/14 16:00	06/12/14 13:56	7440-50-8	
Iron, Dissolved	**335000**	ug/L	250	1	06/10/14 16:00	06/12/14 13:56	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:56	7439-92-1	
Nickel, Dissolved	**88.6**	ug/L	25.0	1	06/10/14 16:00	06/12/14 13:56	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/10/14 16:00	06/12/14 13:56	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/10/14 16:00	06/12/14 13:56	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/10/14 16:00	06/12/14 13:56	7440-28-0	
Zinc, Dissolved	**4710**	ug/L	500	2	06/10/14 16:00	06/12/14 14:03	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**58.8**	ug/L	6.0	1	06/09/14 17:15	06/10/14 10:52	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/10/14 14:00	06/11/14 11:01	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/12/14 00:00	06/13/14 09:39	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/12/14 00:00	06/13/14 09:39	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7180**	ug/L	4000	2	06/12/14 00:00	06/13/14 09:39		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Sample: 316-324 **Lab ID: 60170943001** Collected: 06/08/14 15:00 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**2160**	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	87-86-5	
Phenol	**9100**	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 09:39	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	153	%	33-120	2	06/12/14 00:00	06/13/14 09:39	4165-60-0	S0
2-Fluorobiphenyl (S)	84	%	39-120	2	06/12/14 00:00	06/13/14 09:39	321-60-8	
Terphenyl-d14 (S)	87	%	45-120	2	06/12/14 00:00	06/13/14 09:39	1718-51-0	
Phenol-d6 (S)	33	%	11-120	2	06/12/14 00:00	06/13/14 09:39	13127-88-3	
2-Fluorophenol (S)	34	%	17-120	2	06/12/14 00:00	06/13/14 09:39	367-12-4	
2,4,6-Tribromophenol (S)	93	%	39-120	2	06/12/14 00:00	06/13/14 09:39	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**99700**	ug/L	2500	250		06/11/14 16:34	67-64-1	N2
Benzene	ND	ug/L	250	250		06/11/14 16:34	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/11/14 16:34	75-27-4	
Bromoform	ND	ug/L	250	250		06/11/14 16:34	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/11/14 16:34	74-83-9	
2-Butanone (MEK)	**41900**	ug/L	2500	250		06/11/14 16:34	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/11/14 16:34	56-23-5	
Chloroethane	ND	ug/L	250	250		06/11/14 16:34	75-00-3	
Chloroform	ND	ug/L	250	250		06/11/14 16:34	67-66-3	
1,4-Dichlorobenzene	**603**	ug/L	250	250		06/11/14 16:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/11/14 16:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/11/14 16:34	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/11/14 16:34	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/11/14 16:34	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/11/14 16:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/11/14 16:34	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/11/14 16:34	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/11/14 16:34	127-18-4	
Toluene	ND	ug/L	250	250		06/11/14 16:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/11/14 16:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/11/14 16:34	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/11/14 16:34	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/11/14 16:34	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/11/14 16:34	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	250		06/11/14 16:34	460-00-4	HS
Toluene-d8 (S)	96	%	80-120	250		06/11/14 16:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	250		06/11/14 16:34	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/11/14 16:34		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**673**	mg/L	5.0	1		06/11/14 16:09		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Sample: 316-324 **Lab ID: 60170943001** Collected: 06/08/14 15:00 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**10.4**	mg/L	5.0	1		06/11/14 16:22		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4600**	mg/L	5.0	1		06/13/14 10:24		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		06/10/14 16:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**33500**	mg/L	2.0	1	06/09/14 16:48	06/14/14 08:53		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**602**	mg/L	20.0	200		06/10/14 12:17	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**58800**	mg/L	5000	500		06/13/14 08:25		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Sample: TRIP BLANK **Lab ID: 60170943002** Collected: 06/08/14 15:00 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/11/14 15:16	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/11/14 15:16	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/11/14 15:16	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/11/14 15:16	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/11/14 15:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/11/14 15:16	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/11/14 15:16	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/11/14 15:16	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/11/14 15:16	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/11/14 15:16	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/11/14 15:16	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 15:16	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 15:16	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/11/14 15:16	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/11/14 15:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/11/14 15:16	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/11/14 15:16	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/11/14 15:16	127-18-4	
Toluene	ND	ug/L	1.0	1		06/11/14 15:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/11/14 15:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/11/14 15:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/11/14 15:16	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/11/14 15:16	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/11/14 15:16	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		06/11/14 15:16	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		06/11/14 15:16	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		06/11/14 15:16	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/11/14 15:16		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: MERP/8470
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170943001

METHOD BLANK: 1391435 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/10/14 10:10	

LABORATORY CONTROL SAMPLE: 1391436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391437 1391438

Parameter	Units	60170884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	2.8	2.8	55	54	70-130	1	20	M1

MATRIX SPIKE SAMPLE: 1391439

Parameter	Units	60170484001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	91	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: MERP/8474
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170943001

METHOD BLANK: 1391846 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/11/14 10:39	

LABORATORY CONTROL SAMPLE: 1391847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391848 1391849

Parameter	Units	60170631001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	142	141	95	94	70-130	0	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: MPRP/27579
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170943001

METHOD BLANK: 1391731
Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/12/14 12:39	
Antimony	ug/L	ND	10.0	06/12/14 12:39	
Arsenic	ug/L	ND	10.0	06/12/14 12:39	
Beryllium	ug/L	ND	1.0	06/12/14 12:39	
Cadmium	ug/L	ND	5.0	06/12/14 12:39	
Chromium	ug/L	ND	5.0	06/12/14 12:39	
Cobalt	ug/L	ND	5.0	06/12/14 12:39	
Copper	ug/L	ND	10.0	06/12/14 12:39	
Iron	ug/L	ND	50.0	06/12/14 12:39	
Lead	ug/L	ND	5.0	06/12/14 12:39	
Nickel	ug/L	ND	5.0	06/12/14 12:39	
Selenium	ug/L	ND	15.0	06/12/14 12:39	
Silver	ug/L	ND	7.0	06/12/14 12:39	
Thallium	ug/L	ND	20.0	06/12/14 12:39	
Zinc	ug/L	ND	50.0	06/12/14 12:39	

LABORATORY CONTROL SAMPLE: 1391732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	985	99	85-115	
Arsenic	ug/L	1000	931	93	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	954	95	85-115	
Chromium	ug/L	1000	1060	106	85-115	
Cobalt	ug/L	1000	987	99	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	999	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	970	97	85-115	
Silver	ug/L	500	504	101	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391733 1391734

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7820	50000	50000	63000	63800	110	112	70-130	1	8	
Antimony	ug/L	119	5000	5000	5230	5200	102	102	70-130	0	7	
Arsenic	ug/L	1200	5000	5000	6520	6560	107	107	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	5010	5000	100	100	70-130	0	7	
Cadmium	ug/L	28.8	5000	5000	5090	5100	101	101	70-130	0	10	
Chromium	ug/L	267	5000	5000	5400	5420	103	103	70-130	0	10	
Cobalt	ug/L	41.3	5000	5000	4690	4700	93	93	70-130	0	6	
Copper	ug/L	ND	5000	5000	5490	5420	109	107	70-130	1	11	
Iron	ug/L	747000	50000	50000	800000	805000	105	116	70-130	1	10	
Lead	ug/L	94.9	5000	5000	4530	4560	89	89	70-130	1	10	
Nickel	ug/L	135	5000	5000	4870	4880	95	95	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6000	6020	119	119	70-130	0	10	
Silver	ug/L	ND	2500	2500	2750	2740	109	109	70-130	0	10	
Thallium	ug/L	ND	5000	5000	3910	3920	78	78	70-130	0	6	
Zinc	ug/L	5290	5000	5000	9880	9800	92	90	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: MPRP/27584
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170943001

METHOD BLANK: 1391834
Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/12/14 13:25	
Antimony, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Arsenic, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Beryllium, Dissolved	ug/L	ND	1.0	06/12/14 13:25	
Cadmium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Chromium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Cobalt, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Copper, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Iron, Dissolved	ug/L	ND	50.0	06/12/14 13:25	
Lead, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Nickel, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Selenium, Dissolved	ug/L	ND	15.0	06/12/14 13:25	
Silver, Dissolved	ug/L	ND	7.0	06/12/14 13:25	
Thallium, Dissolved	ug/L	ND	20.0	06/12/14 13:25	
Zinc, Dissolved	ug/L	ND	50.0	06/12/14 13:25	

LABORATORY CONTROL SAMPLE: 1391835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9860	99	85-115	
Antimony, Dissolved	ug/L	1000	957	96	85-115	
Arsenic, Dissolved	ug/L	1000	924	92	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	942	94	85-115	
Chromium, Dissolved	ug/L	1000	1040	104	85-115	
Cobalt, Dissolved	ug/L	1000	971	97	85-115	
Copper, Dissolved	ug/L	1000	976	98	85-115	
Iron, Dissolved	ug/L	10000	9910	99	85-115	
Lead, Dissolved	ug/L	1000	987	99	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	966	97	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	952	95	85-115	
Zinc, Dissolved	ug/L	1000	996	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391836 1391837

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1810	50000	50000	52200	52300	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	70.4	5000	5000	5200	5180	102	102	70-130	0	7	
Arsenic, Dissolved	ug/L	918	5000	5000	6380	6210	109	106	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4900	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	25.4	5000	5000	5060	5040	101	100	70-130	0	10	
Chromium, Dissolved	ug/L	176	5000	5000	5260	5220	102	101	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4630	4640	92	92	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5450	5400	108	107	70-130	1	11	
Iron, Dissolved	ug/L	322000	50000	50000	404000	387000	163	129	70-130	4	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4500	4490	89	89	70-130	0	10	
Nickel, Dissolved	ug/L	94.2	5000	5000	4820	4820	94	94	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5990	5920	119	118	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2730	2710	108	107	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	3960	3940	79	79	70-130	0	6	
Zinc, Dissolved	ug/L	4220	5000	5000	9240	8970	100	95	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: MSV/62196
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60170943001, 60170943002

METHOD BLANK: 1391793
Matrix: Water
Associated Lab Samples: 60170943001, 60170943002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/11/14 12:26	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,2-Dichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/11/14 12:26	
2-Butanone (MEK)	ug/L	ND	10.0	06/11/14 12:26	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/11/14 12:26	N2
Acetone	ug/L	ND	10.0	06/11/14 12:26	N2
Benzene	ug/L	ND	1.0	06/11/14 12:26	
Bromodichloromethane	ug/L	ND	1.0	06/11/14 12:26	
Bromoform	ug/L	ND	1.0	06/11/14 12:26	
Bromomethane	ug/L	ND	5.0	06/11/14 12:26	
Carbon tetrachloride	ug/L	ND	1.0	06/11/14 12:26	
Chloroethane	ug/L	ND	1.0	06/11/14 12:26	
Chloroform	ug/L	ND	1.0	06/11/14 12:26	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	N2
Ethylbenzene	ug/L	ND	1.0	06/11/14 12:26	
Methylene chloride	ug/L	ND	1.0	06/11/14 12:26	
Tetrachloroethene	ug/L	ND	1.0	06/11/14 12:26	
Toluene	ug/L	ND	1.0	06/11/14 12:26	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Trichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Vinyl chloride	ug/L	ND	1.0	06/11/14 12:26	
Xylene (Total)	ug/L	ND	3.0	06/11/14 12:26	N2
1,2-Dichloroethane-d4 (S)	%	94	80-120	06/11/14 12:26	
4-Bromofluorobenzene (S)	%	99	80-120	06/11/14 12:26	
Toluene-d8 (S)	%	95	80-120	06/11/14 12:26	

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	94	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	103	103	38-134	N2
Benzene	ug/L	20	19.3	96	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.6	98	68-125	
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	14.6	73	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	19.7	99	47-133	
Chloroform	ug/L	20	18.7	93	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	68-127	N2
Ethylbenzene	ug/L	20	18.3	92	74-122	
Methylene chloride	ug/L	20	18.8	94	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	18.2	91	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	66-129	
Trichloroethene	ug/L	20	18.1	91	71-123	
Vinyl chloride	ug/L	20	19.5	97	43-129	
Xylene (Total)	ug/L	60	57.0	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4540	91	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4990	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4750	95	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4220	84	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4750	93	33-140	
2-Butanone (MEK)	ug/L	43000	25000	64500	86	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25000	98	40-160	N2
Acetone	ug/L	102000	25000	119000	68	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4490	90	35-142	
Bromoform	ug/L	ND	5000	4600	92	45-142	
Bromomethane	ug/L	ND	5000	2820	56	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4600	92	34-147	N2
Ethylbenzene	ug/L	ND	5000	4800	96	40-142	
Methylene chloride	ug/L	ND	5000	4310	82	31-144	
Tetrachloroethene	ug/L	ND	5000	5060	101	64-148	
Toluene	ug/L	ND	5000	4360	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4350	87	54-151	
Trichloroethene	ug/L	ND	5000	4430	89	71-149	
Vinyl chloride	ug/L	ND	5000	3180	64	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	14200	94	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	HS
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: OEXT/44615 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60170943001

METHOD BLANK: 1392788 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/13/14 08:15	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/13/14 08:15	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/13/14 08:15	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/13/14 08:15	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/13/14 08:15	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/13/14 08:15	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/13/14 08:15	
Hexachloroethane	ug/L	ND	5.0	06/13/14 08:15	
Naphthalene	ug/L	ND	5.0	06/13/14 08:15	
Nitrobenzene	ug/L	ND	5.0	06/13/14 08:15	
Pentachlorophenol	ug/L	ND	5.0	06/13/14 08:15	
Phenol	ug/L	ND	5.0	06/13/14 08:15	
2,4,6-Tribromophenol (S)	%	98	39-120	06/13/14 08:15	
2-Fluorobiphenyl (S)	%	89	39-120	06/13/14 08:15	
2-Fluorophenol (S)	%	47	17-120	06/13/14 08:15	
Nitrobenzene-d5 (S)	%	90	33-120	06/13/14 08:15	
Phenol-d6 (S)	%	29	11-120	06/13/14 08:15	
Terphenyl-d14 (S)	%	92	45-120	06/13/14 08:15	

LABORATORY CONTROL SAMPLE: 1392789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.0	86	46-120	
2,4,6-Trichlorophenol	ug/L	50	48.2	96	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.1	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	34.1	68	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	53.1	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.7	85	44-116	
Hexachlorocyclopentadiene	ug/L	100	80.3	80	24-120	
Hexachloroethane	ug/L	50	43.1	86	43-113	
Naphthalene	ug/L	50	45.2	90	48-120	
Nitrobenzene	ug/L	50	47.0	94	48-120	
Pentachlorophenol	ug/L	50	50.5	101	47-120	
Phenol	ug/L	50	16.3	33	16-112	
2,4,6-Tribromophenol (S)	%			107	39-120	
2-Fluorobiphenyl (S)	%			95	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			95	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			98	45-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

MATRIX SPIKE SAMPLE: 1392790

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3420	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4070	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3910	78	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7790	5000	13000	104	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4180J	84	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3430	69	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6560	66	11-120	
Hexachloroethane	ug/L	ND	5000	3620	72	40-113	
Naphthalene	ug/L	ND	5000	4540	74	45-120	
Nitrobenzene	ug/L	ND	5000	4060	81	38-120	
Pentachlorophenol	ug/L	ND	5000	4520	90	43-135	
Phenol	ug/L	10600	5000	15800	105	13-112	
2,4,6-Tribromophenol (S)	%				90	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				54	17-120	
Nitrobenzene-d5 (S)	%				157	33-120	S0
Phenol-d6 (S)	%				38	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: WET/48381 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170943001

METHOD BLANK: 1392599 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/11/14 16:05	

LABORATORY CONTROL SAMPLE: 1392600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.7	87	78-114	

MATRIX SPIKE SAMPLE: 1392601

Parameter	Units	60170811001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	41.4	86	78-114	

SAMPLE DUPLICATE: 1392602

Parameter	Units	60170812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.8J		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: WET/48382 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170943001

METHOD BLANK: 1392604 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/11/14 16:21	

LABORATORY CONTROL SAMPLE: 1392605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.8	114	64-132	

MATRIX SPIKE SAMPLE: 1392606

Parameter	Units	60170811001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.3	14.8	58	64-132	M1

SAMPLE DUPLICATE: 1392607

Parameter	Units	60170812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: WET/48426 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170943001

METHOD BLANK: 1393610 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/13/14 10:22	

SAMPLE DUPLICATE: 1393611

Parameter	Units	60170919001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	14.0	14.0	0	10	

SAMPLE DUPLICATE: 1393612

Parameter	Units	60170944001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4760	4560	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: WET/48332
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170943001

SAMPLE DUPLICATE: 1391630

Parameter	Units	60170969001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: WET/48318 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170943001

METHOD BLANK: 1391401 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/14/14 08:43	

LABORATORY CONTROL SAMPLE: 1391402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	90	85-115	

SAMPLE DUPLICATE: 1391403

Parameter	Units	60170944001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	33600	30300	10	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: WETA/29765 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170943001

METHOD BLANK: 1391447 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/10/14 11:44	

LABORATORY CONTROL SAMPLE: 1391448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1391449

Parameter	Units	60170771002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1391450

Parameter	Units	60170772001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	10	10	19.1	92	90-110	

SAMPLE DUPLICATE: 1391451

Parameter	Units	60170823001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

QC Batch: WETA/29817 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60170943001

METHOD BLANK: 1392765 Matrix: Water
Associated Lab Samples: 60170943001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/13/14 08:07	

LABORATORY CONTROL SAMPLE: 1392766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.1	106	90-110	

MATRIX SPIKE SAMPLE: 1392767

Parameter	Units	60170800001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	150	100	265	116	90-110	M1

MATRIX SPIKE SAMPLE: 1392769

Parameter	Units	60170943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58800	25000	83400	98	90-110	

SAMPLE DUPLICATE: 1392768

Parameter	Units	60170800003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	90.3	89.7	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-324
Pace Project No.: 60170943

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170943001	**316-324**	EPA 200.7	MPRP/27579	EPA 200.7	ICP/20855
60170943001	**316-324**	EPA 200.7	MPRP/27584	EPA 200.7	ICP/20856
60170943001	**316-324**	EPA 245.1	MERP/8470	EPA 245.1	MERC/8425
60170943001	**316-324**	EPA 245.1	MERP/8474	EPA 245.1	MERC/8429
60170943001	**316-324**	EPA 625	OEXT/44615	EPA 625	MSSV/14284
60170943001	**316-324**	EPA 624 Low	MSV/62196		
60170943002	**TRIP BLANK**	EPA 624 Low	MSV/62196		
60170943001	**316-324**	EPA 1664A	WET/48381		
60170943001	**316-324**	EPA 1664A	WET/48382		
60170943001	**316-324**	SM 2540D	WET/48426		
60170943001	**316-324**	SM 4500-H+B	WET/48332		
60170943001	**316-324**	SM 5210B	WET/48318	SM 5210B	WET/48454
60170943001	**316-324**	EPA 350.1	WETA/29765		
60170943001	**316-324**	EPA 410.4	WETA/29817		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60170943

60170943

Optional
Proj Due Date:
Proj Name:

Client Name: Republic - Barr Eng.

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐ X-Reads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JMH 6/9/14 1325

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 holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☒Yes ☐No ☒N/A	BOD TBOD unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☒N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed: MAF / Lot # of added preservative:
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 040714-3		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	16. Headspace in all sample vials 5815 - APPLY HS QUALIFIER PER HISTORICAL INSTRUCTIONS.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/10/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency

State / Location
Missouri

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N Analyses Test	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	0070943 2(AG3S) 1(BP3S)[4.5] 1(BP3N)[4.5]
1	316-324	OT	G			6/3/14	1500		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) 2(AGAN) 2(BP2U) 1(BG3U)
2	TRIP BLANK								2	2																X						2(DG9U)
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature]	6-9-14	9:00am	[signature] 412	6-9-14	9:00am				
SITE ADDRESS: BRIDGETON LF				[signature] / Pace	6/9/14	1315	3.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 6/8/14

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

June 16, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60170944001	**316-325**	Water	06/09/14 08:30	06/09/14 13:15
60170944002	**TRIP BLANK**	Water	06/09/14 08:30	06/09/14 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60170944001	**316-325**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60170944002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Date: June 16, 2014

The samples were received outside of required temperature range.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Sample: 316-325 **Lab ID: 60170944001** Collected: 06/09/14 08:30 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**8380**	ug/L	750	2	06/10/14 11:25	06/12/14 13:18	7429-90-5	
Antimony	**128**	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:16	7440-36-0	
Arsenic	**1120**	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:16	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/10/14 11:25	06/12/14 13:16	7440-41-7	
Cadmium	**27.3**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:16	7440-43-9	
Chromium	**260**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:16	7440-47-3	
Cobalt	**40.3**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:16	7440-48-4	
Copper	ND	ug/L	50.0	1	06/10/14 11:25	06/12/14 13:16	7440-50-8	
Iron	**795000**	ug/L	250	1	06/10/14 11:25	06/12/14 13:16	7439-89-6	
Lead	**106**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:16	7439-92-1	
Nickel	**126**	ug/L	25.0	1	06/10/14 11:25	06/12/14 13:16	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/10/14 11:25	06/12/14 13:16	7782-49-2	
Silver	ND	ug/L	35.0	1	06/10/14 11:25	06/12/14 13:16	7440-22-4	
Thallium	ND	ug/L	200	2	06/10/14 11:25	06/12/14 13:18	7440-28-0	D3
Zinc	**5420**	ug/L	500	2	06/10/14 11:25	06/12/14 13:18	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2020**	ug/L	750	2	06/10/14 16:00	06/12/14 14:08	7429-90-5	
Antimony, Dissolved	**60.8**	ug/L	50.0	1	06/10/14 16:00	06/12/14 14:05	7440-36-0	
Arsenic, Dissolved	**882**	ug/L	50.0	1	06/10/14 16:00	06/12/14 14:05	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/10/14 16:00	06/12/14 14:05	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/10/14 16:00	06/12/14 14:05	7440-43-9	
Chromium, Dissolved	**197**	ug/L	25.0	1	06/10/14 16:00	06/12/14 14:05	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/10/14 16:00	06/12/14 14:05	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/10/14 16:00	06/12/14 14:05	7440-50-8	
Iron, Dissolved	**357000**	ug/L	250	1	06/10/14 16:00	06/12/14 14:05	7439-89-6	
Lead, Dissolved	**28.8**	ug/L	25.0	1	06/10/14 16:00	06/12/14 14:05	7439-92-1	
Nickel, Dissolved	**93.2**	ug/L	25.0	1	06/10/14 16:00	06/12/14 14:05	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/10/14 16:00	06/12/14 14:05	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/10/14 16:00	06/12/14 14:05	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/10/14 16:00	06/12/14 14:05	7440-28-0	
Zinc, Dissolved	**4730**	ug/L	500	2	06/10/14 16:00	06/12/14 14:08	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**96.0**	ug/L	6.0	1	06/09/14 17:15	06/10/14 10:54	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/10/14 14:00	06/11/14 11:04	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/12/14 00:00	06/13/14 10:01	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/12/14 00:00	06/13/14 10:01	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**8710**	ug/L	4000	2	06/12/14 00:00	06/13/14 10:01		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Sample: 316-325 **Lab ID: 60170944001** Collected: 06/09/14 08:30 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**2250**	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	87-86-5	
Phenol	**10600**	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:01	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	160	%	33-120	2	06/12/14 00:00	06/13/14 10:01	4165-60-0	S0
2-Fluorobiphenyl (S)	83	%	39-120	2	06/12/14 00:00	06/13/14 10:01	321-60-8	
Terphenyl-d14 (S)	84	%	45-120	2	06/12/14 00:00	06/13/14 10:01	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	06/12/14 00:00	06/13/14 10:01	13127-88-3	
2-Fluorophenol (S)	49	%	17-120	2	06/12/14 00:00	06/13/14 10:01	367-12-4	
2,4,6-Tribromophenol (S)	99	%	39-120	2	06/12/14 00:00	06/13/14 10:01	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**105000**	ug/L	2500	250		06/11/14 16:50	67-64-1	N2
Benzene	ND	ug/L	250	250		06/11/14 16:50	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/11/14 16:50	75-27-4	
Bromoform	ND	ug/L	250	250		06/11/14 16:50	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/11/14 16:50	74-83-9	
2-Butanone (MEK)	**43200**	ug/L	2500	250		06/11/14 16:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/11/14 16:50	56-23-5	
Chloroethane	ND	ug/L	250	250		06/11/14 16:50	75-00-3	
Chloroform	ND	ug/L	250	250		06/11/14 16:50	67-66-3	
1,4-Dichlorobenzene	**536**	ug/L	250	250		06/11/14 16:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/11/14 16:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/11/14 16:50	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/11/14 16:50	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/11/14 16:50	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/11/14 16:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/11/14 16:50	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/11/14 16:50	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/11/14 16:50	127-18-4	
Toluene	ND	ug/L	250	250		06/11/14 16:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/11/14 16:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/11/14 16:50	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/11/14 16:50	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/11/14 16:50	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/11/14 16:50	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	250		06/11/14 16:50	460-00-4	HS
Toluene-d8 (S)	97	%	80-120	250		06/11/14 16:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	250		06/11/14 16:50	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/11/14 16:50		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**969**	mg/L	5.0	1		06/11/14 16:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Sample: 316-325 **Lab ID: 60170944001** Collected: 06/09/14 08:30 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.1**	mg/L	5.0	1		06/11/14 16:22		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4760**	mg/L	5.0	1		06/13/14 10:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/10/14 16:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**33600**	mg/L	2.0	1	06/09/14 16:48	06/14/14 08:55		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**615**	mg/L	20.0	200		06/10/14 12:18	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**57600**	mg/L	5000	500		06/13/14 08:26		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Sample: TRIP BLANK **Lab ID: 60170944002** Collected: 06/09/14 08:30 Received: 06/09/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/11/14 15:32	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/11/14 15:32	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/11/14 15:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/11/14 15:32	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/11/14 15:32	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/11/14 15:32	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/11/14 15:32	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/11/14 15:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/11/14 15:32	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/11/14 15:32	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/11/14 15:32	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 15:32	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 15:32	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/11/14 15:32	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/11/14 15:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/11/14 15:32	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/11/14 15:32	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/11/14 15:32	127-18-4	
Toluene	ND	ug/L	1.0	1		06/11/14 15:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/11/14 15:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/11/14 15:32	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/11/14 15:32	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/11/14 15:32	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/11/14 15:32	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		06/11/14 15:32	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		06/11/14 15:32	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		06/11/14 15:32	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/11/14 15:32		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: MERP/8470
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60170944001

METHOD BLANK: 1391435 Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/10/14 10:10	

LABORATORY CONTROL SAMPLE: 1391436

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391437 1391438

Parameter	Units	60170884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	2.8	2.8	55	54	70-130	1	20	M1

MATRIX SPIKE SAMPLE: 1391439

Parameter	Units	60170484001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	91	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: MERP/8474
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60170944001

METHOD BLANK: 1391846 Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/11/14 10:39	

LABORATORY CONTROL SAMPLE: 1391847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391848 1391849

Parameter	Units	60170631001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	142	141	95	94	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: MPRP/27579
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60170944001

METHOD BLANK: 1391731
Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/12/14 12:39	
Antimony	ug/L	ND	10.0	06/12/14 12:39	
Arsenic	ug/L	ND	10.0	06/12/14 12:39	
Beryllium	ug/L	ND	1.0	06/12/14 12:39	
Cadmium	ug/L	ND	5.0	06/12/14 12:39	
Chromium	ug/L	ND	5.0	06/12/14 12:39	
Cobalt	ug/L	ND	5.0	06/12/14 12:39	
Copper	ug/L	ND	10.0	06/12/14 12:39	
Iron	ug/L	ND	50.0	06/12/14 12:39	
Lead	ug/L	ND	5.0	06/12/14 12:39	
Nickel	ug/L	ND	5.0	06/12/14 12:39	
Selenium	ug/L	ND	15.0	06/12/14 12:39	
Silver	ug/L	ND	7.0	06/12/14 12:39	
Thallium	ug/L	ND	20.0	06/12/14 12:39	
Zinc	ug/L	ND	50.0	06/12/14 12:39	

LABORATORY CONTROL SAMPLE: 1391732

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	985	99	85-115	
Arsenic	ug/L	1000	931	93	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	954	95	85-115	
Chromium	ug/L	1000	1060	106	85-115	
Cobalt	ug/L	1000	987	99	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	999	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	970	97	85-115	
Silver	ug/L	500	504	101	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	980	98	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391733 1391734

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7820	50000	50000	63000	63800	110	112	70-130	1	8	
Antimony	ug/L	119	5000	5000	5230	5200	102	102	70-130	0	7	
Arsenic	ug/L	1200	5000	5000	6520	6560	107	107	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	5010	5000	100	100	70-130	0	7	
Cadmium	ug/L	28.8	5000	5000	5090	5100	101	101	70-130	0	10	
Chromium	ug/L	267	5000	5000	5400	5420	103	103	70-130	0	10	
Cobalt	ug/L	41.3	5000	5000	4690	4700	93	93	70-130	0	6	
Copper	ug/L	ND	5000	5000	5490	5420	109	107	70-130	1	11	
Iron	ug/L	747000	50000	50000	800000	805000	105	116	70-130	1	10	
Lead	ug/L	94.9	5000	5000	4530	4560	89	89	70-130	1	10	
Nickel	ug/L	135	5000	5000	4870	4880	95	95	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6000	6020	119	119	70-130	0	10	
Silver	ug/L	ND	2500	2500	2750	2740	109	109	70-130	0	10	
Thallium	ug/L	ND	5000	5000	3910	3920	78	78	70-130	0	6	
Zinc	ug/L	5290	5000	5000	9880	9800	92	90	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: MPRP/27584
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60170944001

METHOD BLANK: 1391834
Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/12/14 13:25	
Antimony, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Arsenic, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Beryllium, Dissolved	ug/L	ND	1.0	06/12/14 13:25	
Cadmium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Chromium, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Cobalt, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Copper, Dissolved	ug/L	ND	10.0	06/12/14 13:25	
Iron, Dissolved	ug/L	ND	50.0	06/12/14 13:25	
Lead, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Nickel, Dissolved	ug/L	ND	5.0	06/12/14 13:25	
Selenium, Dissolved	ug/L	ND	15.0	06/12/14 13:25	
Silver, Dissolved	ug/L	ND	7.0	06/12/14 13:25	
Thallium, Dissolved	ug/L	ND	20.0	06/12/14 13:25	
Zinc, Dissolved	ug/L	ND	50.0	06/12/14 13:25	

LABORATORY CONTROL SAMPLE: 1391835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9860	99	85-115	
Antimony, Dissolved	ug/L	1000	957	96	85-115	
Arsenic, Dissolved	ug/L	1000	924	92	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	942	94	85-115	
Chromium, Dissolved	ug/L	1000	1040	104	85-115	
Cobalt, Dissolved	ug/L	1000	971	97	85-115	
Copper, Dissolved	ug/L	1000	976	98	85-115	
Iron, Dissolved	ug/L	10000	9910	99	85-115	
Lead, Dissolved	ug/L	1000	987	99	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	966	97	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	952	95	85-115	
Zinc, Dissolved	ug/L	1000	996	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1391836 1391837

Parameter	Units	60170803001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1810	50000	50000	52200	52300	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	70.4	5000	5000	5200	5180	102	102	70-130	0	7	
Arsenic, Dissolved	ug/L	918	5000	5000	6380	6210	109	106	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4900	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	25.4	5000	5000	5060	5040	101	100	70-130	0	10	
Chromium, Dissolved	ug/L	176	5000	5000	5260	5220	102	101	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4630	4640	92	92	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5450	5400	108	107	70-130	1	11	
Iron, Dissolved	ug/L	322000	50000	50000	404000	387000	163	129	70-130	4	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4500	4490	89	89	70-130	0	10	
Nickel, Dissolved	ug/L	94.2	5000	5000	4820	4820	94	94	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5990	5920	119	118	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2730	2710	108	107	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	3960	3940	79	79	70-130	0	6	
Zinc, Dissolved	ug/L	4220	5000	5000	9240	8970	100	95	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: MSV/62196 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60170944001, 60170944002

METHOD BLANK: 1391793 Matrix: Water
Associated Lab Samples: 60170944001, 60170944002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/11/14 12:26	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,2-Dichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/11/14 12:26	
2-Butanone (MEK)	ug/L	ND	10.0	06/11/14 12:26	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/11/14 12:26	N2
Acetone	ug/L	ND	10.0	06/11/14 12:26	N2
Benzene	ug/L	ND	1.0	06/11/14 12:26	
Bromodichloromethane	ug/L	ND	1.0	06/11/14 12:26	
Bromoform	ug/L	ND	1.0	06/11/14 12:26	
Bromomethane	ug/L	ND	5.0	06/11/14 12:26	
Carbon tetrachloride	ug/L	ND	1.0	06/11/14 12:26	
Chloroethane	ug/L	ND	1.0	06/11/14 12:26	
Chloroform	ug/L	ND	1.0	06/11/14 12:26	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	N2
Ethylbenzene	ug/L	ND	1.0	06/11/14 12:26	
Methylene chloride	ug/L	ND	1.0	06/11/14 12:26	
Tetrachloroethene	ug/L	ND	1.0	06/11/14 12:26	
Toluene	ug/L	ND	1.0	06/11/14 12:26	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Trichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Vinyl chloride	ug/L	ND	1.0	06/11/14 12:26	
Xylene (Total)	ug/L	ND	3.0	06/11/14 12:26	N2
1,2-Dichloroethane-d4 (S)	%	94	80-120	06/11/14 12:26	
4-Bromofluorobenzene (S)	%	99	80-120	06/11/14 12:26	
Toluene-d8 (S)	%	95	80-120	06/11/14 12:26	

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	94	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	103	103	38-134	N2
Benzene	ug/L	20	19.3	96	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.6	98	68-125	
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	14.6	73	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	19.7	99	47-133	
Chloroform	ug/L	20	18.7	93	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	68-127	N2
Ethylbenzene	ug/L	20	18.3	92	74-122	
Methylene chloride	ug/L	20	18.8	94	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	18.2	91	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	66-129	
Trichloroethene	ug/L	20	18.1	91	71-123	
Vinyl chloride	ug/L	20	19.5	97	43-129	
Xylene (Total)	ug/L	60	57.0	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4540	91	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4990	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4750	95	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4220	84	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4750	93	33-140	
2-Butanone (MEK)	ug/L	43000	25000	64500	86	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25000	98	40-160	N2
Acetone	ug/L	102000	25000	119000	68	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4490	90	35-142	
Bromoform	ug/L	ND	5000	4600	92	45-142	
Bromomethane	ug/L	ND	5000	2820	56	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4600	92	34-147	N2
Ethylbenzene	ug/L	ND	5000	4800	96	40-142	
Methylene chloride	ug/L	ND	5000	4310	82	31-144	
Tetrachloroethene	ug/L	ND	5000	5060	101	64-148	
Toluene	ug/L	ND	5000	4360	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4350	87	54-151	
Trichloroethene	ug/L	ND	5000	4430	89	71-149	
Vinyl chloride	ug/L	ND	5000	3180	64	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	14200	94	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	HS
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: OEXT/44615 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60170944001

METHOD BLANK: 1392788 Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/13/14 08:15	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/13/14 08:15	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/13/14 08:15	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/13/14 08:15	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/13/14 08:15	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/13/14 08:15	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/13/14 08:15	
Hexachloroethane	ug/L	ND	5.0	06/13/14 08:15	
Naphthalene	ug/L	ND	5.0	06/13/14 08:15	
Nitrobenzene	ug/L	ND	5.0	06/13/14 08:15	
Pentachlorophenol	ug/L	ND	5.0	06/13/14 08:15	
Phenol	ug/L	ND	5.0	06/13/14 08:15	
2,4,6-Tribromophenol (S)	%	98	39-120	06/13/14 08:15	
2-Fluorobiphenyl (S)	%	89	39-120	06/13/14 08:15	
2-Fluorophenol (S)	%	47	17-120	06/13/14 08:15	
Nitrobenzene-d5 (S)	%	90	33-120	06/13/14 08:15	
Phenol-d6 (S)	%	29	11-120	06/13/14 08:15	
Terphenyl-d14 (S)	%	92	45-120	06/13/14 08:15	

LABORATORY CONTROL SAMPLE: 1392789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.0	86	46-120	
2,4,6-Trichlorophenol	ug/L	50	48.2	96	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.1	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	34.1	68	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	53.1	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.7	85	44-116	
Hexachlorocyclopentadiene	ug/L	100	80.3	80	24-120	
Hexachloroethane	ug/L	50	43.1	86	43-113	
Naphthalene	ug/L	50	45.2	90	48-120	
Nitrobenzene	ug/L	50	47.0	94	48-120	
Pentachlorophenol	ug/L	50	50.5	101	47-120	
Phenol	ug/L	50	16.3	33	16-112	
2,4,6-Tribromophenol (S)	%			107	39-120	
2-Fluorobiphenyl (S)	%			95	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			95	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			98	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

MATRIX SPIKE SAMPLE: 1392790

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3420	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4070	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3910	78	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7790	5000	13000	104	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4180J	84	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3430	69	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6560	66	11-120	
Hexachloroethane	ug/L	ND	5000	3620	72	40-113	
Naphthalene	ug/L	ND	5000	4540	74	45-120	
Nitrobenzene	ug/L	ND	5000	4060	81	38-120	
Pentachlorophenol	ug/L	ND	5000	4520	90	43-135	
Phenol	ug/L	10600	5000	15800	105	13-112	
2,4,6-Tribromophenol (S)	%				90	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				54	17-120	
Nitrobenzene-d5 (S)	%				157	33-120	S0
Phenol-d6 (S)	%				38	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: WET/48381
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60170944001

METHOD BLANK: 1392599
Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/11/14 16:05	

LABORATORY CONTROL SAMPLE: 1392600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.7	87	78-114	

MATRIX SPIKE SAMPLE: 1392601

Parameter	Units	60170811001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	41.4	86	78-114	

SAMPLE DUPLICATE: 1392602

Parameter	Units	60170812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.8J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: WET/48382 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60170944001

METHOD BLANK: 1392604 Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/11/14 16:21	

LABORATORY CONTROL SAMPLE: 1392605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.8	114	64-132	

MATRIX SPIKE SAMPLE: 1392606

Parameter	Units	60170811001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.3	14.8	58	64-132	M1

SAMPLE DUPLICATE: 1392607

Parameter	Units	60170812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: WET/48426 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60170944001

METHOD BLANK: 1393610 Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/13/14 10:22	

SAMPLE DUPLICATE: 1393611

Parameter	Units	60170919001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	14.0	14.0	0	10	

SAMPLE DUPLICATE: 1393612

Parameter	Units	60170944001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4760	4560	4	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: WET/48332
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60170944001

SAMPLE DUPLICATE: 1391630

Parameter	Units	60170969001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: WET/48318 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60170944001

METHOD BLANK: 1391401 Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/14/14 08:43	

LABORATORY CONTROL SAMPLE: 1391402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	90	85-115	

SAMPLE DUPLICATE: 1391403

Parameter	Units	60170944001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	33600	30300	10	17	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: WETA/29765 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60170944001

METHOD BLANK: 1391447 Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/10/14 11:44	

LABORATORY CONTROL SAMPLE: 1391448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1391449

Parameter	Units	60170771002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1391450

Parameter	Units	60170772001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	10	10	19.1	92	90-110	

SAMPLE DUPLICATE: 1391451

Parameter	Units	60170823001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

QC Batch: WETA/29817 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60170944001

METHOD BLANK: 1392765 Matrix: Water
Associated Lab Samples: 60170944001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/13/14 08:07	

LABORATORY CONTROL SAMPLE: 1392766

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.1	106	90-110	

MATRIX SPIKE SAMPLE: 1392767

Parameter	Units	60170800001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	150	100	265	116	90-110	M1

MATRIX SPIKE SAMPLE: 1392769

Parameter	Units	60170943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58800	25000	83400	98	90-110	

SAMPLE DUPLICATE: 1392768

Parameter	Units	60170800003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	90.3	89.7	1	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-325
Pace Project No.: 60170944

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60170944001	**316-325**	EPA 200.7	MPRP/27579	EPA 200.7	ICP/20855
60170944001	**316-325**	EPA 200.7	MPRP/27584	EPA 200.7	ICP/20856
60170944001	**316-325**	EPA 245.1	MERP/8470	EPA 245.1	MERC/8425
60170944001	**316-325**	EPA 245.1	MERP/8474	EPA 245.1	MERC/8429
60170944001	**316-325**	EPA 625	OEXT/44615	EPA 625	MSSV/14284
60170944001	**316-325**	EPA 624 Low	MSV/62196		
60170944002	**TRIP BLANK**	EPA 624 Low	MSV/62196		
60170944001	**316-325**	EPA 1664A	WET/48381		
60170944001	**316-325**	EPA 1664A	WET/48382		
60170944001	**316-325**	SM 2540D	WET/48426		
60170944001	**316-325**	SM 4500-H+B	WET/48332		
60170944001	**316-325**	SM 5210B	WET/48318	SM 5210B	WET/48454
60170944001	**316-325**	EPA 350.1	WETA/29765		
60170944001	**316-325**	EPA 410.4	WETA/29817		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60170944

60170944

Client Name: Republic - Barr Eng.

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐ XRoads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

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

Thermometer Used: T-239 / T-194 **Type of Ice:** ~~Wet~~ Blue None ☒ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 15.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DMS 6/9/14 1330

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☑Yes ☐No ☒N/A	BP3N+ BP3S unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed N/A / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 0407414-3		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 sample vials have headspace - Apply HS FOOTNOTE BASED ON HISTORICAL INSTRUCTIONS. 16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: ND

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

60170944

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	2(BP2u) 1(BP3u) 2(AE4u)	
1	316-325	OT	G			6/9/14	330		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9u) 2(AG5S) 1(BP3N) 1(BG3S)	001
2	TRIP BLANK								2	2																X						2(DG9u)	002
3																																	
4																																	
5																																	
6																																	
7																																	
8																																	
9																																	
10																																	
11																																	
12																																	

METALS LIST total & LF Dis:
Al,Sb,As,Be,Cd,Cr,
Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
and Mercury

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FSI	6-9-14	9:00am	Bill Stone 4/2	6-9-14	9:00am				
SITE ADDRESS: BRIDGETON LF				[signature] Pace	6/9/14	1315	1.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 6/9/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 18, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 11, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

SAMPLE SUMMARY

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171084001	**316-326**	Water	06/10/14 06:55	06/11/14 02:10
60171084002	**TRIP BLANK**	Water	06/10/14 06:55	06/11/14 02:10

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171084001	**316-326**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60171084002	**TRIP BLANK**	EPA 624 Low	EAK	28

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Sample: 316-326 **Lab ID: 60171084001** Collected: 06/10/14 06:55 Received: 06/11/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7950**	ug/L	750	2	06/12/14 17:30	06/13/14 10:41	7429-90-5	
Antimony	ND	ug/L	100	2	06/12/14 17:30	06/13/14 10:41	7440-36-0	D3
Arsenic	**1020**	ug/L	50.0	1	06/12/14 17:30	06/13/14 10:37	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/12/14 17:30	06/13/14 10:37	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/12/14 17:30	06/13/14 10:37	7440-43-9	
Chromium	**244**	ug/L	25.0	1	06/12/14 17:30	06/13/14 10:37	7440-47-3	
Cobalt	**33.3**	ug/L	25.0	1	06/12/14 17:30	06/13/14 10:37	7440-48-4	
Copper	ND	ug/L	50.0	1	06/12/14 17:30	06/13/14 10:37	7440-50-8	
Iron	**719000**	ug/L	250	1	06/12/14 17:30	06/13/14 10:37	7439-89-6	
Lead	**110**	ug/L	25.0	1	06/12/14 17:30	06/13/14 10:37	7439-92-1	
Nickel	**115**	ug/L	25.0	1	06/12/14 17:30	06/13/14 10:37	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/12/14 17:30	06/13/14 10:37	7782-49-2	
Silver	ND	ug/L	35.0	1	06/12/14 17:30	06/13/14 10:37	7440-22-4	
Thallium	ND	ug/L	100	1	06/12/14 17:30	06/13/14 10:37	7440-28-0	
Zinc	**4840**	ug/L	500	2	06/12/14 17:30	06/13/14 10:41	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1280**	ug/L	750	2	06/12/14 17:30	06/13/14 11:30	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/12/14 17:30	06/13/14 11:30	7440-36-0	D3
Arsenic, Dissolved	**848**	ug/L	50.0	1	06/12/14 17:30	06/13/14 11:27	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/12/14 17:30	06/13/14 11:27	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:27	7440-43-9	
Chromium, Dissolved	**176**	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:27	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:27	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/12/14 17:30	06/13/14 11:27	7440-50-8	
Iron, Dissolved	**346000**	ug/L	250	1	06/12/14 17:30	06/13/14 11:27	7439-89-6	
Lead, Dissolved	**37.5**	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:27	7439-92-1	
Nickel, Dissolved	**88.1**	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:27	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/12/14 17:30	06/13/14 11:27	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/12/14 17:30	06/13/14 11:27	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/12/14 17:30	06/13/14 11:27	7440-28-0	
Zinc, Dissolved	**4010**	ug/L	500	2	06/12/14 17:30	06/13/14 11:30	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**27.6**	ug/L	6.0	1	06/16/14 17:00	06/17/14 14:01	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/17/14 14:30	06/18/14 14:11	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/12/14 00:00	06/13/14 10:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/12/14 00:00	06/13/14 10:22	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**8490**	ug/L	4000	2	06/12/14 00:00	06/13/14 10:22		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Sample: 316-326 **Lab ID: 60171084001** Collected: 06/10/14 06:55 Received: 06/11/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**2250**	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	87-86-5	
Phenol	**10600**	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/12/14 00:00	06/13/14 10:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	145	%	33-120	2	06/12/14 00:00	06/13/14 10:22	4165-60-0	S0
2-Fluorobiphenyl (S)	76	%	39-120	2	06/12/14 00:00	06/13/14 10:22	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	06/12/14 00:00	06/13/14 10:22	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	06/12/14 00:00	06/13/14 10:22	13127-88-3	
2-Fluorophenol (S)	41	%	17-120	2	06/12/14 00:00	06/13/14 10:22	367-12-4	
2,4,6-Tribromophenol (S)	83	%	39-120	2	06/12/14 00:00	06/13/14 10:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**99500**	ug/L	2500	250		06/11/14 17:05	67-64-1	N2
Benzene	ND	ug/L	250	250		06/11/14 17:05	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/11/14 17:05	75-27-4	
Bromoform	ND	ug/L	250	250		06/11/14 17:05	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/11/14 17:05	74-83-9	
2-Butanone (MEK)	**43100**	ug/L	2500	250		06/11/14 17:05	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/11/14 17:05	56-23-5	
Chloroethane	ND	ug/L	250	250		06/11/14 17:05	75-00-3	
Chloroform	ND	ug/L	250	250		06/11/14 17:05	67-66-3	
1,4-Dichlorobenzene	**475**	ug/L	250	250		06/11/14 17:05	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/11/14 17:05	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/11/14 17:05	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/11/14 17:05	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/11/14 17:05	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/11/14 17:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/11/14 17:05	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/11/14 17:05	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/11/14 17:05	127-18-4	
Toluene	ND	ug/L	250	250		06/11/14 17:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/11/14 17:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/11/14 17:05	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/11/14 17:05	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/11/14 17:05	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/11/14 17:05	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	250		06/11/14 17:05	460-00-4	
Toluene-d8 (S)	97	%	80-120	250		06/11/14 17:05	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	250		06/11/14 17:05	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/11/14 17:05		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**672**	mg/L	5.0	1		06/11/14 16:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Sample: 316-326 **Lab ID: 60171084001** Collected: 06/10/14 06:55 Received: 06/11/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.4**	mg/L	5.0	1		06/11/14 16:23		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3820**	mg/L	5.0	1		06/13/14 14:43		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/14/14 13:20		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**32800**	mg/L	2.0	1	06/11/14 16:27	06/16/14 11:38		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**572**	mg/L	20.0	200		06/11/14 12:28	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**41200**	mg/L	5000	500		06/18/14 10:26		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Sample: TRIP BLANK **Lab ID: 60171084002** Collected: 06/10/14 06:55 Received: 06/11/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/11/14 15:48	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/11/14 15:48	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/11/14 15:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/11/14 15:48	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/11/14 15:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/11/14 15:48	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/11/14 15:48	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/11/14 15:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/11/14 15:48	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/11/14 15:48	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/11/14 15:48	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 15:48	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/11/14 15:48	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/11/14 15:48	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/11/14 15:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/11/14 15:48	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/11/14 15:48	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/11/14 15:48	127-18-4	
Toluene	ND	ug/L	1.0	1		06/11/14 15:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/11/14 15:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/11/14 15:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/11/14 15:48	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/11/14 15:48	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/11/14 15:48	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		06/11/14 15:48	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		06/11/14 15:48	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		06/11/14 15:48	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/11/14 15:48		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: MERP/8489
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171084001

METHOD BLANK: 1395325 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/17/14 13:03	

LABORATORY CONTROL SAMPLE: 1395326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395327 1395328

Parameter	Units	60170532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.6	4.8	93	97	70-130	4	20	

MATRIX SPIKE SAMPLE: 1395329

Parameter	Units	60170532002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.8	95	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: MERP/8492
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171084001

METHOD BLANK: 1395637 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/18/14 14:07	

LABORATORY CONTROL SAMPLE: 1395638

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.3	86	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395639 1395640

Parameter	Units	60171084001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	124	129	83	86	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: MPRP/27615
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171084001

METHOD BLANK: 1393239
Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/13/14 10:20	
Antimony	ug/L	ND	10.0	06/13/14 10:20	
Arsenic	ug/L	ND	10.0	06/13/14 10:20	
Beryllium	ug/L	ND	1.0	06/13/14 10:20	
Cadmium	ug/L	ND	5.0	06/13/14 10:20	
Chromium	ug/L	ND	5.0	06/13/14 10:20	
Cobalt	ug/L	ND	5.0	06/13/14 10:20	
Copper	ug/L	ND	10.0	06/13/14 10:20	
Iron	ug/L	ND	50.0	06/13/14 10:20	
Lead	ug/L	ND	5.0	06/13/14 10:20	
Nickel	ug/L	ND	5.0	06/13/14 10:20	
Selenium	ug/L	ND	15.0	06/13/14 10:20	
Silver	ug/L	ND	7.0	06/13/14 10:20	
Thallium	ug/L	ND	20.0	06/13/14 10:20	
Zinc	ug/L	ND	50.0	06/13/14 10:20	

LABORATORY CONTROL SAMPLE: 1393240

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	973	97	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	989	99	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	997	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	992	99	85-115	
Silver	ug/L	500	482	96	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	985	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1393241 1393242

Parameter	Units	60171084001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7950	50000	50000	63000	64000	110	112	70-130	2	8	
Antimony	ug/L	ND	5000	5000	5230	5340	103	105	70-130	2	7	
Arsenic	ug/L	1020	5000	5000	6420	6560	108	111	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4810	4880	96	98	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5230	5300	105	106	70-130	1	10	
Chromium	ug/L	244	5000	5000	5000	5040	95	96	70-130	1	10	
Cobalt	ug/L	33.3	5000	5000	4880	4930	97	98	70-130	1	6	
Copper	ug/L	ND	5000	5000	5200	5240	103	104	70-130	1	11	
Iron	ug/L	719000	50000	50000	766000	780000	95	122	70-130	2	10	
Lead	ug/L	110	5000	5000	4470	4540	87	89	70-130	1	10	
Nickel	ug/L	115	5000	5000	4870	4940	95	97	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5740	5860	114	117	70-130	2	10	
Silver	ug/L	ND	2500	2500	2540	2570	101	102	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4260	4310	85	86	70-130	1	6	
Zinc	ug/L	4840	5000	5000	9390	9470	91	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: MPRP/27616
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171084001

METHOD BLANK: 1393249
Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/13/14 11:23	
Antimony, Dissolved	ug/L	ND	10.0	06/13/14 11:23	
Arsenic, Dissolved	ug/L	ND	10.0	06/13/14 11:23	
Beryllium, Dissolved	ug/L	ND	1.0	06/13/14 11:23	
Cadmium, Dissolved	ug/L	ND	5.0	06/13/14 11:23	
Chromium, Dissolved	ug/L	ND	5.0	06/13/14 11:23	
Cobalt, Dissolved	ug/L	ND	5.0	06/13/14 11:23	
Copper, Dissolved	ug/L	ND	10.0	06/13/14 11:23	
Iron, Dissolved	ug/L	ND	50.0	06/13/14 11:23	
Lead, Dissolved	ug/L	ND	5.0	06/13/14 11:23	
Nickel, Dissolved	ug/L	ND	5.0	06/13/14 11:23	
Selenium, Dissolved	ug/L	ND	15.0	06/13/14 11:23	
Silver, Dissolved	ug/L	ND	7.0	06/13/14 11:23	
Thallium, Dissolved	ug/L	ND	20.0	06/13/14 11:23	
Zinc, Dissolved	ug/L	ND	50.0	06/13/14 11:23	

LABORATORY CONTROL SAMPLE: 1393250

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1050	105	85-115	
Arsenic, Dissolved	ug/L	1000	1000	100	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	984	98	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1050	105	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	975	97	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	469	94	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	960	96	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1393251 1393252

Parameter	Units	60171084001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1280	50000	50000	52200	52500	102	102	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5440	5500	108	109	70-130	1	7	
Arsenic, Dissolved	ug/L	848	5000	5000	6380	6390	111	111	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4840	4880	97	98	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5320	5350	106	107	70-130	0	10	
Chromium, Dissolved	ug/L	176	5000	5000	5080	5070	98	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5020	5060	100	101	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5340	5400	106	108	70-130	1	11	
Iron, Dissolved	ug/L	346000	50000	50000	399000	386000	106	81	70-130	3	10	
Lead, Dissolved	ug/L	37.5	5000	5000	4380	4370	87	87	70-130	0	10	
Nickel, Dissolved	ug/L	88.1	5000	5000	4900	4920	96	97	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5740	5740	114	114	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2490	2480	99	99	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4430	4470	89	89	70-130	1	6	
Zinc, Dissolved	ug/L	4010	5000	5000	8610	8420	92	88	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: MSV/62196 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60171084001, 60171084002

METHOD BLANK: 1391793 Matrix: Water
Associated Lab Samples: 60171084001, 60171084002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/11/14 12:26	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,2-Dichloroethane	ug/L	ND	1.0	06/11/14 12:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/11/14 12:26	
2-Butanone (MEK)	ug/L	ND	10.0	06/11/14 12:26	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/11/14 12:26	N2
Acetone	ug/L	ND	10.0	06/11/14 12:26	N2
Benzene	ug/L	ND	1.0	06/11/14 12:26	
Bromodichloromethane	ug/L	ND	1.0	06/11/14 12:26	
Bromoform	ug/L	ND	1.0	06/11/14 12:26	
Bromomethane	ug/L	ND	5.0	06/11/14 12:26	
Carbon tetrachloride	ug/L	ND	1.0	06/11/14 12:26	
Chloroethane	ug/L	ND	1.0	06/11/14 12:26	
Chloroform	ug/L	ND	1.0	06/11/14 12:26	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	N2
Ethylbenzene	ug/L	ND	1.0	06/11/14 12:26	
Methylene chloride	ug/L	ND	1.0	06/11/14 12:26	
Tetrachloroethene	ug/L	ND	1.0	06/11/14 12:26	
Toluene	ug/L	ND	1.0	06/11/14 12:26	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Trichloroethene	ug/L	ND	1.0	06/11/14 12:26	
Vinyl chloride	ug/L	ND	1.0	06/11/14 12:26	
Xylene (Total)	ug/L	ND	3.0	06/11/14 12:26	N2
1,2-Dichloroethane-d4 (S)	%	94	80-120	06/11/14 12:26	
4-Bromofluorobenzene (S)	%	99	80-120	06/11/14 12:26	
Toluene-d8 (S)	%	95	80-120	06/11/14 12:26	

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.6	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	94	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	103	103	38-134	N2
Benzene	ug/L	20	19.3	96	75-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

LABORATORY CONTROL SAMPLE: 1391794

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.6	98	68-125	
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	14.6	73	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	19.7	99	47-133	
Chloroform	ug/L	20	18.7	93	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	68-127	N2
Ethylbenzene	ug/L	20	18.3	92	74-122	
Methylene chloride	ug/L	20	18.8	94	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	18.2	91	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	66-129	
Trichloroethene	ug/L	20	18.1	91	71-123	
Vinyl chloride	ug/L	20	19.5	97	43-129	
Xylene (Total)	ug/L	60	57.0	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4540	91	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4990	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4750	95	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4220	84	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4750	93	33-140	
2-Butanone (MEK)	ug/L	43000	25000	64500	86	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25000	98	40-160	N2
Acetone	ug/L	102000	25000	119000	68	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4490	90	35-142	
Bromoform	ug/L	ND	5000	4600	92	45-142	
Bromomethane	ug/L	ND	5000	2820	56	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4600	92	34-147	N2
Ethylbenzene	ug/L	ND	5000	4800	96	40-142	
Methylene chloride	ug/L	ND	5000	4310	82	31-144	
Tetrachloroethene	ug/L	ND	5000	5060	101	64-148	
Toluene	ug/L	ND	5000	4360	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4350	87	54-151	
Trichloroethene	ug/L	ND	5000	4430	89	71-149	
Vinyl chloride	ug/L	ND	5000	3180	64	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

MATRIX SPIKE SAMPLE: 1391795

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	14200	94	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	HS
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: OEXT/44615 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60171084001

METHOD BLANK: 1392788 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/13/14 08:15	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/13/14 08:15	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/13/14 08:15	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/13/14 08:15	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/13/14 08:15	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/13/14 08:15	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/13/14 08:15	
Hexachloroethane	ug/L	ND	5.0	06/13/14 08:15	
Naphthalene	ug/L	ND	5.0	06/13/14 08:15	
Nitrobenzene	ug/L	ND	5.0	06/13/14 08:15	
Pentachlorophenol	ug/L	ND	5.0	06/13/14 08:15	
Phenol	ug/L	ND	5.0	06/13/14 08:15	
2,4,6-Tribromophenol (S)	%	98	39-120	06/13/14 08:15	
2-Fluorobiphenyl (S)	%	89	39-120	06/13/14 08:15	
2-Fluorophenol (S)	%	47	17-120	06/13/14 08:15	
Nitrobenzene-d5 (S)	%	90	33-120	06/13/14 08:15	
Phenol-d6 (S)	%	29	11-120	06/13/14 08:15	
Terphenyl-d14 (S)	%	92	45-120	06/13/14 08:15	

LABORATORY CONTROL SAMPLE: 1392789

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.0	86	46-120	
2,4,6-Trichlorophenol	ug/L	50	48.2	96	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.1	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	34.1	68	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	53.1	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.7	85	44-116	
Hexachlorocyclopentadiene	ug/L	100	80.3	80	24-120	
Hexachloroethane	ug/L	50	43.1	86	43-113	
Naphthalene	ug/L	50	45.2	90	48-120	
Nitrobenzene	ug/L	50	47.0	94	48-120	
Pentachlorophenol	ug/L	50	50.5	101	47-120	
Phenol	ug/L	50	16.3	33	16-112	
2,4,6-Tribromophenol (S)	%			107	39-120	
2-Fluorobiphenyl (S)	%			95	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			95	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			98	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

MATRIX SPIKE SAMPLE: 1392790

Parameter	Units	60170941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3420	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4070	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3910	78	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7790	5000	13000	104	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4180J	84	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3430	69	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6560	66	11-120	
Hexachloroethane	ug/L	ND	5000	3620	72	40-113	
Naphthalene	ug/L	ND	5000	4540	74	45-120	
Nitrobenzene	ug/L	ND	5000	4060	81	38-120	
Pentachlorophenol	ug/L	ND	5000	4520	90	43-135	
Phenol	ug/L	10600	5000	15800	105	13-112	
2,4,6-Tribromophenol (S)	%				90	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				54	17-120	
Nitrobenzene-d5 (S)	%				157	33-120	S0
Phenol-d6 (S)	%				38	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: WET/48381
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171084001

METHOD BLANK: 1392599 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/11/14 16:05	

LABORATORY CONTROL SAMPLE: 1392600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.7	87	78-114	

MATRIX SPIKE SAMPLE: 1392601

Parameter	Units	60170811001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	41.4	86	78-114	

SAMPLE DUPLICATE: 1392602

Parameter	Units	60170812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.8J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: WET/48382 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171084001

METHOD BLANK: 1392604 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/11/14 16:21	

LABORATORY CONTROL SAMPLE: 1392605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.8	114	64-132	

MATRIX SPIKE SAMPLE: 1392606

Parameter	Units	60170811001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.3	14.8	58	64-132	M1

SAMPLE DUPLICATE: 1392607

Parameter	Units	60170812001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: WET/48435 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171084001

METHOD BLANK: 1393845 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/13/14 14:38	

SAMPLE DUPLICATE: 1393846

Parameter	Units	60171014001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	13.0		10	

SAMPLE DUPLICATE: 1393847

Parameter	Units	60171009003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	108	111	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: WET/48446
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171084001

SAMPLE DUPLICATE: 1394341

Parameter	Units	60171072002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.0	9.0	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: WET/48380 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171084001

METHOD BLANK: 1392572 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/16/14 11:26	

LABORATORY CONTROL SAMPLE: 1392573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	185	93	85-115	

SAMPLE DUPLICATE: 1392574

Parameter	Units	60171087001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	13.9	13.2	5	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: WETA/29788 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171084001

METHOD BLANK: 1392071 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/11/14 11:37	

LABORATORY CONTROL SAMPLE: 1392072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1392073

Parameter	Units	60170948002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	95	90-110	

MATRIX SPIKE SAMPLE: 1392074

Parameter	Units	60170957002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	6.0	10	15.5	95	90-110	

SAMPLE DUPLICATE: 1392075

Parameter	Units	60170988001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

QC Batch: WETA/29865 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171084001

METHOD BLANK: 1395936 Matrix: Water
Associated Lab Samples: 60171084001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/18/14 10:23	

LABORATORY CONTROL SAMPLE: 1395937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.5	91	90-110	

MATRIX SPIKE SAMPLE: 1395938

Parameter	Units	60171084001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	41200	25000	69100	112	90-110	M1

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-326
Pace Project No.: 60171084

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171084001	**316-326**	EPA 200.7	MPRP/27615	EPA 200.7	ICP/20878
60171084001	**316-326**	EPA 200.7	MPRP/27616	EPA 200.7	ICP/20877
60171084001	**316-326**	EPA 245.1	MERP/8489	EPA 245.1	MERC/8442
60171084001	**316-326**	EPA 245.1	MERP/8492	EPA 245.1	MERC/8446
60171084001	**316-326**	EPA 625	OEXT/44615	EPA 625	MSSV/14284
60171084001	**316-326**	EPA 624 Low	MSV/62196		
60171084002	**TRIP BLANK**	EPA 624 Low	MSV/62196		
60171084001	**316-326**	EPA 1664A	WET/48381		
60171084001	**316-326**	EPA 1664A	WET/48382		
60171084001	**316-326**	SM 2540D	WET/48435		
60171084001	**316-326**	SM 4500-H+B	WET/48446		
60171084001	**316-326**	SM 5210B	WET/48380	SM 5210B	WET/48480
60171084001	**316-326**	EPA 350.1	WETA/29788		
60171084001	**316-326**	EPA 410.4	WETA/29865		

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Sample Condition Upon Receipt

WO#: 60171084

60171084

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ ZPLC

Thermometer Used: (T-239) / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: Att 6/11

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. att 6/11 COD, pH, BOD
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☐Yes (☑No) att 6/11 ☐N/A	COC does not match labels on samples
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2mL H_2SO_4 to BP3S, initial pH 4.5 final 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	Sample BP3N initial pH 5.5, added 2.5mL HNO_3 for a final pH 4.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes att 6/11 ☐No	14. Initial when completed Att / Lot # of added preservative 12503-2-7, 12513-23-2
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 040714-3BE2		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	1 vial VG9U has headspace att 6/11
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/11

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	
										Requested Analysis Filtered (Y/N)																					
1	316-326 1(BP3U) 2(BP2U) 3(A6411) 5(VG9U)	OT	G	6-10-14	1:45	6-10	6:55		14	10	4	1	0					X	X	X	X	X	X	X	X	X	X	X		60171084
2	TRIP BLANK								2	2															X				5.6/45 4.5/35 1(BP3N) 1(BP3S) 3(A635) NJ 2(VG9U) WY
3																													
4																													
5																													
6																													METALS LIST total & LF Dis:
7																													Al,Sb,As,Be,Cd,Cr,
8																													Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																													and Mercury
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FSI	6-10-14	2:50pm	Kenyetta Heath	6-10-14	2:50pm				
SITE ADDRESS: BRIDGETON LF				Matthew Hall/FASI	6-11	02:10	3.0	4	4	4
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Arron Weber					
SIGNATURE of SAMPLER:	Arron Weber	DATE Signed: 6-10-14				

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 19, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 12, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171209001	**316-327**	Water	06/11/14 11:47	06/12/14 01:50
60171209002	**TRIP BLANK**	Water	06/11/14 11:47	06/12/14 01:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171209001	**316-327**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	JML	1
		EPA 410.4	JMC1	1
60171209002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Sample: 316-327 **Lab ID: 60171209001** Collected: 06/11/14 11:47 Received: 06/12/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6090**	ug/L	750	2	06/12/14 17:30	06/13/14 11:09	7429-90-5	
Antimony	ND	ug/L	100	2	06/12/14 17:30	06/13/14 11:09	7440-36-0	D3
Arsenic	**1060**	ug/L	50.0	1	06/12/14 17:30	06/13/14 11:06	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/12/14 17:30	06/13/14 11:06	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:06	7440-43-9	
Chromium	**236**	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:06	7440-47-3	
Cobalt	**32.6**	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:06	7440-48-4	
Copper	ND	ug/L	50.0	1	06/12/14 17:30	06/13/14 11:06	7440-50-8	
Iron	**672000**	ug/L	250	1	06/12/14 17:30	06/13/14 11:06	7439-89-6	
Lead	**98.9**	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:06	7439-92-1	
Nickel	**112**	ug/L	25.0	1	06/12/14 17:30	06/13/14 11:06	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/12/14 17:30	06/13/14 11:06	7782-49-2	
Silver	ND	ug/L	35.0	1	06/12/14 17:30	06/13/14 11:06	7440-22-4	
Thallium	ND	ug/L	100	1	06/12/14 17:30	06/13/14 11:06	7440-28-0	
Zinc	**4410**	ug/L	500	2	06/12/14 17:30	06/13/14 11:09	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1100**	ug/L	750	2	06/18/14 09:30	06/18/14 14:48	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/18/14 09:30	06/18/14 14:48	7440-36-0	D3
Arsenic, Dissolved	**708**	ug/L	50.0	1	06/18/14 09:30	06/18/14 14:44	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/18/14 09:30	06/18/14 14:44	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/18/14 09:30	06/18/14 14:44	7440-43-9	
Chromium, Dissolved	**144**	ug/L	25.0	1	06/18/14 09:30	06/18/14 14:44	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/18/14 09:30	06/18/14 14:44	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/18/14 09:30	06/18/14 14:44	7440-50-8	
Iron, Dissolved	**270000**	ug/L	250	1	06/18/14 09:30	06/18/14 14:44	7439-89-6	M1,R1
Lead, Dissolved	**30.9**	ug/L	25.0	1	06/18/14 09:30	06/18/14 14:44	7439-92-1	
Nickel, Dissolved	**71.0**	ug/L	25.0	1	06/18/14 09:30	06/18/14 14:44	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/18/14 09:30	06/18/14 14:44	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/18/14 09:30	06/18/14 14:44	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/18/14 09:30	06/18/14 14:44	7440-28-0	
Zinc, Dissolved	**3220**	ug/L	500	2	06/18/14 09:30	06/18/14 14:48	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**19.2**	ug/L	6.0	1	06/18/14 17:00	06/19/14 13:45	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/17/14 14:30	06/18/14 14:18	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/13/14 00:00	06/17/14 21:06	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/13/14 00:00	06/17/14 21:06	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7010**	ug/L	4000	2	06/13/14 00:00	06/17/14 21:06		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Sample: 316-327 **Lab ID: 60171209001** Collected: 06/11/14 11:47 Received: 06/12/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1510**	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	87-86-5	
Phenol	**9800**	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/13/14 00:00	06/17/14 21:06	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	147	%	33-120	2	06/13/14 00:00	06/17/14 21:06	4165-60-0	S0
2-Fluorobiphenyl (S)	80	%	39-120	2	06/13/14 00:00	06/17/14 21:06	321-60-8	
Terphenyl-d14 (S)	73	%	45-120	2	06/13/14 00:00	06/17/14 21:06	1718-51-0	
Phenol-d6 (S)	33	%	11-120	2	06/13/14 00:00	06/17/14 21:06	13127-88-3	
2-Fluorophenol (S)	51	%	17-120	2	06/13/14 00:00	06/17/14 21:06	367-12-4	
2,4,6-Tribromophenol (S)	87	%	39-120	2	06/13/14 00:00	06/17/14 21:06	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**106000**	ug/L	2500	250		06/17/14 16:32	67-64-1	N2
Benzene	ND	ug/L	250	250		06/17/14 16:32	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/17/14 16:32	75-27-4	
Bromoform	ND	ug/L	250	250		06/17/14 16:32	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/17/14 16:32	74-83-9	
2-Butanone (MEK)	**45700**	ug/L	2500	250		06/17/14 16:32	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/17/14 16:32	56-23-5	
Chloroethane	ND	ug/L	250	250		06/17/14 16:32	75-00-3	
Chloroform	ND	ug/L	250	250		06/17/14 16:32	67-66-3	
1,4-Dichlorobenzene	**283**	ug/L	250	250		06/17/14 16:32	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/17/14 16:32	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/17/14 16:32	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/17/14 16:32	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/17/14 16:32	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/17/14 16:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/17/14 16:32	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/17/14 16:32	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/17/14 16:32	127-18-4	
Toluene	ND	ug/L	250	250		06/17/14 16:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/17/14 16:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/17/14 16:32	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/17/14 16:32	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/17/14 16:32	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/17/14 16:32	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	250		06/17/14 16:32	460-00-4	
Toluene-d8 (S)	97	%	80-120	250		06/17/14 16:32	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	250		06/17/14 16:32	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/17/14 16:32		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**606**	mg/L	5.0	1		06/17/14 14:50		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Sample: 316-327 **Lab ID: 60171209001** Collected: 06/11/14 11:47 Received: 06/12/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**10**	mg/L	5.0	1		06/17/14 16:03		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4040**	mg/L	5.0	1		06/16/14 13:41		D6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/16/14 13:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29000**	mg/L	2.0	1	06/13/14 09:51	06/18/14 15:14		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**627**	mg/L	20.0	200		06/18/14 12:13	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**40700**	mg/L	5000	500		06/19/14 09:52		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Sample: TRIP BLANK **Lab ID: 60171209002** Collected: 06/11/14 11:47 Received: 06/12/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/17/14 15:58	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/17/14 15:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/17/14 15:58	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/17/14 15:58	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/17/14 15:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/17/14 15:58	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/17/14 15:58	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/17/14 15:58	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/17/14 15:58	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/17/14 15:58	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/17/14 15:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/17/14 15:58	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/17/14 15:58	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/17/14 15:58	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/17/14 15:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/17/14 15:58	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/17/14 15:58	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/17/14 15:58	127-18-4	
Toluene	ND	ug/L	1.0	1		06/17/14 15:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/17/14 15:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/17/14 15:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/17/14 15:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/17/14 15:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/17/14 15:58	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		06/17/14 15:58	460-00-4	
Toluene-d8 (S)	95	%	80-120	1		06/17/14 15:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		06/17/14 15:58	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/17/14 15:58		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: MERP/8499
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171209001

METHOD BLANK: 1396856 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/19/14 13:41	

LABORATORY CONTROL SAMPLE: 1396857

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396858 1396859

Parameter	Units	60171209001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	19.2	150	150	158	149	93	86	70-130	6	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: MERP/8492
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171209001

METHOD BLANK: 1395637 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/18/14 14:07	

LABORATORY CONTROL SAMPLE: 1395638

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.3	86	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395639 1395640

Parameter	Units	60171084001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	124	129	83	86	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: MPRP/27615
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171209001

METHOD BLANK: 1393239 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/13/14 10:20	
Antimony	ug/L	ND	10.0	06/13/14 10:20	
Arsenic	ug/L	ND	10.0	06/13/14 10:20	
Beryllium	ug/L	ND	1.0	06/13/14 10:20	
Cadmium	ug/L	ND	5.0	06/13/14 10:20	
Chromium	ug/L	ND	5.0	06/13/14 10:20	
Cobalt	ug/L	ND	5.0	06/13/14 10:20	
Copper	ug/L	ND	10.0	06/13/14 10:20	
Iron	ug/L	ND	50.0	06/13/14 10:20	
Lead	ug/L	ND	5.0	06/13/14 10:20	
Nickel	ug/L	ND	5.0	06/13/14 10:20	
Selenium	ug/L	ND	15.0	06/13/14 10:20	
Silver	ug/L	ND	7.0	06/13/14 10:20	
Thallium	ug/L	ND	20.0	06/13/14 10:20	
Zinc	ug/L	ND	50.0	06/13/14 10:20	

LABORATORY CONTROL SAMPLE: 1393240

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	973	97	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	989	99	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	997	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	992	99	85-115	
Silver	ug/L	500	482	96	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	985	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1393241 1393242

Parameter	Units	60171084001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7950	50000	50000	63000	64000	110	112	70-130	2	8	
Antimony	ug/L	ND	5000	5000	5230	5340	103	105	70-130	2	7	
Arsenic	ug/L	1020	5000	5000	6420	6560	108	111	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4810	4880	96	98	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5230	5300	105	106	70-130	1	10	
Chromium	ug/L	244	5000	5000	5000	5040	95	96	70-130	1	10	
Cobalt	ug/L	33.3	5000	5000	4880	4930	97	98	70-130	1	6	
Copper	ug/L	ND	5000	5000	5200	5240	103	104	70-130	1	11	
Iron	ug/L	719000	50000	50000	766000	780000	95	122	70-130	2	10	
Lead	ug/L	110	5000	5000	4470	4540	87	89	70-130	1	10	
Nickel	ug/L	115	5000	5000	4870	4940	95	97	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5740	5860	114	117	70-130	2	10	
Silver	ug/L	ND	2500	2500	2540	2570	101	102	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4260	4310	85	86	70-130	1	6	
Zinc	ug/L	4840	5000	5000	9390	9470	91	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: MPRP/27675
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171209001

METHOD BLANK: 1395787
Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/18/14 14:18	
Antimony, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Arsenic, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Beryllium, Dissolved	ug/L	ND	1.0	06/18/14 14:18	
Cadmium, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Chromium, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Cobalt, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Copper, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Iron, Dissolved	ug/L	ND	50.0	06/18/14 14:18	
Lead, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Nickel, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Selenium, Dissolved	ug/L	ND	15.0	06/18/14 14:18	
Silver, Dissolved	ug/L	ND	7.0	06/18/14 14:18	
Thallium, Dissolved	ug/L	ND	20.0	06/18/14 14:18	
Zinc, Dissolved	ug/L	ND	50.0	06/18/14 14:18	

LABORATORY CONTROL SAMPLE: 1395788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9860	99	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	992	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	997	100	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	9590	96	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	503	101	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395789 1395790

Parameter	Units	60171209001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1100	50000	50000	49400	49700	97	97	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5290	5300	105	105	70-130	0	7	
Arsenic, Dissolved	ug/L	708	5000	5000	6100	6280	108	112	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4790	4750	96	95	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5330	5340	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	144	5000	5000	5090	5120	99	100	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5040	5040	101	100	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5080	5090	101	101	70-130	0	11	
Iron, Dissolved	ug/L	270000	50000	50000	305000	344000	71	147	70-130	12	10	M1,R1
Lead, Dissolved	ug/L	30.9	5000	5000	4790	4760	95	95	70-130	1	10	
Nickel, Dissolved	ug/L	71.0	5000	5000	5060	5060	100	100	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5740	5860	115	117	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2670	2680	107	107	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4570	4540	91	91	70-130	1	6	
Zinc, Dissolved	ug/L	3220	5000	5000	8050	8540	97	106	70-130	6	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: MSV/62292
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171209001, 60171209002

METHOD BLANK: 1393820
Matrix: Water
Associated Lab Samples: 60171209001, 60171209002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/17/14 11:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/17/14 11:11	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/17/14 11:11	
1,2-Dichloroethane	ug/L	ND	1.0	06/17/14 11:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/17/14 11:11	
2-Butanone (MEK)	ug/L	ND	10.0	06/17/14 11:11	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/17/14 11:11	N2
Acetone	ug/L	ND	10.0	06/17/14 11:11	N2
Benzene	ug/L	ND	1.0	06/17/14 11:11	
Bromodichloromethane	ug/L	ND	1.0	06/17/14 11:11	
Bromoform	ug/L	ND	1.0	06/17/14 11:11	
Bromomethane	ug/L	ND	5.0	06/17/14 11:11	
Carbon tetrachloride	ug/L	ND	1.0	06/17/14 11:11	
Chloroethane	ug/L	ND	1.0	06/17/14 11:11	
Chloroform	ug/L	ND	1.0	06/17/14 11:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/17/14 11:11	N2
Ethylbenzene	ug/L	ND	1.0	06/17/14 11:11	
Methylene chloride	ug/L	ND	1.0	06/17/14 11:11	
Tetrachloroethene	ug/L	ND	1.0	06/17/14 11:11	
Toluene	ug/L	ND	1.0	06/17/14 11:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/17/14 11:11	
Trichloroethene	ug/L	ND	1.0	06/17/14 11:11	
Vinyl chloride	ug/L	ND	1.0	06/17/14 11:11	
Xylene (Total)	ug/L	ND	3.0	06/17/14 11:11	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	06/17/14 11:11	
4-Bromofluorobenzene (S)	%	100	80-120	06/17/14 11:11	
Toluene-d8 (S)	%	98	80-120	06/17/14 11:11	

LABORATORY CONTROL SAMPLE: 1393821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.5	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.1	105	67-124	
1,2-Dichloroethane	ug/L	20	19.3	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.6	98	74-120	
2-Butanone (MEK)	ug/L	100	114	114	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	121	121	59-131	N2
Acetone	ug/L	100	111	111	38-134	N2
Benzene	ug/L	20	19.1	95	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

LABORATORY CONTROL SAMPLE: 1393821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	105	68-125	
Bromoform	ug/L	20	21.7	109	65-127	
Bromomethane	ug/L	20	9.6	48	13-157	
Carbon tetrachloride	ug/L	20	18.5	92	70-131	
Chloroethane	ug/L	20	17.4	87	47-133	
Chloroform	ug/L	20	18.8	94	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	18.6	93	64-129	
Tetrachloroethene	ug/L	20	19.3	96	73-125	
Toluene	ug/L	20	18.4	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	66-129	
Trichloroethene	ug/L	20	19.8	99	71-123	
Vinyl chloride	ug/L	20	15.3	76	43-129	
Xylene (Total)	ug/L	60	58.8	98	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1393822

Parameter	Units	60171209001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4580	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5620	112	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5160	103	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	283	5000	4860	92	33-140	
2-Butanone (MEK)	ug/L	45700	25000	67400	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	27000	106	40-160	N2
Acetone	ug/L	106000	25000	121000	59	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4750	95	35-142	
Bromoform	ug/L	ND	5000	4590	92	45-142	
Bromomethane	ug/L	ND	5000	1110J	22	10-158	
Carbon tetrachloride	ug/L	ND	5000	4380	88	70-140	
Chloroethane	ug/L	ND	5000	5210	104	19-152	
Chloroform	ug/L	ND	5000	4450	89	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4520	90	34-147	N2
Ethylbenzene	ug/L	ND	5000	4800	96	40-142	
Methylene chloride	ug/L	ND	5000	4360	85	31-144	
Tetrachloroethene	ug/L	ND	5000	4540	91	64-148	
Toluene	ug/L	ND	5000	4400	88	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4130	83	54-151	
Trichloroethene	ug/L	ND	5000	4270	85	71-149	
Vinyl chloride	ug/L	ND	5000	4180	84	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

MATRIX SPIKE SAMPLE: 1393822

Parameter	Units	60171209001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	14200	95	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				105	80-120	
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: OEXT/44649 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60171209001

METHOD BLANK: 1393508 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/17/14 20:02	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/17/14 20:02	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/17/14 20:02	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/17/14 20:02	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/17/14 20:02	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/17/14 20:02	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/17/14 20:02	
Hexachloroethane	ug/L	ND	5.0	06/17/14 20:02	
Naphthalene	ug/L	ND	5.0	06/17/14 20:02	
Nitrobenzene	ug/L	ND	5.0	06/17/14 20:02	
Pentachlorophenol	ug/L	ND	5.0	06/17/14 20:02	
Phenol	ug/L	ND	5.0	06/17/14 20:02	
2,4,6-Tribromophenol (S)	%	93	39-120	06/17/14 20:02	
2-Fluorobiphenyl (S)	%	91	39-120	06/17/14 20:02	
2-Fluorophenol (S)	%	48	17-120	06/17/14 20:02	
Nitrobenzene-d5 (S)	%	87	33-120	06/17/14 20:02	
Phenol-d6 (S)	%	30	11-120	06/17/14 20:02	
Terphenyl-d14 (S)	%	84	45-120	06/17/14 20:02	

LABORATORY CONTROL SAMPLE: 1393509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.3	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.0	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.2	66	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.9	60	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	46.1	92	40-133	
Hexachloro-1,3-butadiene	ug/L	50	37.8	76	44-116	
Hexachlorocyclopentadiene	ug/L	100	64.8	65	24-120	
Hexachloroethane	ug/L	50	36.2	72	43-113	
Naphthalene	ug/L	50	39.2	78	48-120	
Nitrobenzene	ug/L	50	40.4	81	48-120	
Pentachlorophenol	ug/L	50	39.5	79	47-120	
Phenol	ug/L	50	16.5	33	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			81	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			81	45-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

MATRIX SPIKE SAMPLE: 1393510

Parameter	Units	60171114001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	31.1	62	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	37.5	75	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	25.4	51	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	21.7	43	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	39.2	78	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	31.3	63	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	69.1	69	11-120	
Hexachloroethane	ug/L	ND	50	30.6	61	40-113	
Naphthalene	ug/L	ND	50	32.4	65	45-120	
Nitrobenzene	ug/L	ND	50	34.1	68	38-120	
Pentachlorophenol	ug/L	ND	50	38.2	76	43-135	
Phenol	ug/L	ND	50	12.3	25	13-112	
2,4,6-Tribromophenol (S)	%				77	39-120	
2-Fluorobiphenyl (S)	%				72	39-120	
2-Fluorophenol (S)	%				32	17-120	
Nitrobenzene-d5 (S)	%				68	33-120	
Phenol-d6 (S)	%				22	11-120	
Terphenyl-d14 (S)	%				72	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: WET/48501 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171209001

METHOD BLANK: 1395661 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/17/14 14:47	

LABORATORY CONTROL SAMPLE: 1395662

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.3	88	78-114	

MATRIX SPIKE SAMPLE: 1395663

Parameter	Units	60171156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	33.1	77	78-114	M1

SAMPLE DUPLICATE: 1395664

Parameter	Units	60171154001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	47.0	42.9	9	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: WET/48508 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171209001

METHOD BLANK: 1395697 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/17/14 16:02	

LABORATORY CONTROL SAMPLE: 1395698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.4	112	64-132	

MATRIX SPIKE SAMPLE: 1395699

Parameter	Units	60171156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	9.5	43	64-132	M1

SAMPLE DUPLICATE: 1395700

Parameter	Units	60171154001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.8J		34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: WET/48474 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171209001

METHOD BLANK: 1395074 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/16/14 13:41	

SAMPLE DUPLICATE: 1395075

Parameter	Units	60171209001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4040	3620	11	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: WET/48447
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171209001

SAMPLE DUPLICATE: 1394342

Parameter	Units	60171184002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: WET/48422
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171209001

METHOD BLANK: 1393568 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/18/14 14:51	

LABORATORY CONTROL SAMPLE: 1393569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	187	95	85-115	

SAMPLE DUPLICATE: 1393570

Parameter	Units	60171172003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	301	334	10	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: WETA/29867 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171209001

METHOD BLANK: 1396069 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/18/14 11:59	

LABORATORY CONTROL SAMPLE: 1396070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1396071

Parameter	Units	60171166001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	93	90-110	

MATRIX SPIKE SAMPLE: 1396073

Parameter	Units	60171443001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	528	400	883	89	90-110	M1

SAMPLE DUPLICATE: 1396072

Parameter	Units	60171166003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

QC Batch: WETA/29869 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171209001

METHOD BLANK: 1396155 Matrix: Water
Associated Lab Samples: 60171209001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/19/14 09:49	

LABORATORY CONTROL SAMPLE: 1396156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.2	92	90-110	

MATRIX SPIKE SAMPLE: 1396157

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	48200	25000	69200	84	90-110	M1

SAMPLE DUPLICATE: 1396158

Parameter	Units	60171209001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	40700	49100	19	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-327
Pace Project No.: 60171209

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171209001	**316-327**	EPA 200.7	MPRP/27615	EPA 200.7	ICP/20878
60171209001	**316-327**	EPA 200.7	MPRP/27675	EPA 200.7	ICP/20921
60171209001	**316-327**	EPA 245.1	MERP/8499	EPA 245.1	MERC/8451
60171209001	**316-327**	EPA 245.1	MERP/8492	EPA 245.1	MERC/8446
60171209001	**316-327**	EPA 625	OEXT/44649	EPA 625	MSSV/14299
60171209001	**316-327**	EPA 624 Low	MSV/62292		
60171209002	**TRIP BLANK**	EPA 624 Low	MSV/62292		
60171209001	**316-327**	EPA 1664A	WET/48501		
60171209001	**316-327**	EPA 1664A	WET/48508		
60171209001	**316-327**	SM 2540D	WET/48474		
60171209001	**316-327**	SM 4500-H+B	WET/48447		
60171209001	**316-327**	SM 5210B	WET/48422	SM 5210B	WET/48541
60171209001	**316-327**	EPA 350.1	WETA/29867		
60171209001	**316-327**	EPA 410.4	WETA/29869		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60171209

60171209

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Crossroads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ ZPLC

Thermometer Used: (T-239) / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: Aff 6/12

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 holding time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH	
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.	
Sufficient volume:	☑Yes ☐No ☐N/A	8.	
Correct containers used:	☑Yes ☐No ☐N/A		
Pace containers used:	☑Yes ☐No ☐N/A	9.	
Containers intact:	☐Yes ☐No ☐N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.	
Sample labels match COC:	☑Yes ☐No ☐N/A		
Includes date/time/ID/analyses Matrix: WT		13.	
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3S + DP3N pH 4.5	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.	
Exceptions: (VOA) coliform (TOC) O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed	Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A		
Pace Trip Blank lot # (if purchased): covered		15.	
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.	
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:	

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AKD Date: 6/12

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS

SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6017 1209
1	1(BP3N) 1(BP3S) 316-327 5(VG9U) 3(AG3S) 2(BP2U) 1(BP3[illegible])	OT	G	6/11/14	1147	—	—		12	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			2(AG4U) C01
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						2(VG9U) C02
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	6-11-14	2:50pm	[signature]	6-11-14	2:50pm				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	6-11	01:50	4.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/11/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 20, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 13, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171310001	**316-328**	Water	06/12/14 09:11	06/13/14 01:00
60171310002	**TRIP BLANK**	Water	06/12/14 09:11	06/13/14 01:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171310001	**316-328**	EPA 200.7	JGP, NDJ	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	JML	1
		EPA 410.4	JMC1	1
60171310002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Sample: 316-328 **Lab ID: 60171310001** Collected: 06/12/14 09:11 Received: 06/13/14 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2500**	ug/L	750	2	06/18/14 10:15	06/18/14 16:13	7429-90-5	
Antimony	ND	ug/L	50.0	1	06/18/14 10:15	06/19/14 15:09	7440-36-0	
Arsenic	**1040**	ug/L	100	2	06/18/14 10:15	06/18/14 16:13	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/18/14 10:15	06/18/14 16:11	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:09	7440-43-9	
Chromium	**166**	ug/L	25.0	1	06/18/14 10:15	06/18/14 16:11	7440-47-3	
Cobalt	ND	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:09	7440-48-4	
Copper	ND	ug/L	50.0	1	06/18/14 10:15	06/18/14 16:11	7440-50-8	
Iron	**328000**	ug/L	250	1	06/18/14 10:15	06/18/14 16:11	7439-89-6	
Lead	**40.3**	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:09	7439-92-1	
Nickel	**107**	ug/L	50.0	2	06/18/14 10:15	06/18/14 16:13	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/18/14 10:15	06/19/14 15:09	7782-49-2	
Silver	ND	ug/L	35.0	1	06/18/14 10:15	06/18/14 16:11	7440-22-4	
Thallium	ND	ug/L	100	1	06/18/14 10:15	06/19/14 15:09	7440-28-0	
Zinc	**3510**	ug/L	500	2	06/18/14 10:15	06/18/14 16:13	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1160**	ug/L	750	2	06/18/14 09:30	06/18/14 15:09	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/18/14 09:30	06/18/14 15:09	7440-36-0	D3
Arsenic, Dissolved	**876**	ug/L	50.0	1	06/18/14 09:30	06/18/14 15:06	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/18/14 09:30	06/18/14 15:06	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:06	7440-43-9	
Chromium, Dissolved	**157**	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:06	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:06	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/18/14 09:30	06/18/14 15:06	7440-50-8	
Iron, Dissolved	**287000**	ug/L	250	1	06/18/14 09:30	06/18/14 15:06	7439-89-6	
Lead, Dissolved	**44.5**	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:06	7439-92-1	
Nickel, Dissolved	**84.8**	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:06	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/18/14 09:30	06/18/14 15:06	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/18/14 09:30	06/18/14 15:06	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/18/14 09:30	06/18/14 15:06	7440-28-0	
Zinc, Dissolved	**3270**	ug/L	500	2	06/18/14 09:30	06/18/14 15:09	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**40.2**	ug/L	6.0	1	06/19/14 20:00	06/20/14 09:14	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/17/14 14:30	06/18/14 14:20	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/18/14 00:00	06/19/14 09:40	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/18/14 00:00	06/19/14 09:40	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**10300**	ug/L	4000	2	06/18/14 00:00	06/19/14 09:40		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Sample: 316-328 **Lab ID: 60171310001** Collected: 06/12/14 09:11 Received: 06/13/14 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1690**	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	87-86-5	
Phenol	**18500**	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/18/14 00:00	06/19/14 09:40	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	200	%	33-120	2	06/18/14 00:00	06/19/14 09:40	4165-60-0	S0
2-Fluorobiphenyl (S)	79	%	39-120	2	06/18/14 00:00	06/19/14 09:40	321-60-8	
Terphenyl-d14 (S)	69	%	45-120	2	06/18/14 00:00	06/19/14 09:40	1718-51-0	
Phenol-d6 (S)	39	%	11-120	2	06/18/14 00:00	06/19/14 09:40	13127-88-3	
2-Fluorophenol (S)	34	%	17-120	2	06/18/14 00:00	06/19/14 09:40	367-12-4	
2,4,6-Tribromophenol (S)	82	%	39-120	2	06/18/14 00:00	06/19/14 09:40	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**101000**	ug/L	2500	250		06/17/14 17:08	67-64-1	N2
Benzene	ND	ug/L	250	250		06/17/14 17:08	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/17/14 17:08	75-27-4	
Bromoform	ND	ug/L	250	250		06/17/14 17:08	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/17/14 17:08	74-83-9	
2-Butanone (MEK)	**41200**	ug/L	2500	250		06/17/14 17:08	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/17/14 17:08	56-23-5	
Chloroethane	ND	ug/L	250	250		06/17/14 17:08	75-00-3	
Chloroform	ND	ug/L	250	250		06/17/14 17:08	67-66-3	
1,4-Dichlorobenzene	**400**	ug/L	250	250		06/17/14 17:08	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/17/14 17:08	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/17/14 17:08	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/17/14 17:08	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/17/14 17:08	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/17/14 17:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/17/14 17:08	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/17/14 17:08	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/17/14 17:08	127-18-4	
Toluene	ND	ug/L	250	250		06/17/14 17:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/17/14 17:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/17/14 17:08	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/17/14 17:08	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/17/14 17:08	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/17/14 17:08	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	250		06/17/14 17:08	460-00-4	
Toluene-d8 (S)	96	%	80-120	250		06/17/14 17:08	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	250		06/17/14 17:08	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/17/14 17:08		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**752**	mg/L	5.0	1		06/17/14 14:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Sample: 316-328 **Lab ID: 60171310001** Collected: 06/12/14 09:11 Received: 06/13/14 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		06/17/14 16:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4340**	mg/L	5.0	1		06/17/14 15:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/16/14 13:40		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**32000**	mg/L	2.0	1	06/13/14 15:04	06/18/14 17:29		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**558**	mg/L	20.0	200		06/18/14 12:16	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**47600**	mg/L	5000	500		06/19/14 09:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Sample: TRIP BLANK **Lab ID: 60171310002** Collected: 06/12/14 09:11 Received: 06/13/14 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/17/14 16:17	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/17/14 16:17	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/17/14 16:17	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/17/14 16:17	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/17/14 16:17	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/17/14 16:17	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/17/14 16:17	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/17/14 16:17	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/17/14 16:17	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/17/14 16:17	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/17/14 16:17	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/17/14 16:17	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/17/14 16:17	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/17/14 16:17	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/17/14 16:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/17/14 16:17	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/17/14 16:17	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/17/14 16:17	127-18-4	
Toluene	ND	ug/L	1.0	1		06/17/14 16:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/17/14 16:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/17/14 16:17	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/17/14 16:17	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/17/14 16:17	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/17/14 16:17	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		06/17/14 16:17	460-00-4	
Toluene-d8 (S)	95	%	80-120	1		06/17/14 16:17	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		06/17/14 16:17	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/17/14 16:17		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: MERP/8505
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171310001

METHOD BLANK: 1397344 Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/20/14 09:09	

LABORATORY CONTROL SAMPLE: 1397345

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397346 1397347

Parameter	Units	60171310001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	40.2	150	150	145	159	70	79	70-130	9	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: MERP/8492
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171310001

METHOD BLANK: 1395637 Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/18/14 14:07	

LABORATORY CONTROL SAMPLE: 1395638

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.3	86	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395639 1395640

Parameter	Units	60171084001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	124	129	83	86	70-130	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: MPRP/27685
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171310001

METHOD BLANK: 1396074
Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/18/14 16:06	
Antimony	ug/L	ND	10.0	06/18/14 16:06	
Arsenic	ug/L	ND	10.0	06/18/14 16:06	
Beryllium	ug/L	ND	1.0	06/18/14 16:06	
Cadmium	ug/L	ND	5.0	06/18/14 16:06	
Chromium	ug/L	ND	5.0	06/18/14 16:06	
Cobalt	ug/L	ND	5.0	06/18/14 16:06	
Copper	ug/L	ND	10.0	06/18/14 16:06	
Iron	ug/L	ND	50.0	06/18/14 16:06	
Lead	ug/L	ND	5.0	06/18/14 16:06	
Nickel	ug/L	ND	5.0	06/18/14 16:06	
Selenium	ug/L	ND	15.0	06/18/14 16:06	
Silver	ug/L	ND	7.0	06/18/14 16:06	
Thallium	ug/L	ND	20.0	06/18/14 16:06	
Zinc	ug/L	ND	50.0	06/18/14 16:06	

LABORATORY CONTROL SAMPLE: 1396075

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1070	107	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1040	104	85-115	
Chromium	ug/L	1000	989	99	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	9760	98	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1040	104	85-115	
Silver	ug/L	500	509	102	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396076 1396077

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2410	50000	50000	55400	55800	106	107	70-130	1	8	
Antimony	ug/L	51.2	5000	5000	5380	5440	107	108	70-130	1	7	
Arsenic	ug/L	1100	5000	5000	6540	6620	109	110	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5000	5000	100	100	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5360	106	107	70-130	1	10	
Chromium	ug/L	154	5000	5000	4940	4980	96	97	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	4970	5010	99	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5840	5860	116	117	70-130	0	11	
Iron	ug/L	311000	50000	50000	363000	359000	104	96	70-130	1	10	
Lead	ug/L	32.2	5000	5000	4720	4770	94	95	70-130	1	10	
Nickel	ug/L	93.3	5000	5000	5220	5230	102	103	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6070	6090	121	122	70-130	0	10	
Silver	ug/L	ND	2500	2500	2720	2720	108	108	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4380	4420	88	88	70-130	1	6	
Zinc	ug/L	3130	5000	5000	7770	7800	93	93	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: MPRP/27675
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171310001

METHOD BLANK: 1395787
Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/18/14 14:18	
Antimony, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Arsenic, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Beryllium, Dissolved	ug/L	ND	1.0	06/18/14 14:18	
Cadmium, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Chromium, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Cobalt, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Copper, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Iron, Dissolved	ug/L	ND	50.0	06/18/14 14:18	
Lead, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Nickel, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Selenium, Dissolved	ug/L	ND	15.0	06/18/14 14:18	
Silver, Dissolved	ug/L	ND	7.0	06/18/14 14:18	
Thallium, Dissolved	ug/L	ND	20.0	06/18/14 14:18	
Zinc, Dissolved	ug/L	ND	50.0	06/18/14 14:18	

LABORATORY CONTROL SAMPLE: 1395788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9860	99	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	992	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	997	100	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	9590	96	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	503	101	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395789 1395790

Parameter	Units	60171209001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1100	50000	50000	49400	49700	97	97	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5290	5300	105	105	70-130	0	7	
Arsenic, Dissolved	ug/L	708	5000	5000	6100	6280	108	112	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4790	4750	96	95	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5330	5340	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	144	5000	5000	5090	5120	99	100	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5040	5040	101	100	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5080	5090	101	101	70-130	0	11	
Iron, Dissolved	ug/L	270000	50000	50000	305000	344000	71	147	70-130	12	10	M1,R1
Lead, Dissolved	ug/L	30.9	5000	5000	4790	4760	95	95	70-130	1	10	
Nickel, Dissolved	ug/L	71.0	5000	5000	5060	5060	100	100	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5740	5860	115	117	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2670	2680	107	107	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4570	4540	91	91	70-130	1	6	
Zinc, Dissolved	ug/L	3220	5000	5000	8050	8540	97	106	70-130	6	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: MSV/62292
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171310001, 60171310002

METHOD BLANK: 1393820
Matrix: Water
Associated Lab Samples: 60171310001, 60171310002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/17/14 11:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/17/14 11:11	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/17/14 11:11	
1,2-Dichloroethane	ug/L	ND	1.0	06/17/14 11:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/17/14 11:11	
2-Butanone (MEK)	ug/L	ND	10.0	06/17/14 11:11	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/17/14 11:11	N2
Acetone	ug/L	ND	10.0	06/17/14 11:11	N2
Benzene	ug/L	ND	1.0	06/17/14 11:11	
Bromodichloromethane	ug/L	ND	1.0	06/17/14 11:11	
Bromoform	ug/L	ND	1.0	06/17/14 11:11	
Bromomethane	ug/L	ND	5.0	06/17/14 11:11	
Carbon tetrachloride	ug/L	ND	1.0	06/17/14 11:11	
Chloroethane	ug/L	ND	1.0	06/17/14 11:11	
Chloroform	ug/L	ND	1.0	06/17/14 11:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/17/14 11:11	N2
Ethylbenzene	ug/L	ND	1.0	06/17/14 11:11	
Methylene chloride	ug/L	ND	1.0	06/17/14 11:11	
Tetrachloroethene	ug/L	ND	1.0	06/17/14 11:11	
Toluene	ug/L	ND	1.0	06/17/14 11:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/17/14 11:11	
Trichloroethene	ug/L	ND	1.0	06/17/14 11:11	
Vinyl chloride	ug/L	ND	1.0	06/17/14 11:11	
Xylene (Total)	ug/L	ND	3.0	06/17/14 11:11	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	06/17/14 11:11	
4-Bromofluorobenzene (S)	%	100	80-120	06/17/14 11:11	
Toluene-d8 (S)	%	98	80-120	06/17/14 11:11	

LABORATORY CONTROL SAMPLE: 1393821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.5	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.1	105	67-124	
1,2-Dichloroethane	ug/L	20	19.3	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.6	98	74-120	
2-Butanone (MEK)	ug/L	100	114	114	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	121	121	59-131	N2
Acetone	ug/L	100	111	111	38-134	N2
Benzene	ug/L	20	19.1	95	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

LABORATORY CONTROL SAMPLE: 1393821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	105	68-125	
Bromoform	ug/L	20	21.7	109	65-127	
Bromomethane	ug/L	20	9.6	48	13-157	
Carbon tetrachloride	ug/L	20	18.5	92	70-131	
Chloroethane	ug/L	20	17.4	87	47-133	
Chloroform	ug/L	20	18.8	94	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	18.6	93	64-129	
Tetrachloroethene	ug/L	20	19.3	96	73-125	
Toluene	ug/L	20	18.4	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	66-129	
Trichloroethene	ug/L	20	19.8	99	71-123	
Vinyl chloride	ug/L	20	15.3	76	43-129	
Xylene (Total)	ug/L	60	58.8	98	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1393822

Parameter	Units	60171209001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4580	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5620	112	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5160	103	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	283	5000	4860	92	33-140	
2-Butanone (MEK)	ug/L	45700	25000	67400	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	27000	106	40-160	N2
Acetone	ug/L	106000	25000	121000	59	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4750	95	35-142	
Bromoform	ug/L	ND	5000	4590	92	45-142	
Bromomethane	ug/L	ND	5000	1110J	22	10-158	
Carbon tetrachloride	ug/L	ND	5000	4380	88	70-140	
Chloroethane	ug/L	ND	5000	5210	104	19-152	
Chloroform	ug/L	ND	5000	4450	89	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4520	90	34-147	N2
Ethylbenzene	ug/L	ND	5000	4800	96	40-142	
Methylene chloride	ug/L	ND	5000	4360	85	31-144	
Tetrachloroethene	ug/L	ND	5000	4540	91	64-148	
Toluene	ug/L	ND	5000	4400	88	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4130	83	54-151	
Trichloroethene	ug/L	ND	5000	4270	85	71-149	
Vinyl chloride	ug/L	ND	5000	4180	84	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

MATRIX SPIKE SAMPLE: 1393822

Parameter	Units	60171209001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	14200	95	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				105	80-120	
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: OEXT/44708
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60171310001

METHOD BLANK: 1395915
Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/19/14 08:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/19/14 08:57	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/19/14 08:57	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/19/14 08:57	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/19/14 08:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/19/14 08:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/19/14 08:57	
Hexachloroethane	ug/L	ND	5.0	06/19/14 08:57	
Naphthalene	ug/L	ND	5.0	06/19/14 08:57	
Nitrobenzene	ug/L	ND	5.0	06/19/14 08:57	
Pentachlorophenol	ug/L	ND	5.0	06/19/14 08:57	
Phenol	ug/L	ND	5.0	06/19/14 08:57	
2,4,6-Tribromophenol (S)	%	75	39-120	06/19/14 08:57	
2-Fluorobiphenyl (S)	%	73	39-120	06/19/14 08:57	
2-Fluorophenol (S)	%	45	17-120	06/19/14 08:57	
Nitrobenzene-d5 (S)	%	73	33-120	06/19/14 08:57	
Phenol-d6 (S)	%	29	11-120	06/19/14 08:57	
Terphenyl-d14 (S)	%	66	45-120	06/19/14 08:57	

LABORATORY CONTROL SAMPLE: 1395916

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.7	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	36.4	73	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	31.6	63	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.3	55	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	37.8	76	40-133	
Hexachloro-1,3-butadiene	ug/L	50	31.5	63	44-116	
Hexachlorocyclopentadiene	ug/L	100	30.1	30	24-120	
Hexachloroethane	ug/L	50	30.7	61	43-113	
Naphthalene	ug/L	50	34.0	68	48-120	
Nitrobenzene	ug/L	50	34.5	69	48-120	
Pentachlorophenol	ug/L	50	32.5	65	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			74	39-120	
2-Fluorobiphenyl (S)	%			74	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			72	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			75	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: WET/48501 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171310001

METHOD BLANK: 1395661 Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/17/14 14:47	

LABORATORY CONTROL SAMPLE: 1395662

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.3	88	78-114	

MATRIX SPIKE SAMPLE: 1395663

Parameter	Units	60171156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	33.1	77	78-114	M1

SAMPLE DUPLICATE: 1395664

Parameter	Units	60171154001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	47.0	42.9	9	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: WET/48508 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171310001

METHOD BLANK: 1395697 Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/17/14 16:02	

LABORATORY CONTROL SAMPLE: 1395698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.4	112	64-132	

MATRIX SPIKE SAMPLE: 1395699

Parameter	Units	60171156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	9.5	43	64-132	M1

SAMPLE DUPLICATE: 1395700

Parameter	Units	60171154001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.8J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: WET/48507 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171310001

METHOD BLANK: 1395694 Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/17/14 15:12	

SAMPLE DUPLICATE: 1395695

Parameter	Units	60171305001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	110	22.0	133	10	D6

SAMPLE DUPLICATE: 1395696

Parameter	Units	60171312005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	166	161	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: WET/48448
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171310001

SAMPLE DUPLICATE: 1394343

Parameter	Units	60171173002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: WET/48432 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171310001

METHOD BLANK: 1393815 Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/18/14 16:50	

LABORATORY CONTROL SAMPLE: 1393816

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	215	108	85-115	

SAMPLE DUPLICATE: 1393817

Parameter	Units	60171316001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	2020	1960	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: WETA/29867 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171310001

METHOD BLANK: 1396069 Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/18/14 11:59	

LABORATORY CONTROL SAMPLE: 1396070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1396071

Parameter	Units	60171166001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	93	90-110	

MATRIX SPIKE SAMPLE: 1396073

Parameter	Units	60171443001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	528	400	883	89	90-110	M1

SAMPLE DUPLICATE: 1396072

Parameter	Units	60171166003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

QC Batch: WETA/29869 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171310001

METHOD BLANK: 1396155 Matrix: Water
Associated Lab Samples: 60171310001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/19/14 09:49	

LABORATORY CONTROL SAMPLE: 1396156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.2	92	90-110	

MATRIX SPIKE SAMPLE: 1396157

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	48200	25000	69200	84	90-110	M1

SAMPLE DUPLICATE: 1396158

Parameter	Units	60171209001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	40700	49100	19	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-328
Pace Project No.: 60171310

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171310001	**316-328**	EPA 200.7	MPRP/27685	EPA 200.7	ICP/20922
60171310001	**316-328**	EPA 200.7	MPRP/27675	EPA 200.7	ICP/20921
60171310001	**316-328**	EPA 245.1	MERP/8505	EPA 245.1	MERC/8457
60171310001	**316-328**	EPA 245.1	MERP/8492	EPA 245.1	MERC/8446
60171310001	**316-328**	EPA 625	OEXT/44708	EPA 625	MSSV/14317
60171310001	**316-328**	EPA 624 Low	MSV/62292		
60171310002	**TRIP BLANK**	EPA 624 Low	MSV/62292		
60171310001	**316-328**	EPA 1664A	WET/48501		
60171310001	**316-328**	EPA 1664A	WET/48508		
60171310001	**316-328**	SM 2540D	WET/48507		
60171310001	**316-328**	SM 4500-H+B	WET/48448		
60171310001	**316-328**	SM 5210B	WET/48432	SM 5210B	WET/48547
60171310001	**316-328**	EPA 350.1	WETA/29867		
60171310001	**316-328**	EPA 410.4	WETA/29869		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60171310

60171310

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ cromwads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ CRC

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet / Blue None ☐ Samples received on ice, cooling process has begun
(circle one)

Cooler Temperature: 3.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: Att 6/13

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD/pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Sample BP3N w/ initial pH 5.0, added 0.5mL HNO3 w/ final pH of 4.0 Sample BP3S w/ initial pH 4.5 added 2mL Hach w/ final pH of 2.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: Att / Lot # of added preservative: 12513-2-3-2, 12522-2-7
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): covered		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☑N/A Att 6/13	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: mw for AKB Date: 6/13/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6017310
1	1(BP3N) 1(BP3T) 316 - 328 3(AG3S) 2(BP2U) 1(BP3U) 2(AG3) [illegible]	DT	G	6/12/14	0911	—	—		~~14~~ 15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) [illegible] 01
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						[illegible] 6/13 2(DG9U) 02
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[illegible signature] / FEI	6/12/14	2:25P	[illegible signature]	6/12/14	2:25				
SITE ADDRESS: BRIDGETON LF				[illegible signature] / PASI	6/12	01:00	3.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/12/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 23, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 14, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171443001	**316-329**	Water	06/13/14 09:30	06/14/14 00:30
60171443002	**TRIP BLANK**	Water	06/13/14 09:30	06/14/14 00:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171443001	**316-329**	EPA 200.7	JGP, NDJ	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	JML	1
		EPA 410.4	JMC1	1
60171443002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Sample: 316-329 **Lab ID: 60171443001** Collected: 06/13/14 09:30 Received: 06/14/14 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9020**	ug/L	750	2	06/18/14 10:15	06/18/14 16:18	7429-90-5	
Antimony	**53.2**	ug/L	50.0	1	06/18/14 10:15	06/19/14 15:12	7440-36-0	
Arsenic	**889**	ug/L	100	2	06/18/14 10:15	06/18/14 16:18	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/18/14 10:15	06/18/14 16:15	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:12	7440-43-9	
Chromium	**178**	ug/L	25.0	1	06/18/14 10:15	06/18/14 16:15	7440-47-3	
Cobalt	**27.2**	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:12	7440-48-4	
Copper	ND	ug/L	50.0	1	06/18/14 10:15	06/18/14 16:15	7440-50-8	
Iron	**520000**	ug/L	250	1	06/18/14 10:15	06/18/14 16:15	7439-89-6	
Lead	**76.0**	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:12	7439-92-1	
Nickel	**116**	ug/L	50.0	2	06/18/14 10:15	06/18/14 16:18	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/18/14 10:15	06/19/14 15:12	7782-49-2	
Silver	ND	ug/L	35.0	1	06/18/14 10:15	06/18/14 16:15	7440-22-4	
Thallium	ND	ug/L	100	1	06/18/14 10:15	06/19/14 15:12	7440-28-0	
Zinc	**2830**	ug/L	500	2	06/18/14 10:15	06/18/14 16:18	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1010**	ug/L	750	2	06/18/14 09:30	06/18/14 15:17	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/18/14 09:30	06/18/14 15:17	7440-36-0	D3
Arsenic, Dissolved	**794**	ug/L	50.0	1	06/18/14 09:30	06/18/14 15:13	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/18/14 09:30	06/18/14 15:13	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:13	7440-43-9	
Chromium, Dissolved	**141**	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:13	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:13	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/18/14 09:30	06/18/14 15:13	7440-50-8	
Iron, Dissolved	**251000**	ug/L	250	1	06/18/14 09:30	06/18/14 15:13	7439-89-6	
Lead, Dissolved	**44.5**	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:13	7439-92-1	
Nickel, Dissolved	**78.0**	ug/L	25.0	1	06/18/14 09:30	06/18/14 15:13	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/18/14 09:30	06/18/14 15:13	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/18/14 09:30	06/18/14 15:13	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/18/14 09:30	06/18/14 15:13	7440-28-0	
Zinc, Dissolved	**2800**	ug/L	500	2	06/18/14 09:30	06/18/14 15:17	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:01	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/17/14 14:30	06/18/14 14:23	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/19/14 00:00	06/20/14 14:26	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/19/14 00:00	06/20/14 14:26	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**9100**	ug/L	4000	2	06/19/14 00:00	06/20/14 14:26		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Sample: 316-329 **Lab ID: 60171443001** Collected: 06/13/14 09:30 Received: 06/14/14 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**3870**	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	87-86-5	
Phenol	**9970**	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:26	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	172	%	33-120	2	06/19/14 00:00	06/20/14 14:26	4165-60-0	S0
2-Fluorobiphenyl (S)	87	%	39-120	2	06/19/14 00:00	06/20/14 14:26	321-60-8	
Terphenyl-d14 (S)	88	%	45-120	2	06/19/14 00:00	06/20/14 14:26	1718-51-0	
Phenol-d6 (S)	30	%	11-120	2	06/19/14 00:00	06/20/14 14:26	13127-88-3	
2-Fluorophenol (S)	54	%	17-120	2	06/19/14 00:00	06/20/14 14:26	367-12-4	
2,4,6-Tribromophenol (S)	92	%	39-120	2	06/19/14 00:00	06/20/14 14:26	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**93100**	ug/L	2500	250		06/18/14 21:27	67-64-1	N2
Benzene	ND	ug/L	250	250		06/18/14 21:27	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/18/14 21:27	75-27-4	
Bromoform	ND	ug/L	250	250		06/18/14 21:27	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/18/14 21:27	74-83-9	
2-Butanone (MEK)	**41600**	ug/L	2500	250		06/18/14 21:27	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/18/14 21:27	56-23-5	
Chloroethane	ND	ug/L	250	250		06/18/14 21:27	75-00-3	
Chloroform	ND	ug/L	250	250		06/18/14 21:27	67-66-3	
1,4-Dichlorobenzene	**785**	ug/L	250	250		06/18/14 21:27	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/18/14 21:27	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/18/14 21:27	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/18/14 21:27	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/18/14 21:27	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/18/14 21:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/18/14 21:27	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/18/14 21:27	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/18/14 21:27	127-18-4	
Toluene	ND	ug/L	250	250		06/18/14 21:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/18/14 21:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/18/14 21:27	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/18/14 21:27	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/18/14 21:27	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/18/14 21:27	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	250		06/18/14 21:27	460-00-4	
Toluene-d8 (S)	97	%	80-120	250		06/18/14 21:27	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	250		06/18/14 21:27	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/18/14 21:27		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1070**	mg/L	5.0	1		06/17/14 14:52		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Sample: 316-329 **Lab ID: 60171443001** Collected: 06/13/14 09:30 Received: 06/14/14 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**15.6**	mg/L	5.0	1		06/17/14 16:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4380**	mg/L	5.0	1		06/18/14 13:41		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/18/14 09:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34100**	mg/L	2.0	1	06/14/14 12:08	06/19/14 14:27		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**528**	mg/L	20.0	200		06/18/14 12:17	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**54900**	mg/L	5000	500		06/23/14 11:03		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Sample: TRIP BLANK **Lab ID: 60171443002** Collected: 06/13/14 09:30 Received: 06/14/14 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/18/14 20:24	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/18/14 20:24	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/18/14 20:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/18/14 20:24	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/18/14 20:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/18/14 20:24	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/18/14 20:24	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/18/14 20:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/18/14 20:24	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/18/14 20:24	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/18/14 20:24	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/18/14 20:24	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/18/14 20:24	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/18/14 20:24	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/18/14 20:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/18/14 20:24	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/18/14 20:24	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/18/14 20:24	127-18-4	
Toluene	ND	ug/L	1.0	1		06/18/14 20:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/18/14 20:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/18/14 20:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/18/14 20:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/18/14 20:24	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/18/14 20:24	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		06/18/14 20:24	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		06/18/14 20:24	2037-26-5	
1,2-Dichloroethane-d4 (S)	90	%	80-120	1		06/18/14 20:24	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/18/14 20:24		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171443001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: MERP/8492
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171443001

METHOD BLANK: 1395637 Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/18/14 14:07	

LABORATORY CONTROL SAMPLE: 1395638

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.3	86	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395639 1395640

Parameter	Units	60171084001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	124	129	83	86	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: MPRP/27685
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171443001

METHOD BLANK: 1396074
Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/18/14 16:06	
Antimony	ug/L	ND	10.0	06/18/14 16:06	
Arsenic	ug/L	ND	10.0	06/18/14 16:06	
Beryllium	ug/L	ND	1.0	06/18/14 16:06	
Cadmium	ug/L	ND	5.0	06/18/14 16:06	
Chromium	ug/L	ND	5.0	06/18/14 16:06	
Cobalt	ug/L	ND	5.0	06/18/14 16:06	
Copper	ug/L	ND	10.0	06/18/14 16:06	
Iron	ug/L	ND	50.0	06/18/14 16:06	
Lead	ug/L	ND	5.0	06/18/14 16:06	
Nickel	ug/L	ND	5.0	06/18/14 16:06	
Selenium	ug/L	ND	15.0	06/18/14 16:06	
Silver	ug/L	ND	7.0	06/18/14 16:06	
Thallium	ug/L	ND	20.0	06/18/14 16:06	
Zinc	ug/L	ND	50.0	06/18/14 16:06	

LABORATORY CONTROL SAMPLE: 1396075

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1070	107	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1040	104	85-115	
Chromium	ug/L	1000	989	99	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	9760	98	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1040	104	85-115	
Silver	ug/L	500	509	102	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396076 1396077

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2410	50000	50000	55400	55800	106	107	70-130	1	8	
Antimony	ug/L	51.2	5000	5000	5380	5440	107	108	70-130	1	7	
Arsenic	ug/L	1100	5000	5000	6540	6620	109	110	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5000	5000	100	100	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5360	106	107	70-130	1	10	
Chromium	ug/L	154	5000	5000	4940	4980	96	97	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	4970	5010	99	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5840	5860	116	117	70-130	0	11	
Iron	ug/L	311000	50000	50000	363000	359000	104	96	70-130	1	10	
Lead	ug/L	32.2	5000	5000	4720	4770	94	95	70-130	1	10	
Nickel	ug/L	93.3	5000	5000	5220	5230	102	103	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6070	6090	121	122	70-130	0	10	
Silver	ug/L	ND	2500	2500	2720	2720	108	108	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4380	4420	88	88	70-130	1	6	
Zinc	ug/L	3130	5000	5000	7770	7800	93	93	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: MPRP/27675
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171443001

METHOD BLANK: 1395787
Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/18/14 14:18	
Antimony, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Arsenic, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Beryllium, Dissolved	ug/L	ND	1.0	06/18/14 14:18	
Cadmium, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Chromium, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Cobalt, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Copper, Dissolved	ug/L	ND	10.0	06/18/14 14:18	
Iron, Dissolved	ug/L	ND	50.0	06/18/14 14:18	
Lead, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Nickel, Dissolved	ug/L	ND	5.0	06/18/14 14:18	
Selenium, Dissolved	ug/L	ND	15.0	06/18/14 14:18	
Silver, Dissolved	ug/L	ND	7.0	06/18/14 14:18	
Thallium, Dissolved	ug/L	ND	20.0	06/18/14 14:18	
Zinc, Dissolved	ug/L	ND	50.0	06/18/14 14:18	

LABORATORY CONTROL SAMPLE: 1395788

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9860	99	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	992	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	997	100	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	9590	96	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	503	101	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1395789 1395790

Parameter	Units	60171209001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1100	50000	50000	49400	49700	97	97	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5290	5300	105	105	70-130	0	7	
Arsenic, Dissolved	ug/L	708	5000	5000	6100	6280	108	112	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4790	4750	96	95	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5330	5340	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	144	5000	5000	5090	5120	99	100	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5040	5040	101	100	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5080	5090	101	101	70-130	0	11	
Iron, Dissolved	ug/L	270000	50000	50000	305000	344000	71	147	70-130	12	10	M1,R1
Lead, Dissolved	ug/L	30.9	5000	5000	4790	4760	95	95	70-130	1	10	
Nickel, Dissolved	ug/L	71.0	5000	5000	5060	5060	100	100	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5740	5860	115	117	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2670	2680	107	107	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4570	4540	91	91	70-130	1	6	
Zinc, Dissolved	ug/L	3220	5000	5000	8050	8540	97	106	70-130	6	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: MSV/62399
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171443001, 60171443002

METHOD BLANK: 1396468
Matrix: Water
Associated Lab Samples: 60171443001, 60171443002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/18/14 20:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,2-Dichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/18/14 20:09	
2-Butanone (MEK)	ug/L	ND	10.0	06/18/14 20:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/18/14 20:09	N2
Acetone	ug/L	ND	10.0	06/18/14 20:09	N2
Benzene	ug/L	ND	1.0	06/18/14 20:09	
Bromodichloromethane	ug/L	ND	1.0	06/18/14 20:09	
Bromoform	ug/L	ND	1.0	06/18/14 20:09	
Bromomethane	ug/L	ND	5.0	06/18/14 20:09	
Carbon tetrachloride	ug/L	ND	1.0	06/18/14 20:09	
Chloroethane	ug/L	ND	1.0	06/18/14 20:09	
Chloroform	ug/L	ND	1.0	06/18/14 20:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/18/14 20:09	N2
Ethylbenzene	ug/L	ND	1.0	06/18/14 20:09	
Methylene chloride	ug/L	ND	1.0	06/18/14 20:09	
Tetrachloroethene	ug/L	ND	1.0	06/18/14 20:09	
Toluene	ug/L	ND	1.0	06/18/14 20:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/18/14 20:09	
Trichloroethene	ug/L	ND	1.0	06/18/14 20:09	
Vinyl chloride	ug/L	ND	1.0	06/18/14 20:09	
Xylene (Total)	ug/L	ND	3.0	06/18/14 20:09	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	06/18/14 20:09	
4-Bromofluorobenzene (S)	%	97	80-120	06/18/14 20:09	
Toluene-d8 (S)	%	99	80-120	06/18/14 20:09	

LABORATORY CONTROL SAMPLE: 1396469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.7	88	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	98	67-124	
1,2-Dichloroethane	ug/L	20	17.3	86	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	95	74-120	
2-Butanone (MEK)	ug/L	100	94.3	94	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.6	100	59-131	N2
Acetone	ug/L	100	92.8	93	38-134	N2
Benzene	ug/L	20	18.1	90	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

LABORATORY CONTROL SAMPLE: 1396469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	94	68-125	
Bromoform	ug/L	20	18.8	94	65-127	
Bromomethane	ug/L	20	7.4	37	13-157	
Carbon tetrachloride	ug/L	20	17.2	86	70-131	
Chloroethane	ug/L	20	19.0	95	47-133	
Chloroform	ug/L	20	17.8	89	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.5	92	68-127	N2
Ethylbenzene	ug/L	20	18.9	94	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	19.2	96	73-125	
Toluene	ug/L	20	17.6	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.3	86	66-129	
Trichloroethene	ug/L	20	18.3	91	71-123	
Vinyl chloride	ug/L	20	14.2	71	43-129	
Xylene (Total)	ug/L	60	56.6	94	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			94	80-120	

MATRIX SPIKE SAMPLE: 1396470

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	3910	78	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4770	93	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4340	87	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3710	74	49-144	
1,4-Dichlorobenzene	ug/L	634	5000	4830	84	33-140	
2-Butanone (MEK)	ug/L	39400	25000	67500	112	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23000	89	40-160	N2
Acetone	ug/L	99200	25000	127000	109	10-160	N2
Benzene	ug/L	ND	5000	4010	80	37-151	
Bromodichloromethane	ug/L	ND	5000	4010	80	35-142	
Bromoform	ug/L	ND	5000	4320	86	45-142	
Bromomethane	ug/L	ND	5000	1880	38	10-158	
Carbon tetrachloride	ug/L	ND	5000	4130	83	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	3890	78	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4150	83	34-147	N2
Ethylbenzene	ug/L	ND	5000	4240	85	40-142	
Methylene chloride	ug/L	ND	5000	3850	76	31-144	
Tetrachloroethene	ug/L	ND	5000	4400	88	64-148	
Toluene	ug/L	ND	5000	3890	78	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3880	78	54-151	
Trichloroethene	ug/L	ND	5000	3880	78	71-149	
Vinyl chloride	ug/L	ND	5000	3300	66	22-146	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

MATRIX SPIKE SAMPLE: 1396470

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	12600	84	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: OEXT/44731
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60171443001

METHOD BLANK: 1396677
Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/20/14 09:31	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/20/14 09:31	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/20/14 09:31	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/20/14 09:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachloroethane	ug/L	ND	5.0	06/20/14 09:31	
Naphthalene	ug/L	ND	5.0	06/20/14 09:31	
Nitrobenzene	ug/L	ND	5.0	06/20/14 09:31	
Pentachlorophenol	ug/L	ND	5.0	06/20/14 09:31	
Phenol	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Tribromophenol (S)	%	77	39-120	06/20/14 09:31	
2-Fluorobiphenyl (S)	%	75	39-120	06/20/14 09:31	
2-Fluorophenol (S)	%	38	17-120	06/20/14 09:31	
Nitrobenzene-d5 (S)	%	74	33-120	06/20/14 09:31	
Phenol-d6 (S)	%	23	11-120	06/20/14 09:31	
Terphenyl-d14 (S)	%	68	45-120	06/20/14 09:31	

LABORATORY CONTROL SAMPLE: 1396678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.8	80	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.0	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.7	61	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.8	52	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	47.6	95	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.7	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	38.7	39	24-120	
Hexachloroethane	ug/L	50	34.8	70	43-113	
Naphthalene	ug/L	50	40.9	82	48-120	
Nitrobenzene	ug/L	50	42.1	84	48-120	
Pentachlorophenol	ug/L	50	39.5	79	47-120	
Phenol	ug/L	50	13.3	27	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			83	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

MATRIX SPIKE SAMPLE: 1396679

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.1	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.1	86	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	32.6	65	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6640	50	99.9	-13085	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	41.1J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.3	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	39.0	39	11-120	
Hexachloroethane	ug/L	ND	50	34.6	69	40-113	
Naphthalene	ug/L	2700	50	56.2	-5294	45-120	M1
Nitrobenzene	ug/L	ND	50	43.4	87	38-120	
Pentachlorophenol	ug/L	ND	50	44.8	90	43-135	
Phenol	ug/L	10000	50	105	-19787	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				38	17-120	
Nitrobenzene-d5 (S)	%				150	33-120	S0
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				75	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: WET/48501 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171443001

METHOD BLANK: 1395661 Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/17/14 14:47	

LABORATORY CONTROL SAMPLE: 1395662

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.3	88	78-114	

MATRIX SPIKE SAMPLE: 1395663

Parameter	Units	60171156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	33.1	77	78-114	M1

SAMPLE DUPLICATE: 1395664

Parameter	Units	60171154001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	47.0	42.9	9	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: WET/48508 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171443001

METHOD BLANK: 1395697 Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/17/14 16:02	

LABORATORY CONTROL SAMPLE: 1395698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.4	112	64-132	

MATRIX SPIKE SAMPLE: 1395699

Parameter	Units	60171156001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	9.5	43	64-132	M1

SAMPLE DUPLICATE: 1395700

Parameter	Units	60171154001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.8J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: WET/48528
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171443001

METHOD BLANK: 1396048
Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/18/14 13:37	

SAMPLE DUPLICATE: 1396049

Parameter	Units	60171322001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	6.0	29	10	D6

SAMPLE DUPLICATE: 1396050

Parameter	Units	60171474002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	82.0	83.0	1	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: WET/48518
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171443001

SAMPLE DUPLICATE: 1395899

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: WET/48460 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171443001

METHOD BLANK: 1394496 Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/19/14 14:21	

LABORATORY CONTROL SAMPLE: 1394497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	210	106	85-115	

SAMPLE DUPLICATE: 1394498

Parameter	Units	60171447001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	553	588	6	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: WETA/29867
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171443001

METHOD BLANK: 1396069 Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/18/14 11:59	

LABORATORY CONTROL SAMPLE: 1396070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1396071

Parameter	Units	60171166001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	93	90-110	

MATRIX SPIKE SAMPLE: 1396073

Parameter	Units	60171443001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	528	400	883	89	90-110	M1

SAMPLE DUPLICATE: 1396072

Parameter	Units	60171166003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

QC Batch: WETA/29911 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171443001

METHOD BLANK: 1397675 Matrix: Water
Associated Lab Samples: 60171443001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/23/14 11:01	

LABORATORY CONTROL SAMPLE: 1397676

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.4	105	90-110	

MATRIX SPIKE SAMPLE: 1397677

Parameter	Units	60171390001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	23.1	50	70.1	94	90-110	

MATRIX SPIKE SAMPLE: 1397679

Parameter	Units	60171214006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	37.4	50	80.5	86	90-110	M1

SAMPLE DUPLICATE: 1397678

Parameter	Units	60171443001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54900	55900	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-329
Pace Project No.: 60171443

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171443001	**316-329**	EPA 200.7	MPRP/27685	EPA 200.7	ICP/20922
60171443001	**316-329**	EPA 200.7	MPRP/27675	EPA 200.7	ICP/20921
60171443001	**316-329**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60171443001	**316-329**	EPA 245.1	MERP/8492	EPA 245.1	MERC/8446
60171443001	**316-329**	EPA 625	OEXT/44731	EPA 625	MSSV/14323
60171443001	**316-329**	EPA 624 Low	MSV/62399		
60171443002	**TRIP BLANK**	EPA 624 Low	MSV/62399		
60171443001	**316-329**	EPA 1664A	WET/48501		
60171443001	**316-329**	EPA 1664A	WET/48508		
60171443001	**316-329**	SM 2540D	WET/48528		
60171443001	**316-329**	SM 4500-H+B	WET/48518		
60171443001	**316-329**	SM 5210B	WET/48460	SM 5210B	WET/48562
60171443001	**316-329**	EPA 350.1	WETA/29867		
60171443001	**316-329**	EPA 410.4	WETA/29911		

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Sample Condition Upon Receipt

WO# : 60171443

60171443

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ X-Roads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ Zplc

Thermometer Used: ~~T-239~~ / T-194 **Type of Ice:** ~~Wet~~ Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.8

Date and initials of person examining contents: 12/14/14

Temperature should be above freezing to 6°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 holding time:	~~☑Yes~~ ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	~~☑Yes~~ ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ~~☑No~~ ☐N/A	7.
Sufficient volume:	~~☑Yes~~ ☐No ☐N/A	8.
Correct containers used:	~~☑Yes~~ ☐No ☐N/A	
Pace containers used:	~~☑Yes~~ ☐No ☐N/A	9.
Containers intact:	~~☑Yes~~ ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ~~☑N/A~~	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ~~☑N/A~~	12.
Sample labels match COC:	~~☑Yes~~ ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	~~☑Yes~~ ☐No ☐N/A	initial pH BP3N 6.0, added 2.5mL HNO3 final 4-5.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ~~☑No~~ ☐N/A	14. initial pH BP3S 4.5, added 2.5 mL H2SO4 final 2.0
Exceptions: ~~VOA~~, coliform, TOC, O&G, WI-DRO (water), Phenolics	~~☑Yes~~ ☐No	Initial when completed ✱ / Lot # of added preservative 12522-2-7 H2SO4, 12513-23-2 HNO3
Trip Blank present:	~~☑Yes~~ ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): covered		15.
Headspace in VOA vials (>6mm):	☐Yes ~~☑No~~ ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ~~☑N/A~~	17. List State: ND

Client Notification/ Resolution: Copy COC to Client? Y / ~~N~~ Field Data Required? Y / ~~N~~

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: mw for AKB Date: 12/15/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 **Of** 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

60171443

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	5DG4U 316-329 ~~2BP23~~ 2BP2U, BP3U	OT	G	6/13/14	0930	—	—		~~14~~ 15	10	4	1	0	2 AG4U					X	X	X	X	X	X	X	X	X	X	X			3AG3S, BP3N 4.5, BP3S 2.0 M
2	TRIP BLANK 2DG4U (CTB)	—		—		—			2	2																X						WS
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

METALS LIST total & LF Dis: Al, Sb, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Zn and Mercury

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sarah M. Sehie / FEI	6/13/14	2:12P	Montgomery #781	6-13-14	1415				
SITE ADDRESS: BRIDGETON LF				EBrockett / Pace	6/14/14	0030	4.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] **DATE Signed:** 6/13/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 23, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171549001	**316-330**	Water	06/14/14 17:10	06/16/14 13:05
60171549002	**TRIP BLANK**	Water	06/14/14 17:10	06/16/14 13:05

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171549001	**316-330**	EPA 200.7	JGP, NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	JML	1
		EPA 410.4	JMC1	1
60171549002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Date: June 23, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Sample: 316-330 **Lab ID: 60171549001** Collected: 06/14/14 17:10 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9340**	ug/L	750	2	06/18/14 10:15	06/18/14 16:23	7429-90-5	
Antimony	**58.1**	ug/L	50.0	1	06/18/14 10:15	06/19/14 15:14	7440-36-0	
Arsenic	**1140**	ug/L	100	2	06/18/14 10:15	06/18/14 16:23	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/18/14 10:15	06/18/14 16:20	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:14	7440-43-9	
Chromium	**207**	ug/L	25.0	1	06/18/14 10:15	06/18/14 16:20	7440-47-3	
Cobalt	**31.4**	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:14	7440-48-4	
Copper	ND	ug/L	50.0	1	06/18/14 10:15	06/18/14 16:20	7440-50-8	
Iron	**600000**	ug/L	250	1	06/18/14 10:15	06/18/14 16:20	7439-89-6	
Lead	**94.1**	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:14	7439-92-1	
Nickel	**132**	ug/L	50.0	2	06/18/14 10:15	06/18/14 16:23	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/18/14 10:15	06/19/14 15:14	7782-49-2	
Silver	ND	ug/L	35.0	1	06/18/14 10:15	06/18/14 16:20	7440-22-4	
Thallium	ND	ug/L	100	1	06/18/14 10:15	06/19/14 15:14	7440-28-0	
Zinc	**3290**	ug/L	500	2	06/18/14 10:15	06/18/14 16:23	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2070**	ug/L	750	2	06/19/14 18:40	06/20/14 14:20	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:17	7440-36-0	
Arsenic, Dissolved	**1020**	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:17	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/19/14 18:40	06/20/14 14:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:17	7440-43-9	
Chromium, Dissolved	**173**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:17	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:17	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:17	7440-50-8	
Iron, Dissolved	**341000**	ug/L	250	1	06/19/14 18:40	06/20/14 14:17	7439-89-6	
Lead, Dissolved	**42.1**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:17	7439-92-1	
Nickel, Dissolved	**98.1**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:17	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/19/14 18:40	06/20/14 14:17	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/19/14 18:40	06/20/14 14:17	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/19/14 18:40	06/20/14 14:17	7440-28-0	
Zinc, Dissolved	**3190**	ug/L	500	2	06/19/14 18:40	06/20/14 14:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:03	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 16:38	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/19/14 00:00	06/20/14 14:47	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/19/14 00:00	06/20/14 14:47	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6660**	ug/L	4000	2	06/19/14 00:00	06/20/14 14:47		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Sample: 316-330 **Lab ID: 60171549001** Collected: 06/14/14 17:10 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**4050**	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	87-86-5	
Phenol	**8830**	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 14:47	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	168	%	33-120	2	06/19/14 00:00	06/20/14 14:47	4165-60-0	S0
2-Fluorobiphenyl (S)	87	%	39-120	2	06/19/14 00:00	06/20/14 14:47	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	06/19/14 00:00	06/20/14 14:47	1718-51-0	
Phenol-d6 (S)	29	%	11-120	2	06/19/14 00:00	06/20/14 14:47	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	06/19/14 00:00	06/20/14 14:47	367-12-4	
2,4,6-Tribromophenol (S)	92	%	39-120	2	06/19/14 00:00	06/20/14 14:47	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**92300**	ug/L	2500	250		06/18/14 21:42	67-64-1	N2
Benzene	ND	ug/L	250	250		06/18/14 21:42	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/18/14 21:42	75-27-4	
Bromoform	ND	ug/L	250	250		06/18/14 21:42	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/18/14 21:42	74-83-9	
2-Butanone (MEK)	**38800**	ug/L	2500	250		06/18/14 21:42	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/18/14 21:42	56-23-5	
Chloroethane	ND	ug/L	250	250		06/18/14 21:42	75-00-3	
Chloroform	ND	ug/L	250	250		06/18/14 21:42	67-66-3	
1,4-Dichlorobenzene	**1170**	ug/L	250	250		06/18/14 21:42	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/18/14 21:42	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/18/14 21:42	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/18/14 21:42	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/18/14 21:42	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/18/14 21:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/18/14 21:42	108-10-1	N2
1,1,2,2-Tetrachloroethane	**266**	ug/L	250	250		06/18/14 21:42	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/18/14 21:42	127-18-4	
Toluene	ND	ug/L	250	250		06/18/14 21:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/18/14 21:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/18/14 21:42	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/18/14 21:42	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/18/14 21:42	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/18/14 21:42	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	250		06/18/14 21:42	460-00-4	
Toluene-d8 (S)	97	%	80-120	250		06/18/14 21:42	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	250		06/18/14 21:42	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/18/14 21:42		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**887**	mg/L	5.0	1		06/18/14 16:23		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Sample: 316-330 **Lab ID: 60171549001** Collected: 06/14/14 17:10 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**14.4**	mg/L	5.0	1		06/18/14 16:42		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5200**	mg/L	5.0	1		06/19/14 09:44		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/18/14 09:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30300**	mg/L	2.0	1	06/16/14 15:15	06/21/14 07:53		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**545**	mg/L	20.0	200		06/18/14 12:30	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**56000**	mg/L	5000	500		06/23/14 11:25		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Sample: TRIP BLANK **Lab ID: 60171549002** Collected: 06/14/14 17:10 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/18/14 20:40	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/18/14 20:40	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/18/14 20:40	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/18/14 20:40	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/18/14 20:40	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/18/14 20:40	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/18/14 20:40	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/18/14 20:40	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/18/14 20:40	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/18/14 20:40	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/18/14 20:40	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/18/14 20:40	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/18/14 20:40	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/18/14 20:40	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/18/14 20:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/18/14 20:40	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/18/14 20:40	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/18/14 20:40	127-18-4	
Toluene	ND	ug/L	1.0	1		06/18/14 20:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/18/14 20:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/18/14 20:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/18/14 20:40	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/18/14 20:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/18/14 20:40	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		06/18/14 20:40	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		06/18/14 20:40	2037-26-5	
1,2-Dichloroethane-d4 (S)	89	%	80-120	1		06/18/14 20:40	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/18/14 20:40		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171549001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: MERP/8511
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171549001

METHOD BLANK: 1398951 Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/22/14 16:34	

LABORATORY CONTROL SAMPLE: 1398952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398953 1398954

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	135	144	90	96	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: MPRP/27685
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171549001

METHOD BLANK: 1396074
Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/18/14 16:06	
Antimony	ug/L	ND	10.0	06/18/14 16:06	
Arsenic	ug/L	ND	10.0	06/18/14 16:06	
Beryllium	ug/L	ND	1.0	06/18/14 16:06	
Cadmium	ug/L	ND	5.0	06/18/14 16:06	
Chromium	ug/L	ND	5.0	06/18/14 16:06	
Cobalt	ug/L	ND	5.0	06/18/14 16:06	
Copper	ug/L	ND	10.0	06/18/14 16:06	
Iron	ug/L	ND	50.0	06/18/14 16:06	
Lead	ug/L	ND	5.0	06/18/14 16:06	
Nickel	ug/L	ND	5.0	06/18/14 16:06	
Selenium	ug/L	ND	15.0	06/18/14 16:06	
Silver	ug/L	ND	7.0	06/18/14 16:06	
Thallium	ug/L	ND	20.0	06/18/14 16:06	
Zinc	ug/L	ND	50.0	06/18/14 16:06	

LABORATORY CONTROL SAMPLE: 1396075

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1070	107	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1040	104	85-115	
Chromium	ug/L	1000	989	99	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	9760	98	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1040	104	85-115	
Silver	ug/L	500	509	102	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396076 1396077

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2410	50000	50000	55400	55800	106	107	70-130	1	8	
Antimony	ug/L	51.2	5000	5000	5380	5440	107	108	70-130	1	7	
Arsenic	ug/L	1100	5000	5000	6540	6620	109	110	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5000	5000	100	100	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5360	106	107	70-130	1	10	
Chromium	ug/L	154	5000	5000	4940	4980	96	97	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	4970	5010	99	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5840	5860	116	117	70-130	0	11	
Iron	ug/L	311000	50000	50000	363000	359000	104	96	70-130	1	10	
Lead	ug/L	32.2	5000	5000	4720	4770	94	95	70-130	1	10	
Nickel	ug/L	93.3	5000	5000	5220	5230	102	103	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6070	6090	121	122	70-130	0	10	
Silver	ug/L	ND	2500	2500	2720	2720	108	108	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4380	4420	88	88	70-130	1	6	
Zinc	ug/L	3130	5000	5000	7770	7800	93	93	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: MPRP/27716
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171549001

METHOD BLANK: 1397359
Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/20/14 14:15	
Antimony, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Arsenic, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Beryllium, Dissolved	ug/L	ND	1.0	06/20/14 14:15	
Cadmium, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Chromium, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Cobalt, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Copper, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Iron, Dissolved	ug/L	ND	50.0	06/20/14 14:15	
Lead, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Nickel, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Selenium, Dissolved	ug/L	ND	15.0	06/20/14 14:15	
Silver, Dissolved	ug/L	ND	7.0	06/20/14 14:15	
Thallium, Dissolved	ug/L	ND	20.0	06/20/14 14:15	
Zinc, Dissolved	ug/L	ND	50.0	06/20/14 14:15	

LABORATORY CONTROL SAMPLE: 1397360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	921	92	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	990	99	85-115	
Cobalt, Dissolved	ug/L	1000	996	100	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	9860	99	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	975	97	85-115	
Silver, Dissolved	ug/L	500	501	100	85-115	
Thallium, Dissolved	ug/L	1000	995	100	85-115	
Zinc, Dissolved	ug/L	1000	925	92	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397361 1397362

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2100	50000	50000	54400	54400	105	105	70-130	0	8	
Antimony, Dissolved	ug/L	66.5	5000	5000	5380	5420	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6130	6070	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4960	5040	99	101	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5240	5270	105	105	70-130	1	10	
Chromium, Dissolved	ug/L	171	5000	5000	5020	5090	97	98	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4880	4920	97	98	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5460	5500	109	109	70-130	1	11	
Iron, Dissolved	ug/L	352000	50000	50000	410000	400000	116	97	70-130	2	10	
Lead, Dissolved	ug/L	41.9	5000	5000	4790	4870	95	96	70-130	1	10	
Nickel, Dissolved	ug/L	93.5	5000	5000	5060	5090	99	100	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5480	5560	109	111	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2590	2620	103	104	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4490	4500	90	90	70-130	0	6	
Zinc, Dissolved	ug/L	3220	5000	5000	7660	7620	89	88	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: MSV/62399
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171549001, 60171549002

METHOD BLANK: 1396468
Matrix: Water
Associated Lab Samples: 60171549001, 60171549002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/18/14 20:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,2-Dichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/18/14 20:09	
2-Butanone (MEK)	ug/L	ND	10.0	06/18/14 20:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/18/14 20:09	N2
Acetone	ug/L	ND	10.0	06/18/14 20:09	N2
Benzene	ug/L	ND	1.0	06/18/14 20:09	
Bromodichloromethane	ug/L	ND	1.0	06/18/14 20:09	
Bromoform	ug/L	ND	1.0	06/18/14 20:09	
Bromomethane	ug/L	ND	5.0	06/18/14 20:09	
Carbon tetrachloride	ug/L	ND	1.0	06/18/14 20:09	
Chloroethane	ug/L	ND	1.0	06/18/14 20:09	
Chloroform	ug/L	ND	1.0	06/18/14 20:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/18/14 20:09	N2
Ethylbenzene	ug/L	ND	1.0	06/18/14 20:09	
Methylene chloride	ug/L	ND	1.0	06/18/14 20:09	
Tetrachloroethene	ug/L	ND	1.0	06/18/14 20:09	
Toluene	ug/L	ND	1.0	06/18/14 20:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/18/14 20:09	
Trichloroethene	ug/L	ND	1.0	06/18/14 20:09	
Vinyl chloride	ug/L	ND	1.0	06/18/14 20:09	
Xylene (Total)	ug/L	ND	3.0	06/18/14 20:09	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	06/18/14 20:09	
4-Bromofluorobenzene (S)	%	97	80-120	06/18/14 20:09	
Toluene-d8 (S)	%	99	80-120	06/18/14 20:09	

LABORATORY CONTROL SAMPLE: 1396469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.7	88	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	98	67-124	
1,2-Dichloroethane	ug/L	20	17.3	86	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	95	74-120	
2-Butanone (MEK)	ug/L	100	94.3	94	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.6	100	59-131	N2
Acetone	ug/L	100	92.8	93	38-134	N2
Benzene	ug/L	20	18.1	90	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

LABORATORY CONTROL SAMPLE: 1396469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	94	68-125	
Bromoform	ug/L	20	18.8	94	65-127	
Bromomethane	ug/L	20	7.4	37	13-157	
Carbon tetrachloride	ug/L	20	17.2	86	70-131	
Chloroethane	ug/L	20	19.0	95	47-133	
Chloroform	ug/L	20	17.8	89	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.5	92	68-127	N2
Ethylbenzene	ug/L	20	18.9	94	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	19.2	96	73-125	
Toluene	ug/L	20	17.6	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.3	86	66-129	
Trichloroethene	ug/L	20	18.3	91	71-123	
Vinyl chloride	ug/L	20	14.2	71	43-129	
Xylene (Total)	ug/L	60	56.6	94	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			94	80-120	

MATRIX SPIKE SAMPLE: 1396470

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	3910	78	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4770	93	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4340	87	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3710	74	49-144	
1,4-Dichlorobenzene	ug/L	634	5000	4830	84	33-140	
2-Butanone (MEK)	ug/L	39400	25000	67500	112	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23000	89	40-160	N2
Acetone	ug/L	99200	25000	127000	109	10-160	N2
Benzene	ug/L	ND	5000	4010	80	37-151	
Bromodichloromethane	ug/L	ND	5000	4010	80	35-142	
Bromoform	ug/L	ND	5000	4320	86	45-142	
Bromomethane	ug/L	ND	5000	1880	38	10-158	
Carbon tetrachloride	ug/L	ND	5000	4130	83	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	3890	78	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4150	83	34-147	N2
Ethylbenzene	ug/L	ND	5000	4240	85	40-142	
Methylene chloride	ug/L	ND	5000	3850	76	31-144	
Tetrachloroethene	ug/L	ND	5000	4400	88	64-148	
Toluene	ug/L	ND	5000	3890	78	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3880	78	54-151	
Trichloroethene	ug/L	ND	5000	3880	78	71-149	
Vinyl chloride	ug/L	ND	5000	3300	66	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

MATRIX SPIKE SAMPLE: 1396470

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	12600	84	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: OEXT/44731
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60171549001

METHOD BLANK: 1396677
Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/20/14 09:31	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/20/14 09:31	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/20/14 09:31	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/20/14 09:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachloroethane	ug/L	ND	5.0	06/20/14 09:31	
Naphthalene	ug/L	ND	5.0	06/20/14 09:31	
Nitrobenzene	ug/L	ND	5.0	06/20/14 09:31	
Pentachlorophenol	ug/L	ND	5.0	06/20/14 09:31	
Phenol	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Tribromophenol (S)	%	77	39-120	06/20/14 09:31	
2-Fluorobiphenyl (S)	%	75	39-120	06/20/14 09:31	
2-Fluorophenol (S)	%	38	17-120	06/20/14 09:31	
Nitrobenzene-d5 (S)	%	74	33-120	06/20/14 09:31	
Phenol-d6 (S)	%	23	11-120	06/20/14 09:31	
Terphenyl-d14 (S)	%	68	45-120	06/20/14 09:31	

LABORATORY CONTROL SAMPLE: 1396678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.8	80	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.0	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.7	61	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.8	52	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	47.6	95	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.7	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	38.7	39	24-120	
Hexachloroethane	ug/L	50	34.8	70	43-113	
Naphthalene	ug/L	50	40.9	82	48-120	
Nitrobenzene	ug/L	50	42.1	84	48-120	
Pentachlorophenol	ug/L	50	39.5	79	47-120	
Phenol	ug/L	50	13.3	27	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			83	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

MATRIX SPIKE SAMPLE: 1396679

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.1	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.1	86	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	32.6	65	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6640	50	99.9	-13085	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	41.1J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.3	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	39.0	39	11-120	
Hexachloroethane	ug/L	ND	50	34.6	69	40-113	
Naphthalene	ug/L	2700	50	56.2	-5294	45-120	M1
Nitrobenzene	ug/L	ND	50	43.4	87	38-120	
Pentachlorophenol	ug/L	ND	50	44.8	90	43-135	
Phenol	ug/L	10000	50	105	-19787	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				38	17-120	
Nitrobenzene-d5 (S)	%				150	33-120	S0
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				75	45-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: WET/48543 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171549001

METHOD BLANK: 1396506 Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/18/14 16:19	

LABORATORY CONTROL SAMPLE: 1396507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.2	88	78-114	

MATRIX SPIKE SAMPLE: 1396519

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	592	160	632	25	78-114	M1

SAMPLE DUPLICATE: 1396509

Parameter	Units	60171203001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	60.4	57.0	6	18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: WET/48544 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171549001

METHOD BLANK: 1396527 Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/18/14 16:42	

LABORATORY CONTROL SAMPLE: 1396528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.4	112	64-132	

MATRIX SPIKE SAMPLE: 1396529

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.3	80	34.4	33	64-132	M1

SAMPLE DUPLICATE: 1396530

Parameter	Units	60171203001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.9	10.2	3	34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: WET/48555
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171549001

METHOD BLANK: 1396815
Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/19/14 09:44	

SAMPLE DUPLICATE: 1396816

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4220	4520	7	10	

SAMPLE DUPLICATE: 1396817

Parameter	Units	60171539002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	6.0		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: WET/48518
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171549001

SAMPLE DUPLICATE: 1395899

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: WET/48483 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171549001

METHOD BLANK: 1395275 Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/21/14 07:36	

LABORATORY CONTROL SAMPLE: 1395276

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	215	108	85-115	

SAMPLE DUPLICATE: 1395277

Parameter	Units	60171550001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	28900	28100	3	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: WETA/29867
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171549001

METHOD BLANK: 1396069 Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/18/14 11:59	

LABORATORY CONTROL SAMPLE: 1396070

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1396071

Parameter	Units	60171166001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	93	90-110	

MATRIX SPIKE SAMPLE: 1396073

Parameter	Units	60171443001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	528	400	883	89	90-110	M1

SAMPLE DUPLICATE: 1396072

Parameter	Units	60171166003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

QC Batch: WETA/29911 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171549001

METHOD BLANK: 1397675 Matrix: Water
Associated Lab Samples: 60171549001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/23/14 11:01	

LABORATORY CONTROL SAMPLE: 1397676

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.4	105	90-110	

MATRIX SPIKE SAMPLE: 1397677

Parameter	Units	60171390001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	23.1	50	70.1	94	90-110	

MATRIX SPIKE SAMPLE: 1397679

Parameter	Units	60171214006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	37.4	50	80.5	86	90-110	M1

SAMPLE DUPLICATE: 1397678

Parameter	Units	60171443001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54900	55900	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-330
Pace Project No.: 60171549

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171549001	**316-330**	EPA 200.7	MPRP/27685	EPA 200.7	ICP/20922
60171549001	**316-330**	EPA 200.7	MPRP/27716	EPA 200.7	ICP/20950
60171549001	**316-330**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60171549001	**316-330**	EPA 245.1	MERP/8511	EPA 245.1	MERC/8466
60171549001	**316-330**	EPA 625	OEXT/44731	EPA 625	MSSV/14323
60171549001	**316-330**	EPA 624 Low	MSV/62399		
60171549002	**TRIP BLANK**	EPA 624 Low	MSV/62399		
60171549001	**316-330**	EPA 1664A	WET/48543		
60171549001	**316-330**	EPA 1664A	WET/48544		
60171549001	**316-330**	SM 2540D	WET/48555		
60171549001	**316-330**	SM 4500-H+B	WET/48518		
60171549001	**316-330**	SM 5210B	WET/48483	SM 5210B	WET/48612
60171549001	**316-330**	EPA 350.1	WETA/29867		
60171549001	**316-330**	EPA 410.4	WETA/29911		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60171549

60171549

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ x-Reals

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☐ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ zip

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun
(circle one)

Cooler Temperature: 9.6 melted

Date and initials of person examining contents: 6/16/14

Temperature should be above freezing to 6°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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, ph
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	received samples with melted ice water
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	initial ph BP3N 4-5, added 2-5ml HNO3 final 35 initial ph BP3S 5-0, added 2-5ml H2SO4 final 30
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed ✱ Lot # of added preservative 12522-27 HNO3 12513-23-2 H2SO4
Trip Blank present:	☐Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 040714-3BEZ		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: TP ADDED TO INTRON

Project Manager Review: _____ Date: 6/17/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 **Of** 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60171549
1	BP3u 3/6 - 33A 5DhAu, 2AG4u	OT	G	6-14-14	5:00	6-14-14	5:10		14	10	4	1	0	2	BP2u				X	X	X	X	X	X	X	X	X	X	X	3 AG1S, BP3N 3.0, BP3S 3.0 ...	
2	TRIP BLANK 2DhAu (TB)								2	2																X					(CS2)
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	6-16-14	8:35am	Bill Stow 4/12	6-16-14	8:35am				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	6/16/14	1305	9.6	N	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Arron Weber

SIGNATURE of SAMPLER: Arron Weber DATE Signed: 6-14-14

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

June 23, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171550001	**316-331**	Water	06/15/14 09:00	06/16/14 13:05
60171550002	**TRIP BLANK**	Water	06/15/14 09:00	06/16/14 13:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171550001	**316-331**	EPA 200.7	JGP, NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60171550002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Sample: 316-331 **Lab ID: 60171550001** Collected: 06/15/14 09:00 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4750**	ug/L	750	2	06/18/14 10:15	06/18/14 16:27	7429-90-5	
Antimony	**56.2**	ug/L	50.0	1	06/18/14 10:15	06/19/14 15:17	7440-36-0	
Arsenic	**1200**	ug/L	100	2	06/18/14 10:15	06/18/14 16:27	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/18/14 10:15	06/18/14 16:25	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:17	7440-43-9	
Chromium	**183**	ug/L	25.0	1	06/18/14 10:15	06/18/14 16:25	7440-47-3	
Cobalt	**28.3**	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:17	7440-48-4	
Copper	ND	ug/L	50.0	1	06/18/14 10:15	06/18/14 16:25	7440-50-8	
Iron	**426000**	ug/L	250	1	06/18/14 10:15	06/18/14 16:25	7439-89-6	
Lead	**63.2**	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:17	7439-92-1	
Nickel	**109**	ug/L	50.0	2	06/18/14 10:15	06/18/14 16:27	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/18/14 10:15	06/19/14 15:17	7782-49-2	
Silver	ND	ug/L	35.0	1	06/18/14 10:15	06/18/14 16:25	7440-22-4	
Thallium	ND	ug/L	100	1	06/18/14 10:15	06/19/14 15:17	7440-28-0	
Zinc	**3280**	ug/L	500	2	06/18/14 10:15	06/18/14 16:27	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1910**	ug/L	750	2	06/19/14 18:40	06/20/14 14:24	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:22	7440-36-0	
Arsenic, Dissolved	**964**	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:22	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/19/14 18:40	06/20/14 14:22	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:22	7440-43-9	
Chromium, Dissolved	**169**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:22	7440-47-3	
Cobalt, Dissolved	**26.5**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:22	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:22	7440-50-8	
Iron, Dissolved	**336000**	ug/L	250	1	06/19/14 18:40	06/20/14 14:22	7439-89-6	
Lead, Dissolved	**40.6**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:22	7439-92-1	
Nickel, Dissolved	**96.4**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:22	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/19/14 18:40	06/20/14 14:22	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/19/14 18:40	06/20/14 14:22	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/19/14 18:40	06/20/14 14:22	7440-28-0	
Zinc, Dissolved	**3040**	ug/L	500	2	06/19/14 18:40	06/20/14 14:24	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:05	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 16:41	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/19/14 00:00	06/20/14 15:08	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/19/14 00:00	06/20/14 15:08	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6100**	ug/L	4000	2	06/19/14 00:00	06/20/14 15:08		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Sample: 316-331 **Lab ID: 60171550001** Collected: 06/15/14 09:00 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**3440**	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	87-86-5	
Phenol	**8580**	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:08	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	154	%	33-120	2	06/19/14 00:00	06/20/14 15:08	4165-60-0	S0
2-Fluorobiphenyl (S)	82	%	39-120	2	06/19/14 00:00	06/20/14 15:08	321-60-8	
Terphenyl-d14 (S)	77	%	45-120	2	06/19/14 00:00	06/20/14 15:08	1718-51-0	
Phenol-d6 (S)	30	%	11-120	2	06/19/14 00:00	06/20/14 15:08	13127-88-3	
2-Fluorophenol (S)	46	%	17-120	2	06/19/14 00:00	06/20/14 15:08	367-12-4	
2,4,6-Tribromophenol (S)	89	%	39-120	2	06/19/14 00:00	06/20/14 15:08	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**95500**	ug/L	2500	250		06/18/14 21:58	67-64-1	N2
Benzene	ND	ug/L	250	250		06/18/14 21:58	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/18/14 21:58	75-27-4	
Bromoform	ND	ug/L	250	250		06/18/14 21:58	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/18/14 21:58	74-83-9	
2-Butanone (MEK)	**43000**	ug/L	2500	250		06/18/14 21:58	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/18/14 21:58	56-23-5	
Chloroethane	ND	ug/L	250	250		06/18/14 21:58	75-00-3	
Chloroform	ND	ug/L	250	250		06/18/14 21:58	67-66-3	
1,4-Dichlorobenzene	**826**	ug/L	250	250		06/18/14 21:58	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/18/14 21:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/18/14 21:58	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/18/14 21:58	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/18/14 21:58	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/18/14 21:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/18/14 21:58	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/18/14 21:58	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/18/14 21:58	127-18-4	
Toluene	ND	ug/L	250	250		06/18/14 21:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/18/14 21:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/18/14 21:58	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/18/14 21:58	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/18/14 21:58	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/18/14 21:58	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	250		06/18/14 21:58	460-00-4	
Toluene-d8 (S)	96	%	80-120	250		06/18/14 21:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	250		06/18/14 21:58	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/18/14 21:58		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**816**	mg/L	5.0	1		06/18/14 16:24		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Sample: 316-331 **Lab ID: 60171550001** Collected: 06/15/14 09:00 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		06/18/14 16:42		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4820**	mg/L	5.0	1		06/19/14 09:44		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/18/14 09:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**28900**	mg/L	2.0	1	06/16/14 15:16	06/21/14 07:56		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**554**	mg/L	20.0	200		06/23/14 09:48	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**49700**	mg/L	5000	500		06/19/14 09:55		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Sample: TRIP BLANK **Lab ID: 60171550002** Collected: 06/15/14 09:00 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/18/14 20:55	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/18/14 20:55	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/18/14 20:55	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/18/14 20:55	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/18/14 20:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/18/14 20:55	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/18/14 20:55	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/18/14 20:55	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/18/14 20:55	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/18/14 20:55	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/18/14 20:55	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/18/14 20:55	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/18/14 20:55	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/18/14 20:55	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/18/14 20:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/18/14 20:55	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/18/14 20:55	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/18/14 20:55	127-18-4	
Toluene	ND	ug/L	1.0	1		06/18/14 20:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/18/14 20:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/18/14 20:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/18/14 20:55	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/18/14 20:55	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/18/14 20:55	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		06/18/14 20:55	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		06/18/14 20:55	2037-26-5	
1,2-Dichloroethane-d4 (S)	91	%	80-120	1		06/18/14 20:55	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/18/14 20:55		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171550001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: MERP/8511
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171550001

METHOD BLANK: 1398951 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/22/14 16:34	

LABORATORY CONTROL SAMPLE: 1398952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398953 1398954

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	135	144	90	96	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: MPRP/27685
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171550001

METHOD BLANK: 1396074
Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/18/14 16:06	
Antimony	ug/L	ND	10.0	06/18/14 16:06	
Arsenic	ug/L	ND	10.0	06/18/14 16:06	
Beryllium	ug/L	ND	1.0	06/18/14 16:06	
Cadmium	ug/L	ND	5.0	06/18/14 16:06	
Chromium	ug/L	ND	5.0	06/18/14 16:06	
Cobalt	ug/L	ND	5.0	06/18/14 16:06	
Copper	ug/L	ND	10.0	06/18/14 16:06	
Iron	ug/L	ND	50.0	06/18/14 16:06	
Lead	ug/L	ND	5.0	06/18/14 16:06	
Nickel	ug/L	ND	5.0	06/18/14 16:06	
Selenium	ug/L	ND	15.0	06/18/14 16:06	
Silver	ug/L	ND	7.0	06/18/14 16:06	
Thallium	ug/L	ND	20.0	06/18/14 16:06	
Zinc	ug/L	ND	50.0	06/18/14 16:06	

LABORATORY CONTROL SAMPLE: 1396075

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1070	107	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1040	104	85-115	
Chromium	ug/L	1000	989	99	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	9760	98	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1040	104	85-115	
Silver	ug/L	500	509	102	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396076 1396077

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2410	50000	50000	55400	55800	106	107	70-130	1	8	
Antimony	ug/L	51.2	5000	5000	5380	5440	107	108	70-130	1	7	
Arsenic	ug/L	1100	5000	5000	6540	6620	109	110	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5000	5000	100	100	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5360	106	107	70-130	1	10	
Chromium	ug/L	154	5000	5000	4940	4980	96	97	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	4970	5010	99	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5840	5860	116	117	70-130	0	11	
Iron	ug/L	311000	50000	50000	363000	359000	104	96	70-130	1	10	
Lead	ug/L	32.2	5000	5000	4720	4770	94	95	70-130	1	10	
Nickel	ug/L	93.3	5000	5000	5220	5230	102	103	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6070	6090	121	122	70-130	0	10	
Silver	ug/L	ND	2500	2500	2720	2720	108	108	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4380	4420	88	88	70-130	1	6	
Zinc	ug/L	3130	5000	5000	7770	7800	93	93	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: MPRP/27716
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171550001

METHOD BLANK: 1397359 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/20/14 14:15	
Antimony, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Arsenic, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Beryllium, Dissolved	ug/L	ND	1.0	06/20/14 14:15	
Cadmium, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Chromium, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Cobalt, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Copper, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Iron, Dissolved	ug/L	ND	50.0	06/20/14 14:15	
Lead, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Nickel, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Selenium, Dissolved	ug/L	ND	15.0	06/20/14 14:15	
Silver, Dissolved	ug/L	ND	7.0	06/20/14 14:15	
Thallium, Dissolved	ug/L	ND	20.0	06/20/14 14:15	
Zinc, Dissolved	ug/L	ND	50.0	06/20/14 14:15	

LABORATORY CONTROL SAMPLE: 1397360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	921	92	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	990	99	85-115	
Cobalt, Dissolved	ug/L	1000	996	100	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	9860	99	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	975	97	85-115	
Silver, Dissolved	ug/L	500	501	100	85-115	
Thallium, Dissolved	ug/L	1000	995	100	85-115	
Zinc, Dissolved	ug/L	1000	925	92	85-115	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397361 1397362

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2100	50000	50000	54400	54400	105	105	70-130	0	8	
Antimony, Dissolved	ug/L	66.5	5000	5000	5380	5420	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6130	6070	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4960	5040	99	101	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5240	5270	105	105	70-130	1	10	
Chromium, Dissolved	ug/L	171	5000	5000	5020	5090	97	98	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4880	4920	97	98	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5460	5500	109	109	70-130	1	11	
Iron, Dissolved	ug/L	352000	50000	50000	410000	400000	116	97	70-130	2	10	
Lead, Dissolved	ug/L	41.9	5000	5000	4790	4870	95	96	70-130	1	10	
Nickel, Dissolved	ug/L	93.5	5000	5000	5060	5090	99	100	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5480	5560	109	111	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2590	2620	103	104	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4490	4500	90	90	70-130	0	6	
Zinc, Dissolved	ug/L	3220	5000	5000	7660	7620	89	88	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: MSV/62399
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171550001, 60171550002

METHOD BLANK: 1396468
Matrix: Water
Associated Lab Samples: 60171550001, 60171550002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/18/14 20:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,2-Dichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/18/14 20:09	
2-Butanone (MEK)	ug/L	ND	10.0	06/18/14 20:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/18/14 20:09	N2
Acetone	ug/L	ND	10.0	06/18/14 20:09	N2
Benzene	ug/L	ND	1.0	06/18/14 20:09	
Bromodichloromethane	ug/L	ND	1.0	06/18/14 20:09	
Bromoform	ug/L	ND	1.0	06/18/14 20:09	
Bromomethane	ug/L	ND	5.0	06/18/14 20:09	
Carbon tetrachloride	ug/L	ND	1.0	06/18/14 20:09	
Chloroethane	ug/L	ND	1.0	06/18/14 20:09	
Chloroform	ug/L	ND	1.0	06/18/14 20:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/18/14 20:09	N2
Ethylbenzene	ug/L	ND	1.0	06/18/14 20:09	
Methylene chloride	ug/L	ND	1.0	06/18/14 20:09	
Tetrachloroethene	ug/L	ND	1.0	06/18/14 20:09	
Toluene	ug/L	ND	1.0	06/18/14 20:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/18/14 20:09	
Trichloroethene	ug/L	ND	1.0	06/18/14 20:09	
Vinyl chloride	ug/L	ND	1.0	06/18/14 20:09	
Xylene (Total)	ug/L	ND	3.0	06/18/14 20:09	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	06/18/14 20:09	
4-Bromofluorobenzene (S)	%	97	80-120	06/18/14 20:09	
Toluene-d8 (S)	%	99	80-120	06/18/14 20:09	

LABORATORY CONTROL SAMPLE: 1396469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.7	88	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	98	67-124	
1,2-Dichloroethane	ug/L	20	17.3	86	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	95	74-120	
2-Butanone (MEK)	ug/L	100	94.3	94	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.6	100	59-131	N2
Acetone	ug/L	100	92.8	93	38-134	N2
Benzene	ug/L	20	18.1	90	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

LABORATORY CONTROL SAMPLE: 1396469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	94	68-125	
Bromoform	ug/L	20	18.8	94	65-127	
Bromomethane	ug/L	20	7.4	37	13-157	
Carbon tetrachloride	ug/L	20	17.2	86	70-131	
Chloroethane	ug/L	20	19.0	95	47-133	
Chloroform	ug/L	20	17.8	89	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.5	92	68-127	N2
Ethylbenzene	ug/L	20	18.9	94	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	19.2	96	73-125	
Toluene	ug/L	20	17.6	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.3	86	66-129	
Trichloroethene	ug/L	20	18.3	91	71-123	
Vinyl chloride	ug/L	20	14.2	71	43-129	
Xylene (Total)	ug/L	60	56.6	94	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			94	80-120	

MATRIX SPIKE SAMPLE: 1396470

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	3910	78	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4770	93	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4340	87	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3710	74	49-144	
1,4-Dichlorobenzene	ug/L	634	5000	4830	84	33-140	
2-Butanone (MEK)	ug/L	39400	25000	67500	112	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23000	89	40-160	N2
Acetone	ug/L	99200	25000	127000	109	10-160	N2
Benzene	ug/L	ND	5000	4010	80	37-151	
Bromodichloromethane	ug/L	ND	5000	4010	80	35-142	
Bromoform	ug/L	ND	5000	4320	86	45-142	
Bromomethane	ug/L	ND	5000	1880	38	10-158	
Carbon tetrachloride	ug/L	ND	5000	4130	83	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	3890	78	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4150	83	34-147	N2
Ethylbenzene	ug/L	ND	5000	4240	85	40-142	
Methylene chloride	ug/L	ND	5000	3850	76	31-144	
Tetrachloroethene	ug/L	ND	5000	4400	88	64-148	
Toluene	ug/L	ND	5000	3890	78	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3880	78	54-151	
Trichloroethene	ug/L	ND	5000	3880	78	71-149	
Vinyl chloride	ug/L	ND	5000	3300	66	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

MATRIX SPIKE SAMPLE: 1396470

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	12600	84	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: OEXT/44731
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60171550001

METHOD BLANK: 1396677 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/20/14 09:31	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/20/14 09:31	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/20/14 09:31	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/20/14 09:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachloroethane	ug/L	ND	5.0	06/20/14 09:31	
Naphthalene	ug/L	ND	5.0	06/20/14 09:31	
Nitrobenzene	ug/L	ND	5.0	06/20/14 09:31	
Pentachlorophenol	ug/L	ND	5.0	06/20/14 09:31	
Phenol	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Tribromophenol (S)	%	77	39-120	06/20/14 09:31	
2-Fluorobiphenyl (S)	%	75	39-120	06/20/14 09:31	
2-Fluorophenol (S)	%	38	17-120	06/20/14 09:31	
Nitrobenzene-d5 (S)	%	74	33-120	06/20/14 09:31	
Phenol-d6 (S)	%	23	11-120	06/20/14 09:31	
Terphenyl-d14 (S)	%	68	45-120	06/20/14 09:31	

LABORATORY CONTROL SAMPLE: 1396678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.8	80	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.0	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.7	61	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.8	52	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	47.6	95	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.7	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	38.7	39	24-120	
Hexachloroethane	ug/L	50	34.8	70	43-113	
Naphthalene	ug/L	50	40.9	82	48-120	
Nitrobenzene	ug/L	50	42.1	84	48-120	
Pentachlorophenol	ug/L	50	39.5	79	47-120	
Phenol	ug/L	50	13.3	27	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			83	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

MATRIX SPIKE SAMPLE: 1396679

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.1	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.1	86	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	32.6	65	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6640	50	99.9	-13085	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	41.1J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.3	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	39.0	39	11-120	
Hexachloroethane	ug/L	ND	50	34.6	69	40-113	
Naphthalene	ug/L	2700	50	56.2	-5294	45-120	M1
Nitrobenzene	ug/L	ND	50	43.4	87	38-120	
Pentachlorophenol	ug/L	ND	50	44.8	90	43-135	
Phenol	ug/L	10000	50	105	-19787	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				38	17-120	
Nitrobenzene-d5 (S)	%				150	33-120	S0
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				75	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: WET/48543
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171550001

METHOD BLANK: 1396506 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/18/14 16:19	

LABORATORY CONTROL SAMPLE: 1396507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.2	88	78-114	

MATRIX SPIKE SAMPLE: 1396519

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	592	160	632	25	78-114	M1

SAMPLE DUPLICATE: 1396509

Parameter	Units	60171203001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	60.4	57.0	6	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: WET/48544 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171550001

METHOD BLANK: 1396527 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/18/14 16:42	

LABORATORY CONTROL SAMPLE: 1396528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.4	112	64-132	

MATRIX SPIKE SAMPLE: 1396529

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.3	80	34.4	33	64-132	M1

SAMPLE DUPLICATE: 1396530

Parameter	Units	60171203001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.9	10.2	3	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: WET/48555
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171550001

METHOD BLANK: 1396815
Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/19/14 09:44	

SAMPLE DUPLICATE: 1396816

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4220	4520	7	10	

SAMPLE DUPLICATE: 1396817

Parameter	Units	60171539002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	6.0		10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: WET/48518
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171550001

SAMPLE DUPLICATE: 1395899

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: WET/48483 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171550001

METHOD BLANK: 1395275 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/21/14 07:36	

LABORATORY CONTROL SAMPLE: 1395276

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	215	108	85-115	

SAMPLE DUPLICATE: 1395277

Parameter	Units	60171550001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	28900	28100	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: WETA/29937 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171550001

METHOD BLANK: 1399070 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/23/14 09:43	

LABORATORY CONTROL SAMPLE: 1399071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1399072

Parameter	Units	60171009003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.7	2	4.4	86	90-110	M1

SAMPLE DUPLICATE: 1399073

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	545	551	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

QC Batch: WETA/29869 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171550001

METHOD BLANK: 1396155 Matrix: Water
Associated Lab Samples: 60171550001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/19/14 09:49	

LABORATORY CONTROL SAMPLE: 1396156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.2	92	90-110	

MATRIX SPIKE SAMPLE: 1396157

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	48200	25000	69200	84	90-110	M1

SAMPLE DUPLICATE: 1396158

Parameter	Units	60171209001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	40700	49100	19	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-331
Pace Project No.: 60171550

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171550001	**316-331**	EPA 200.7	MPRP/27685	EPA 200.7	ICP/20922
60171550001	**316-331**	EPA 200.7	MPRP/27716	EPA 200.7	ICP/20950
60171550001	**316-331**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60171550001	**316-331**	EPA 245.1	MERP/8511	EPA 245.1	MERC/8466
60171550001	**316-331**	EPA 625	OEXT/44731	EPA 625	MSSV/14323
60171550001	**316-331**	EPA 624 Low	MSV/62399		
60171550002	**TRIP BLANK**	EPA 624 Low	MSV/62399		
60171550001	**316-331**	EPA 1664A	WET/48543		
60171550001	**316-331**	EPA 1664A	WET/48544		
60171550001	**316-331**	SM 2540D	WET/48555		
60171550001	**316-331**	SM 4500-H+B	WET/48518		
60171550001	**316-331**	SM 5210B	WET/48483	SM 5210B	WET/48612
60171550001	**316-331**	EPA 350.1	WETA/29937		
60171550001	**316-331**	EPA 410.4	WETA/29869		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60171550

60171550

Client Name: BAR

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Xroads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

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

Thermometer Used: T-239 / T-194 Type of Ice: (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.2

Temperature should be above freezing to 6°C

Optional
Proj Due Date:
Proj Name:

Date and initials of person examining contents: _____

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5 ml HNO3 ; initial pH ~6.0 ; final pH ~4.0 Initial H2SO4 pH ~6.0; added 2ml ; final pH ~2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: lw / Lot # of added preservative:
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 040714-38E2		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MD

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/19/14

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A – Required Client Information:		Section B – Required Project Information:		Section C – Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency

State / Location: Missouri

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test: COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-331	OT	G	6/15/14	0900				15 14	10	4	1	0					X	X	X	X	X	X	X	X	X	X	X		6017/550 3(AG3S) 2(BP2U) BP3U BP3S BP3N 5(AG4U) 2(AG1U)
2	TRIP BLANK								2	2															X					2(DG9U)
3																														
4																														
5																														
6																														METALS LIST total & LF Dis:
7																														Al,Sb,As,Be,Cd,Cr,
8																														Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																														and Mercury
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	FED	6-16-14	8:55	Bill Stone 4L2	6-16-14	8:55				
SITE ADDRESS: BRIDGETON LF				PASL	6/16/14	1305	4.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/15/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 23, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
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(913)599-5665

SAMPLE SUMMARY

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171556001	**316-332**	Water	06/16/14 08:30	06/16/14 13:05
60171556002	**TRIP BLANK**	Water	06/16/14 08:30	06/16/14 13:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171556001	**316-332**	EPA 200.7	JGP, NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60171556002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Sample: 316-332 **Lab ID: 60171556001** Collected: 06/16/14 08:30 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2410**	ug/L	750	2	06/18/14 10:15	06/18/14 16:37	7429-90-5	
Antimony	**51.2**	ug/L	50.0	1	06/18/14 10:15	06/19/14 15:19	7440-36-0	
Arsenic	**1100**	ug/L	100	2	06/18/14 10:15	06/18/14 16:37	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/18/14 10:15	06/18/14 16:34	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:19	7440-43-9	
Chromium	**154**	ug/L	25.0	1	06/18/14 10:15	06/18/14 16:34	7440-47-3	
Cobalt	ND	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:19	7440-48-4	
Copper	ND	ug/L	50.0	1	06/18/14 10:15	06/18/14 16:34	7440-50-8	
Iron	**311000**	ug/L	250	1	06/18/14 10:15	06/18/14 16:34	7439-89-6	
Lead	**32.2**	ug/L	25.0	1	06/18/14 10:15	06/19/14 15:19	7439-92-1	
Nickel	**93.3**	ug/L	50.0	2	06/18/14 10:15	06/18/14 16:37	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/18/14 10:15	06/19/14 15:19	7782-49-2	
Silver	ND	ug/L	35.0	1	06/18/14 10:15	06/18/14 16:34	7440-22-4	
Thallium	ND	ug/L	100	1	06/18/14 10:15	06/19/14 15:19	7440-28-0	
Zinc	**3130**	ug/L	500	2	06/18/14 10:15	06/18/14 16:37	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2100**	ug/L	750	2	06/19/14 18:40	06/20/14 14:29	7429-90-5	
Antimony, Dissolved	**66.5**	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:26	7440-36-0	D9
Arsenic, Dissolved	**1090**	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:26	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/19/14 18:40	06/20/14 14:26	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:26	7440-43-9	
Chromium, Dissolved	**171**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:26	7440-47-3	D9
Cobalt, Dissolved	ND	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:26	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:26	7440-50-8	
Iron, Dissolved	**352000**	ug/L	250	1	06/19/14 18:40	06/20/14 14:26	7439-89-6	D9
Lead, Dissolved	**41.9**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:26	7439-92-1	D9
Nickel, Dissolved	**93.5**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:26	7440-02-0	D9
Selenium, Dissolved	ND	ug/L	75.0	1	06/19/14 18:40	06/20/14 14:26	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/19/14 18:40	06/20/14 14:26	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/19/14 18:40	06/20/14 14:26	7440-28-0	
Zinc, Dissolved	**3220**	ug/L	500	2	06/19/14 18:40	06/20/14 14:29	7440-66-6	D9
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:08	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 16:43	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/19/14 00:00	06/20/14 15:29	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/19/14 00:00	06/20/14 15:29	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6640**	ug/L	4000	2	06/19/14 00:00	06/20/14 15:29		M1,N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Sample: 316-332 **Lab ID: 60171556001** Collected: 06/16/14 08:30 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**2700**	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	91-20-3	M1
Nitrobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	87-86-5	
Phenol	**10000**	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 15:29	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	166	%	33-120	2	06/19/14 00:00	06/20/14 15:29	4165-60-0	S0
2-Fluorobiphenyl (S)	77	%	39-120	2	06/19/14 00:00	06/20/14 15:29	321-60-8	
Terphenyl-d14 (S)	70	%	45-120	2	06/19/14 00:00	06/20/14 15:29	1718-51-0	
Phenol-d6 (S)	27	%	11-120	2	06/19/14 00:00	06/20/14 15:29	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	06/19/14 00:00	06/20/14 15:29	367-12-4	
2,4,6-Tribromophenol (S)	84	%	39-120	2	06/19/14 00:00	06/20/14 15:29	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**99200**	ug/L	2500	250		06/18/14 22:13	67-64-1	N2
Benzene	ND	ug/L	250	250		06/18/14 22:13	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/18/14 22:13	75-27-4	
Bromoform	ND	ug/L	250	250		06/18/14 22:13	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/18/14 22:13	74-83-9	
2-Butanone (MEK)	**39400**	ug/L	2500	250		06/18/14 22:13	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/18/14 22:13	56-23-5	
Chloroethane	ND	ug/L	250	250		06/18/14 22:13	75-00-3	
Chloroform	ND	ug/L	250	250		06/18/14 22:13	67-66-3	
1,4-Dichlorobenzene	**634**	ug/L	250	250		06/18/14 22:13	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/18/14 22:13	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/18/14 22:13	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/18/14 22:13	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/18/14 22:13	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/18/14 22:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/18/14 22:13	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/18/14 22:13	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/18/14 22:13	127-18-4	
Toluene	ND	ug/L	250	250		06/18/14 22:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/18/14 22:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/18/14 22:13	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/18/14 22:13	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/18/14 22:13	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/18/14 22:13	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	250		06/18/14 22:13	460-00-4	
Toluene-d8 (S)	96	%	80-120	250		06/18/14 22:13	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	250		06/18/14 22:13	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/18/14 22:13		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**592**	mg/L	5.0	1		06/18/14 16:24		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Sample: 316-332 **Lab ID: 60171556001** Collected: 06/16/14 08:30 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**8.3**	mg/L	5.0	1		06/18/14 16:43		M1
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4220**	mg/L	5.0	1		06/19/14 09:45		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/18/14 09:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31000**	mg/L	2.0	1	06/17/14 12:52	06/22/14 14:00		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**545**	mg/L	20.0	200		06/23/14 09:49	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**48200**	mg/L	5000	500		06/19/14 09:55		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Sample: TRIP BLANK **Lab ID: 60171556002** Collected: 06/16/14 08:30 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/19/14 23:11	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/19/14 23:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/19/14 23:11	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/19/14 23:11	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/19/14 23:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/19/14 23:11	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/19/14 23:11	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/19/14 23:11	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/19/14 23:11	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/19/14 23:11	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/19/14 23:11	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/19/14 23:11	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/19/14 23:11	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/19/14 23:11	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/19/14 23:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/19/14 23:11	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/19/14 23:11	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/19/14 23:11	127-18-4	
Toluene	ND	ug/L	1.0	1		06/19/14 23:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/19/14 23:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/19/14 23:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/19/14 23:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/19/14 23:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/19/14 23:11	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		06/19/14 23:11	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		06/19/14 23:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		06/19/14 23:11	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/19/14 23:11		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171556001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: MERP/8511
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171556001

METHOD BLANK: 1398951 Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/22/14 16:34	

LABORATORY CONTROL SAMPLE: 1398952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398953 1398954

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	135	144	90	96	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: MPRP/27685
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171556001

METHOD BLANK: 1396074
Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/18/14 16:06	
Antimony	ug/L	ND	10.0	06/18/14 16:06	
Arsenic	ug/L	ND	10.0	06/18/14 16:06	
Beryllium	ug/L	ND	1.0	06/18/14 16:06	
Cadmium	ug/L	ND	5.0	06/18/14 16:06	
Chromium	ug/L	ND	5.0	06/18/14 16:06	
Cobalt	ug/L	ND	5.0	06/18/14 16:06	
Copper	ug/L	ND	10.0	06/18/14 16:06	
Iron	ug/L	ND	50.0	06/18/14 16:06	
Lead	ug/L	ND	5.0	06/18/14 16:06	
Nickel	ug/L	ND	5.0	06/18/14 16:06	
Selenium	ug/L	ND	15.0	06/18/14 16:06	
Silver	ug/L	ND	7.0	06/18/14 16:06	
Thallium	ug/L	ND	20.0	06/18/14 16:06	
Zinc	ug/L	ND	50.0	06/18/14 16:06	

LABORATORY CONTROL SAMPLE: 1396075

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1070	107	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1040	104	85-115	
Chromium	ug/L	1000	989	99	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	9760	98	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1040	104	85-115	
Silver	ug/L	500	509	102	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1396076 1396077

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2410	50000	50000	55400	55800	106	107	70-130	1	8	
Antimony	ug/L	51.2	5000	5000	5380	5440	107	108	70-130	1	7	
Arsenic	ug/L	1100	5000	5000	6540	6620	109	110	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5000	5000	100	100	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5360	106	107	70-130	1	10	
Chromium	ug/L	154	5000	5000	4940	4980	96	97	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	4970	5010	99	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5840	5860	116	117	70-130	0	11	
Iron	ug/L	311000	50000	50000	363000	359000	104	96	70-130	1	10	
Lead	ug/L	32.2	5000	5000	4720	4770	94	95	70-130	1	10	
Nickel	ug/L	93.3	5000	5000	5220	5230	102	103	70-130	0	10	
Selenium	ug/L	ND	5000	5000	6070	6090	121	122	70-130	0	10	
Silver	ug/L	ND	2500	2500	2720	2720	108	108	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4380	4420	88	88	70-130	1	6	
Zinc	ug/L	3130	5000	5000	7770	7800	93	93	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: MPRP/27716
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171556001

METHOD BLANK: 1397359
Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/20/14 14:15	
Antimony, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Arsenic, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Beryllium, Dissolved	ug/L	ND	1.0	06/20/14 14:15	
Cadmium, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Chromium, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Cobalt, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Copper, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Iron, Dissolved	ug/L	ND	50.0	06/20/14 14:15	
Lead, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Nickel, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Selenium, Dissolved	ug/L	ND	15.0	06/20/14 14:15	
Silver, Dissolved	ug/L	ND	7.0	06/20/14 14:15	
Thallium, Dissolved	ug/L	ND	20.0	06/20/14 14:15	
Zinc, Dissolved	ug/L	ND	50.0	06/20/14 14:15	

LABORATORY CONTROL SAMPLE: 1397360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	921	92	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	990	99	85-115	
Cobalt, Dissolved	ug/L	1000	996	100	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	9860	99	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	975	97	85-115	
Silver, Dissolved	ug/L	500	501	100	85-115	
Thallium, Dissolved	ug/L	1000	995	100	85-115	
Zinc, Dissolved	ug/L	1000	925	92	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397361 1397362

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2100	50000	50000	54400	54400	105	105	70-130	0	8	
Antimony, Dissolved	ug/L	66.5	5000	5000	5380	5420	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6130	6070	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4960	5040	99	101	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5240	5270	105	105	70-130	1	10	
Chromium, Dissolved	ug/L	171	5000	5000	5020	5090	97	98	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4880	4920	97	98	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5460	5500	109	109	70-130	1	11	
Iron, Dissolved	ug/L	352000	50000	50000	410000	400000	116	97	70-130	2	10	
Lead, Dissolved	ug/L	41.9	5000	5000	4790	4870	95	96	70-130	1	10	
Nickel, Dissolved	ug/L	93.5	5000	5000	5060	5090	99	100	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5480	5560	109	111	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2590	2620	103	104	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4490	4500	90	90	70-130	0	6	
Zinc, Dissolved	ug/L	3220	5000	5000	7660	7620	89	88	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: MSV/62399
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171556001

METHOD BLANK: 1396468
Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/18/14 20:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,2-Dichloroethane	ug/L	ND	1.0	06/18/14 20:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/18/14 20:09	
2-Butanone (MEK)	ug/L	ND	10.0	06/18/14 20:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/18/14 20:09	N2
Acetone	ug/L	ND	10.0	06/18/14 20:09	N2
Benzene	ug/L	ND	1.0	06/18/14 20:09	
Bromodichloromethane	ug/L	ND	1.0	06/18/14 20:09	
Bromoform	ug/L	ND	1.0	06/18/14 20:09	
Bromomethane	ug/L	ND	5.0	06/18/14 20:09	
Carbon tetrachloride	ug/L	ND	1.0	06/18/14 20:09	
Chloroethane	ug/L	ND	1.0	06/18/14 20:09	
Chloroform	ug/L	ND	1.0	06/18/14 20:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/18/14 20:09	N2
Ethylbenzene	ug/L	ND	1.0	06/18/14 20:09	
Methylene chloride	ug/L	ND	1.0	06/18/14 20:09	
Tetrachloroethene	ug/L	ND	1.0	06/18/14 20:09	
Toluene	ug/L	ND	1.0	06/18/14 20:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/18/14 20:09	
Trichloroethene	ug/L	ND	1.0	06/18/14 20:09	
Vinyl chloride	ug/L	ND	1.0	06/18/14 20:09	
Xylene (Total)	ug/L	ND	3.0	06/18/14 20:09	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	06/18/14 20:09	
4-Bromofluorobenzene (S)	%	97	80-120	06/18/14 20:09	
Toluene-d8 (S)	%	99	80-120	06/18/14 20:09	

LABORATORY CONTROL SAMPLE: 1396469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.7	88	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	98	67-124	
1,2-Dichloroethane	ug/L	20	17.3	86	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	95	74-120	
2-Butanone (MEK)	ug/L	100	94.3	94	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	99.6	100	59-131	N2
Acetone	ug/L	100	92.8	93	38-134	N2
Benzene	ug/L	20	18.1	90	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

LABORATORY CONTROL SAMPLE: 1396469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	94	68-125	
Bromoform	ug/L	20	18.8	94	65-127	
Bromomethane	ug/L	20	7.4	37	13-157	
Carbon tetrachloride	ug/L	20	17.2	86	70-131	
Chloroethane	ug/L	20	19.0	95	47-133	
Chloroform	ug/L	20	17.8	89	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.5	92	68-127	N2
Ethylbenzene	ug/L	20	18.9	94	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	19.2	96	73-125	
Toluene	ug/L	20	17.6	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.3	86	66-129	
Trichloroethene	ug/L	20	18.3	91	71-123	
Vinyl chloride	ug/L	20	14.2	71	43-129	
Xylene (Total)	ug/L	60	56.6	94	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			94	80-120	

MATRIX SPIKE SAMPLE: 1396470

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	3910	78	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4770	93	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4340	87	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3710	74	49-144	
1,4-Dichlorobenzene	ug/L	634	5000	4830	84	33-140	
2-Butanone (MEK)	ug/L	39400	25000	67500	112	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23000	89	40-160	N2
Acetone	ug/L	99200	25000	127000	109	10-160	N2
Benzene	ug/L	ND	5000	4010	80	37-151	
Bromodichloromethane	ug/L	ND	5000	4010	80	35-142	
Bromoform	ug/L	ND	5000	4320	86	45-142	
Bromomethane	ug/L	ND	5000	1880	38	10-158	
Carbon tetrachloride	ug/L	ND	5000	4130	83	70-140	
Chloroethane	ug/L	ND	5000	3690	74	19-152	
Chloroform	ug/L	ND	5000	3890	78	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4150	83	34-147	N2
Ethylbenzene	ug/L	ND	5000	4240	85	40-142	
Methylene chloride	ug/L	ND	5000	3850	76	31-144	
Tetrachloroethene	ug/L	ND	5000	4400	88	64-148	
Toluene	ug/L	ND	5000	3890	78	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3880	78	54-151	
Trichloroethene	ug/L	ND	5000	3880	78	71-149	
Vinyl chloride	ug/L	ND	5000	3300	66	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

MATRIX SPIKE SAMPLE: 1396470

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	12600	84	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: MSV/62417
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171556002

METHOD BLANK: 1397048
Matrix: Water
Associated Lab Samples: 60171556002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/19/14 22:55	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,2-Dichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/19/14 22:55	
2-Butanone (MEK)	ug/L	ND	10.0	06/19/14 22:55	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/19/14 22:55	N2
Acetone	ug/L	ND	10.0	06/19/14 22:55	N2
Benzene	ug/L	ND	1.0	06/19/14 22:55	
Bromodichloromethane	ug/L	ND	1.0	06/19/14 22:55	
Bromoform	ug/L	ND	1.0	06/19/14 22:55	
Bromomethane	ug/L	ND	5.0	06/19/14 22:55	
Carbon tetrachloride	ug/L	ND	1.0	06/19/14 22:55	
Chloroethane	ug/L	ND	1.0	06/19/14 22:55	
Chloroform	ug/L	ND	1.0	06/19/14 22:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/19/14 22:55	N2
Ethylbenzene	ug/L	ND	1.0	06/19/14 22:55	
Methylene chloride	ug/L	ND	1.0	06/19/14 22:55	
Tetrachloroethene	ug/L	ND	1.0	06/19/14 22:55	
Toluene	ug/L	ND	1.0	06/19/14 22:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/19/14 22:55	
Trichloroethene	ug/L	ND	1.0	06/19/14 22:55	
Vinyl chloride	ug/L	ND	1.0	06/19/14 22:55	
Xylene (Total)	ug/L	ND	3.0	06/19/14 22:55	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	06/19/14 22:55	
4-Bromofluorobenzene (S)	%	98	80-120	06/19/14 22:55	
Toluene-d8 (S)	%	98	80-120	06/19/14 22:55	

LABORATORY CONTROL SAMPLE: 1397049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.9	85	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.3	101	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.6	98	67-124	
1,2-Dichloroethane	ug/L	20	17.7	88	70-126	
1,4-Dichlorobenzene	ug/L	20	18.2	91	74-120	
2-Butanone (MEK)	ug/L	100	96.9	97	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	59-131	N2
Acetone	ug/L	100	91.6	92	38-134	N2
Benzene	ug/L	20	17.7	89	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

LABORATORY CONTROL SAMPLE: 1397049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	94	68-125	
Bromoform	ug/L	20	19.2	96	65-127	
Bromomethane	ug/L	20	7.4	37	13-157	
Carbon tetrachloride	ug/L	20	16.8	84	70-131	
Chloroethane	ug/L	20	15.8	79	47-133	
Chloroform	ug/L	20	17.3	87	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.2	91	68-127	N2
Ethylbenzene	ug/L	20	18.7	93	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	18.5	92	73-125	
Toluene	ug/L	20	17.5	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.2	81	66-129	
Trichloroethene	ug/L	20	16.8	84	71-123	
Vinyl chloride	ug/L	20	12.0	60	43-129	
Xylene (Total)	ug/L	60	56.1	93	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE SAMPLE: 1397050

Parameter	Units	60171645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	3720	74	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4590	92	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4110	82	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3640	73	49-144	
1,4-Dichlorobenzene	ug/L	464	5000	4430	79	33-140	
2-Butanone (MEK)	ug/L	43500	25000	67500	96	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	22700	88	40-160	N2
Acetone	ug/L	100000	25000	126000	102	10-160	N2
Benzene	ug/L	ND	5000	3770	75	37-151	
Bromodichloromethane	ug/L	ND	5000	3900	78	35-142	
Bromoform	ug/L	ND	5000	4410	88	45-142	
Bromomethane	ug/L	ND	5000	1600	32	10-158	
Carbon tetrachloride	ug/L	ND	5000	3820	76	70-140	
Chloroethane	ug/L	ND	5000	3250	65	19-152	
Chloroform	ug/L	ND	5000	3640	73	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	3870	77	34-147	N2
Ethylbenzene	ug/L	ND	5000	4070	81	40-142	
Methylene chloride	ug/L	ND	5000	3590	71	31-144	
Tetrachloroethene	ug/L	ND	5000	4250	85	64-148	
Toluene	ug/L	ND	5000	3710	74	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3570	71	54-151	
Trichloroethene	ug/L	ND	5000	3690	74	71-149	
Vinyl chloride	ug/L	ND	5000	2390	48	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

MATRIX SPIKE SAMPLE: 1397050

Parameter	Units	60171645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	11900	79	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: OEXT/44731
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60171556001

METHOD BLANK: 1396677 Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/20/14 09:31	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/20/14 09:31	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/20/14 09:31	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/20/14 09:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachloroethane	ug/L	ND	5.0	06/20/14 09:31	
Naphthalene	ug/L	ND	5.0	06/20/14 09:31	
Nitrobenzene	ug/L	ND	5.0	06/20/14 09:31	
Pentachlorophenol	ug/L	ND	5.0	06/20/14 09:31	
Phenol	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Tribromophenol (S)	%	77	39-120	06/20/14 09:31	
2-Fluorobiphenyl (S)	%	75	39-120	06/20/14 09:31	
2-Fluorophenol (S)	%	38	17-120	06/20/14 09:31	
Nitrobenzene-d5 (S)	%	74	33-120	06/20/14 09:31	
Phenol-d6 (S)	%	23	11-120	06/20/14 09:31	
Terphenyl-d14 (S)	%	68	45-120	06/20/14 09:31	

LABORATORY CONTROL SAMPLE: 1396678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.8	80	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.0	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.7	61	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.8	52	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	47.6	95	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.7	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	38.7	39	24-120	
Hexachloroethane	ug/L	50	34.8	70	43-113	
Naphthalene	ug/L	50	40.9	82	48-120	
Nitrobenzene	ug/L	50	42.1	84	48-120	
Pentachlorophenol	ug/L	50	39.5	79	47-120	
Phenol	ug/L	50	13.3	27	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			83	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

MATRIX SPIKE SAMPLE: 1396679

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.1	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.1	86	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	32.6	65	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6640	50	99.9	-13085	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	41.1J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.3	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	39.0	39	11-120	
Hexachloroethane	ug/L	ND	50	34.6	69	40-113	
Naphthalene	ug/L	2700	50	56.2	-5294	45-120	M1
Nitrobenzene	ug/L	ND	50	43.4	87	38-120	
Pentachlorophenol	ug/L	ND	50	44.8	90	43-135	
Phenol	ug/L	10000	50	105	-19787	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				38	17-120	
Nitrobenzene-d5 (S)	%				150	33-120	S0
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				75	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: WET/48543
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171556001

METHOD BLANK: 1396506 Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/18/14 16:19	

LABORATORY CONTROL SAMPLE: 1396507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.2	88	78-114	

MATRIX SPIKE SAMPLE: 1396519

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	592	160	632	25	78-114	M1

SAMPLE DUPLICATE: 1396509

Parameter	Units	60171203001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	60.4	57.0	6	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: WET/48544 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171556001

METHOD BLANK: 1396527 Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/18/14 16:42	

LABORATORY CONTROL SAMPLE: 1396528

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.4	112	64-132	

MATRIX SPIKE SAMPLE: 1396529

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.3	80	34.4	33	64-132	M1

SAMPLE DUPLICATE: 1396530

Parameter	Units	60171203001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.9	10.2	3	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: WET/48555
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171556001

METHOD BLANK: 1396815
Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/19/14 09:44	

SAMPLE DUPLICATE: 1396816

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4220	4520	7	10	

SAMPLE DUPLICATE: 1396817

Parameter	Units	60171539002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	6.0		10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: WET/48518
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171556001

SAMPLE DUPLICATE: 1395899

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: WET/48499
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171556001

METHOD BLANK: 1395604 Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/22/14 13:57	

LABORATORY CONTROL SAMPLE: 1395605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	214	108	85-115	

SAMPLE DUPLICATE: 1395606

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	31000	31400	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: WETA/29937 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171556001

METHOD BLANK: 1399070 Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/23/14 09:43	

LABORATORY CONTROL SAMPLE: 1399071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1399072

Parameter	Units	60171009003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.7	2	4.4	86	90-110	M1

SAMPLE DUPLICATE: 1399073

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	545	551	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

QC Batch: WETA/29869
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60171556001

METHOD BLANK: 1396155 Matrix: Water
Associated Lab Samples: 60171556001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/19/14 09:49	

LABORATORY CONTROL SAMPLE: 1396156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.2	92	90-110	

MATRIX SPIKE SAMPLE: 1396157

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	48200	25000	69200	84	90-110	M1

SAMPLE DUPLICATE: 1396158

Parameter	Units	60171209001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	40700	49100	19	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
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QUALIFIERS

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-332
Pace Project No.: 60171556

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171556001	**316-332**	EPA 200.7	MPRP/27685	EPA 200.7	ICP/20922
60171556001	**316-332**	EPA 200.7	MPRP/27716	EPA 200.7	ICP/20950
60171556001	**316-332**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60171556001	**316-332**	EPA 245.1	MERP/8511	EPA 245.1	MERC/8466
60171556001	**316-332**	EPA 625	OEXT/44731	EPA 625	MSSV/14323
60171556001	**316-332**	EPA 624 Low	MSV/62399		
60171556002	**TRIP BLANK**	EPA 624 Low	MSV/62417		
60171556001	**316-332**	EPA 1664A	WET/48543		
60171556001	**316-332**	EPA 1664A	WET/48544		
60171556001	**316-332**	SM 2540D	WET/48555		
60171556001	**316-332**	SM 4500-H+B	WET/48518		
60171556001	**316-332**	SM 5210B	WET/48499	SM 5210B	WET/48613
60171556001	**316-332**	EPA 350.1	WETA/29937		
60171556001	**316-332**	EPA 410.4	WETA/29869		

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www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60171556

60171556

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☐

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ 2 pkg

Thermometer Used: (T-239) / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 12.2 * cooling

Temperature should be above freezing to 6°C

Date and initials of person examining contents: att 6/16

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD / pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3S w/ initial pH 4.5 added 2mL H_2SO_4 w/ final pH 2.5 BP3N w/ initial pH 5.0 added 0.5mL HNO_3 w/ final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed: att / Lot # of added preservative: 125A2-2-7, 12513-2-3-2
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Covered		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MD

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: RUS sample

Project Manager Review: _____ Date: 6/17/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A
Required Client Information:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone:	(816) 285-8410 Fax
Requested Due Date/TAT:	10 Day (Default)

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60171556
1	5.0/9.0 45/35 316-332 1(BP5N) 1(BP3S) 5(DG9U) 2(BPRU) 1(BP3U)	OT	G	6/16/14	0830	—	—		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			3(AG3S) 2(AG4U) 001
2	TRIP BLANK	—		—	—	—	—		2	2																X						2(DG9U) 002
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Ti,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FOT	6-16-14	8:35am	Bill Stine 412	6-16-14	8:35am				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	6/16	13:05	12.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/16/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 24, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171561001	**TCLP JUN2014**	Water	06/15/14 08:00	06/16/14 13:05
60171561002	**TRIP BLANK**	Water	06/15/14 08:00	06/16/14 13:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171561001	**TCLP JUN2014**	EPA 8260	TJT	13
		EPA 1664A	CRT	1
		SM 2540B	ESM	1
60171561002	**TRIP BLANK**	EPA 5030B/8260	PRG	28

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

Sample: TCLP JUN2014 **Lab ID: 60171561001** Collected: 06/15/14 08:00 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 06/23/14 00:00							
Benzene	**267**	ug/L	250	5		06/23/14 21:19	71-43-2	
2-Butanone (MEK)	**29100**	ug/L	5000	5		06/23/14 21:19	78-93-3	
Carbon tetrachloride	ND	ug/L	250	5		06/23/14 21:19	56-23-5	
Chlorobenzene	ND	ug/L	250	5		06/23/14 21:19	108-90-7	
Chloroform	ND	ug/L	1000	5		06/23/14 21:19	67-66-3	
1,2-Dichloroethane	ND	ug/L	250	5		06/23/14 21:19	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	5		06/23/14 21:19	75-35-4	
Tetrachloroethene	ND	ug/L	250	5		06/23/14 21:19	127-18-4	
Trichloroethene	ND	ug/L	250	5		06/23/14 21:19	79-01-6	
Vinyl chloride	ND	ug/L	100	5		06/23/14 21:19	75-01-4	
Surrogates								
1,2-Dichloroethane-d4 (S)	102	%	80-120	5		06/23/14 21:19	17060-07-0	
Toluene-d8 (S)	100	%	80-120	5		06/23/14 21:19	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120	5		06/23/14 21:19	460-00-4	
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**423**	mg/L	5.0	1		06/19/14 16:20		
2540B Total Solids	Analytical Method: SM 2540B							
Total Solids	**20400**	mg/L	5.0	1		06/20/14 16:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

Sample: TRIP BLANK **Lab ID: 60171561002** Collected: 06/15/14 08:00 Received: 06/16/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	ND	ug/L	10.0	1		06/17/14 15:29	67-64-1	
Benzene	ND	ug/L	1.0	1		06/17/14 15:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/17/14 15:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/17/14 15:29	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/17/14 15:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/17/14 15:29	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0	1		06/17/14 15:29	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/17/14 15:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/17/14 15:29	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/17/14 15:29	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/17/14 15:29	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/17/14 15:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/17/14 15:29	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/17/14 15:29	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/17/14 15:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/17/14 15:29	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/17/14 15:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		06/17/14 15:29	127-18-4	
Toluene	ND	ug/L	1.0	1		06/17/14 15:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/17/14 15:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/17/14 15:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/17/14 15:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/17/14 15:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/17/14 15:29	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		06/17/14 15:29	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		06/17/14 15:29	17060-07-0	
Toluene-d8 (S)	100	%	80-120	1		06/17/14 15:29	2037-26-5	
Preservation pH	**1.0**		0.10	1		06/17/14 15:29		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

QC Batch: MSV/62496
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60171561001

METHOD BLANK: 1399461 Matrix: Water
Associated Lab Samples: 60171561001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	06/23/14 18:45	
1,2-Dichloroethane	ug/L	ND	50.0	06/23/14 18:45	
2-Butanone (MEK)	ug/L	ND	1000	06/23/14 18:45	
Benzene	ug/L	ND	50.0	06/23/14 18:45	
Carbon tetrachloride	ug/L	ND	50.0	06/23/14 18:45	
Chlorobenzene	ug/L	ND	50.0	06/23/14 18:45	
Chloroform	ug/L	ND	200	06/23/14 18:45	
Tetrachloroethene	ug/L	ND	50.0	06/23/14 18:45	
Trichloroethene	ug/L	ND	50.0	06/23/14 18:45	
Vinyl chloride	ug/L	ND	20.0	06/23/14 18:45	
1,2-Dichloroethane-d4 (S)	%	104	80-120	06/23/14 18:45	
4-Bromofluorobenzene (S)	%	99	80-120	06/23/14 18:45	
Toluene-d8 (S)	%	101	80-120	06/23/14 18:45	

LABORATORY CONTROL SAMPLE: 1399462

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	873	87	78-126	
1,2-Dichloroethane	ug/L	1000	993	99	77-123	
2-Butanone (MEK)	ug/L	5000	4810	96	52-145	
Benzene	ug/L	1000	892	89	80-120	
Carbon tetrachloride	ug/L	1000	962	96	78-128	
Chlorobenzene	ug/L	1000	919	92	80-120	
Chloroform	ug/L	1000	920	92	79-120	
Tetrachloroethene	ug/L	1000	894	89	80-121	
Trichloroethene	ug/L	1000	925	93	80-120	
Vinyl chloride	ug/L	1000	869	87	59-120	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1399463

Parameter	Units	60170425001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	906	91	60-144	H1
1,2-Dichloroethane	ug/L	ND	1000	1040	104	49-148	H1
2-Butanone (MEK)	ug/L	ND	5000	4440	89	36-145	H1
Benzene	ug/L	ND	1000	916	92	37-157	H1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

MATRIX SPIKE SAMPLE: 1399463

Parameter	Units	60170425001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	ND	1000	978	98	68-142	H1
Chlorobenzene	ug/L	ND	1000	945	94	66-133	H1
Chloroform	ug/L	ND	1000	892	89	66-127	H1
Tetrachloroethene	ug/L	ND	1000	901	90	69-133	H1
Trichloroethene	ug/L	ND	1000	953	95	61-135	H1
Vinyl chloride	ug/L	ND	1000	895	90	44-128	H1
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	
Toluene-d8 (S)	%				100	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

QC Batch: MSV/62348
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60171561002

METHOD BLANK: 1395446 Matrix: Water
Associated Lab Samples: 60171561002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/17/14 15:15	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/17/14 15:15	
1,1,2-Trichloroethane	ug/L	ND	1.0	06/17/14 15:15	
1,2-Dichloroethane	ug/L	ND	1.0	06/17/14 15:15	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/17/14 15:15	
2-Butanone (MEK)	ug/L	ND	10.0	06/17/14 15:15	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/17/14 15:15	
Acetone	ug/L	ND	10.0	06/17/14 15:15	
Benzene	ug/L	ND	1.0	06/17/14 15:15	
Bromodichloromethane	ug/L	ND	1.0	06/17/14 15:15	
Bromoform	ug/L	ND	1.0	06/17/14 15:15	
Bromomethane	ug/L	ND	5.0	06/17/14 15:15	
Carbon tetrachloride	ug/L	ND	1.0	06/17/14 15:15	
Chloroethane	ug/L	ND	1.0	06/17/14 15:15	
Chloroform	ug/L	ND	1.0	06/17/14 15:15	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/17/14 15:15	
Ethylbenzene	ug/L	ND	1.0	06/17/14 15:15	
Methylene chloride	ug/L	ND	1.0	06/17/14 15:15	
Tetrachloroethene	ug/L	ND	1.0	06/17/14 15:15	
Toluene	ug/L	ND	1.0	06/17/14 15:15	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/17/14 15:15	
Trichloroethene	ug/L	ND	1.0	06/17/14 15:15	
Vinyl chloride	ug/L	ND	1.0	06/17/14 15:15	
Xylene (Total)	ug/L	ND	3.0	06/17/14 15:15	
1,2-Dichloroethane-d4 (S)	%	101	80-120	06/17/14 15:15	
4-Bromofluorobenzene (S)	%	105	80-120	06/17/14 15:15	
Toluene-d8 (S)	%	91	80-120	06/17/14 15:15	

LABORATORY CONTROL SAMPLE: 1395447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.2	106	80-121	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	73-124	
1,1,2-Trichloroethane	ug/L	20	19.0	95	80-120	
1,2-Dichloroethane	ug/L	20	19.9	100	77-123	
1,4-Dichlorobenzene	ug/L	20	19.3	97	80-120	
2-Butanone (MEK)	ug/L	100	98.2	98	52-145	
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	71-131	
Acetone	ug/L	100	89.1	89	32-155	
Benzene	ug/L	20	20.6	103	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

LABORATORY CONTROL SAMPLE: 1395447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	21.3	106	80-120	
Bromoform	ug/L	20	21.2	106	73-124	
Bromomethane	ug/L	20	15.8	79	31-144	
Carbon tetrachloride	ug/L	20	20.0	100	78-128	
Chloroethane	ug/L	20	17.5	88	55-137	
Chloroform	ug/L	20	20.6	103	79-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	80-120	
Ethylbenzene	ug/L	20	20.9	104	80-121	
Methylene chloride	ug/L	20	18.2	91	73-126	
Tetrachloroethene	ug/L	20	20.4	102	80-121	
Toluene	ug/L	20	19.6	98	80-122	
trans-1,2-Dichloroethene	ug/L	20	19.1	95	79-121	
Trichloroethene	ug/L	20	21.6	108	80-120	
Vinyl chloride	ug/L	20	17.3	86	59-120	
Xylene (Total)	ug/L	60	61.2	102	80-121	
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			92	80-120	
Toluene-d8 (S)	%			96	80-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

QC Batch: WET/48567 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171561001

METHOD BLANK: 1397280 Matrix: Water
Associated Lab Samples: 60171561001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/19/14 16:18	

LABORATORY CONTROL SAMPLE: 1397281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.1	95	78-114	

MATRIX SPIKE SAMPLE: 1397282

Parameter	Units	60171249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.1	44.4	52.0	99	78-114	

SAMPLE DUPLICATE: 1397283

Parameter	Units	60171296002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.6J		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

QC Batch: WET/48594 Analysis Method: SM 2540B
QC Batch Method: SM 2540B Analysis Description: 2540B Total Solids
Associated Lab Samples: 60171561001

METHOD BLANK: 1398257 Matrix: Water
Associated Lab Samples: 60171561001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	06/20/14 16:21	

LABORATORY CONTROL SAMPLE: 1398258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	976	98	80-120	

SAMPLE DUPLICATE: 1398259

Parameter	Units	60171561001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	20400	19900	2	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/62348

[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

H1 Analysis conducted outside the EPA method holding time.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60171561

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171561001	**TCLP JUN2014**	EPA 8260	MSV/62496		
60171561002	**TRIP BLANK**	EPA 5030B/8260	MSV/62348		
60171561001	**TCLP JUN2014**	EPA 1664A	WET/48567		
60171561001	**TCLP JUN2014**	SM 2540B	WET/48594		

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Sample Condition Upon Receipt

WO# : 60171561

60171561

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ crosstreads

Tracking #: _____ Pace Shipping Label Used? Yes ☑ No ☑ dbl 6/16

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ zpac

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: att 6/16

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 040714-38ED		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MD

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: BM Date/Time:

Comments/ Resolution: Verified NO total VOCs on sample, but continue on trip.

Project Manager Review: _____ Date: 6/7/16

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The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A Required Client Information:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR-BARR
Purchase Order No.:	PO 3727110
Project Name:	BRIDGETON UNTREATED COMMINGLED
Project Number:	

Section C Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	
Pace Project Manager:	Angie Brown 913-563-1402
Pace Profile #:	PROFILE 6787-LINE 6

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MO

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	8260 Volatiles **	TCLP Volatiles *	Total Solids/water matrix	Oil and Grease								Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	TCLP JUN2014	OT	C	6/15/14	0800	—	—		5	3	2									✓	✓	✓	2(ACHL)	2(AL35)	1(8270)					60171561
2	TRIP BLANK	WT	G	—	—	—	—		2				2						X				2(CDGFH)							** total VOCs Bridgeton List (1) * footnote %dry solids TCLP (2)
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	FEI	6-16-14	8:35m	Bill Stone 412	6-16-14	8:35m				
				[illegible] MAEI	6/16	13:05	3.8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 6/15/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

TCLP/SPLP Determination of Percent Solids

(Only if sample is liquid or semi-liquid. Skip if sample is obviously 100% solid.)

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Date: 6/23/14 Batch: 6418

Analyst: ZNB Balance ID: 600EXT5 Reviewed by: _____

Sample Number	A Weight of Beaker (g)	B Weight of Sample & Beaker (g)	C Weight of Filtrate Container (g)	D Weight of 142-mm TCLP Filter (g)	E Weight of Waste Beaker After Filtration (g)	F Weight of Filtrate & Container (g)	G Weight of Filter and Solid Phase After Filtration (g)	H Weight of Filtrate (g) (F - C)	I Weight of Waste Filtered (g) (E - B)	J Percent WET Solids $\left(\frac{(I-H)}{I \times 0.01}\right)$	K DRY Weight #1 of Solid Phase plus Filter (g)	L DRY Weight #2 of Solid Phase plus Filter (g) (1)	M Percent DRY Solids $\left(\frac{(L-D)}{I \times 0.01}\right)$	If Multiphase, Are Phases Compatible (2)
60171561.00	116.0	244.7	283.9	1.3	116.7	409.6	3.3	120.7	128	5.7%	1.5	1.5	0.15%	Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA

clem 6/23/14

NOTE: If Wet Solids are ≥0.5 and <5% and a small amount of liquid is entrapped in the filter, then determine Percent Dry Solids. If the entrapped liquid is oily (non-aqueous) do not determine Percent Dry Solids. If Solids are <0.5%, tumbling is not required because the filtrate is considered to be the TCLP/SPLP extract.

(1) Dry Weight #1 and Dry Weight #2 must be within 1% of each other. If the weights are within 1% of each other, use Dry Weight #2 in further calculations. If not within 1%, continue drying and weighing until two successive weighings are within 1%.

(2) If compatible, combine the filtered liquid resulting from extraction with the initial liquid phase of sample. If the initial liquid phase is not compatible with the filtered liquid resulting from extraction, do not combine. Analyze liquids separately and combine the results mathematically.

If solids are ≥5.0 and <100%	Weight of waste to charge the ZHE = $\frac{25}{\text{Percent solids}} \times 100$ Weight of waste to filter = $\frac{\text{mL of leachate required}}{20 \times \text{Percent solids}} \times 100$

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June 25, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 18, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171645001	**316-333**	Water	06/17/14 08:38	06/18/14 02:10
60171645002	**TRIP BLANK**	Water	06/17/14 08:38	06/18/14 02:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171645001	**316-333**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60171645002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Date: June 25, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Sample: 316-333 **Lab ID: 60171645001** Collected: 06/17/14 08:38 Received: 06/18/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7780**	ug/L	750	2	06/24/14 05:59	06/24/14 17:41	7429-90-5	
Antimony	**93.6**	ug/L	50.0	1	06/24/14 05:59	06/24/14 17:38	7440-36-0	
Arsenic	**1580**	ug/L	50.0	1	06/24/14 05:59	06/24/14 17:38	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/24/14 05:59	06/24/14 17:38	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:38	7440-43-9	
Chromium	**251**	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:38	7440-47-3	
Cobalt	**40.5**	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:38	7440-48-4	
Copper	ND	ug/L	50.0	1	06/24/14 05:59	06/24/14 17:38	7440-50-8	
Iron	**744000**	ug/L	250	1	06/24/14 05:59	06/24/14 17:38	7439-89-6	M1
Lead	**91.2**	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:38	7439-92-1	
Nickel	**126**	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:38	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/24/14 05:59	06/24/14 17:38	7782-49-2	
Silver	ND	ug/L	35.0	1	06/24/14 05:59	06/24/14 17:38	7440-22-4	
Thallium	ND	ug/L	100	1	06/24/14 05:59	06/24/14 17:38	7440-28-0	
Zinc	**4040**	ug/L	500	2	06/24/14 05:59	06/24/14 17:41	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1940**	ug/L	750	2	06/19/14 18:40	06/20/14 14:46	7429-90-5	
Antimony, Dissolved	**58.2**	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:44	7440-36-0	
Arsenic, Dissolved	**1050**	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:44	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/19/14 18:40	06/20/14 14:44	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:44	7440-43-9	
Chromium, Dissolved	**167**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:44	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:44	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/19/14 18:40	06/20/14 14:44	7440-50-8	
Iron, Dissolved	**334000**	ug/L	250	1	06/19/14 18:40	06/20/14 14:44	7439-89-6	
Lead, Dissolved	**35.5**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:44	7439-92-1	
Nickel, Dissolved	**84.4**	ug/L	25.0	1	06/19/14 18:40	06/20/14 14:44	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/19/14 18:40	06/20/14 14:44	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/19/14 18:40	06/20/14 14:44	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/19/14 18:40	06/20/14 14:44	7440-28-0	
Zinc, Dissolved	**2990**	ug/L	500	2	06/19/14 18:40	06/20/14 14:46	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:19	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 16:49	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/19/14 00:00	06/20/14 16:12	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/19/14 00:00	06/20/14 16:12	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6250**	ug/L	4000	2	06/19/14 00:00	06/20/14 16:12		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Sample: 316-333 **Lab ID: 60171645001** Collected: 06/17/14 08:38 Received: 06/18/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1920**	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	87-86-5	
Phenol	**8490**	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/20/14 16:12	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	169	%	33-120	2	06/19/14 00:00	06/20/14 16:12	4165-60-0	S0
2-Fluorobiphenyl (S)	90	%	39-120	2	06/19/14 00:00	06/20/14 16:12	321-60-8	
Terphenyl-d14 (S)	81	%	45-120	2	06/19/14 00:00	06/20/14 16:12	1718-51-0	
Phenol-d6 (S)	30	%	11-120	2	06/19/14 00:00	06/20/14 16:12	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	06/19/14 00:00	06/20/14 16:12	367-12-4	
2,4,6-Tribromophenol (S)	99	%	39-120	2	06/19/14 00:00	06/20/14 16:12	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**100000**	ug/L	2500	250		06/20/14 01:46	67-64-1	N2
Benzene	ND	ug/L	250	250		06/20/14 01:46	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/20/14 01:46	75-27-4	
Bromoform	ND	ug/L	250	250		06/20/14 01:46	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/20/14 01:46	74-83-9	
2-Butanone (MEK)	**43500**	ug/L	2500	250		06/20/14 01:46	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/20/14 01:46	56-23-5	
Chloroethane	ND	ug/L	250	250		06/20/14 01:46	75-00-3	
Chloroform	ND	ug/L	250	250		06/20/14 01:46	67-66-3	
1,4-Dichlorobenzene	**464**	ug/L	250	250		06/20/14 01:46	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/20/14 01:46	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/20/14 01:46	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/20/14 01:46	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/20/14 01:46	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/20/14 01:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/20/14 01:46	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/20/14 01:46	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/20/14 01:46	127-18-4	
Toluene	ND	ug/L	250	250		06/20/14 01:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/20/14 01:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/20/14 01:46	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/20/14 01:46	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/20/14 01:46	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/20/14 01:46	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	250		06/20/14 01:46	460-00-4	
Toluene-d8 (S)	96	%	80-120	250		06/20/14 01:46	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	250		06/20/14 01:46	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/20/14 01:46		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1450**	mg/L	5.0	1		06/20/14 17:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Sample: 316-333 **Lab ID: 60171645001** Collected: 06/17/14 08:38 Received: 06/18/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**15.4**	mg/L	5.0	1		06/20/14 17:53		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4020**	mg/L	5.0	1		06/19/14 10:04		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/23/14 11:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**25900**	mg/L	2.0	1	06/18/14 13:47	06/23/14 11:19		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**547**	mg/L	20.0	200		06/23/14 09:54	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**45100**	mg/L	5000	500		06/19/14 09:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Sample: TRIP BLANK **Lab ID: 60171645002** Collected: 06/17/14 08:38 Received: 06/18/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/20/14 01:00	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/20/14 01:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/20/14 01:00	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/20/14 01:00	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/20/14 01:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/20/14 01:00	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/20/14 01:00	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/20/14 01:00	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/20/14 01:00	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/20/14 01:00	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/20/14 01:00	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/20/14 01:00	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/20/14 01:00	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/20/14 01:00	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/20/14 01:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/20/14 01:00	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/20/14 01:00	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/20/14 01:00	127-18-4	
Toluene	ND	ug/L	1.0	1		06/20/14 01:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/20/14 01:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/20/14 01:00	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/20/14 01:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/20/14 01:00	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/20/14 01:00	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	1		06/20/14 01:00	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		06/20/14 01:00	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		06/20/14 01:00	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/20/14 01:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171645001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: MERP/8511
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171645001

METHOD BLANK: 1398951 Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/22/14 16:34	

LABORATORY CONTROL SAMPLE: 1398952

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398953 1398954

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	135	144	90	96	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: MPRP/27763
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171645001

METHOD BLANK: 1399409
Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/24/14 17:36	
Antimony	ug/L	ND	10.0	06/24/14 17:36	
Arsenic	ug/L	ND	10.0	06/24/14 17:36	
Beryllium	ug/L	ND	1.0	06/24/14 17:36	
Cadmium	ug/L	ND	5.0	06/24/14 17:36	
Chromium	ug/L	ND	5.0	06/24/14 17:36	
Cobalt	ug/L	ND	5.0	06/24/14 17:36	
Copper	ug/L	ND	10.0	06/24/14 17:36	
Iron	ug/L	ND	50.0	06/24/14 17:36	
Lead	ug/L	ND	5.0	06/24/14 17:36	
Nickel	ug/L	ND	5.0	06/24/14 17:36	
Selenium	ug/L	ND	15.0	06/24/14 17:36	
Silver	ug/L	ND	7.0	06/24/14 17:36	
Thallium	ug/L	ND	20.0	06/24/14 17:36	
Zinc	ug/L	ND	50.0	06/24/14 17:36	

LABORATORY CONTROL SAMPLE: 1399410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	994	99	85-115	
Cadmium	ug/L	1000	991	99	85-115	
Chromium	ug/L	1000	946	95	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9390	94	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	1030	103	85-115	
Silver	ug/L	500	488	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399411 1399412

Parameter	Units	60171645001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7780	50000	50000	64200	64100	113	113	70-130	0	8	
Antimony	ug/L	93.6	5000	5000	5540	5630	109	111	70-130	2	7	
Arsenic	ug/L	1580	5000	5000	6960	7260	108	114	70-130	4	10	
Beryllium	ug/L	ND	5000	5000	4800	4820	96	96	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5220	5290	104	106	70-130	1	10	
Chromium	ug/L	251	5000	5000	4770	4780	90	91	70-130	0	10	
Cobalt	ug/L	40.5	5000	5000	4730	4770	94	95	70-130	1	6	
Copper	ug/L	ND	5000	5000	5550	5660	111	113	70-130	2	11	
Iron	ug/L	744000	50000	50000	713000	769000	-62	50	70-130	8	10	M1
Lead	ug/L	91.2	5000	5000	4590	4620	90	91	70-130	1	10	
Nickel	ug/L	126	5000	5000	4830	4890	94	95	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6220	6400	124	128	70-130	3	10	
Silver	ug/L	ND	2500	2500	2610	2660	104	106	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4100	4150	82	83	70-130	1	6	
Zinc	ug/L	4040	5000	5000	8200	8350	83	86	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: MPRP/27716
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171645001

METHOD BLANK: 1397359 Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/20/14 14:15	
Antimony, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Arsenic, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Beryllium, Dissolved	ug/L	ND	1.0	06/20/14 14:15	
Cadmium, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Chromium, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Cobalt, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Copper, Dissolved	ug/L	ND	10.0	06/20/14 14:15	
Iron, Dissolved	ug/L	ND	50.0	06/20/14 14:15	
Lead, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Nickel, Dissolved	ug/L	ND	5.0	06/20/14 14:15	
Selenium, Dissolved	ug/L	ND	15.0	06/20/14 14:15	
Silver, Dissolved	ug/L	ND	7.0	06/20/14 14:15	
Thallium, Dissolved	ug/L	ND	20.0	06/20/14 14:15	
Zinc, Dissolved	ug/L	ND	50.0	06/20/14 14:15	

LABORATORY CONTROL SAMPLE: 1397360

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	921	92	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	990	99	85-115	
Cobalt, Dissolved	ug/L	1000	996	100	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	9860	99	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	975	97	85-115	
Silver, Dissolved	ug/L	500	501	100	85-115	
Thallium, Dissolved	ug/L	1000	995	100	85-115	
Zinc, Dissolved	ug/L	1000	925	92	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1397361 1397362

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2100	50000	50000	54400	54400	105	105	70-130	0	8	
Antimony, Dissolved	ug/L	66.5	5000	5000	5380	5420	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6130	6070	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4960	5040	99	101	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5240	5270	105	105	70-130	1	10	
Chromium, Dissolved	ug/L	171	5000	5000	5020	5090	97	98	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4880	4920	97	98	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5460	5500	109	109	70-130	1	11	
Iron, Dissolved	ug/L	352000	50000	50000	410000	400000	116	97	70-130	2	10	
Lead, Dissolved	ug/L	41.9	5000	5000	4790	4870	95	96	70-130	1	10	
Nickel, Dissolved	ug/L	93.5	5000	5000	5060	5090	99	100	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5480	5560	109	111	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2590	2620	103	104	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4490	4500	90	90	70-130	0	6	
Zinc, Dissolved	ug/L	3220	5000	5000	7660	7620	89	88	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: MSV/62417
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171645001, 60171645002

METHOD BLANK: 1397048
Matrix: Water
Associated Lab Samples: 60171645001, 60171645002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/19/14 22:55	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,2-Dichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/19/14 22:55	
2-Butanone (MEK)	ug/L	ND	10.0	06/19/14 22:55	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/19/14 22:55	N2
Acetone	ug/L	ND	10.0	06/19/14 22:55	N2
Benzene	ug/L	ND	1.0	06/19/14 22:55	
Bromodichloromethane	ug/L	ND	1.0	06/19/14 22:55	
Bromoform	ug/L	ND	1.0	06/19/14 22:55	
Bromomethane	ug/L	ND	5.0	06/19/14 22:55	
Carbon tetrachloride	ug/L	ND	1.0	06/19/14 22:55	
Chloroethane	ug/L	ND	1.0	06/19/14 22:55	
Chloroform	ug/L	ND	1.0	06/19/14 22:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/19/14 22:55	N2
Ethylbenzene	ug/L	ND	1.0	06/19/14 22:55	
Methylene chloride	ug/L	ND	1.0	06/19/14 22:55	
Tetrachloroethene	ug/L	ND	1.0	06/19/14 22:55	
Toluene	ug/L	ND	1.0	06/19/14 22:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/19/14 22:55	
Trichloroethene	ug/L	ND	1.0	06/19/14 22:55	
Vinyl chloride	ug/L	ND	1.0	06/19/14 22:55	
Xylene (Total)	ug/L	ND	3.0	06/19/14 22:55	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	06/19/14 22:55	
4-Bromofluorobenzene (S)	%	98	80-120	06/19/14 22:55	
Toluene-d8 (S)	%	98	80-120	06/19/14 22:55	

LABORATORY CONTROL SAMPLE: 1397049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.9	85	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.3	101	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.6	98	67-124	
1,2-Dichloroethane	ug/L	20	17.7	88	70-126	
1,4-Dichlorobenzene	ug/L	20	18.2	91	74-120	
2-Butanone (MEK)	ug/L	100	96.9	97	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	59-131	N2
Acetone	ug/L	100	91.6	92	38-134	N2
Benzene	ug/L	20	17.7	89	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

LABORATORY CONTROL SAMPLE: 1397049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	94	68-125	
Bromoform	ug/L	20	19.2	96	65-127	
Bromomethane	ug/L	20	7.4	37	13-157	
Carbon tetrachloride	ug/L	20	16.8	84	70-131	
Chloroethane	ug/L	20	15.8	79	47-133	
Chloroform	ug/L	20	17.3	87	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.2	91	68-127	N2
Ethylbenzene	ug/L	20	18.7	93	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	18.5	92	73-125	
Toluene	ug/L	20	17.5	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.2	81	66-129	
Trichloroethene	ug/L	20	16.8	84	71-123	
Vinyl chloride	ug/L	20	12.0	60	43-129	
Xylene (Total)	ug/L	60	56.1	93	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE SAMPLE: 1397050

Parameter	Units	60171645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	3720	74	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4590	92	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4110	82	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3640	73	49-144	
1,4-Dichlorobenzene	ug/L	464	5000	4430	79	33-140	
2-Butanone (MEK)	ug/L	43500	25000	67500	96	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	22700	88	40-160	N2
Acetone	ug/L	100000	25000	126000	102	10-160	N2
Benzene	ug/L	ND	5000	3770	75	37-151	
Bromodichloromethane	ug/L	ND	5000	3900	78	35-142	
Bromoform	ug/L	ND	5000	4410	88	45-142	
Bromomethane	ug/L	ND	5000	1600	32	10-158	
Carbon tetrachloride	ug/L	ND	5000	3820	76	70-140	
Chloroethane	ug/L	ND	5000	3250	65	19-152	
Chloroform	ug/L	ND	5000	3640	73	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	3870	77	34-147	N2
Ethylbenzene	ug/L	ND	5000	4070	81	40-142	
Methylene chloride	ug/L	ND	5000	3590	71	31-144	
Tetrachloroethene	ug/L	ND	5000	4250	85	64-148	
Toluene	ug/L	ND	5000	3710	74	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3570	71	54-151	
Trichloroethene	ug/L	ND	5000	3690	74	71-149	
Vinyl chloride	ug/L	ND	5000	2390	48	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

MATRIX SPIKE SAMPLE: 1397050

Parameter	Units	60171645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	11900	79	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: OEXT/44731
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60171645001

METHOD BLANK: 1396677
Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/20/14 09:31	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/20/14 09:31	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/20/14 09:31	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/20/14 09:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/20/14 09:31	
Hexachloroethane	ug/L	ND	5.0	06/20/14 09:31	
Naphthalene	ug/L	ND	5.0	06/20/14 09:31	
Nitrobenzene	ug/L	ND	5.0	06/20/14 09:31	
Pentachlorophenol	ug/L	ND	5.0	06/20/14 09:31	
Phenol	ug/L	ND	5.0	06/20/14 09:31	
2,4,6-Tribromophenol (S)	%	77	39-120	06/20/14 09:31	
2-Fluorobiphenyl (S)	%	75	39-120	06/20/14 09:31	
2-Fluorophenol (S)	%	38	17-120	06/20/14 09:31	
Nitrobenzene-d5 (S)	%	74	33-120	06/20/14 09:31	
Phenol-d6 (S)	%	23	11-120	06/20/14 09:31	
Terphenyl-d14 (S)	%	68	45-120	06/20/14 09:31	

LABORATORY CONTROL SAMPLE: 1396678

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.8	80	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.0	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.7	61	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.8	52	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	47.6	95	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.7	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	38.7	39	24-120	
Hexachloroethane	ug/L	50	34.8	70	43-113	
Naphthalene	ug/L	50	40.9	82	48-120	
Nitrobenzene	ug/L	50	42.1	84	48-120	
Pentachlorophenol	ug/L	50	39.5	79	47-120	
Phenol	ug/L	50	13.3	27	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			83	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

MATRIX SPIKE SAMPLE: 1396679

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.1	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.1	86	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	32.6	65	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6640	50	99.9	-13085	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	41.1J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.3	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	39.0	39	11-120	
Hexachloroethane	ug/L	ND	50	34.6	69	40-113	
Naphthalene	ug/L	2700	50	56.2	-5294	45-120	M1
Nitrobenzene	ug/L	ND	50	43.4	87	38-120	
Pentachlorophenol	ug/L	ND	50	44.8	90	43-135	
Phenol	ug/L	10000	50	105	-19787	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				38	17-120	
Nitrobenzene-d5 (S)	%				150	33-120	S0
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				75	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: WET/48592 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171645001

METHOD BLANK: 1398247 Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/20/14 17:45	

LABORATORY CONTROL SAMPLE: 1398248

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.1	83	78-114	

MATRIX SPIKE SAMPLE: 1398249

Parameter	Units	60171755001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	73.3	51.9	89.5	31	78-114	M1

SAMPLE DUPLICATE: 1398250

Parameter	Units	60171367001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	204	210	3	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: WET/48593 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171645001

METHOD BLANK: 1398251 Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/20/14 17:52	

LABORATORY CONTROL SAMPLE: 1398252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.1	116	64-132	

MATRIX SPIKE SAMPLE: 1398253

Parameter	Units	60171755001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	19.7	26	26.8	27	64-132	M1

SAMPLE DUPLICATE: 1398254

Parameter	Units	60171367001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.2J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: WET/48557
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171645001

METHOD BLANK: 1396835
Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/19/14 10:00	

SAMPLE DUPLICATE: 1396836

Parameter	Units	60171609001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4000	3840	4	10	

SAMPLE DUPLICATE: 1396837

Parameter	Units	60171645001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4020	3980	1	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: WET/48614
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171645001

SAMPLE DUPLICATE: 1399171

Parameter	Units	60171566001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: WET/48533 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171645001

METHOD BLANK: 1396209 Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/23/14 10:56	

LABORATORY CONTROL SAMPLE: 1396210

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	224	113	85-115	

SAMPLE DUPLICATE: 1396211

Parameter	Units	60171666001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	27.1	25.5	6	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: WETA/29937
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171645001

METHOD BLANK: 1399070 Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/23/14 09:43	

LABORATORY CONTROL SAMPLE: 1399071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1399072

Parameter	Units	60171009003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.7	2	4.4	86	90-110	M1

SAMPLE DUPLICATE: 1399073

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	545	551	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

QC Batch: WETA/29869 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171645001

METHOD BLANK: 1396155 Matrix: Water
Associated Lab Samples: 60171645001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/19/14 09:49	

LABORATORY CONTROL SAMPLE: 1396156

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.2	92	90-110	

MATRIX SPIKE SAMPLE: 1396157

Parameter	Units	60171556001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	48200	25000	69200	84	90-110	M1

SAMPLE DUPLICATE: 1396158

Parameter	Units	60171209001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	40700	49100	19	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-333
Pace Project No.: 60171645

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171645001	**316-333**	EPA 200.7	MPRP/27763	EPA 200.7	ICP/20995
60171645001	**316-333**	EPA 200.7	MPRP/27716	EPA 200.7	ICP/20950
60171645001	**316-333**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60171645001	**316-333**	EPA 245.1	MERP/8511	EPA 245.1	MERC/8466
60171645001	**316-333**	EPA 625	OEXT/44731	EPA 625	MSSV/14323
60171645001	**316-333**	EPA 624 Low	MSV/62417		
60171645002	**TRIP BLANK**	EPA 624 Low	MSV/62417		
60171645001	**316-333**	EPA 1664A	WET/48592		
60171645001	**316-333**	EPA 1664A	WET/48593		
60171645001	**316-333**	SM 2540D	WET/48557		
60171645001	**316-333**	SM 4500-H+B	WET/48614		
60171645001	**316-333**	SM 5210B	WET/48533	SM 5210B	WET/48621
60171645001	**316-333**	EPA 350.1	WETA/29937		
60171645001	**316-333**	EPA 410.4	WETA/29869		

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Sample Condition Upon Receipt

WO#: 60171645

60171645

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Xroad

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ Zip L

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 10.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 20 6/18/14

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. All ice melted in cooler.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:	WT	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 25mL of HNO3 to BP3N. pH 6.0/4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	Added 20mL of H2SO4 to BP3S. pH 6.0/1.5
		14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed: pv — Lot # of added preservative: 12513, 12522
Trip Blank present:	☑Yes ☐No ~~☐N/A~~	
Pace Trip Blank lot # (if purchased): cover	pv 6/18/14	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: NC

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/18/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax:	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency	
State / Location	Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60171645
1	IBP3U 316-333 3AG3S IBP3S IBP4N	OT	G	6/17/14	0838				12	10	4	1	0	2					X	X	X	X	X	X	X	X	X	X		2BP2U 5DBAU
2	TRIP BLANK								2	2																X				2DBAU
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Requested Analysis Filtered (Y/N)

METALS LIST total & LF Dis:
Al,Sb,As,Be,Cd,Cr,
Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
and Mercury

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
SITE CONTACT: BILL ABERNATHY 314-502-1299		6-17-14	2:10pm		6/17/14	2:10
SITE ADDRESS: BRIDGETON LF					6/18/14	0210
13570 ST. CHARLES ROCK RD						
BRIDGETON MO 63044						

SAMPLE CONDITIONS			
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
10.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER:

DATE Signed: 6/17/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 25, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 19, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
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CERTIFICATIONS

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171807001	**316-334**	Water	06/18/14 11:36	06/19/14 01:20
60171807002	**TRIP BLANK**	Water	06/18/14 11:36	06/19/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171807001	**316-334**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60171807002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Sample: 316-334 **Lab ID: 60171807001** Collected: 06/18/14 11:36 Received: 06/19/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**3570**	ug/L	750	2	06/24/14 05:59	06/24/14 18:00	7429-90-5	
Antimony	**88.8**	ug/L	50.0	1	06/24/14 05:59	06/24/14 17:57	7440-36-0	
Arsenic	**1170**	ug/L	50.0	1	06/24/14 05:59	06/24/14 17:57	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/24/14 05:59	06/24/14 17:57	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:57	7440-43-9	
Chromium	**174**	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:57	7440-47-3	
Cobalt	**26.1**	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:57	7440-48-4	
Copper	ND	ug/L	50.0	1	06/24/14 05:59	06/24/14 17:57	7440-50-8	
Iron	**372000**	ug/L	250	1	06/24/14 05:59	06/24/14 17:57	7439-89-6	
Lead	**36.7**	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:57	7439-92-1	
Nickel	**103**	ug/L	25.0	1	06/24/14 05:59	06/24/14 17:57	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/24/14 05:59	06/24/14 17:57	7782-49-2	
Silver	ND	ug/L	35.0	1	06/24/14 05:59	06/24/14 17:57	7440-22-4	
Thallium	ND	ug/L	100	1	06/24/14 05:59	06/24/14 17:57	7440-28-0	
Zinc	**3420**	ug/L	500	2	06/24/14 05:59	06/24/14 18:00	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1720**	ug/L	750	2	06/24/14 06:04	06/24/14 18:23	7429-90-5	
Antimony, Dissolved	**60.6**	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:21	7440-36-0	
Arsenic, Dissolved	**1090**	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:21	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/24/14 06:04	06/24/14 18:21	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:21	7440-43-9	
Chromium, Dissolved	**154**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:21	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:21	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:21	7440-50-8	
Iron, Dissolved	**293000**	ug/L	250	1	06/24/14 06:04	06/24/14 18:21	7439-89-6	M1
Lead, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:21	7439-92-1	
Nickel, Dissolved	**91.4**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:21	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/24/14 06:04	06/24/14 18:21	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/24/14 06:04	06/24/14 18:21	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/24/14 06:04	06/24/14 18:21	7440-28-0	
Zinc, Dissolved	**3110**	ug/L	500	2	06/24/14 06:04	06/24/14 18:23	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:21	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/25/14 10:30	06/25/14 14:01	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/19/14 00:00	06/23/14 18:34	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/19/14 00:00	06/23/14 18:34	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7240**	ug/L	4000	2	06/19/14 00:00	06/23/14 18:34		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Sample: 316-334 **Lab ID: 60171807001** Collected: 06/18/14 11:36 Received: 06/19/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1600**	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	87-86-5	
Phenol	**11000**	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:34	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	153	%	33-120	2	06/19/14 00:00	06/23/14 18:34	4165-60-0	S0
2-Fluorobiphenyl (S)	83	%	39-120	2	06/19/14 00:00	06/23/14 18:34	321-60-8	
Terphenyl-d14 (S)	84	%	45-120	2	06/19/14 00:00	06/23/14 18:34	1718-51-0	
Phenol-d6 (S)	37	%	11-120	2	06/19/14 00:00	06/23/14 18:34	13127-88-3	
2-Fluorophenol (S)	49	%	17-120	2	06/19/14 00:00	06/23/14 18:34	367-12-4	
2,4,6-Tribromophenol (S)	103	%	39-120	2	06/19/14 00:00	06/23/14 18:34	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**98100**	ug/L	2500	250		06/20/14 02:17	67-64-1	N2
Benzene	ND	ug/L	250	250		06/20/14 02:17	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/20/14 02:17	75-27-4	
Bromoform	ND	ug/L	250	250		06/20/14 02:17	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/20/14 02:17	74-83-9	
2-Butanone (MEK)	**39500**	ug/L	2500	250		06/20/14 02:17	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/20/14 02:17	56-23-5	
Chloroethane	ND	ug/L	250	250		06/20/14 02:17	75-00-3	
Chloroform	ND	ug/L	250	250		06/20/14 02:17	67-66-3	
1,4-Dichlorobenzene	**589**	ug/L	250	250		06/20/14 02:17	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/20/14 02:17	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/20/14 02:17	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/20/14 02:17	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/20/14 02:17	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/20/14 02:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/20/14 02:17	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/20/14 02:17	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/20/14 02:17	127-18-4	
Toluene	ND	ug/L	250	250		06/20/14 02:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/20/14 02:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/20/14 02:17	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/20/14 02:17	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/20/14 02:17	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/20/14 02:17	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	250		06/20/14 02:17	460-00-4	HS
Toluene-d8 (S)	96	%	80-120	250		06/20/14 02:17	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	250		06/20/14 02:17	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/20/14 02:17		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1410**	mg/L	5.0	1		06/20/14 17:49		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Sample: 316-334 **Lab ID: 60171807001** Collected: 06/18/14 11:36 Received: 06/19/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.6**	mg/L	5.0	1		06/20/14 17:54		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4200**	mg/L	5.0	1		06/20/14 13:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		06/23/14 11:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30800**	mg/L	2.0	1	06/19/14 19:58	06/24/14 13:06		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**564**	mg/L	20.0	200		06/23/14 09:55	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**50500**	mg/L	5000	500		06/25/14 10:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Sample: TRIP BLANK **Lab ID: 60171807002** Collected: 06/18/14 11:36 Received: 06/19/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/20/14 01:15	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/20/14 01:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/20/14 01:15	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/20/14 01:15	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/20/14 01:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/20/14 01:15	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/20/14 01:15	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/20/14 01:15	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/20/14 01:15	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/20/14 01:15	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/20/14 01:15	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/20/14 01:15	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/20/14 01:15	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/20/14 01:15	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/20/14 01:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/20/14 01:15	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/20/14 01:15	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/20/14 01:15	127-18-4	
Toluene	ND	ug/L	1.0	1		06/20/14 01:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/20/14 01:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/20/14 01:15	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/20/14 01:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/20/14 01:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/20/14 01:15	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		06/20/14 01:15	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		06/20/14 01:15	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		06/20/14 01:15	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/20/14 01:15		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171807001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: MERP/8529
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171807001

METHOD BLANK: 1400587 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/25/14 13:57	

LABORATORY CONTROL SAMPLE: 1400588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400589 1400590

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	126	128	84	85	70-130	2	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: MPRP/27763
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171807001

METHOD BLANK: 1399409
Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/24/14 17:36	
Antimony	ug/L	ND	10.0	06/24/14 17:36	
Arsenic	ug/L	ND	10.0	06/24/14 17:36	
Beryllium	ug/L	ND	1.0	06/24/14 17:36	
Cadmium	ug/L	ND	5.0	06/24/14 17:36	
Chromium	ug/L	ND	5.0	06/24/14 17:36	
Cobalt	ug/L	ND	5.0	06/24/14 17:36	
Copper	ug/L	ND	10.0	06/24/14 17:36	
Iron	ug/L	ND	50.0	06/24/14 17:36	
Lead	ug/L	ND	5.0	06/24/14 17:36	
Nickel	ug/L	ND	5.0	06/24/14 17:36	
Selenium	ug/L	ND	15.0	06/24/14 17:36	
Silver	ug/L	ND	7.0	06/24/14 17:36	
Thallium	ug/L	ND	20.0	06/24/14 17:36	
Zinc	ug/L	ND	50.0	06/24/14 17:36	

LABORATORY CONTROL SAMPLE: 1399410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	994	99	85-115	
Cadmium	ug/L	1000	991	99	85-115	
Chromium	ug/L	1000	946	95	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9390	94	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	1030	103	85-115	
Silver	ug/L	500	488	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399411 1399412

Parameter	Units	60171645001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7780	50000	50000	64200	64100	113	113	70-130	0	8	
Antimony	ug/L	93.6	5000	5000	5540	5630	109	111	70-130	2	7	
Arsenic	ug/L	1580	5000	5000	6960	7260	108	114	70-130	4	10	
Beryllium	ug/L	ND	5000	5000	4800	4820	96	96	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5220	5290	104	106	70-130	1	10	
Chromium	ug/L	251	5000	5000	4770	4780	90	91	70-130	0	10	
Cobalt	ug/L	40.5	5000	5000	4730	4770	94	95	70-130	1	6	
Copper	ug/L	ND	5000	5000	5550	5660	111	113	70-130	2	11	
Iron	ug/L	744000	50000	50000	713000	769000	-62	50	70-130	8	10	M1
Lead	ug/L	91.2	5000	5000	4590	4620	90	91	70-130	1	10	
Nickel	ug/L	126	5000	5000	4830	4890	94	95	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6220	6400	124	128	70-130	3	10	
Silver	ug/L	ND	2500	2500	2610	2660	104	106	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4100	4150	82	83	70-130	1	6	
Zinc	ug/L	4040	5000	5000	8200	8350	83	86	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: MPRP/27771
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171807001

METHOD BLANK: 1399572 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/24/14 18:14	
Antimony, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Arsenic, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Beryllium, Dissolved	ug/L	ND	1.0	06/24/14 18:14	
Cadmium, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Chromium, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Cobalt, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Copper, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Iron, Dissolved	ug/L	ND	50.0	06/24/14 18:14	
Lead, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Nickel, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Selenium, Dissolved	ug/L	ND	15.0	06/24/14 18:14	
Silver, Dissolved	ug/L	ND	7.0	06/24/14 18:14	
Thallium, Dissolved	ug/L	ND	20.0	06/24/14 18:14	
Zinc, Dissolved	ug/L	ND	50.0	06/24/14 18:14	

LABORATORY CONTROL SAMPLE: 1399573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1100	110	85-115	
Arsenic, Dissolved	ug/L	1000	1020	102	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1030	103	85-115	
Chromium, Dissolved	ug/L	1000	976	98	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1080	108	85-115	
Iron, Dissolved	ug/L	10000	9640	96	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1070	107	85-115	
Selenium, Dissolved	ug/L	1000	1080	108	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1060	106	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399574 1399575

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1720	50000	50000	54000	54000	105	105	70-130	0	8	
Antimony, Dissolved	ug/L	60.6	5000	5000	5670	5680	112	112	70-130	0	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6790	6840	114	115	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4910	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5320	5330	106	107	70-130	0	10	
Chromium, Dissolved	ug/L	154	5000	5000	4810	4850	93	94	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4850	97	97	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5680	5720	113	114	70-130	1	11	
Iron, Dissolved	ug/L	293000	50000	50000	346000	367000	106	148	70-130	6	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4700	4680	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	4960	4950	97	97	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6320	6360	126	127	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2650	2690	105	107	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4280	4260	86	85	70-130	1	6	
Zinc, Dissolved	ug/L	3110	5000	5000	7730	7900	92	96	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: MSV/62417
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60171807001, 60171807002

METHOD BLANK: 1397048
Matrix: Water
Associated Lab Samples: 60171807001, 60171807002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/19/14 22:55	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,2-Dichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/19/14 22:55	
2-Butanone (MEK)	ug/L	ND	10.0	06/19/14 22:55	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/19/14 22:55	N2
Acetone	ug/L	ND	10.0	06/19/14 22:55	N2
Benzene	ug/L	ND	1.0	06/19/14 22:55	
Bromodichloromethane	ug/L	ND	1.0	06/19/14 22:55	
Bromoform	ug/L	ND	1.0	06/19/14 22:55	
Bromomethane	ug/L	ND	5.0	06/19/14 22:55	
Carbon tetrachloride	ug/L	ND	1.0	06/19/14 22:55	
Chloroethane	ug/L	ND	1.0	06/19/14 22:55	
Chloroform	ug/L	ND	1.0	06/19/14 22:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/19/14 22:55	N2
Ethylbenzene	ug/L	ND	1.0	06/19/14 22:55	
Methylene chloride	ug/L	ND	1.0	06/19/14 22:55	
Tetrachloroethene	ug/L	ND	1.0	06/19/14 22:55	
Toluene	ug/L	ND	1.0	06/19/14 22:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/19/14 22:55	
Trichloroethene	ug/L	ND	1.0	06/19/14 22:55	
Vinyl chloride	ug/L	ND	1.0	06/19/14 22:55	
Xylene (Total)	ug/L	ND	3.0	06/19/14 22:55	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	06/19/14 22:55	
4-Bromofluorobenzene (S)	%	98	80-120	06/19/14 22:55	
Toluene-d8 (S)	%	98	80-120	06/19/14 22:55	

LABORATORY CONTROL SAMPLE: 1397049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.9	85	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.3	101	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.6	98	67-124	
1,2-Dichloroethane	ug/L	20	17.7	88	70-126	
1,4-Dichlorobenzene	ug/L	20	18.2	91	74-120	
2-Butanone (MEK)	ug/L	100	96.9	97	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	59-131	N2
Acetone	ug/L	100	91.6	92	38-134	N2
Benzene	ug/L	20	17.7	89	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

LABORATORY CONTROL SAMPLE: 1397049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	94	68-125	
Bromoform	ug/L	20	19.2	96	65-127	
Bromomethane	ug/L	20	7.4	37	13-157	
Carbon tetrachloride	ug/L	20	16.8	84	70-131	
Chloroethane	ug/L	20	15.8	79	47-133	
Chloroform	ug/L	20	17.3	87	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.2	91	68-127	N2
Ethylbenzene	ug/L	20	18.7	93	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	18.5	92	73-125	
Toluene	ug/L	20	17.5	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.2	81	66-129	
Trichloroethene	ug/L	20	16.8	84	71-123	
Vinyl chloride	ug/L	20	12.0	60	43-129	
Xylene (Total)	ug/L	60	56.1	93	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE SAMPLE: 1397050

Parameter	Units	60171645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	3720	74	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4590	92	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4110	82	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3640	73	49-144	
1,4-Dichlorobenzene	ug/L	464	5000	4430	79	33-140	
2-Butanone (MEK)	ug/L	43500	25000	67500	96	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	22700	88	40-160	N2
Acetone	ug/L	100000	25000	126000	102	10-160	N2
Benzene	ug/L	ND	5000	3770	75	37-151	
Bromodichloromethane	ug/L	ND	5000	3900	78	35-142	
Bromoform	ug/L	ND	5000	4410	88	45-142	
Bromomethane	ug/L	ND	5000	1600	32	10-158	
Carbon tetrachloride	ug/L	ND	5000	3820	76	70-140	
Chloroethane	ug/L	ND	5000	3250	65	19-152	
Chloroform	ug/L	ND	5000	3640	73	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	3870	77	34-147	N2
Ethylbenzene	ug/L	ND	5000	4070	81	40-142	
Methylene chloride	ug/L	ND	5000	3590	71	31-144	
Tetrachloroethene	ug/L	ND	5000	4250	85	64-148	
Toluene	ug/L	ND	5000	3710	74	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3570	71	54-151	
Trichloroethene	ug/L	ND	5000	3690	74	71-149	
Vinyl chloride	ug/L	ND	5000	2390	48	22-146	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

MATRIX SPIKE SAMPLE: 1397050

Parameter	Units	60171645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	11900	79	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: OEXT/44751
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60171807001

METHOD BLANK: 1397451
Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/23/14 17:52	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/23/14 17:52	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/23/14 17:52	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/23/14 17:52	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/23/14 17:52	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/23/14 17:52	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/23/14 17:52	
Hexachloroethane	ug/L	ND	5.0	06/23/14 17:52	
Naphthalene	ug/L	ND	5.0	06/23/14 17:52	
Nitrobenzene	ug/L	ND	5.0	06/23/14 17:52	
Pentachlorophenol	ug/L	ND	5.0	06/23/14 17:52	
Phenol	ug/L	ND	5.0	06/23/14 17:52	
2,4,6-Tribromophenol (S)	%	81	39-120	06/23/14 17:52	
2-Fluorobiphenyl (S)	%	78	39-120	06/23/14 17:52	
2-Fluorophenol (S)	%	47	17-120	06/23/14 17:52	
Nitrobenzene-d5 (S)	%	85	33-120	06/23/14 17:52	
Phenol-d6 (S)	%	33	11-120	06/23/14 17:52	
Terphenyl-d14 (S)	%	80	45-120	06/23/14 17:52	

LABORATORY CONTROL SAMPLE: 1397452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.5	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.7	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.1	68	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.6	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	46.0	92	40-133	
Hexachloro-1,3-butadiene	ug/L	50	37.5	75	44-116	
Hexachlorocyclopentadiene	ug/L	100	66.4	66	24-120	
Hexachloroethane	ug/L	50	37.2	74	43-113	
Naphthalene	ug/L	50	39.8	80	48-120	
Nitrobenzene	ug/L	50	44.1	88	48-120	
Pentachlorophenol	ug/L	50	48.4	97	47-120	
Phenol	ug/L	50	19.0	38	16-112	
2,4,6-Tribromophenol (S)	%			97	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			52	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			37	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: WET/48592 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171807001

METHOD BLANK: 1398247 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/20/14 17:45	

LABORATORY CONTROL SAMPLE: 1398248

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.1	83	78-114	

MATRIX SPIKE SAMPLE: 1398249

Parameter	Units	60171755001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	73.3	51.9	89.5	31	78-114	M1

SAMPLE DUPLICATE: 1398250

Parameter	Units	60171367001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	204	210	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: WET/48593 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171807001

METHOD BLANK: 1398251 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/20/14 17:52	

LABORATORY CONTROL SAMPLE: 1398252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.1	116	64-132	

MATRIX SPIKE SAMPLE: 1398253

Parameter	Units	60171755001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	19.7	26	26.8	27	64-132	M1

SAMPLE DUPLICATE: 1398254

Parameter	Units	60171367001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.2J		34	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: WET/48584 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171807001

METHOD BLANK: 1397860 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/20/14 13:13	

SAMPLE DUPLICATE: 1397861

Parameter	Units	60171833001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	9.0	8.0	12	10	D6

SAMPLE DUPLICATE: 1397862

Parameter	Units	60171847002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	19.0	20.0	5	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: WET/48614
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171807001

SAMPLE DUPLICATE: 1399171

Parameter	Units	60171566001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	5	H6

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: WET/48575 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171807001

METHOD BLANK: 1397537 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/24/14 13:01	

LABORATORY CONTROL SAMPLE: 1397538

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	218	110	85-115	

SAMPLE DUPLICATE: 1397539

Parameter	Units	60171807001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	30800	35500	14	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: WETA/29937 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171807001

METHOD BLANK: 1399070 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/23/14 09:43	

LABORATORY CONTROL SAMPLE: 1399071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1399072

Parameter	Units	60171009003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.7	2	4.4	86	90-110	M1

SAMPLE DUPLICATE: 1399073

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	545	551	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

QC Batch: WETA/29965 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171807001

METHOD BLANK: 1399687 Matrix: Water
Associated Lab Samples: 60171807001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/25/14 10:14	

LABORATORY CONTROL SAMPLE: 1399688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.5	91	90-110	

MATRIX SPIKE SAMPLE: 1399689

Parameter	Units	60171337001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	77.0	50	122	90	90-110	

MATRIX SPIKE SAMPLE: 1399691

Parameter	Units	60171241002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	568	500	1040	95	90-110	

SAMPLE DUPLICATE: 1399690

Parameter	Units	60171766001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	27.4	27.1	1	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-334
Pace Project No.: 60171807

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171807001	**316-334**	EPA 200.7	MPRP/27763	EPA 200.7	ICP/20995
60171807001	**316-334**	EPA 200.7	MPRP/27771	EPA 200.7	ICP/20997
60171807001	**316-334**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60171807001	**316-334**	EPA 245.1	MERP/8529	EPA 245.1	MERC/8484
60171807001	**316-334**	EPA 625	OEXT/44751	EPA 625	MSSV/14337
60171807001	**316-334**	EPA 624 Low	MSV/62417		
60171807002	**TRIP BLANK**	EPA 624 Low	MSV/62417		
60171807001	**316-334**	EPA 1664A	WET/48592		
60171807001	**316-334**	EPA 1664A	WET/48593		
60171807001	**316-334**	SM 2540D	WET/48584		
60171807001	**316-334**	SM 4500-H+B	WET/48614		
60171807001	**316-334**	SM 5210B	WET/48575	SM 5210B	WET/48661
60171807001	**316-334**	EPA 350.1	WETA/29937		
60171807001	**316-334**	EPA 410.4	WETA/29965		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60171807

60171807

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ cross roads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ ZRC

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 5.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: Att 6/19

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 holding time:	☑Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes	☐No	☐N/A	6. RDD, pH
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A	7.
Sufficient volume:	☑Yes	☐No	☐N/A	8.
Correct containers used:	☑Yes	☐No	☐N/A	
Pace containers used:	☑Yes	☐No	☐N/A	9.
Containers intact:	☑Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A	12.
Sample labels match COC:	☑Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: WT				13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	BP3S initial pH 4.5, added 2mL H_2SO_4 final pH 3.0 BP3N initial pH 5.0 added 0.5mL HNO_3 final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	14.
Exceptions: (VOA) coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed Att / Lot # of added preservative 12522-2-7, 12513-2-3-2
Trip Blank present:	☑Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): Covered				15.
Headspace in VOA vials (>6mm):	☑Yes	☐No	☐N/A	5 of 5 DG9U 316334 headspace
				16.
Project sampled in USDA Regulated Area:	☐Yes	☐No	☑N/A	17. List State: NO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/20/19

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60171807
1	1(BP3S) 15 1(BP2N) 5-4 316-334 3(AG3S) 2(AG4U) 2(BP2U)	OT	G	6/18/14	1136	—	—		~~14~~ 15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			1(BP3U) 5(DG9U) N1
2	TRIP BLANK	—		—	—	—	—		2	2																X						2(DG9U) 02
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FOT	6/18/14	2:45	[signature]	6/18/14	2:45				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	6/18/14	0120	5.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/18/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 27, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 19, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171810001	**CB 06-17-14**	Water	06/18/14 10:52	06/19/14 01:20
60171810002	**TRIP BLANK**	Water	06/18/14 10:52	06/19/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171810001	**CB 06-17-14**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60171810002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Sample: CB 06-17-14 **Lab ID: 60171810001** Collected: 06/18/14 10:52 Received: 06/19/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**1260**	ug/L	375	1	06/24/14 05:59	06/24/14 18:02	7429-90-5	
Antimony	ND	ug/L	50.0	1	06/24/14 05:59	06/24/14 18:02	7440-36-0	
Arsenic	**568**	ug/L	50.0	1	06/24/14 05:59	06/24/14 18:02	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/24/14 05:59	06/24/14 18:02	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:02	7440-43-9	
Chromium	**96.8**	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:02	7440-47-3	
Cobalt	ND	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:02	7440-48-4	
Copper	ND	ug/L	50.0	1	06/24/14 05:59	06/24/14 18:02	7440-50-8	
Iron	**321000**	ug/L	250	1	06/24/14 05:59	06/24/14 18:02	7439-89-6	
Lead	ND	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:02	7439-92-1	
Nickel	**62.6**	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:02	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/24/14 05:59	06/24/14 18:02	7782-49-2	
Silver	ND	ug/L	35.0	1	06/24/14 05:59	06/24/14 18:02	7440-22-4	
Thallium	ND	ug/L	100	1	06/24/14 05:59	06/24/14 18:02	7440-28-0	
Zinc	**3080**	ug/L	250	1	06/24/14 05:59	06/24/14 18:02	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	ND	ug/L	375	1	06/24/14 06:04	06/24/14 18:35	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:35	7440-36-0	
Arsenic, Dissolved	**460**	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:35	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/24/14 06:04	06/24/14 18:35	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:35	7440-43-9	
Chromium, Dissolved	**81.4**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:35	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:35	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:35	7440-50-8	
Iron, Dissolved	**210000**	ug/L	250	1	06/24/14 06:04	06/24/14 18:35	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:35	7439-92-1	
Nickel, Dissolved	**54.8**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:35	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/24/14 06:04	06/24/14 18:35	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/24/14 06:04	06/24/14 18:35	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/24/14 06:04	06/24/14 18:35	7440-28-0	
Zinc, Dissolved	**1140**	ug/L	250	1	06/24/14 06:04	06/24/14 18:35	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:23	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/25/14 10:30	06/25/14 14:08	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/19/14 00:00	06/23/14 18:54	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/19/14 00:00	06/23/14 18:54	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	4000	2	06/19/14 00:00	06/23/14 18:54		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Sample: CB 06-17-14 **Lab ID: 60171810001** Collected: 06/18/14 10:52 Received: 06/19/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	87-86-5	
Phenol	**4870**	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/19/14 00:00	06/23/14 18:54	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	102	%	33-120	2	06/19/14 00:00	06/23/14 18:54	4165-60-0	
2-Fluorobiphenyl (S)	82	%	39-120	2	06/19/14 00:00	06/23/14 18:54	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	06/19/14 00:00	06/23/14 18:54	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	06/19/14 00:00	06/23/14 18:54	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	06/19/14 00:00	06/23/14 18:54	367-12-4	
2,4,6-Tribromophenol (S)	100	%	39-120	2	06/19/14 00:00	06/23/14 18:54	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**39700**	ug/L	2500	250		06/20/14 02:33	67-64-1	N2
Benzene	ND	ug/L	250	250		06/20/14 02:33	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/20/14 02:33	75-27-4	
Bromoform	ND	ug/L	250	250		06/20/14 02:33	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/20/14 02:33	74-83-9	
2-Butanone (MEK)	**18800**	ug/L	2500	250		06/20/14 02:33	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/20/14 02:33	56-23-5	
Chloroethane	ND	ug/L	250	250		06/20/14 02:33	75-00-3	
Chloroform	ND	ug/L	250	250		06/20/14 02:33	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/20/14 02:33	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/20/14 02:33	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/20/14 02:33	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/20/14 02:33	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/20/14 02:33	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/20/14 02:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/20/14 02:33	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/20/14 02:33	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/20/14 02:33	127-18-4	
Toluene	ND	ug/L	250	250		06/20/14 02:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/20/14 02:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/20/14 02:33	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/20/14 02:33	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/20/14 02:33	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/20/14 02:33	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	250		06/20/14 02:33	460-00-4	
Toluene-d8 (S)	95	%	80-120	250		06/20/14 02:33	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	250		06/20/14 02:33	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/20/14 02:33		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**530**	mg/L	5.0	1		06/20/14 17:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Sample: CB 06-17-14 **Lab ID: 60171810001** Collected: 06/18/14 10:52 Received: 06/19/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		06/20/14 17:54		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3000**	mg/L	5.0	1		06/20/14 13:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.3**	Std. Units	0.10	1		06/23/14 11:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**11900**	mg/L	2.0	1	06/19/14 18:36	06/24/14 11:37		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**276**	mg/L	20.0	200		06/23/14 09:56	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**24000**	mg/L	5000	500		06/25/14 10:18		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Sample: TRIP BLANK **Lab ID: 60171810002** Collected: 06/18/14 10:52 Received: 06/19/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/20/14 01:31	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/20/14 01:31	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/20/14 01:31	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/20/14 01:31	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/20/14 01:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/20/14 01:31	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/20/14 01:31	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/20/14 01:31	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/20/14 01:31	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/20/14 01:31	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/20/14 01:31	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/20/14 01:31	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/20/14 01:31	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/20/14 01:31	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/20/14 01:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/20/14 01:31	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/20/14 01:31	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/20/14 01:31	127-18-4	
Toluene	ND	ug/L	1.0	1		06/20/14 01:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/20/14 01:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/20/14 01:31	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/20/14 01:31	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/20/14 01:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/20/14 01:31	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		06/20/14 01:31	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		06/20/14 01:31	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		06/20/14 01:31	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/20/14 01:31		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171810001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: MERP/8529
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171810001

METHOD BLANK: 1400587 Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/25/14 13:57	

LABORATORY CONTROL SAMPLE: 1400588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400589 1400590

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	126	128	84	85	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: MPRP/27763
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171810001

METHOD BLANK: 1399409
Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/24/14 17:36	
Antimony	ug/L	ND	10.0	06/24/14 17:36	
Arsenic	ug/L	ND	10.0	06/24/14 17:36	
Beryllium	ug/L	ND	1.0	06/24/14 17:36	
Cadmium	ug/L	ND	5.0	06/24/14 17:36	
Chromium	ug/L	ND	5.0	06/24/14 17:36	
Cobalt	ug/L	ND	5.0	06/24/14 17:36	
Copper	ug/L	ND	10.0	06/24/14 17:36	
Iron	ug/L	ND	50.0	06/24/14 17:36	
Lead	ug/L	ND	5.0	06/24/14 17:36	
Nickel	ug/L	ND	5.0	06/24/14 17:36	
Selenium	ug/L	ND	15.0	06/24/14 17:36	
Silver	ug/L	ND	7.0	06/24/14 17:36	
Thallium	ug/L	ND	20.0	06/24/14 17:36	
Zinc	ug/L	ND	50.0	06/24/14 17:36	

LABORATORY CONTROL SAMPLE: 1399410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	994	99	85-115	
Cadmium	ug/L	1000	991	99	85-115	
Chromium	ug/L	1000	946	95	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9390	94	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	1030	103	85-115	
Silver	ug/L	500	488	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399411 1399412

Parameter	Units	60171645001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7780	50000	50000	64200	64100	113	113	70-130	0	8	
Antimony	ug/L	93.6	5000	5000	5540	5630	109	111	70-130	2	7	
Arsenic	ug/L	1580	5000	5000	6960	7260	108	114	70-130	4	10	
Beryllium	ug/L	ND	5000	5000	4800	4820	96	96	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5220	5290	104	106	70-130	1	10	
Chromium	ug/L	251	5000	5000	4770	4780	90	91	70-130	0	10	
Cobalt	ug/L	40.5	5000	5000	4730	4770	94	95	70-130	1	6	
Copper	ug/L	ND	5000	5000	5550	5660	111	113	70-130	2	11	
Iron	ug/L	744000	50000	50000	713000	769000	-62	50	70-130	8	10	M1
Lead	ug/L	91.2	5000	5000	4590	4620	90	91	70-130	1	10	
Nickel	ug/L	126	5000	5000	4830	4890	94	95	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6220	6400	124	128	70-130	3	10	
Silver	ug/L	ND	2500	2500	2610	2660	104	106	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4100	4150	82	83	70-130	1	6	
Zinc	ug/L	4040	5000	5000	8200	8350	83	86	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: MPRP/27771
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171810001

METHOD BLANK: 1399572
Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/24/14 18:14	
Antimony, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Arsenic, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Beryllium, Dissolved	ug/L	ND	1.0	06/24/14 18:14	
Cadmium, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Chromium, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Cobalt, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Copper, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Iron, Dissolved	ug/L	ND	50.0	06/24/14 18:14	
Lead, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Nickel, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Selenium, Dissolved	ug/L	ND	15.0	06/24/14 18:14	
Silver, Dissolved	ug/L	ND	7.0	06/24/14 18:14	
Thallium, Dissolved	ug/L	ND	20.0	06/24/14 18:14	
Zinc, Dissolved	ug/L	ND	50.0	06/24/14 18:14	

LABORATORY CONTROL SAMPLE: 1399573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1100	110	85-115	
Arsenic, Dissolved	ug/L	1000	1020	102	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1030	103	85-115	
Chromium, Dissolved	ug/L	1000	976	98	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1080	108	85-115	
Iron, Dissolved	ug/L	10000	9640	96	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1070	107	85-115	
Selenium, Dissolved	ug/L	1000	1080	108	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1060	106	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399574 1399575

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1720	50000	50000	54000	54000	105	105	70-130	0	8	
Antimony, Dissolved	ug/L	60.6	5000	5000	5670	5680	112	112	70-130	0	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6790	6840	114	115	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4910	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5320	5330	106	107	70-130	0	10	
Chromium, Dissolved	ug/L	154	5000	5000	4810	4850	93	94	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4850	97	97	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5680	5720	113	114	70-130	1	11	
Iron, Dissolved	ug/L	293000	50000	50000	346000	367000	106	148	70-130	6	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4700	4680	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	4960	4950	97	97	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6320	6360	126	127	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2650	2690	105	107	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4280	4260	86	85	70-130	1	6	
Zinc, Dissolved	ug/L	3110	5000	5000	7730	7900	92	96	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: MSV/62417 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60171810001, 60171810002

METHOD BLANK: 1397048 Matrix: Water
Associated Lab Samples: 60171810001, 60171810002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/19/14 22:55	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,2-Dichloroethane	ug/L	ND	1.0	06/19/14 22:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/19/14 22:55	
2-Butanone (MEK)	ug/L	ND	10.0	06/19/14 22:55	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/19/14 22:55	N2
Acetone	ug/L	ND	10.0	06/19/14 22:55	N2
Benzene	ug/L	ND	1.0	06/19/14 22:55	
Bromodichloromethane	ug/L	ND	1.0	06/19/14 22:55	
Bromoform	ug/L	ND	1.0	06/19/14 22:55	
Bromomethane	ug/L	ND	5.0	06/19/14 22:55	
Carbon tetrachloride	ug/L	ND	1.0	06/19/14 22:55	
Chloroethane	ug/L	ND	1.0	06/19/14 22:55	
Chloroform	ug/L	ND	1.0	06/19/14 22:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/19/14 22:55	N2
Ethylbenzene	ug/L	ND	1.0	06/19/14 22:55	
Methylene chloride	ug/L	ND	1.0	06/19/14 22:55	
Tetrachloroethene	ug/L	ND	1.0	06/19/14 22:55	
Toluene	ug/L	ND	1.0	06/19/14 22:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/19/14 22:55	
Trichloroethene	ug/L	ND	1.0	06/19/14 22:55	
Vinyl chloride	ug/L	ND	1.0	06/19/14 22:55	
Xylene (Total)	ug/L	ND	3.0	06/19/14 22:55	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	06/19/14 22:55	
4-Bromofluorobenzene (S)	%	98	80-120	06/19/14 22:55	
Toluene-d8 (S)	%	98	80-120	06/19/14 22:55	

LABORATORY CONTROL SAMPLE: 1397049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.9	85	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.3	101	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.6	98	67-124	
1,2-Dichloroethane	ug/L	20	17.7	88	70-126	
1,4-Dichlorobenzene	ug/L	20	18.2	91	74-120	
2-Butanone (MEK)	ug/L	100	96.9	97	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	102	102	59-131	N2
Acetone	ug/L	100	91.6	92	38-134	N2
Benzene	ug/L	20	17.7	89	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

LABORATORY CONTROL SAMPLE: 1397049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	94	68-125	
Bromoform	ug/L	20	19.2	96	65-127	
Bromomethane	ug/L	20	7.4	37	13-157	
Carbon tetrachloride	ug/L	20	16.8	84	70-131	
Chloroethane	ug/L	20	15.8	79	47-133	
Chloroform	ug/L	20	17.3	87	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.2	91	68-127	N2
Ethylbenzene	ug/L	20	18.7	93	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	18.5	92	73-125	
Toluene	ug/L	20	17.5	88	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.2	81	66-129	
Trichloroethene	ug/L	20	16.8	84	71-123	
Vinyl chloride	ug/L	20	12.0	60	43-129	
Xylene (Total)	ug/L	60	56.1	93	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE SAMPLE: 1397050

Parameter	Units	60171645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	3720	74	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4590	92	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4110	82	52-143	
1,2-Dichloroethane	ug/L	ND	5000	3640	73	49-144	
1,4-Dichlorobenzene	ug/L	464	5000	4430	79	33-140	
2-Butanone (MEK)	ug/L	43500	25000	67500	96	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	22700	88	40-160	N2
Acetone	ug/L	100000	25000	126000	102	10-160	N2
Benzene	ug/L	ND	5000	3770	75	37-151	
Bromodichloromethane	ug/L	ND	5000	3900	78	35-142	
Bromoform	ug/L	ND	5000	4410	88	45-142	
Bromomethane	ug/L	ND	5000	1600	32	10-158	
Carbon tetrachloride	ug/L	ND	5000	3820	76	70-140	
Chloroethane	ug/L	ND	5000	3250	65	19-152	
Chloroform	ug/L	ND	5000	3640	73	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	3870	77	34-147	N2
Ethylbenzene	ug/L	ND	5000	4070	81	40-142	
Methylene chloride	ug/L	ND	5000	3590	71	31-144	
Tetrachloroethene	ug/L	ND	5000	4250	85	64-148	
Toluene	ug/L	ND	5000	3710	74	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	3570	71	54-151	
Trichloroethene	ug/L	ND	5000	3690	74	71-149	
Vinyl chloride	ug/L	ND	5000	2390	48	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

MATRIX SPIKE SAMPLE: 1397050

Parameter	Units	60171645001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	11900	79	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: OEXT/44751
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60171810001

METHOD BLANK: 1397451
Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/23/14 17:52	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/23/14 17:52	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/23/14 17:52	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/23/14 17:52	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/23/14 17:52	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/23/14 17:52	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/23/14 17:52	
Hexachloroethane	ug/L	ND	5.0	06/23/14 17:52	
Naphthalene	ug/L	ND	5.0	06/23/14 17:52	
Nitrobenzene	ug/L	ND	5.0	06/23/14 17:52	
Pentachlorophenol	ug/L	ND	5.0	06/23/14 17:52	
Phenol	ug/L	ND	5.0	06/23/14 17:52	
2,4,6-Tribromophenol (S)	%	81	39-120	06/23/14 17:52	
2-Fluorobiphenyl (S)	%	78	39-120	06/23/14 17:52	
2-Fluorophenol (S)	%	47	17-120	06/23/14 17:52	
Nitrobenzene-d5 (S)	%	85	33-120	06/23/14 17:52	
Phenol-d6 (S)	%	33	11-120	06/23/14 17:52	
Terphenyl-d14 (S)	%	80	45-120	06/23/14 17:52	

LABORATORY CONTROL SAMPLE: 1397452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.5	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.7	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.1	68	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.6	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	46.0	92	40-133	
Hexachloro-1,3-butadiene	ug/L	50	37.5	75	44-116	
Hexachlorocyclopentadiene	ug/L	100	66.4	66	24-120	
Hexachloroethane	ug/L	50	37.2	74	43-113	
Naphthalene	ug/L	50	39.8	80	48-120	
Nitrobenzene	ug/L	50	44.1	88	48-120	
Pentachlorophenol	ug/L	50	48.4	97	47-120	
Phenol	ug/L	50	19.0	38	16-112	
2,4,6-Tribromophenol (S)	%			97	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			52	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			37	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

MATRIX SPIKE SAMPLE: 1397458

Parameter	Units	60171756001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.73	50	42.2	84	44-120	
2,4,6-Trichlorophenol	ug/L	<1.5	50	43.7	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	<0.88	50	35.3	71	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	<0.78	50	32.5	65	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	<0.71	50	64.6	129	10-160	
Hexachloro-1,3-butadiene	ug/L	<0.98	50	42.5	85	39-116	
Hexachlorocyclopentadiene	ug/L	<2.1	100	69.5	70	11-120	
Hexachloroethane	ug/L	<0.62	50	41.3	83	40-113	
Naphthalene	ug/L	<0.58	50	41.0	82	45-120	
Nitrobenzene	ug/L	<0.65	50	43.0	86	38-120	
Pentachlorophenol	ug/L	<1.7	50	49.5	99	43-135	
Phenol	ug/L	<0.51	50	17.2	34	13-112	
2,4,6-Tribromophenol (S)	%				103	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				49	17-120	
Nitrobenzene-d5 (S)	%				91	33-120	
Phenol-d6 (S)	%				33	11-120	
Terphenyl-d14 (S)	%				88	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: WET/48592 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171810001

METHOD BLANK: 1398247 Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/20/14 17:45	

LABORATORY CONTROL SAMPLE: 1398248

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.1	83	78-114	

MATRIX SPIKE SAMPLE: 1398249

Parameter	Units	60171755001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	73.3	51.9	89.5	31	78-114	M1

SAMPLE DUPLICATE: 1398250

Parameter	Units	60171367001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	204	210	3	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: WET/48593 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171810001

METHOD BLANK: 1398251 Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/20/14 17:52	

LABORATORY CONTROL SAMPLE: 1398252

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.1	116	64-132	

MATRIX SPIKE SAMPLE: 1398253

Parameter	Units	60171755001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	19.7	26	26.8	27	64-132	M1

SAMPLE DUPLICATE: 1398254

Parameter	Units	60171367001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.2J		34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: WET/48584 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171810001

METHOD BLANK: 1397860 Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/20/14 13:13	

SAMPLE DUPLICATE: 1397861

Parameter	Units	60171833001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	9.0	8.0	12	10	D6

SAMPLE DUPLICATE: 1397862

Parameter	Units	60171847002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	19.0	20.0	5	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: WET/48614
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171810001

SAMPLE DUPLICATE: 1399171

Parameter	Units	60171566001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	5	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: WET/48564 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171810001

METHOD BLANK: 1397233 Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/24/14 11:02	

LABORATORY CONTROL SAMPLE: 1397234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	221	111	85-115	

SAMPLE DUPLICATE: 1397235

Parameter	Units	60171797001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	588	621	5	17	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: WETA/29937
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171810001

METHOD BLANK: 1399070 Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/23/14 09:43	

LABORATORY CONTROL SAMPLE: 1399071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1399072

Parameter	Units	60171009003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.7	2	4.4	86	90-110	M1

SAMPLE DUPLICATE: 1399073

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	545	551	1	18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

QC Batch: WETA/29965
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60171810001

METHOD BLANK: 1399687 Matrix: Water
Associated Lab Samples: 60171810001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/25/14 10:14	

LABORATORY CONTROL SAMPLE: 1399688

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.5	91	90-110	

MATRIX SPIKE SAMPLE: 1399689

Parameter	Units	60171337001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	77.0	50	122	90	90-110	

MATRIX SPIKE SAMPLE: 1399691

Parameter	Units	60171241002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	568	500	1040	95	90-110	

SAMPLE DUPLICATE: 1399690

Parameter	Units	60171766001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	27.4	27.1	1	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF CB 06-17-14
Pace Project No.: 60171810

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171810001	**CB 06-17-14**	EPA 200.7	MPRP/27763	EPA 200.7	ICP/20995
60171810001	**CB 06-17-14**	EPA 200.7	MPRP/27771	EPA 200.7	ICP/20997
60171810001	**CB 06-17-14**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60171810001	**CB 06-17-14**	EPA 245.1	MERP/8529	EPA 245.1	MERC/8484
60171810001	**CB 06-17-14**	EPA 625	OEXT/44751	EPA 625	MSSV/14337
60171810001	**CB 06-17-14**	EPA 624 Low	MSV/62417		
60171810002	**TRIP BLANK**	EPA 624 Low	MSV/62417		
60171810001	**CB 06-17-14**	EPA 1664A	WET/48592		
60171810001	**CB 06-17-14**	EPA 1664A	WET/48593		
60171810001	**CB 06-17-14**	SM 2540D	WET/48584		
60171810001	**CB 06-17-14**	SM 4500-H+B	WET/48614		
60171810001	**CB 06-17-14**	SM 5210B	WET/48564	SM 5210B	WET/48656
60171810001	**CB 06-17-14**	EPA 350.1	WETA/29937		
60171810001	**CB 06-17-14**	EPA 410.4	WETA/29965		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60171810

60171810

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ crossroads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ ZPLC

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 5.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AH 6/19

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3S initial pH 4.0 added 2.5mL Hach final pH 2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	BP3N initial pH 4.5 added 2.5mL HNO3 final pH 2.5
		14.
Exceptions: (VOA), coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed AH / Lot # of added preservative 19582-2-1, 12513-2-3-2
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): covered		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 **Of** 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID: One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

60171810

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	5(DG9U) 1(BP3U) CB 06-17-14 3(AG3S) 2(AG4U) 2(BP2U)	OT	G	6/18/14	1052	—	—		15 (14)	10	4	1	0					-	X	X	X	X	X	X	X	X	X	X	X			1(BP3N) 1(BP3S) 4.5/3.5 4.0/2.0 W1
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						2(DG9U) O2
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FOT	6/18/14	2:45p	[signature]	6/18/14	2:45p				
SITE ADDRESS: BRIDGETON LF				[signature] / PAM	6/19	01:20	5.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/18/14

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

June 27, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 20, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

SAMPLE SUMMARY

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60171928001	**316-335**	Water	06/19/14 08:30	06/20/14 01:00
60171928002	**TRIP BLANK**	Water	06/19/14 08:30	06/20/14 01:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60171928001	**316-335**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60171928002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Sample: 316-335 **Lab ID: 60171928001** Collected: 06/19/14 08:30 Received: 06/20/14 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**14800**	ug/L	750	2	06/24/14 06:33	06/24/14 14:37	7429-90-5	
Antimony	**83.2**	ug/L	50.0	1	06/24/14 06:33	06/24/14 14:34	7440-36-0	
Arsenic	**1280**	ug/L	50.0	1	06/24/14 06:33	06/24/14 14:34	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/24/14 06:33	06/24/14 14:34	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/24/14 06:33	06/24/14 14:34	7440-43-9	
Chromium	**259**	ug/L	25.0	1	06/24/14 06:33	06/24/14 14:34	7440-47-3	
Cobalt	**43.2**	ug/L	25.0	1	06/24/14 06:33	06/24/14 14:34	7440-48-4	
Copper	ND	ug/L	50.0	1	06/24/14 06:33	06/24/14 14:34	7440-50-8	
Iron	**793000**	ug/L	250	1	06/24/14 06:33	06/24/14 14:34	7439-89-6	M1
Lead	**116**	ug/L	25.0	1	06/24/14 06:33	06/24/14 14:34	7439-92-1	
Nickel	**145**	ug/L	25.0	1	06/24/14 06:33	06/24/14 14:34	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/24/14 06:33	06/24/14 14:34	7782-49-2	
Silver	ND	ug/L	35.0	1	06/24/14 06:33	06/24/14 14:34	7440-22-4	
Thallium	ND	ug/L	100	1	06/24/14 06:33	06/24/14 14:34	7440-28-0	
Zinc	**4560**	ug/L	500	2	06/24/14 06:33	06/24/14 14:37	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1290**	ug/L	750	2	06/24/14 06:04	06/24/14 18:42	7429-90-5	
Antimony, Dissolved	**74.9**	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:40	7440-36-0	
Arsenic, Dissolved	**1030**	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:40	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/24/14 06:04	06/24/14 18:40	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:40	7440-43-9	
Chromium, Dissolved	**160**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:40	7440-47-3	
Cobalt, Dissolved	**25.8**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:40	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:40	7440-50-8	
Iron, Dissolved	**306000**	ug/L	250	1	06/24/14 06:04	06/24/14 18:40	7439-89-6	
Lead, Dissolved	**28.8**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:40	7439-92-1	
Nickel, Dissolved	**98.1**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:40	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/24/14 06:04	06/24/14 18:40	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/24/14 06:04	06/24/14 18:40	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/24/14 06:04	06/24/14 18:40	7440-28-0	
Zinc, Dissolved	**3410**	ug/L	500	2	06/24/14 06:04	06/24/14 18:42	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:25	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/25/14 10:30	06/25/14 14:10	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Phenol	**7370**	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	108-95-2	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/20/14 00:00	06/23/14 19:56	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6080**	ug/L	4000	2	06/20/14 00:00	06/23/14 19:56		N2
Nitrobenzene	ND	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	98-95-3	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	120-82-1	
Naphthalene	**1470**	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	91-20-3	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Sample: 316-335 **Lab ID: 60171928001** Collected: 06/19/14 08:30 Received: 06/20/14 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	77-47-4	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	88-06-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/20/14 00:00	06/23/14 19:56	534-52-1	
Pentachlorophenol	ND	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	87-86-5	
Hexachloroethane	ND	ug/L	1000	2	06/20/14 00:00	06/23/14 19:56	67-72-1	
Surrogates								
Nitrobenzene-d5 (S)	116	%	33-120	2	06/20/14 00:00	06/23/14 19:56	4165-60-0	
2-Fluorobiphenyl (S)	92	%	39-120	2	06/20/14 00:00	06/23/14 19:56	321-60-8	
Terphenyl-d14 (S)	91	%	45-120	2	06/20/14 00:00	06/23/14 19:56	1718-51-0	
Phenol-d6 (S)	27	%	11-120	2	06/20/14 00:00	06/23/14 19:56	13127-88-3	
2-Fluorophenol (S)	41	%	17-120	2	06/20/14 00:00	06/23/14 19:56	367-12-4	
2,4,6-Tribromophenol (S)	112	%	39-120	2	06/20/14 00:00	06/23/14 19:56	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**84100**	ug/L	2500	250		06/25/14 16:50	67-64-1	N2
Benzene	ND	ug/L	250	250		06/25/14 16:50	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/25/14 16:50	75-27-4	
Bromoform	ND	ug/L	250	250		06/25/14 16:50	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/25/14 16:50	74-83-9	
2-Butanone (MEK)	**37800**	ug/L	2500	250		06/25/14 16:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/25/14 16:50	56-23-5	
Chloroethane	ND	ug/L	250	250		06/25/14 16:50	75-00-3	
Chloroform	ND	ug/L	250	250		06/25/14 16:50	67-66-3	
1,4-Dichlorobenzene	**301**	ug/L	250	250		06/25/14 16:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/25/14 16:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 16:50	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 16:50	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/25/14 16:50	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/25/14 16:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/25/14 16:50	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/25/14 16:50	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/25/14 16:50	127-18-4	
Toluene	ND	ug/L	250	250		06/25/14 16:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/25/14 16:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/25/14 16:50	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/25/14 16:50	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/25/14 16:50	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/25/14 16:50	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	250		06/25/14 16:50	460-00-4	HS
Toluene-d8 (S)	95	%	80-120	250		06/25/14 16:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	89	%	80-120	250		06/25/14 16:50	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/25/14 16:50		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1010**	mg/L	5.0	1		06/24/14 15:25		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Sample: 316-335 **Lab ID: 60171928001** Collected: 06/19/14 08:30 Received: 06/20/14 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**18.8**	mg/L	5.0	1		06/24/14 15:39		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5020**	mg/L	5.0	1		06/23/14 14:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/23/14 11:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30500**	mg/L	2.0	1	06/20/14 15:21	06/25/14 16:27		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**587**	mg/L	20.0	200		06/23/14 09:57	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**47200**	mg/L	5000	500		06/26/14 10:13		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Sample: TRIP BLANK **Lab ID: 60171928002** Collected: 06/19/14 08:30 Received: 06/20/14 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/25/14 15:01	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/25/14 15:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/25/14 15:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/25/14 15:01	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/25/14 15:01	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/25/14 15:01	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/25/14 15:01	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/25/14 15:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/25/14 15:01	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/25/14 15:01	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/25/14 15:01	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 15:01	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 15:01	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/25/14 15:01	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/25/14 15:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/25/14 15:01	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/25/14 15:01	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/25/14 15:01	127-18-4	
Toluene	ND	ug/L	1.0	1		06/25/14 15:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/25/14 15:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/25/14 15:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/25/14 15:01	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/25/14 15:01	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/25/14 15:01	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		06/25/14 15:01	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		06/25/14 15:01	2037-26-5	
1,2-Dichloroethane-d4 (S)	89	%	80-120	1		06/25/14 15:01	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/25/14 15:01		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60171928001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: MERP/8529
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60171928001

METHOD BLANK: 1400587 Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/25/14 13:57	

LABORATORY CONTROL SAMPLE: 1400588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400589 1400590

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	126	128	84	85	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: MPRP/27769
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60171928001

METHOD BLANK: 1399544
Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/24/14 14:05	
Antimony	ug/L	ND	10.0	06/24/14 14:05	
Arsenic	ug/L	ND	10.0	06/24/14 14:05	
Beryllium	ug/L	ND	1.0	06/24/14 14:05	
Cadmium	ug/L	ND	5.0	06/24/14 14:05	
Chromium	ug/L	ND	5.0	06/24/14 14:05	
Cobalt	ug/L	ND	5.0	06/24/14 14:05	
Copper	ug/L	ND	10.0	06/24/14 14:05	
Iron	ug/L	ND	50.0	06/24/14 14:05	
Lead	ug/L	ND	5.0	06/24/14 14:05	
Nickel	ug/L	ND	5.0	06/24/14 14:05	
Selenium	ug/L	ND	15.0	06/24/14 14:05	
Silver	ug/L	ND	7.0	06/24/14 14:05	
Thallium	ug/L	ND	20.0	06/24/14 14:05	
Zinc	ug/L	ND	50.0	06/24/14 14:05	

LABORATORY CONTROL SAMPLE: 1399545

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9960	100	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	972	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	1000	100	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1030	103	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1010	101	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

MATRIX SPIKE SAMPLE: 1399546

Parameter	Units	60171911002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10100	101	70-130	
Antimony	ug/L	ND	1000	1050	105	70-130	
Arsenic	ug/L	ND	1000	1010	101	70-130	
Beryllium	ug/L	ND	1000	1040	104	70-130	
Cadmium	ug/L	ND	1000	1020	102	70-130	
Chromium	ug/L	ND	1000	1000	100	70-130	
Cobalt	ug/L	ND	1000	1020	102	70-130	
Copper	ug/L	28.8	1000	1060	103	70-130	
Iron	ug/L	940	10000	11000	100	70-130	
Lead	ug/L	ND	1000	1020	102	70-130	
Nickel	ug/L	10.8	1000	1040	103	70-130	
Selenium	ug/L	ND	1000	1030	102	70-130	
Silver	ug/L	ND	500	503	101	70-130	
Thallium	ug/L	ND	1000	1000	100	70-130	
Zinc	ug/L	57.2	1000	1060	100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399547 1399548

Parameter	Units	60171928001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	14800	50000	50000	75300	76100	121	123	70-130	1	8	
Antimony	ug/L	83.2	5000	5000	5400	5460	106	108	70-130	1	7	
Arsenic	ug/L	1280	5000	5000	6940	6980	113	114	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4970	5020	99	100	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5310	5370	106	107	70-130	1	10	
Chromium	ug/L	259	5000	5000	5200	5180	99	99	70-130	0	10	
Cobalt	ug/L	43.2	5000	5000	4900	4940	97	98	70-130	1	6	
Copper	ug/L	ND	5000	5000	5480	5420	109	108	70-130	1	11	
Iron	ug/L	793000	50000	50000	844000	876000	102	165	70-130	4	10	M1
Lead	ug/L	116	5000	5000	4740	4790	92	93	70-130	1	10	
Nickel	ug/L	145	5000	5000	4990	5040	97	98	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6060	6120	121	122	70-130	1	10	
Silver	ug/L	ND	2500	2500	2680	2660	107	106	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4200	4230	84	85	70-130	1	6	
Zinc	ug/L	4560	5000	5000	9490	9540	99	100	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: MPRP/27771
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60171928001

METHOD BLANK: 1399572
Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/24/14 18:14	
Antimony, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Arsenic, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Beryllium, Dissolved	ug/L	ND	1.0	06/24/14 18:14	
Cadmium, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Chromium, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Cobalt, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Copper, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Iron, Dissolved	ug/L	ND	50.0	06/24/14 18:14	
Lead, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Nickel, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Selenium, Dissolved	ug/L	ND	15.0	06/24/14 18:14	
Silver, Dissolved	ug/L	ND	7.0	06/24/14 18:14	
Thallium, Dissolved	ug/L	ND	20.0	06/24/14 18:14	
Zinc, Dissolved	ug/L	ND	50.0	06/24/14 18:14	

LABORATORY CONTROL SAMPLE: 1399573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1100	110	85-115	
Arsenic, Dissolved	ug/L	1000	1020	102	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1030	103	85-115	
Chromium, Dissolved	ug/L	1000	976	98	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1080	108	85-115	
Iron, Dissolved	ug/L	10000	9640	96	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1070	107	85-115	
Selenium, Dissolved	ug/L	1000	1080	108	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1060	106	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399574 1399575

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1720	50000	50000	54000	54000	105	105	70-130	0	8	
Antimony, Dissolved	ug/L	60.6	5000	5000	5670	5680	112	112	70-130	0	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6790	6840	114	115	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4910	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5320	5330	106	107	70-130	0	10	
Chromium, Dissolved	ug/L	154	5000	5000	4810	4850	93	94	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4850	97	97	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5680	5720	113	114	70-130	1	11	
Iron, Dissolved	ug/L	293000	50000	50000	346000	367000	106	148	70-130	6	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4700	4680	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	4960	4950	97	97	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6320	6360	126	127	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2650	2690	105	107	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4280	4260	86	85	70-130	1	6	
Zinc, Dissolved	ug/L	3110	5000	5000	7730	7900	92	96	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: MSV/62571 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60171928001, 60171928002

METHOD BLANK: 1400773 Matrix: Water
Associated Lab Samples: 60171928001, 60171928002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/25/14 12:41	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,2-Dichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/25/14 12:41	
2-Butanone (MEK)	ug/L	ND	10.0	06/25/14 12:41	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/25/14 12:41	N2
Acetone	ug/L	ND	10.0	06/25/14 12:41	N2
Benzene	ug/L	ND	1.0	06/25/14 12:41	
Bromodichloromethane	ug/L	ND	1.0	06/25/14 12:41	
Bromoform	ug/L	ND	1.0	06/25/14 12:41	
Bromomethane	ug/L	ND	5.0	06/25/14 12:41	
Carbon tetrachloride	ug/L	ND	1.0	06/25/14 12:41	
Chloroethane	ug/L	ND	1.0	06/25/14 12:41	
Chloroform	ug/L	ND	1.0	06/25/14 12:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	N2
Ethylbenzene	ug/L	ND	1.0	06/25/14 12:41	
Methylene chloride	ug/L	ND	1.0	06/25/14 12:41	
Tetrachloroethene	ug/L	ND	1.0	06/25/14 12:41	
Toluene	ug/L	ND	1.0	06/25/14 12:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Trichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Vinyl chloride	ug/L	ND	1.0	06/25/14 12:41	
Xylene (Total)	ug/L	ND	3.0	06/25/14 12:41	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/25/14 12:41	
4-Bromofluorobenzene (S)	%	99	80-120	06/25/14 12:41	
Toluene-d8 (S)	%	98	80-120	06/25/14 12:41	

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.5	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.2	116	67-124	
1,2-Dichloroethane	ug/L	20	20.0	100	70-126	
1,4-Dichlorobenzene	ug/L	20	21.5	108	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	96.7	97	38-134	N2
Benzene	ug/L	20	21.3	106	75-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.5	113	68-125	
Bromoform	ug/L	20	23.3	116	65-127	
Bromomethane	ug/L	20	11.7	59	13-157	
Carbon tetrachloride	ug/L	20	20.0	100	70-131	
Chloroethane	ug/L	20	23.4	117	47-133	
Chloroform	ug/L	20	20.4	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.9	109	68-127	N2
Ethylbenzene	ug/L	20	22.0	110	74-122	
Methylene chloride	ug/L	20	19.7	98	64-129	
Tetrachloroethene	ug/L	20	22.6	113	73-125	
Toluene	ug/L	20	20.8	104	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.6	103	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	20.5	102	43-129	
Xylene (Total)	ug/L	60	65.5	109	75-121	N2
1,2-Dichloroethane-d4 (S)	%			92	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4750	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5240	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5280	106	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	301	5000	5170	97	33-140	
2-Butanone (MEK)	ug/L	37800	25000	61200	94	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25500	100	40-160	N2
Acetone	ug/L	84100	25000	108000	97	10-160	N2
Benzene	ug/L	ND	5000	4830	95	37-151	
Bromodichloromethane	ug/L	ND	5000	4890	98	35-142	
Bromoform	ug/L	ND	5000	5380	108	45-142	
Bromomethane	ug/L	ND	5000	2010	40	10-158	
Carbon tetrachloride	ug/L	ND	5000	5010	100	70-140	
Chloroethane	ug/L	ND	5000	5060	101	19-152	
Chloroform	ug/L	ND	5000	4630	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4800	96	34-147	N2
Ethylbenzene	ug/L	ND	5000	5100	102	40-142	
Methylene chloride	ug/L	ND	5000	4380	87	31-144	
Tetrachloroethene	ug/L	ND	5000	5410	108	64-148	
Toluene	ug/L	ND	5000	4730	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4620	92	54-151	
Trichloroethene	ug/L	ND	5000	4640	93	71-149	
Vinyl chloride	ug/L	ND	5000	4850	97	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	15600	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: OEXT/44760 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60171928001

METHOD BLANK: 1397817 Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/21/14 13:21	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/21/14 13:21	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/21/14 13:21	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/21/14 13:21	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/21/14 13:21	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/21/14 13:21	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/23/14 19:15	
Hexachloroethane	ug/L	ND	5.0	06/21/14 13:21	
Naphthalene	ug/L	ND	5.0	06/21/14 13:21	
Nitrobenzene	ug/L	ND	5.0	06/21/14 13:21	
Pentachlorophenol	ug/L	ND	5.0	06/21/14 13:21	
Phenol	ug/L	ND	5.0	06/21/14 13:21	
2,4,6-Tribromophenol (S)	%	73	39-120	06/21/14 13:21	
2-Fluorobiphenyl (S)	%	71	39-120	06/21/14 13:21	
2-Fluorophenol (S)	%	35	17-120	06/21/14 13:21	
Nitrobenzene-d5 (S)	%	69	33-120	06/21/14 13:21	
Phenol-d6 (S)	%	21	11-120	06/21/14 13:21	
Terphenyl-d14 (S)	%	72	45-120	06/21/14 13:21	

LABORATORY CONTROL SAMPLE: 1397818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.1	84	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.7	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.6	61	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.3	55	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.6	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.0	76	44-116	
Hexachlorocyclopentadiene	ug/L	100	76.7	77	24-120	
Hexachloroethane	ug/L	50	38.2	76	43-113	
Naphthalene	ug/L	50	41.4	83	48-120	
Nitrobenzene	ug/L	50	41.8	84	48-120	
Pentachlorophenol	ug/L	50	43.0	86	47-120	
Phenol	ug/L	50	13.6	27	16-112	
2,4,6-Tribromophenol (S)	%			93	39-120	
2-Fluorobiphenyl (S)	%			91	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			83	33-120	
Phenol-d6 (S)	%			25	11-120	
Terphenyl-d14 (S)	%			95	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

MATRIX SPIKE SAMPLE: 1397819

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4030	81	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4900	98	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3520	70	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6080	5000	9010	59	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	5250	105	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3940	79	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8120	81	11-120	
Hexachloroethane	ug/L	ND	5000	3940	79	40-113	
Naphthalene	ug/L	1470	5000	5310	77	45-120	
Nitrobenzene	ug/L	ND	5000	4410	88	38-120	
Pentachlorophenol	ug/L	ND	5000	5880	118	43-135	
Phenol	ug/L	7370	5000	9230	37	13-112	
2,4,6-Tribromophenol (S)	%				110	39-120	
2-Fluorobiphenyl (S)	%				88	39-120	
2-Fluorophenol (S)	%				42	17-120	
Nitrobenzene-d5 (S)	%				116	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: WET/48665 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60171928001

METHOD BLANK: 1400267 Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/24/14 15:14	

LABORATORY CONTROL SAMPLE: 1400268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.6	84	78-114	

MATRIX SPIKE SAMPLE: 1400269

Parameter	Units	60171965001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	36.7	89	78-114	

SAMPLE DUPLICATE: 1400270

Parameter	Units	60171661001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	65.1	64.6	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: WET/48669 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60171928001

METHOD BLANK: 1400283 Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/24/14 15:37	

LABORATORY CONTROL SAMPLE: 1400284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.7	118	64-132	

MATRIX SPIKE SAMPLE: 1400285

Parameter	Units	60171965001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	14.7	66	64-132	

SAMPLE DUPLICATE: 1400286

Parameter	Units	60171661001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.7J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: WET/48629
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60171928001

METHOD BLANK: 1399351
Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/23/14 14:24	

SAMPLE DUPLICATE: 1399352

Parameter	Units	60171853003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	9.0	12	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: WET/48614
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60171928001

SAMPLE DUPLICATE: 1399171

Parameter	Units	60171566001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: WET/48587 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60171928001

METHOD BLANK: 1397903 Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/25/14 16:10	

LABORATORY CONTROL SAMPLE: 1397904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	219	110	85-115	

SAMPLE DUPLICATE: 1397905

Parameter	Units	60171857003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	173	171	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: WETA/29937 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60171928001

METHOD BLANK: 1399070 Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/23/14 09:43	

LABORATORY CONTROL SAMPLE: 1399071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1399072

Parameter	Units	60171009003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.7	2	4.4	86	90-110	M1

SAMPLE DUPLICATE: 1399073

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	545	551	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

QC Batch: WETA/29987 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60171928001

METHOD BLANK: 1400428 Matrix: Water
Associated Lab Samples: 60171928001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/26/14 10:00	

LABORATORY CONTROL SAMPLE: 1400429

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.8	108	90-110	

MATRIX SPIKE SAMPLE: 1400430

Parameter	Units	60171816002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	53.5	95	90-110	

MATRIX SPIKE SAMPLE: 1400433

Parameter	Units	60171916001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	56.5	50	104	94	90-110	

SAMPLE DUPLICATE: 1400431

Parameter	Units	60171901001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	26.1	26.5	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-335
Pace Project No.: 60171928

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60171928001	**316-335**	EPA 200.7	MPRP/27769	EPA 200.7	ICP/20999
60171928001	**316-335**	EPA 200.7	MPRP/27771	EPA 200.7	ICP/20997
60171928001	**316-335**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60171928001	**316-335**	EPA 245.1	MERP/8529	EPA 245.1	MERC/8484
60171928001	**316-335**	EPA 625	OEXT/44760	EPA 625	MSSV/14330
60171928001	**316-335**	EPA 624 Low	MSV/62571		
60171928002	**TRIP BLANK**	EPA 624 Low	MSV/62571		
60171928001	**316-335**	EPA 1664A	WET/48665		
60171928001	**316-335**	EPA 1664A	WET/48669		
60171928001	**316-335**	SM 2540D	WET/48629		
60171928001	**316-335**	SM 4500-H+B	WET/48614		
60171928001	**316-335**	SM 5210B	WET/48587	SM 5210B	WET/48700
60171928001	**316-335**	EPA 350.1	WETA/29937		
60171928001	**316-335**	EPA 410.4	WETA/29987		

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Sample Condition Upon Receipt

WO# : 60171928

60171928

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ xroad

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ zpic

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 6/20/14

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5 mL of HNO3 to BP3N. pH 6.0/4.0 Added 2.0 mL of H2SO4 to BP3S. PH 6.0/1.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed PV / Lot # of added preservative 12513 12522
Trip Blank present:	☐Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	~~5of5DG~~ 5 of 5 DIHgu has headspace 16. PV 6/20/14
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/20/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	316-335 2AG,4U 3AG3S 1BP3S-5	OT	G	6-19-14	8:15	6-19-14	5:30		14	10	4	1	0	1BP3N				X	X	X	X	X	X	X	X	X	X	1BP3U	2BP2U 5DG9U	
2	TRIP BLANK								2	2															X		2DG9UT8		2DHATT	
3																													PV 6/20/14	
4																														
5																														
6																													METALS LIST total & LF Dis:	
7																													Al,Sb,As,Be,Cd,Cr,	
8																													Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn	
9																													and Mercury	
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sarah M. Sehie/FEI	6/19/14	2:00	V. Graham STL Cross Plains	6/19/14	2:00				
SITE ADDRESS: BRIDGETON LF				PASI	6/20/14	0100	2-2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Arron Weber					
SIGNATURE of SAMPLER:	Arron Weber	DATE Signed: 6-19-14				

Pace Analytical Services, Inc.
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June 30, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172040001	**316-336**	Water	06/20/14 06:50	06/21/14 01:20
60172040002	**TRIP BLANK**	Water	06/20/14 06:50	06/21/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172040001	**316-336**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172040002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Sample: 316-336 **Lab ID: 60172040001** Collected: 06/20/14 06:50 Received: 06/21/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**3860**	ug/L	750	2	06/24/14 05:59	06/24/14 18:10	7429-90-5	
Antimony	**83.6**	ug/L	50.0	1	06/24/14 05:59	06/24/14 18:07	7440-36-0	
Arsenic	**1340**	ug/L	50.0	1	06/24/14 05:59	06/24/14 18:07	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/24/14 05:59	06/24/14 18:07	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:07	7440-43-9	
Chromium	**218**	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:07	7440-47-3	
Cobalt	**31.8**	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:07	7440-48-4	
Copper	ND	ug/L	50.0	1	06/24/14 05:59	06/24/14 18:07	7440-50-8	
Iron	**486000**	ug/L	250	1	06/24/14 05:59	06/24/14 18:07	7439-89-6	
Lead	**59.0**	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:07	7439-92-1	
Nickel	**124**	ug/L	25.0	1	06/24/14 05:59	06/24/14 18:07	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/24/14 05:59	06/24/14 18:07	7782-49-2	
Silver	ND	ug/L	35.0	1	06/24/14 05:59	06/24/14 18:07	7440-22-4	
Thallium	ND	ug/L	100	1	06/24/14 05:59	06/24/14 18:07	7440-28-0	
Zinc	**4780**	ug/L	500	2	06/24/14 05:59	06/24/14 18:10	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1600**	ug/L	750	2	06/24/14 06:04	06/25/14 10:23	7429-90-5	
Antimony, Dissolved	**67.6**	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:49	7440-36-0	
Arsenic, Dissolved	**1010**	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:49	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/24/14 06:04	06/24/14 18:49	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:49	7440-43-9	
Chromium, Dissolved	**164**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:49	7440-47-3	
Cobalt, Dissolved	**25.6**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:49	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/24/14 06:04	06/24/14 18:49	7440-50-8	
Iron, Dissolved	**304000**	ug/L	250	1	06/24/14 06:04	06/24/14 18:49	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:49	7439-92-1	
Nickel, Dissolved	**98.0**	ug/L	25.0	1	06/24/14 06:04	06/24/14 18:49	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/24/14 06:04	06/24/14 18:49	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/24/14 06:04	06/24/14 18:49	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/24/14 06:04	06/24/14 18:49	7440-28-0	
Zinc, Dissolved	**4090**	ug/L	500	2	06/24/14 06:04	06/24/14 18:52	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/22/14 12:00	06/22/14 19:27	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/25/14 10:30	06/25/14 14:12	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	2	06/23/14 00:00	06/27/14 10:10	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	77-47-4	
Hexachloroethane	ND	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	20.0	2	06/23/14 00:00	06/27/14 10:10	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**71.2**	ug/L	40.0	2	06/23/14 00:00	06/27/14 10:10		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Sample: 316-336 **Lab ID: 60172040001** Collected: 06/20/14 06:50 Received: 06/21/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**16.4**	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	91-20-3	
Nitrobenzene	ND	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	98-95-3	
Pentachlorophenol	ND	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	87-86-5	
Phenol	**100**	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	2	06/23/14 00:00	06/27/14 10:10	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	108	%	33-120	2	06/23/14 00:00	06/27/14 10:10	4165-60-0	
2-Fluorobiphenyl (S)	80	%	39-120	2	06/23/14 00:00	06/27/14 10:10	321-60-8	
Terphenyl-d14 (S)	85	%	45-120	2	06/23/14 00:00	06/27/14 10:10	1718-51-0	
Phenol-d6 (S)	32	%	11-120	2	06/23/14 00:00	06/27/14 10:10	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	06/23/14 00:00	06/27/14 10:10	367-12-4	
2,4,6-Tribromophenol (S)	104	%	39-120	2	06/23/14 00:00	06/27/14 10:10	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**89600**	ug/L	2500	250		06/25/14 17:21	67-64-1	N2
Benzene	ND	ug/L	250	250		06/25/14 17:21	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/25/14 17:21	75-27-4	
Bromoform	ND	ug/L	250	250		06/25/14 17:21	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/25/14 17:21	74-83-9	
2-Butanone (MEK)	**40000**	ug/L	2500	250		06/25/14 17:21	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/25/14 17:21	56-23-5	
Chloroethane	ND	ug/L	250	250		06/25/14 17:21	75-00-3	
Chloroform	ND	ug/L	250	250		06/25/14 17:21	67-66-3	
1,4-Dichlorobenzene	**404**	ug/L	250	250		06/25/14 17:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/25/14 17:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 17:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 17:21	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/25/14 17:21	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/25/14 17:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/25/14 17:21	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/25/14 17:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/25/14 17:21	127-18-4	
Toluene	ND	ug/L	250	250		06/25/14 17:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/25/14 17:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/25/14 17:21	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/25/14 17:21	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/25/14 17:21	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/25/14 17:21	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	250		06/25/14 17:21	460-00-4	HS
Toluene-d8 (S)	96	%	80-120	250		06/25/14 17:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	89	%	80-120	250		06/25/14 17:21	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/25/14 17:21		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**907**	mg/L	5.0	1		06/24/14 15:25		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Sample: 316-336 **Lab ID: 60172040001** Collected: 06/20/14 06:50 Received: 06/21/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**12.0**	mg/L	5.0	1		06/24/14 15:39		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3920**	mg/L	5.0	1		06/24/14 13:48		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/23/14 11:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31600**	mg/L	2.0	1	06/21/14 09:43	06/26/14 08:43		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**598**	mg/L	20.0	200		06/23/14 09:58	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**49400**	mg/L	5000	500		06/26/14 10:14		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Sample: TRIP BLANK **Lab ID: 60172040002** Collected: 06/20/14 06:50 Received: 06/21/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/25/14 15:47	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/25/14 15:47	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/25/14 15:47	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/25/14 15:47	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/25/14 15:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/25/14 15:47	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/25/14 15:47	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/25/14 15:47	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/25/14 15:47	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/25/14 15:47	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/25/14 15:47	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 15:47	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 15:47	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/25/14 15:47	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/25/14 15:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/25/14 15:47	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/25/14 15:47	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/25/14 15:47	127-18-4	
Toluene	ND	ug/L	1.0	1		06/25/14 15:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/25/14 15:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/25/14 15:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/25/14 15:47	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/25/14 15:47	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/25/14 15:47	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		06/25/14 15:47	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		06/25/14 15:47	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		06/25/14 15:47	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/25/14 15:47		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: MERP/8514
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172040001

METHOD BLANK: 1398965 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/22/14 18:56	

LABORATORY CONTROL SAMPLE: 1398966

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1398967 1398968

Parameter	Units	60171556001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	148	149	98	98	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: MERP/8529
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172040001

METHOD BLANK: 1400587 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/25/14 13:57	

LABORATORY CONTROL SAMPLE: 1400588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400589 1400590

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	126	128	84	85	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: MPRP/27763
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172040001

METHOD BLANK: 1399409
Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/24/14 17:36	
Antimony	ug/L	ND	10.0	06/24/14 17:36	
Arsenic	ug/L	ND	10.0	06/24/14 17:36	
Beryllium	ug/L	ND	1.0	06/24/14 17:36	
Cadmium	ug/L	ND	5.0	06/24/14 17:36	
Chromium	ug/L	ND	5.0	06/24/14 17:36	
Cobalt	ug/L	ND	5.0	06/24/14 17:36	
Copper	ug/L	ND	10.0	06/24/14 17:36	
Iron	ug/L	ND	50.0	06/24/14 17:36	
Lead	ug/L	ND	5.0	06/24/14 17:36	
Nickel	ug/L	ND	5.0	06/24/14 17:36	
Selenium	ug/L	ND	15.0	06/24/14 17:36	
Silver	ug/L	ND	7.0	06/24/14 17:36	
Thallium	ug/L	ND	20.0	06/24/14 17:36	
Zinc	ug/L	ND	50.0	06/24/14 17:36	

LABORATORY CONTROL SAMPLE: 1399410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	994	99	85-115	
Cadmium	ug/L	1000	991	99	85-115	
Chromium	ug/L	1000	946	95	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9390	94	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	1030	103	85-115	
Silver	ug/L	500	488	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399411 1399412

Parameter	Units	60171645001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7780	50000	50000	64200	64100	113	113	70-130	0	8	
Antimony	ug/L	93.6	5000	5000	5540	5630	109	111	70-130	2	7	
Arsenic	ug/L	1580	5000	5000	6960	7260	108	114	70-130	4	10	
Beryllium	ug/L	ND	5000	5000	4800	4820	96	96	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5220	5290	104	106	70-130	1	10	
Chromium	ug/L	251	5000	5000	4770	4780	90	91	70-130	0	10	
Cobalt	ug/L	40.5	5000	5000	4730	4770	94	95	70-130	1	6	
Copper	ug/L	ND	5000	5000	5550	5660	111	113	70-130	2	11	
Iron	ug/L	744000	50000	50000	713000	769000	-62	50	70-130	8	10	M1
Lead	ug/L	91.2	5000	5000	4590	4620	90	91	70-130	1	10	
Nickel	ug/L	126	5000	5000	4830	4890	94	95	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6220	6400	124	128	70-130	3	10	
Silver	ug/L	ND	2500	2500	2610	2660	104	106	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4100	4150	82	83	70-130	1	6	
Zinc	ug/L	4040	5000	5000	8200	8350	83	86	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: MPRP/27771
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172040001

METHOD BLANK: 1399572 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/24/14 18:14	
Antimony, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Arsenic, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Beryllium, Dissolved	ug/L	ND	1.0	06/24/14 18:14	
Cadmium, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Chromium, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Cobalt, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Copper, Dissolved	ug/L	ND	10.0	06/24/14 18:14	
Iron, Dissolved	ug/L	ND	50.0	06/24/14 18:14	
Lead, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Nickel, Dissolved	ug/L	ND	5.0	06/24/14 18:14	
Selenium, Dissolved	ug/L	ND	15.0	06/24/14 18:14	
Silver, Dissolved	ug/L	ND	7.0	06/24/14 18:14	
Thallium, Dissolved	ug/L	ND	20.0	06/24/14 18:14	
Zinc, Dissolved	ug/L	ND	50.0	06/24/14 18:14	

LABORATORY CONTROL SAMPLE: 1399573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1100	110	85-115	
Arsenic, Dissolved	ug/L	1000	1020	102	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1030	103	85-115	
Chromium, Dissolved	ug/L	1000	976	98	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1080	108	85-115	
Iron, Dissolved	ug/L	10000	9640	96	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1070	107	85-115	
Selenium, Dissolved	ug/L	1000	1080	108	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1060	106	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1399574 1399575

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1720	50000	50000	54000	54000	105	105	70-130	0	8	
Antimony, Dissolved	ug/L	60.6	5000	5000	5670	5680	112	112	70-130	0	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6790	6840	114	115	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4910	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5320	5330	106	107	70-130	0	10	
Chromium, Dissolved	ug/L	154	5000	5000	4810	4850	93	94	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4850	97	97	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5680	5720	113	114	70-130	1	11	
Iron, Dissolved	ug/L	293000	50000	50000	346000	367000	106	148	70-130	6	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4700	4680	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	4960	4950	97	97	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6320	6360	126	127	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2650	2690	105	107	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4280	4260	86	85	70-130	1	6	
Zinc, Dissolved	ug/L	3110	5000	5000	7730	7900	92	96	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: MSV/62571 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60172040001, 60172040002

METHOD BLANK: 1400773 Matrix: Water
Associated Lab Samples: 60172040001, 60172040002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/25/14 12:41	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,2-Dichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/25/14 12:41	
2-Butanone (MEK)	ug/L	ND	10.0	06/25/14 12:41	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/25/14 12:41	N2
Acetone	ug/L	ND	10.0	06/25/14 12:41	N2
Benzene	ug/L	ND	1.0	06/25/14 12:41	
Bromodichloromethane	ug/L	ND	1.0	06/25/14 12:41	
Bromoform	ug/L	ND	1.0	06/25/14 12:41	
Bromomethane	ug/L	ND	5.0	06/25/14 12:41	
Carbon tetrachloride	ug/L	ND	1.0	06/25/14 12:41	
Chloroethane	ug/L	ND	1.0	06/25/14 12:41	
Chloroform	ug/L	ND	1.0	06/25/14 12:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	N2
Ethylbenzene	ug/L	ND	1.0	06/25/14 12:41	
Methylene chloride	ug/L	ND	1.0	06/25/14 12:41	
Tetrachloroethene	ug/L	ND	1.0	06/25/14 12:41	
Toluene	ug/L	ND	1.0	06/25/14 12:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Trichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Vinyl chloride	ug/L	ND	1.0	06/25/14 12:41	
Xylene (Total)	ug/L	ND	3.0	06/25/14 12:41	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/25/14 12:41	
4-Bromofluorobenzene (S)	%	99	80-120	06/25/14 12:41	
Toluene-d8 (S)	%	98	80-120	06/25/14 12:41	

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.5	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.2	116	67-124	
1,2-Dichloroethane	ug/L	20	20.0	100	70-126	
1,4-Dichlorobenzene	ug/L	20	21.5	108	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	96.7	97	38-134	N2
Benzene	ug/L	20	21.3	106	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.5	113	68-125	
Bromoform	ug/L	20	23.3	116	65-127	
Bromomethane	ug/L	20	11.7	59	13-157	
Carbon tetrachloride	ug/L	20	20.0	100	70-131	
Chloroethane	ug/L	20	23.4	117	47-133	
Chloroform	ug/L	20	20.4	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.9	109	68-127	N2
Ethylbenzene	ug/L	20	22.0	110	74-122	
Methylene chloride	ug/L	20	19.7	98	64-129	
Tetrachloroethene	ug/L	20	22.6	113	73-125	
Toluene	ug/L	20	20.8	104	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.6	103	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	20.5	102	43-129	
Xylene (Total)	ug/L	60	65.5	109	75-121	N2
1,2-Dichloroethane-d4 (S)	%			92	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4750	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5240	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5280	106	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	301	5000	5170	97	33-140	
2-Butanone (MEK)	ug/L	37800	25000	61200	94	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25500	100	40-160	N2
Acetone	ug/L	84100	25000	108000	97	10-160	N2
Benzene	ug/L	ND	5000	4830	95	37-151	
Bromodichloromethane	ug/L	ND	5000	4890	98	35-142	
Bromoform	ug/L	ND	5000	5380	108	45-142	
Bromomethane	ug/L	ND	5000	2010	40	10-158	
Carbon tetrachloride	ug/L	ND	5000	5010	100	70-140	
Chloroethane	ug/L	ND	5000	5060	101	19-152	
Chloroform	ug/L	ND	5000	4630	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4800	96	34-147	N2
Ethylbenzene	ug/L	ND	5000	5100	102	40-142	
Methylene chloride	ug/L	ND	5000	4380	87	31-144	
Tetrachloroethene	ug/L	ND	5000	5410	108	64-148	
Toluene	ug/L	ND	5000	4730	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4620	92	54-151	
Trichloroethene	ug/L	ND	5000	4640	93	71-149	
Vinyl chloride	ug/L	ND	5000	4850	97	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	15600	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: OEXT/44786
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172040001

METHOD BLANK: 1399051
Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/27/14 09:29	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/27/14 09:29	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/27/14 09:29	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/27/14 09:29	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/27/14 09:29	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/27/14 09:29	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/27/14 09:29	
Hexachloroethane	ug/L	ND	5.0	06/27/14 09:29	
Naphthalene	ug/L	ND	5.0	06/27/14 09:29	
Nitrobenzene	ug/L	ND	5.0	06/27/14 09:29	
Pentachlorophenol	ug/L	ND	5.0	06/27/14 09:29	
Phenol	ug/L	ND	5.0	06/27/14 09:29	
2,4,6-Tribromophenol (S)	%	110	39-120	06/27/14 09:29	
2-Fluorobiphenyl (S)	%	95	39-120	06/27/14 09:29	
2-Fluorophenol (S)	%	50	17-120	06/27/14 09:29	
Nitrobenzene-d5 (S)	%	107	33-120	06/27/14 09:29	
Phenol-d6 (S)	%	32	11-120	06/27/14 09:29	
Terphenyl-d14 (S)	%	96	45-120	06/27/14 09:29	

LABORATORY CONTROL SAMPLE: 1399052

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.5	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.1	86	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.2	66	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.8	60	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	64.8	130	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.7	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	62.9	63	24-120	
Hexachloroethane	ug/L	50	37.8	76	43-113	
Naphthalene	ug/L	50	38.7	77	48-120	
Nitrobenzene	ug/L	50	41.9	84	48-120	
Pentachlorophenol	ug/L	50	46.3	93	47-120	
Phenol	ug/L	50	14.8	30	16-112	
2,4,6-Tribromophenol (S)	%			102	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			43	17-120	
Nitrobenzene-d5 (S)	%			91	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			88	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

MATRIX SPIKE SAMPLE: 1399053

Parameter	Units	60171999001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	36.3	73	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	40.2	80	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	31.0	62	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	28.3	57	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	45.3	91	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	34.8	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	16.9	17	11-120	
Hexachloroethane	ug/L	ND	50	30.1	60	40-113	
Naphthalene	ug/L	ND	50	34.8	70	45-120	
Nitrobenzene	ug/L	ND	50	38.2	76	38-120	
Pentachlorophenol	ug/L	ND	50	42.8	86	43-135	
Phenol	ug/L	ND	50	13.1	26	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				37	17-120	
Nitrobenzene-d5 (S)	%				86	33-120	
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				89	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: WET/48665 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172040001

METHOD BLANK: 1400267 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/24/14 15:14	

LABORATORY CONTROL SAMPLE: 1400268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.6	84	78-114	

MATRIX SPIKE SAMPLE: 1400269

Parameter	Units	60171965001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	36.7	89	78-114	

SAMPLE DUPLICATE: 1400270

Parameter	Units	60171661001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	65.1	64.6	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: WET/48669 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172040001

METHOD BLANK: 1400283 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/24/14 15:37	

LABORATORY CONTROL SAMPLE: 1400284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.7	118	64-132	

MATRIX SPIKE SAMPLE: 1400285

Parameter	Units	60171965001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	14.7	66	64-132	

SAMPLE DUPLICATE: 1400286

Parameter	Units	60171661001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.7J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: WET/48659 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172040001

METHOD BLANK: 1400060 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/24/14 13:44	

SAMPLE DUPLICATE: 1400061

Parameter	Units	60171926001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	83.0	83.0	0	10	

SAMPLE DUPLICATE: 1400062

Parameter	Units	60172082005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: WET/48614
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172040001

SAMPLE DUPLICATE: 1399171

Parameter	Units	60171566001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	7.9	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: WET/48597 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172040001

METHOD BLANK: 1398395 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/26/14 08:24	

LABORATORY CONTROL SAMPLE: 1398396

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	198	100	85-115	

SAMPLE DUPLICATE: 1398397

Parameter	Units	60171853003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	3.2	3.0	8	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: WETA/29937 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172040001

METHOD BLANK: 1399070 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/23/14 09:43	

LABORATORY CONTROL SAMPLE: 1399071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1399072

Parameter	Units	60171009003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.7	2	4.4	86	90-110	M1

SAMPLE DUPLICATE: 1399073

Parameter	Units	60171556001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	545	551	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

QC Batch: WETA/29987 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172040001

METHOD BLANK: 1400428 Matrix: Water
Associated Lab Samples: 60172040001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/26/14 10:00	

LABORATORY CONTROL SAMPLE: 1400429

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.8	108	90-110	

MATRIX SPIKE SAMPLE: 1400430

Parameter	Units	60171816002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	53.5	95	90-110	

MATRIX SPIKE SAMPLE: 1400433

Parameter	Units	60171916001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	56.5	50	104	94	90-110	

SAMPLE DUPLICATE: 1400431

Parameter	Units	60171901001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	26.1	26.5	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-336
Pace Project No.: 60172040

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172040001	**316-336**	EPA 200.7	MPRP/27763	EPA 200.7	ICP/20995
60172040001	**316-336**	EPA 200.7	MPRP/27771	EPA 200.7	ICP/20997
60172040001	**316-336**	EPA 245.1	MERP/8514	EPA 245.1	MERC/8469
60172040001	**316-336**	EPA 245.1	MERP/8529	EPA 245.1	MERC/8484
60172040001	**316-336**	EPA 625	OEXT/44786	EPA 625	MSSV/14349
60172040001	**316-336**	EPA 624 Low	MSV/62571		
60172040002	**TRIP BLANK**	EPA 624 Low	MSV/62571		
60172040001	**316-336**	EPA 1664A	WET/48665		
60172040001	**316-336**	EPA 1664A	WET/48669		
60172040001	**316-336**	SM 2540D	WET/48659		
60172040001	**316-336**	SM 4500-H+B	WET/48614		
60172040001	**316-336**	SM 5210B	WET/48597	SM 5210B	WET/48733
60172040001	**316-336**	EPA 350.1	WETA/29937		
60172040001	**316-336**	EPA 410.4	WETA/29987		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60172040

60172040

Client Name: Republic Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐ XRoads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☐ Foam ☐ None ☐ Other ☐

Thermometer Used: ~~T-239~~ / T-194

Type of Ice: ~~Wet~~ Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 2.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JW 6/21/14 720

Chain of Custody present:	☑Yes	☐No	☐N/A
Chain of Custody filled out:	☑Yes	☐No	☐N/A
Chain of Custody relinquished:	☑Yes	☐No	☐N/A
Sampler name & signature on COC:	☑Yes	☐No	☐N/A
Samples arrived within holding time:	☑Yes	☐No	☐N/A
Short Hold Time analyses (<72hr):	☑Yes	☐No	☐N/A
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A
Sufficient volume:	☑Yes	☐No	☐N/A
Correct containers used:	☑Yes	☐No	☐N/A
Pace containers used:	☑Yes	☐No	☐N/A
Containers intact:	☑Yes	☐No	☐N/A
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A
Sample labels match COC: Includes date/time/ID/analyses Matrix: WATER	☑Yes	☐No	☐N/A
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No	
Trip Blank present: Pace Trip Blank lot # (if purchased): 040714-3	☑Yes	☐No	☐N/A
Headspace in VOA vials (>6mm):	☑Yes	☐No	☐N/A
Project sampled in USDA Regulated Area:	☐Yes	☐No	☐N/A

1.
2.
3.
4.
5.
6. BOD
7.
8.
9.
10.
11.
12.
13.
14. BP3N + BP3S not able to be preserved

Initial when completed JW | Lot # of added preservative 125-23-2

15.

16. Headspace in every sample vial SOILS - APPLY HS FOOTNOTE PER HISTORICAL INSTRUCTIONS.

17. List State MO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/23/14

F-KS-C-003-Rev.7, 04December2012

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60172040 2(BP2U)1(BP2N) 1(BP3S) 1(BP3N)
1	316-336	OT	G	6-20-14	6:45	6-20-14	6:50		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9H)2(WGFU)3(AG3S) 001
2	TRIP BLANK								2	2																X						2(DG9H) 002
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Crook / Feezor Engin.	6/20/14	1412	Bernadette Garth	6/20/14	1412				
SITE ADDRESS: BRIDGETON LF				[illegible] / Pace	6/21/14	120	2.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Arron Weber

SIGNATURE of SAMPLER: Arron Weber DATE Signed:

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 30, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172158001	**316-337**	Water	06/21/14 08:10	06/23/14 13:00
60172158002	**TRIP BLANK**	Water	06/21/14 08:10	06/23/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172158001	**316-337**	EPA 200.7	NDJ	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	DJR	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172158002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Sample: 316-337 **Lab ID: 60172158001** Collected: 06/21/14 08:10 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**10200**	ug/L	750	2	06/25/14 09:10	06/26/14 11:40	7429-90-5	
Antimony	**85.2**	ug/L	50.0	1	06/25/14 09:10	06/26/14 11:38	7440-36-0	
Arsenic	**1320**	ug/L	50.0	1	06/25/14 09:10	06/26/14 11:38	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/25/14 09:10	06/26/14 11:38	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:38	7440-43-9	
Chromium	**262**	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:38	7440-47-3	
Cobalt	**42.0**	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:38	7440-48-4	
Copper	ND	ug/L	50.0	1	06/25/14 09:10	06/26/14 11:38	7440-50-8	
Iron	**793000**	ug/L	250	1	06/25/14 09:10	06/26/14 11:38	7439-89-6	M1
Lead	**120**	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:38	7439-92-1	
Nickel	**150**	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:38	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/25/14 09:10	06/26/14 11:38	7782-49-2	M1
Silver	ND	ug/L	35.0	1	06/25/14 09:10	06/26/14 11:38	7440-22-4	
Thallium	ND	ug/L	100	1	06/25/14 09:10	06/26/14 11:38	7440-28-0	
Zinc	**5290**	ug/L	500	2	06/25/14 09:10	06/26/14 11:40	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1020**	ug/L	750	2	06/26/14 10:10	06/26/14 15:08	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/26/14 10:10	06/26/14 15:08	7440-36-0	D3
Arsenic, Dissolved	**938**	ug/L	50.0	1	06/26/14 10:10	06/26/14 15:04	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/26/14 10:10	06/26/14 15:04	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:04	7440-43-9	
Chromium, Dissolved	**169**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:04	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:04	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/26/14 10:10	06/26/14 15:04	7440-50-8	
Iron, Dissolved	**270000**	ug/L	250	1	06/26/14 10:10	06/26/14 15:04	7439-89-6	
Lead, Dissolved	**46.0**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:04	7439-92-1	
Nickel, Dissolved	**95.2**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:04	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/26/14 10:10	06/26/14 15:04	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/26/14 10:10	06/26/14 15:04	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/26/14 10:10	06/26/14 15:04	7440-28-0	
Zinc, Dissolved	**4200**	ug/L	500	2	06/26/14 10:10	06/26/14 15:08	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**21.5**	ug/L	6.0	1	06/26/14 08:45	06/26/14 14:17	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/25/14 10:30	06/25/14 14:14	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/24/14 00:00	06/27/14 13:58	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/24/14 00:00	06/27/14 13:58	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6720**	ug/L	4000	2	06/24/14 00:00	06/27/14 13:58		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Sample: 316-337 **Lab ID: 60172158001** Collected: 06/21/14 08:10 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1190**	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	87-86-5	
Phenol	**9180**	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 13:58	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	105	%	33-120	2	06/24/14 00:00	06/27/14 13:58	4165-60-0	
2-Fluorobiphenyl (S)	82	%	39-120	2	06/24/14 00:00	06/27/14 13:58	321-60-8	
Terphenyl-d14 (S)	85	%	45-120	2	06/24/14 00:00	06/27/14 13:58	1718-51-0	
Phenol-d6 (S)	33	%	11-120	2	06/24/14 00:00	06/27/14 13:58	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	06/24/14 00:00	06/27/14 13:58	367-12-4	
2,4,6-Tribromophenol (S)	96	%	39-120	2	06/24/14 00:00	06/27/14 13:58	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**82600**	ug/L	2500	250		06/25/14 17:36	67-64-1	N2
Benzene	ND	ug/L	250	250		06/25/14 17:36	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/25/14 17:36	75-27-4	
Bromoform	ND	ug/L	250	250		06/25/14 17:36	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/25/14 17:36	74-83-9	
2-Butanone (MEK)	**34800**	ug/L	2500	250		06/25/14 17:36	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/25/14 17:36	56-23-5	
Chloroethane	ND	ug/L	250	250		06/25/14 17:36	75-00-3	
Chloroform	ND	ug/L	250	250		06/25/14 17:36	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/25/14 17:36	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/25/14 17:36	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 17:36	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 17:36	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/25/14 17:36	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/25/14 17:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/25/14 17:36	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/25/14 17:36	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/25/14 17:36	127-18-4	
Toluene	ND	ug/L	250	250		06/25/14 17:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/25/14 17:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/25/14 17:36	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/25/14 17:36	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/25/14 17:36	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/25/14 17:36	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	250		06/25/14 17:36	460-00-4	HS
Toluene-d8 (S)	95	%	80-120	250		06/25/14 17:36	2037-26-5	
1,2-Dichloroethane-d4 (S)	88	%	80-120	250		06/25/14 17:36	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/25/14 17:36		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**896**	mg/L	5.0	1		06/25/14 16:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Sample: 316-337 **Lab ID: 60172158001** Collected: 06/21/14 08:10 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**16.4**	mg/L	5.0	1		06/25/14 16:56		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4000**	mg/L	5.0	1		06/24/14 13:52		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/25/14 12:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29700**	mg/L	2.0	1	06/23/14 16:17	06/28/14 08:37		H3
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**578**	mg/L	20.0	200		06/26/14 11:33	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**51100**	mg/L	5000	500		06/27/14 10:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Sample: TRIP BLANK **Lab ID: 60172158002** Collected: 06/21/14 08:10 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/25/14 16:03	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/25/14 16:03	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/25/14 16:03	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/25/14 16:03	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/25/14 16:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/25/14 16:03	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/25/14 16:03	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/25/14 16:03	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/25/14 16:03	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/25/14 16:03	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/25/14 16:03	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 16:03	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 16:03	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/25/14 16:03	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/25/14 16:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/25/14 16:03	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/25/14 16:03	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/25/14 16:03	127-18-4	
Toluene	ND	ug/L	1.0	1		06/25/14 16:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/25/14 16:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/25/14 16:03	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/25/14 16:03	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/25/14 16:03	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/25/14 16:03	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		06/25/14 16:03	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		06/25/14 16:03	2037-26-5	
1,2-Dichloroethane-d4 (S)	88	%	80-120	1		06/25/14 16:03	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/25/14 16:03		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: MERP/8534
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172158001

METHOD BLANK: 1401318 Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/26/14 14:11	

LABORATORY CONTROL SAMPLE: 1401319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE SAMPLE: 1401320

Parameter	Units	60172072002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401321 1401322

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	141	145	93	96	70-130	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: MERP/8529
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172158001

METHOD BLANK: 1400587 Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/25/14 13:57	

LABORATORY CONTROL SAMPLE: 1400588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400589 1400590

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	126	128	84	85	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: MPRP/27804
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172158001

METHOD BLANK: 1400543
Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/26/14 11:35	
Antimony	ug/L	ND	10.0	06/26/14 11:35	
Arsenic	ug/L	ND	10.0	06/26/14 11:35	
Beryllium	ug/L	ND	1.0	06/26/14 11:35	
Cadmium	ug/L	ND	5.0	06/26/14 11:35	
Chromium	ug/L	ND	5.0	06/26/14 11:35	
Cobalt	ug/L	ND	5.0	06/26/14 11:35	
Copper	ug/L	ND	10.0	06/26/14 11:35	
Iron	ug/L	ND	50.0	06/26/14 11:35	
Lead	ug/L	ND	5.0	06/26/14 11:35	
Nickel	ug/L	ND	5.0	06/26/14 11:35	
Selenium	ug/L	ND	15.0	06/26/14 11:35	
Silver	ug/L	ND	7.0	06/26/14 11:35	
Thallium	ug/L	ND	20.0	06/26/14 11:35	
Zinc	ug/L	ND	50.0	06/26/14 11:35	

LABORATORY CONTROL SAMPLE: 1400544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10900	109	85-115	
Antimony	ug/L	1000	1080	108	85-115	
Arsenic	ug/L	1000	1050	105	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1120	112	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1060	106	85-115	
Iron	ug/L	10000	11100	111	85-115	
Lead	ug/L	1000	1120	112	85-115	
Nickel	ug/L	1000	1130	113	85-115	
Selenium	ug/L	1000	1070	107	85-115	
Silver	ug/L	500	538	108	85-115	
Thallium	ug/L	1000	1100	110	85-115	
Zinc	ug/L	1000	1120	112	85-115	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400545 1400546

Parameter	Units	60172158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	10200	50000	50000	72600	74100	125	128	70-130	2	8	
Antimony	ug/L	85.2	5000	5000	5820	5940	115	117	70-130	2	7	
Arsenic	ug/L	1320	5000	5000	7530	7610	124	126	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5420	5480	108	110	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5780	5840	115	117	70-130	1	10	
Chromium	ug/L	262	5000	5000	5650	5730	108	109	70-130	1	10	
Cobalt	ug/L	42.0	5000	5000	5360	5420	106	107	70-130	1	6	
Copper	ug/L	ND	5000	5000	5820	5890	116	117	70-130	1	11	
Iron	ug/L	793000	50000	50000	866000	874000	145	162	70-130	1	10	M1
Lead	ug/L	120	5000	5000	5120	5200	100	102	70-130	1	10	
Nickel	ug/L	150	5000	5000	5460	5540	106	108	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6590	6680	132	134	70-130	1	10	M1
Silver	ug/L	ND	2500	2500	2910	2940	116	117	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4610	4660	92	93	70-130	1	6	
Zinc	ug/L	5290	5000	5000	10600	10800	106	111	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: MPRP/27818
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172158001

METHOD BLANK: 1401357
Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/26/14 14:58	
Antimony, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Arsenic, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Beryllium, Dissolved	ug/L	ND	1.0	06/26/14 14:58	
Cadmium, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Chromium, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Cobalt, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Copper, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Iron, Dissolved	ug/L	ND	50.0	06/26/14 14:58	
Lead, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Nickel, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Selenium, Dissolved	ug/L	ND	15.0	06/26/14 14:58	
Silver, Dissolved	ug/L	ND	7.0	06/26/14 14:58	
Thallium, Dissolved	ug/L	ND	20.0	06/26/14 14:58	
Zinc, Dissolved	ug/L	ND	50.0	06/26/14 14:58	

LABORATORY CONTROL SAMPLE: 1401358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9550	95	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	971	97	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	972	97	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	968	97	85-115	
Iron, Dissolved	ug/L	10000	9610	96	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401359 1401360

Parameter	Units	60172158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1020	50000	50000	47500	46500	93	91	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5210	5220	103	104	70-130	0	7	
Arsenic, Dissolved	ug/L	938	5000	5000	6230	6230	106	106	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5080	4790	102	96	70-130	6	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5240	104	105	70-130	0	10	
Chromium, Dissolved	ug/L	169	5000	5000	4900	4910	95	95	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4890	97	97	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	4880	4900	97	98	70-130	0	11	
Iron, Dissolved	ug/L	270000	50000	50000	333000	309000	126	79	70-130	7	10	
Lead, Dissolved	ug/L	46.0	5000	5000	4810	4820	95	96	70-130	0	10	
Nickel, Dissolved	ug/L	95.2	5000	5000	5040	5060	99	99	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5860	5820	117	116	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2530	2540	101	102	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4400	4430	88	89	70-130	1	6	
Zinc, Dissolved	ug/L	4200	5000	5000	9150	9120	99	98	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: MSV/62571 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60172158001, 60172158002

METHOD BLANK: 1400773 Matrix: Water
Associated Lab Samples: 60172158001, 60172158002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/25/14 12:41	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,2-Dichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/25/14 12:41	
2-Butanone (MEK)	ug/L	ND	10.0	06/25/14 12:41	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/25/14 12:41	N2
Acetone	ug/L	ND	10.0	06/25/14 12:41	N2
Benzene	ug/L	ND	1.0	06/25/14 12:41	
Bromodichloromethane	ug/L	ND	1.0	06/25/14 12:41	
Bromoform	ug/L	ND	1.0	06/25/14 12:41	
Bromomethane	ug/L	ND	5.0	06/25/14 12:41	
Carbon tetrachloride	ug/L	ND	1.0	06/25/14 12:41	
Chloroethane	ug/L	ND	1.0	06/25/14 12:41	
Chloroform	ug/L	ND	1.0	06/25/14 12:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	N2
Ethylbenzene	ug/L	ND	1.0	06/25/14 12:41	
Methylene chloride	ug/L	ND	1.0	06/25/14 12:41	
Tetrachloroethene	ug/L	ND	1.0	06/25/14 12:41	
Toluene	ug/L	ND	1.0	06/25/14 12:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Trichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Vinyl chloride	ug/L	ND	1.0	06/25/14 12:41	
Xylene (Total)	ug/L	ND	3.0	06/25/14 12:41	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/25/14 12:41	
4-Bromofluorobenzene (S)	%	99	80-120	06/25/14 12:41	
Toluene-d8 (S)	%	98	80-120	06/25/14 12:41	

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.5	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.2	116	67-124	
1,2-Dichloroethane	ug/L	20	20.0	100	70-126	
1,4-Dichlorobenzene	ug/L	20	21.5	108	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	96.7	97	38-134	N2
Benzene	ug/L	20	21.3	106	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.5	113	68-125	
Bromoform	ug/L	20	23.3	116	65-127	
Bromomethane	ug/L	20	11.7	59	13-157	
Carbon tetrachloride	ug/L	20	20.0	100	70-131	
Chloroethane	ug/L	20	23.4	117	47-133	
Chloroform	ug/L	20	20.4	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.9	109	68-127	N2
Ethylbenzene	ug/L	20	22.0	110	74-122	
Methylene chloride	ug/L	20	19.7	98	64-129	
Tetrachloroethene	ug/L	20	22.6	113	73-125	
Toluene	ug/L	20	20.8	104	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.6	103	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	20.5	102	43-129	
Xylene (Total)	ug/L	60	65.5	109	75-121	N2
1,2-Dichloroethane-d4 (S)	%			92	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4750	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5240	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5280	106	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	301	5000	5170	97	33-140	
2-Butanone (MEK)	ug/L	37800	25000	61200	94	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25500	100	40-160	N2
Acetone	ug/L	84100	25000	108000	97	10-160	N2
Benzene	ug/L	ND	5000	4830	95	37-151	
Bromodichloromethane	ug/L	ND	5000	4890	98	35-142	
Bromoform	ug/L	ND	5000	5380	108	45-142	
Bromomethane	ug/L	ND	5000	2010	40	10-158	
Carbon tetrachloride	ug/L	ND	5000	5010	100	70-140	
Chloroethane	ug/L	ND	5000	5060	101	19-152	
Chloroform	ug/L	ND	5000	4630	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4800	96	34-147	N2
Ethylbenzene	ug/L	ND	5000	5100	102	40-142	
Methylene chloride	ug/L	ND	5000	4380	87	31-144	
Tetrachloroethene	ug/L	ND	5000	5410	108	64-148	
Toluene	ug/L	ND	5000	4730	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4620	92	54-151	
Trichloroethene	ug/L	ND	5000	4640	93	71-149	
Vinyl chloride	ug/L	ND	5000	4850	97	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	15600	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: OEXT/44806
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172158001

METHOD BLANK: 1399642
Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/25/14 13:36	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/25/14 13:36	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/25/14 13:36	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/25/14 13:36	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/25/14 13:36	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/25/14 13:36	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/25/14 13:36	
Hexachloroethane	ug/L	ND	5.0	06/25/14 13:36	
Naphthalene	ug/L	ND	5.0	06/25/14 13:36	
Nitrobenzene	ug/L	ND	5.0	06/25/14 13:36	
Pentachlorophenol	ug/L	ND	5.0	06/25/14 13:36	
Phenol	ug/L	ND	5.0	06/25/14 13:36	
2,4,6-Tribromophenol (S)	%	91	39-120	06/25/14 13:36	
2-Fluorobiphenyl (S)	%	88	39-120	06/25/14 13:36	
2-Fluorophenol (S)	%	47	17-120	06/25/14 13:36	
Nitrobenzene-d5 (S)	%	95	33-120	06/25/14 13:36	
Phenol-d6 (S)	%	30	11-120	06/25/14 13:36	
Terphenyl-d14 (S)	%	92	45-120	06/25/14 13:36	

LABORATORY CONTROL SAMPLE: 1399643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.2	78	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.5	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.4	67	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	30.3	61	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.0	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	37.2	74	44-116	
Hexachlorocyclopentadiene	ug/L	100	64.0	64	24-120	
Hexachloroethane	ug/L	50	36.9	74	43-113	
Naphthalene	ug/L	50	38.9	78	48-120	
Nitrobenzene	ug/L	50	43.5	87	48-120	
Pentachlorophenol	ug/L	50	46.7	93	47-120	
Phenol	ug/L	50	15.8	32	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			89	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			89	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

MATRIX SPIKE SAMPLE: 1399644

Parameter	Units	60172159001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3560	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4440	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6770	5000	8730	39	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	5380	108	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3550	71	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	1810	18	11-120	
Hexachloroethane	ug/L	ND	5000	3200	64	40-113	
Naphthalene	ug/L	ND	5000	4440	69	45-120	
Nitrobenzene	ug/L	ND	5000	3890	78	38-120	
Pentachlorophenol	ug/L	ND	5000	4750	95	43-135	
Phenol	ug/L	9860	5000	9930	1	13-112	M1
2,4,6-Tribromophenol (S)	%				104	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				106	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				95	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: WET/48699 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172158001

METHOD BLANK: 1401054 Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/25/14 16:50	

LABORATORY CONTROL SAMPLE: 1401055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.1	83	78-114	

MATRIX SPIKE SAMPLE: 1401056

Parameter	Units	60171861004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.0	41.7	52.1	106	78-114	

SAMPLE DUPLICATE: 1401057

Parameter	Units	60171862004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	6.8	5.9	14	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: WET/48701 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172158001

METHOD BLANK: 1401059 Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/25/14 16:56	

LABORATORY CONTROL SAMPLE: 1401060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	24.3	122	64-132	

MATRIX SPIKE SAMPLE: 1401061

Parameter	Units	60171861004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	19.3	84	64-132	

SAMPLE DUPLICATE: 1401062

Parameter	Units	60171862004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.3J		34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: WET/48660 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172158001

METHOD BLANK: 1400063 Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/24/14 13:49	

SAMPLE DUPLICATE: 1400064

Parameter	Units	60172037001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	640	640	0	10	

SAMPLE DUPLICATE: 1400065

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4240	4560	7	10	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: WET/48674
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172158001

SAMPLE DUPLICATE: 1400386

Parameter	Units	60171965001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	1	5	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: WET/48634 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172158001

METHOD BLANK: 1399509 Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/28/14 08:15	

LABORATORY CONTROL SAMPLE: 1399510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	93	85-115	

SAMPLE DUPLICATE: 1399511

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	26800	27200	1	17	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: WETA/30010
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172158001

METHOD BLANK: 1401308 Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/26/14 11:01	

LABORATORY CONTROL SAMPLE: 1401309

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1401310

Parameter	Units	60171853003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.33	2	2.1	89	90-110	M1

MATRIX SPIKE SAMPLE: 1401311

Parameter	Units	60171914002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	92	90-110	

SAMPLE DUPLICATE: 1401312

Parameter	Units	60171919001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.56	0.56	0	18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

QC Batch: WETA/30005
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60172158001

METHOD BLANK: 1401245 Matrix: Water
Associated Lab Samples: 60172158001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/27/14 10:33	

LABORATORY CONTROL SAMPLE: 1401246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.1	104	90-110	

MATRIX SPIKE SAMPLE: 1401247

Parameter	Units	60172158001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	51100	25000	73500	90	90-110	

MATRIX SPIKE SAMPLE: 1401249

Parameter	Units	60171781002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	41700	50000	90100	97	90-110	

SAMPLE DUPLICATE: 1401248

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	50900	51400	1	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60172158001

[1] The samples were received with headspace. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H3	Sample was received or analysis requested beyond the recognized method holding time.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-337
Pace Project No.: 60172158

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172158001	**316-337**	EPA 200.7	MPRP/27804	EPA 200.7	ICP/21020
60172158001	**316-337**	EPA 200.7	MPRP/27818	EPA 200.7	ICP/21032
60172158001	**316-337**	EPA 245.1	MERP/8534	EPA 245.1	MERC/8489
60172158001	**316-337**	EPA 245.1	MERP/8529	EPA 245.1	MERC/8484
60172158001	**316-337**	EPA 625	OEXT/44806	EPA 625	MSSV/14346
60172158001	**316-337**	EPA 624 Low	MSV/62571		
60172158002	**TRIP BLANK**	EPA 624 Low	MSV/62571		
60172158001	**316-337**	EPA 1664A	WET/48699		
60172158001	**316-337**	EPA 1664A	WET/48701		
60172158001	**316-337**	SM 2540D	WET/48660		
60172158001	**316-337**	SM 4500-H+B	WET/48674		
60172158001	**316-337**	SM 5210B	WET/48634	SM 5210B	WET/48744
60172158001	**316-337**	EPA 350.1	WETA/30010		
60172158001	**316-337**	EPA 410.4	WETA/30005		

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Sample Condition Upon Receipt

WO# : 60172158

60172158

Optional
Proj Due Date:
Proj Name:

Client Name: Republic Barr

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐ X Roads

Tracking #: ______ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☒ Foam ☒ None ☐ Other ☐

Thermometer Used: (T-239) / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 3.4 (circle one)

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JDS 6/23/14 1325

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 holding time:	☐Yes	☒No	☐N/A	5. BOD expired
Short Hold Time analyses (<72hr):	☒Yes	☐No	☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes	☒No	☐N/A	7.
Sufficient volume:	☒Yes	☐No	☐N/A	8.
Correct containers used:	☒Yes	☐No	☐N/A	
Pace containers used:	☒Yes	☐No	☐N/A	9.
Containers intact:	☒Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☒N/A	12.
Sample labels match COC:	☒Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: water				13.
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A	BP3N + BP3S unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes	☐No	☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes	☐No		Initial when completed JDS / Lot # of added preservative 1275-10-3
Trip Blank present:	☒Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): 040714-3				15.
Headspace in VOA vials (>6mm):	☒Yes	☐No	☐N/A	headspace in all sample vials JDS 16. -QUALIFY / HISTORICAL INSTRUCTIONS AB
Project sampled in USDA Regulated Area:	☐Yes	☐No	☒N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: ______ Date/Time: ______

Comments/ Resolution: ______

Project Manager Review: [signature] Date: 6/24/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	6017215B 2(BP2U) 1(BP3U) 2(AG4U) 2(DG9U)
1	316-337	OT	G	6/21	8:00	6/21	8:10		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		3(AG3S) 1(BP3S) 1(BP3N) 001
2	TRIP BLANK								2	2																X					2(DG9U) 002
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	6-23-14	8:50am	[signature]	6-23-14	0650				
SITE ADDRESS: BRIDGETON LF				[signature]	6/23/14	1300	3.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Weber

SIGNATURE of SAMPLER: Aaron Weber DATE Signed: 6-21-14

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

July 09, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Amended report revised to include a secondary analysis for Oil and Grease.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172159001	**316-338**	Water	06/22/14 08:27	06/23/14 13:00
60172159002	**TRIP BLANK**	Water	06/22/14 08:27	06/23/14 13:00
60172159003	**316-338 RE**	Water	06/22/14 08:27	06/23/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172159001	**316-338**	EPA 200.7	NDJ	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	DJR	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172159002	**TRIP BLANK**	EPA 624 Low	EAK	28
60172159003	**316-338 RE**	EPA 1664A	CRT	1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Sample: 316-338 **Lab ID: 60172159001** Collected: 06/22/14 08:27 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**10700**	ug/L	750	2	06/25/14 09:10	06/26/14 11:59	7429-90-5	
Antimony	**72.7**	ug/L	50.0	1	06/25/14 09:10	06/26/14 11:57	7440-36-0	
Arsenic	**1400**	ug/L	50.0	1	06/25/14 09:10	06/26/14 11:57	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/25/14 09:10	06/26/14 11:57	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:57	7440-43-9	
Chromium	**280**	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:57	7440-47-3	
Cobalt	**48.6**	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:57	7440-48-4	
Copper	ND	ug/L	50.0	1	06/25/14 09:10	06/26/14 11:57	7440-50-8	
Iron	**856000**	ug/L	250	1	06/25/14 09:10	06/26/14 11:57	7439-89-6	
Lead	**144**	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:57	7439-92-1	
Nickel	**164**	ug/L	25.0	1	06/25/14 09:10	06/26/14 11:57	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/25/14 09:10	06/26/14 11:57	7782-49-2	
Silver	ND	ug/L	35.0	1	06/25/14 09:10	06/26/14 11:57	7440-22-4	
Thallium	ND	ug/L	100	1	06/25/14 09:10	06/26/14 11:57	7440-28-0	
Zinc	**5550**	ug/L	500	2	06/25/14 09:10	06/26/14 11:59	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	ND	ug/L	750	2	06/26/14 10:10	06/26/14 15:37	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/26/14 10:10	06/26/14 15:37	7440-36-0	D3
Arsenic, Dissolved	**852**	ug/L	50.0	1	06/26/14 10:10	06/26/14 15:33	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/26/14 10:10	06/26/14 15:33	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:33	7440-43-9	
Chromium, Dissolved	**155**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:33	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:33	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/26/14 10:10	06/26/14 15:33	7440-50-8	
Iron, Dissolved	**242000**	ug/L	250	1	06/26/14 10:10	06/26/14 15:33	7439-89-6	
Lead, Dissolved	**45.2**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:33	7439-92-1	
Nickel, Dissolved	**87.8**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:33	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/26/14 10:10	06/26/14 15:33	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/26/14 10:10	06/26/14 15:33	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/26/14 10:10	06/26/14 15:33	7440-28-0	
Zinc, Dissolved	**3860**	ug/L	500	2	06/26/14 10:10	06/26/14 15:37	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**16.2**	ug/L	6.0	1	06/26/14 08:45	06/26/14 14:20	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/25/14 10:30	06/25/14 14:17	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/24/14 00:00	06/27/14 14:18	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/24/14 00:00	06/27/14 14:18	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6770**	ug/L	4000	2	06/24/14 00:00	06/27/14 14:18		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Sample: 316-338 **Lab ID: 60172159001** Collected: 06/22/14 08:27 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	87-86-5	
Phenol	**9860**	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 14:18	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	143	%	33-120	2	06/24/14 00:00	06/27/14 14:18	4165-60-0	S0
2-Fluorobiphenyl (S)	82	%	39-120	2	06/24/14 00:00	06/27/14 14:18	321-60-8	
Terphenyl-d14 (S)	91	%	45-120	2	06/24/14 00:00	06/27/14 14:18	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	06/24/14 00:00	06/27/14 14:18	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	06/24/14 00:00	06/27/14 14:18	367-12-4	
2,4,6-Tribromophenol (S)	98	%	39-120	2	06/24/14 00:00	06/27/14 14:18	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**85700**	ug/L	2500	250		06/25/14 17:52	67-64-1	N2
Benzene	ND	ug/L	250	250		06/25/14 17:52	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/25/14 17:52	75-27-4	
Bromoform	ND	ug/L	250	250		06/25/14 17:52	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/25/14 17:52	74-83-9	
2-Butanone (MEK)	**36400**	ug/L	2500	250		06/25/14 17:52	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/25/14 17:52	56-23-5	
Chloroethane	ND	ug/L	250	250		06/25/14 17:52	75-00-3	
Chloroform	ND	ug/L	250	250		06/25/14 17:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/25/14 17:52	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/25/14 17:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 17:52	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 17:52	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/25/14 17:52	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/25/14 17:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/25/14 17:52	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/25/14 17:52	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/25/14 17:52	127-18-4	
Toluene	ND	ug/L	250	250		06/25/14 17:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/25/14 17:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/25/14 17:52	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/25/14 17:52	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/25/14 17:52	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/25/14 17:52	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	250		06/25/14 17:52	460-00-4	HS
Toluene-d8 (S)	92	%	80-120	250		06/25/14 17:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	90	%	80-120	250		06/25/14 17:52	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/25/14 17:52		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**121**	mg/L	5.0	1		06/25/14 16:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Sample: 316-338 **Lab ID: 60172159001** Collected: 06/22/14 08:27 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**11.2**	mg/L	5.0	1		06/25/14 16:57		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4300**	mg/L	5.0	1		06/24/14 13:52		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		06/25/14 12:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**25800**	mg/L	2.0	1	06/23/14 16:18	06/28/14 08:39		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**579**	mg/L	20.0	200		06/26/14 11:36	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**51300**	mg/L	5000	500		06/27/14 10:35		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Sample: TRIP BLANK **Lab ID: 60172159002** Collected: 06/22/14 08:27 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/25/14 16:19	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/25/14 16:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/25/14 16:19	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/25/14 16:19	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/25/14 16:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/25/14 16:19	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/25/14 16:19	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/25/14 16:19	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/25/14 16:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/25/14 16:19	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/25/14 16:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 16:19	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 16:19	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/25/14 16:19	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/25/14 16:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/25/14 16:19	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/25/14 16:19	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/25/14 16:19	127-18-4	
Toluene	ND	ug/L	1.0	1		06/25/14 16:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/25/14 16:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/25/14 16:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/25/14 16:19	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/25/14 16:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/25/14 16:19	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		06/25/14 16:19	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		06/25/14 16:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	86	%	80-120	1		06/25/14 16:19	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/25/14 16:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Sample: 316-338 RE **Lab ID: 60172159003** Collected: 06/22/14 08:27 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**979**	mg/L	5.0	1		07/01/14 16:29		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: MERP/8534
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172159001

METHOD BLANK: 1401318 Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/26/14 14:11	

LABORATORY CONTROL SAMPLE: 1401319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE SAMPLE: 1401320

Parameter	Units	60172072002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401321 1401322

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	141	145	93	96	70-130	3	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: MERP/8529
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172159001

METHOD BLANK: 1400587 Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/25/14 13:57	

LABORATORY CONTROL SAMPLE: 1400588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400589 1400590

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	126	128	84	85	70-130	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: MPRP/27804
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172159001

METHOD BLANK: 1400543
Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/26/14 11:35	
Antimony	ug/L	ND	10.0	06/26/14 11:35	
Arsenic	ug/L	ND	10.0	06/26/14 11:35	
Beryllium	ug/L	ND	1.0	06/26/14 11:35	
Cadmium	ug/L	ND	5.0	06/26/14 11:35	
Chromium	ug/L	ND	5.0	06/26/14 11:35	
Cobalt	ug/L	ND	5.0	06/26/14 11:35	
Copper	ug/L	ND	10.0	06/26/14 11:35	
Iron	ug/L	ND	50.0	06/26/14 11:35	
Lead	ug/L	ND	5.0	06/26/14 11:35	
Nickel	ug/L	ND	5.0	06/26/14 11:35	
Selenium	ug/L	ND	15.0	06/26/14 11:35	
Silver	ug/L	ND	7.0	06/26/14 11:35	
Thallium	ug/L	ND	20.0	06/26/14 11:35	
Zinc	ug/L	ND	50.0	06/26/14 11:35	

LABORATORY CONTROL SAMPLE: 1400544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10900	109	85-115	
Antimony	ug/L	1000	1080	108	85-115	
Arsenic	ug/L	1000	1050	105	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1120	112	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1060	106	85-115	
Iron	ug/L	10000	11100	111	85-115	
Lead	ug/L	1000	1120	112	85-115	
Nickel	ug/L	1000	1130	113	85-115	
Selenium	ug/L	1000	1070	107	85-115	
Silver	ug/L	500	538	108	85-115	
Thallium	ug/L	1000	1100	110	85-115	
Zinc	ug/L	1000	1120	112	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400545 1400546

Parameter	Units	60172158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	10200	50000	50000	72600	74100	125	128	70-130	2	8	
Antimony	ug/L	85.2	5000	5000	5820	5940	115	117	70-130	2	7	
Arsenic	ug/L	1320	5000	5000	7530	7610	124	126	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5420	5480	108	110	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5780	5840	115	117	70-130	1	10	
Chromium	ug/L	262	5000	5000	5650	5730	108	109	70-130	1	10	
Cobalt	ug/L	42.0	5000	5000	5360	5420	106	107	70-130	1	6	
Copper	ug/L	ND	5000	5000	5820	5890	116	117	70-130	1	11	
Iron	ug/L	793000	50000	50000	866000	874000	145	162	70-130	1	10	M1
Lead	ug/L	120	5000	5000	5120	5200	100	102	70-130	1	10	
Nickel	ug/L	150	5000	5000	5460	5540	106	108	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6590	6680	132	134	70-130	1	10	M1
Silver	ug/L	ND	2500	2500	2910	2940	116	117	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4610	4660	92	93	70-130	1	6	
Zinc	ug/L	5290	5000	5000	10600	10800	106	111	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: MPRP/27818
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172159001

METHOD BLANK: 1401357
Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/26/14 14:58	
Antimony, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Arsenic, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Beryllium, Dissolved	ug/L	ND	1.0	06/26/14 14:58	
Cadmium, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Chromium, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Cobalt, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Copper, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Iron, Dissolved	ug/L	ND	50.0	06/26/14 14:58	
Lead, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Nickel, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Selenium, Dissolved	ug/L	ND	15.0	06/26/14 14:58	
Silver, Dissolved	ug/L	ND	7.0	06/26/14 14:58	
Thallium, Dissolved	ug/L	ND	20.0	06/26/14 14:58	
Zinc, Dissolved	ug/L	ND	50.0	06/26/14 14:58	

LABORATORY CONTROL SAMPLE: 1401358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9550	95	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	971	97	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	972	97	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	968	97	85-115	
Iron, Dissolved	ug/L	10000	9610	96	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401359 1401360

Parameter	Units	60172158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1020	50000	50000	47500	46500	93	91	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5210	5220	103	104	70-130	0	7	
Arsenic, Dissolved	ug/L	938	5000	5000	6230	6230	106	106	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5080	4790	102	96	70-130	6	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5240	104	105	70-130	0	10	
Chromium, Dissolved	ug/L	169	5000	5000	4900	4910	95	95	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4890	97	97	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	4880	4900	97	98	70-130	0	11	
Iron, Dissolved	ug/L	270000	50000	50000	333000	309000	126	79	70-130	7	10	
Lead, Dissolved	ug/L	46.0	5000	5000	4810	4820	95	96	70-130	0	10	
Nickel, Dissolved	ug/L	95.2	5000	5000	5040	5060	99	99	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5860	5820	117	116	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2530	2540	101	102	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4400	4430	88	89	70-130	1	6	
Zinc, Dissolved	ug/L	4200	5000	5000	9150	9120	99	98	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: MSV/62571 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60172159001, 60172159002

METHOD BLANK: 1400773 Matrix: Water
Associated Lab Samples: 60172159001, 60172159002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/25/14 12:41	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,2-Dichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/25/14 12:41	
2-Butanone (MEK)	ug/L	ND	10.0	06/25/14 12:41	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/25/14 12:41	N2
Acetone	ug/L	ND	10.0	06/25/14 12:41	N2
Benzene	ug/L	ND	1.0	06/25/14 12:41	
Bromodichloromethane	ug/L	ND	1.0	06/25/14 12:41	
Bromoform	ug/L	ND	1.0	06/25/14 12:41	
Bromomethane	ug/L	ND	5.0	06/25/14 12:41	
Carbon tetrachloride	ug/L	ND	1.0	06/25/14 12:41	
Chloroethane	ug/L	ND	1.0	06/25/14 12:41	
Chloroform	ug/L	ND	1.0	06/25/14 12:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	N2
Ethylbenzene	ug/L	ND	1.0	06/25/14 12:41	
Methylene chloride	ug/L	ND	1.0	06/25/14 12:41	
Tetrachloroethene	ug/L	ND	1.0	06/25/14 12:41	
Toluene	ug/L	ND	1.0	06/25/14 12:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Trichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Vinyl chloride	ug/L	ND	1.0	06/25/14 12:41	
Xylene (Total)	ug/L	ND	3.0	06/25/14 12:41	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/25/14 12:41	
4-Bromofluorobenzene (S)	%	99	80-120	06/25/14 12:41	
Toluene-d8 (S)	%	98	80-120	06/25/14 12:41	

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.5	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.2	116	67-124	
1,2-Dichloroethane	ug/L	20	20.0	100	70-126	
1,4-Dichlorobenzene	ug/L	20	21.5	108	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	96.7	97	38-134	N2
Benzene	ug/L	20	21.3	106	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.5	113	68-125	
Bromoform	ug/L	20	23.3	116	65-127	
Bromomethane	ug/L	20	11.7	59	13-157	
Carbon tetrachloride	ug/L	20	20.0	100	70-131	
Chloroethane	ug/L	20	23.4	117	47-133	
Chloroform	ug/L	20	20.4	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.9	109	68-127	N2
Ethylbenzene	ug/L	20	22.0	110	74-122	
Methylene chloride	ug/L	20	19.7	98	64-129	
Tetrachloroethene	ug/L	20	22.6	113	73-125	
Toluene	ug/L	20	20.8	104	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.6	103	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	20.5	102	43-129	
Xylene (Total)	ug/L	60	65.5	109	75-121	N2
1,2-Dichloroethane-d4 (S)	%			92	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4750	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5240	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5280	106	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	301	5000	5170	97	33-140	
2-Butanone (MEK)	ug/L	37800	25000	61200	94	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25500	100	40-160	N2
Acetone	ug/L	84100	25000	108000	97	10-160	N2
Benzene	ug/L	ND	5000	4830	95	37-151	
Bromodichloromethane	ug/L	ND	5000	4890	98	35-142	
Bromoform	ug/L	ND	5000	5380	108	45-142	
Bromomethane	ug/L	ND	5000	2010	40	10-158	
Carbon tetrachloride	ug/L	ND	5000	5010	100	70-140	
Chloroethane	ug/L	ND	5000	5060	101	19-152	
Chloroform	ug/L	ND	5000	4630	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4800	96	34-147	N2
Ethylbenzene	ug/L	ND	5000	5100	102	40-142	
Methylene chloride	ug/L	ND	5000	4380	87	31-144	
Tetrachloroethene	ug/L	ND	5000	5410	108	64-148	
Toluene	ug/L	ND	5000	4730	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4620	92	54-151	
Trichloroethene	ug/L	ND	5000	4640	93	71-149	
Vinyl chloride	ug/L	ND	5000	4850	97	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	15600	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: OEXT/44806
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172159001

METHOD BLANK: 1399642
Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/25/14 13:36	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/25/14 13:36	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/25/14 13:36	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/25/14 13:36	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/25/14 13:36	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/25/14 13:36	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/25/14 13:36	
Hexachloroethane	ug/L	ND	5.0	06/25/14 13:36	
Naphthalene	ug/L	ND	5.0	06/25/14 13:36	
Nitrobenzene	ug/L	ND	5.0	06/25/14 13:36	
Pentachlorophenol	ug/L	ND	5.0	06/25/14 13:36	
Phenol	ug/L	ND	5.0	06/25/14 13:36	
2,4,6-Tribromophenol (S)	%	91	39-120	06/25/14 13:36	
2-Fluorobiphenyl (S)	%	88	39-120	06/25/14 13:36	
2-Fluorophenol (S)	%	47	17-120	06/25/14 13:36	
Nitrobenzene-d5 (S)	%	95	33-120	06/25/14 13:36	
Phenol-d6 (S)	%	30	11-120	06/25/14 13:36	
Terphenyl-d14 (S)	%	92	45-120	06/25/14 13:36	

LABORATORY CONTROL SAMPLE: 1399643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.2	78	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.5	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.4	67	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	30.3	61	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.0	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	37.2	74	44-116	
Hexachlorocyclopentadiene	ug/L	100	64.0	64	24-120	
Hexachloroethane	ug/L	50	36.9	74	43-113	
Naphthalene	ug/L	50	38.9	78	48-120	
Nitrobenzene	ug/L	50	43.5	87	48-120	
Pentachlorophenol	ug/L	50	46.7	93	47-120	
Phenol	ug/L	50	15.8	32	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			89	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			89	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

MATRIX SPIKE SAMPLE: 1399644

Parameter	Units	60172159001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3560	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4440	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6770	5000	8730	39	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	5380	108	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3550	71	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	1810	18	11-120	
Hexachloroethane	ug/L	ND	5000	3200	64	40-113	
Naphthalene	ug/L	ND	5000	4440	69	45-120	
Nitrobenzene	ug/L	ND	5000	3890	78	38-120	
Pentachlorophenol	ug/L	ND	5000	4750	95	43-135	
Phenol	ug/L	9860	5000	9930	1	13-112	M1
2,4,6-Tribromophenol (S)	%				104	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				106	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				95	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: WET/48699 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172159001

METHOD BLANK: 1401054 Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/25/14 16:50	

LABORATORY CONTROL SAMPLE: 1401055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.1	83	78-114	

MATRIX SPIKE SAMPLE: 1401056

Parameter	Units	60171861004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.0	41.7	52.1	106	78-114	

SAMPLE DUPLICATE: 1401057

Parameter	Units	60171862004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	6.8	5.9	14	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: WET/48798
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172159003

METHOD BLANK: 1404276 Matrix: Water
Associated Lab Samples: 60172159003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/01/14 16:28	

LABORATORY CONTROL SAMPLE: 1404277

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.2	85	78-114	

MATRIX SPIKE SAMPLE: 1404279

Parameter	Units	60172705001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	410	41.7	411	3	78-114	M1

SAMPLE DUPLICATE: 1404278

Parameter	Units	60172704001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: WET/48701 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172159001

METHOD BLANK: 1401059 Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/25/14 16:56	

LABORATORY CONTROL SAMPLE: 1401060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	24.3	122	64-132	

MATRIX SPIKE SAMPLE: 1401061

Parameter	Units	60171861004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	19.3	84	64-132	

SAMPLE DUPLICATE: 1401062

Parameter	Units	60171862004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.3J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: WET/48660 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172159001

METHOD BLANK: 1400063 Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/24/14 13:49	

SAMPLE DUPLICATE: 1400064

Parameter	Units	60172037001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	640	640	0	10	

SAMPLE DUPLICATE: 1400065

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4240	4560	7	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: WET/48674
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172159001

SAMPLE DUPLICATE: 1400386

Parameter	Units	60171965001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: WET/48634 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172159001

METHOD BLANK: 1399509 Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/28/14 08:15	

LABORATORY CONTROL SAMPLE: 1399510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	93	85-115	

SAMPLE DUPLICATE: 1399511

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	26800	27200	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: WETA/30011
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172159001

METHOD BLANK: 1401323 Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/26/14 11:34	

LABORATORY CONTROL SAMPLE: 1401324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1401325

Parameter	Units	60172214001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	70	90-110	M1

MATRIX SPIKE SAMPLE: 1401326

Parameter	Units	60172228006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	104	90-110	

SAMPLE DUPLICATE: 1401332

Parameter	Units	60172276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	576	584	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

QC Batch: WETA/30005 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172159001

METHOD BLANK: 1401245 Matrix: Water
Associated Lab Samples: 60172159001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/27/14 10:33	

LABORATORY CONTROL SAMPLE: 1401246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.1	104	90-110	

MATRIX SPIKE SAMPLE: 1401247

Parameter	Units	60172158001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	51100	25000	73500	90	90-110	

MATRIX SPIKE SAMPLE: 1401249

Parameter	Units	60171781002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	41700	50000	90100	97	90-110	

SAMPLE DUPLICATE: 1401248

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	50900	51400	1	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60172159001

[1] The samples were received with headspace. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-338
Pace Project No.: 60172159

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172159001	**316-338**	EPA 200.7	MPRP/27804	EPA 200.7	ICP/21020
60172159001	**316-338**	EPA 200.7	MPRP/27818	EPA 200.7	ICP/21032
60172159001	**316-338**	EPA 245.1	MERP/8534	EPA 245.1	MERC/8489
60172159001	**316-338**	EPA 245.1	MERP/8529	EPA 245.1	MERC/8484
60172159001	**316-338**	EPA 625	OEXT/44806	EPA 625	MSSV/14346
60172159001	**316-338**	EPA 624 Low	MSV/62571		
60172159002	**TRIP BLANK**	EPA 624 Low	MSV/62571		
60172159001	**316-338**	EPA 1664A	WET/48699		
60172159003	**316-338 RE**	EPA 1664A	WET/48798		
60172159001	**316-338**	EPA 1664A	WET/48701		
60172159001	**316-338**	SM 2540D	WET/48660		
60172159001	**316-338**	SM 4500-H+B	WET/48674		
60172159001	**316-338**	SM 5210B	WET/48634	SM 5210B	WET/48744
60172159001	**316-338**	EPA 350.1	WETA/30011		
60172159001	**316-338**	EPA 410.4	WETA/30005		

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Sample Condition Upon Receipt

WO# : 60172159

60172159

Client Name: Republic Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace ☐ Other ☐ XRoads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☒

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☒ Bubble Bags ☒ Foam ☒ None ☐ Other ☐

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2-6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DS 6/23/14 1325

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 holding time:	☒Yes ☒No ☐N/A	5. BOD expired 6/19
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BP3N + BP3S unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed JDS / Lot # of added preservative 12595-10_3
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 040714-3		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	Headspace in all sample vials 5of5 -FOOTAGE/HISTORICAL INSTRUCTIONS
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/24

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other
1	316-338	OT	G	6/22/14	0827	—	—		~~14~~ 15	10	4	1	0				
2	TRIP BLANK	—	—	—	—	—	—		2	2							
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

Requested Analysis Filtered (Y/N)

ITEM#	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60172159 2(BP2U) 1(BP3U) 2(AG4U) 5(DG9H)	
1		X	X	X	X	X	X	X	X	X	X	X			3(AG3S) 1(BP3S) 6.0 1(BP3N) 1.5	001
2									X						2(DG9H)	002
3–12																

METALS LIST total & LF Dis: Al,Sb,As,Be,Cd,Cr, Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn and Mercury

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	6-23-14	8:50am	Dean 305	6-23-14	8:50am				
SITE ADDRESS: BRIDGETON LF				[signature] Pace	6/23/14	1300	2.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/22/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

June 30, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 23, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Brian Sehie, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172160001	**316-339**	Water	06/23/14 08:06	06/23/14 13:00
60172160002	**TRIP BLANK**	Water	06/23/14 08:06	06/23/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172160001	**316-339**	EPA 200.7	NDJ	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	DJR	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172160002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Sample: 316-339 **Lab ID: 60172160001** Collected: 06/23/14 08:06 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9840**	ug/L	750	2	06/25/14 09:10	06/26/14 12:04	7429-90-5	
Antimony	**69.4**	ug/L	50.0	1	06/25/14 09:10	06/26/14 12:02	7440-36-0	
Arsenic	**1400**	ug/L	50.0	1	06/25/14 09:10	06/26/14 12:02	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/25/14 09:10	06/26/14 12:02	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/25/14 09:10	06/26/14 12:02	7440-43-9	
Chromium	**278**	ug/L	25.0	1	06/25/14 09:10	06/26/14 12:02	7440-47-3	
Cobalt	**44.9**	ug/L	25.0	1	06/25/14 09:10	06/26/14 12:02	7440-48-4	
Copper	ND	ug/L	50.0	1	06/25/14 09:10	06/26/14 12:02	7440-50-8	
Iron	**842000**	ug/L	250	1	06/25/14 09:10	06/26/14 12:02	7439-89-6	
Lead	**122**	ug/L	25.0	1	06/25/14 09:10	06/26/14 12:02	7439-92-1	
Nickel	**162**	ug/L	25.0	1	06/25/14 09:10	06/26/14 12:02	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/25/14 09:10	06/26/14 12:02	7782-49-2	
Silver	ND	ug/L	35.0	1	06/25/14 09:10	06/26/14 12:02	7440-22-4	
Thallium	ND	ug/L	100	1	06/25/14 09:10	06/26/14 12:02	7440-28-0	
Zinc	**5450**	ug/L	500	2	06/25/14 09:10	06/26/14 12:04	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	ND	ug/L	750	2	06/26/14 10:10	06/26/14 15:44	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	06/26/14 10:10	06/26/14 15:44	7440-36-0	D3
Arsenic, Dissolved	**874**	ug/L	50.0	1	06/26/14 10:10	06/26/14 15:40	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/26/14 10:10	06/26/14 15:40	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:40	7440-43-9	
Chromium, Dissolved	**157**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:40	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:40	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/26/14 10:10	06/26/14 15:40	7440-50-8	
Iron, Dissolved	**259000**	ug/L	250	1	06/26/14 10:10	06/26/14 15:40	7439-89-6	
Lead, Dissolved	**41.3**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:40	7439-92-1	
Nickel, Dissolved	**90.0**	ug/L	25.0	1	06/26/14 10:10	06/26/14 15:40	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/26/14 10:10	06/26/14 15:40	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/26/14 10:10	06/26/14 15:40	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/26/14 10:10	06/26/14 15:40	7440-28-0	
Zinc, Dissolved	**3780**	ug/L	500	2	06/26/14 10:10	06/26/14 15:44	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**21.6**	ug/L	6.0	1	06/26/14 08:45	06/26/14 14:22	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	06/25/14 10:30	06/25/14 14:23	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/24/14 00:00	06/27/14 15:00	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/24/14 00:00	06/27/14 15:00	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7040**	ug/L	4000	2	06/24/14 00:00	06/27/14 15:00		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Sample: 316-339 **Lab ID: 60172160001** Collected: 06/23/14 08:06 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1140**	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	87-86-5	
Phenol	**9970**	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/24/14 00:00	06/27/14 15:00	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	148	%	33-120	2	06/24/14 00:00	06/27/14 15:00	4165-60-0	S0
2-Fluorobiphenyl (S)	83	%	39-120	2	06/24/14 00:00	06/27/14 15:00	321-60-8	
Terphenyl-d14 (S)	88	%	45-120	2	06/24/14 00:00	06/27/14 15:00	1718-51-0	
Phenol-d6 (S)	32	%	11-120	2	06/24/14 00:00	06/27/14 15:00	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	06/24/14 00:00	06/27/14 15:00	367-12-4	
2,4,6-Tribromophenol (S)	99	%	39-120	2	06/24/14 00:00	06/27/14 15:00	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**86400**	ug/L	2500	250		06/25/14 18:07	67-64-1	N2
Benzene	ND	ug/L	250	250		06/25/14 18:07	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/25/14 18:07	75-27-4	
Bromoform	ND	ug/L	250	250		06/25/14 18:07	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/25/14 18:07	74-83-9	
2-Butanone (MEK)	**36800**	ug/L	2500	250		06/25/14 18:07	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/25/14 18:07	56-23-5	
Chloroethane	ND	ug/L	250	250		06/25/14 18:07	75-00-3	
Chloroform	ND	ug/L	250	250		06/25/14 18:07	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/25/14 18:07	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/25/14 18:07	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 18:07	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/25/14 18:07	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/25/14 18:07	100-41-4	
Methylene chloride	ND	ug/L	250	250		06/25/14 18:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/25/14 18:07	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/25/14 18:07	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/25/14 18:07	127-18-4	
Toluene	ND	ug/L	250	250		06/25/14 18:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/25/14 18:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/25/14 18:07	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/25/14 18:07	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/25/14 18:07	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/25/14 18:07	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	250		06/25/14 18:07	460-00-4	
Toluene-d8 (S)	93	%	80-120	250		06/25/14 18:07	2037-26-5	
1,2-Dichloroethane-d4 (S)	91	%	80-120	250		06/25/14 18:07	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/25/14 18:07		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**974**	mg/L	5.0	1		06/25/14 16:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Sample: 316-339 **Lab ID: 60172160001** Collected: 06/23/14 08:06 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**14.4**	mg/L	5.0	1		06/25/14 16:57		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4240**	mg/L	5.0	1		06/24/14 13:52		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/25/14 12:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**26800**	mg/L	2.0	1	06/23/14 16:19	06/28/14 08:41		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**565**	mg/L	20.0	200		06/26/14 11:40	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**50900**	mg/L	5000	500		06/27/14 10:35		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Sample: TRIP BLANK **Lab ID: 60172160002** Collected: 06/23/14 08:06 Received: 06/23/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/25/14 16:34	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/25/14 16:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/25/14 16:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/25/14 16:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/25/14 16:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/25/14 16:34	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/25/14 16:34	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/25/14 16:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/25/14 16:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/25/14 16:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/25/14 16:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 16:34	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/25/14 16:34	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/25/14 16:34	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/25/14 16:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/25/14 16:34	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/25/14 16:34	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/25/14 16:34	127-18-4	
Toluene	ND	ug/L	1.0	1		06/25/14 16:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/25/14 16:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/25/14 16:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/25/14 16:34	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/25/14 16:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/25/14 16:34	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		06/25/14 16:34	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		06/25/14 16:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	89	%	80-120	1		06/25/14 16:34	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/25/14 16:34		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: MERP/8534
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172160001

METHOD BLANK: 1401318 Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/26/14 14:11	

LABORATORY CONTROL SAMPLE: 1401319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE SAMPLE: 1401320

Parameter	Units	60172072002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401321 1401322

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	141	145	93	96	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: MERP/8529
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172160001

METHOD BLANK: 1400587 Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	06/25/14 13:57	

LABORATORY CONTROL SAMPLE: 1400588

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400589 1400590

Parameter	Units	60171807001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	126	128	84	85	70-130	2	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: MPRP/27804
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172160001

METHOD BLANK: 1400543
Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/26/14 11:35	
Antimony	ug/L	ND	10.0	06/26/14 11:35	
Arsenic	ug/L	ND	10.0	06/26/14 11:35	
Beryllium	ug/L	ND	1.0	06/26/14 11:35	
Cadmium	ug/L	ND	5.0	06/26/14 11:35	
Chromium	ug/L	ND	5.0	06/26/14 11:35	
Cobalt	ug/L	ND	5.0	06/26/14 11:35	
Copper	ug/L	ND	10.0	06/26/14 11:35	
Iron	ug/L	ND	50.0	06/26/14 11:35	
Lead	ug/L	ND	5.0	06/26/14 11:35	
Nickel	ug/L	ND	5.0	06/26/14 11:35	
Selenium	ug/L	ND	15.0	06/26/14 11:35	
Silver	ug/L	ND	7.0	06/26/14 11:35	
Thallium	ug/L	ND	20.0	06/26/14 11:35	
Zinc	ug/L	ND	50.0	06/26/14 11:35	

LABORATORY CONTROL SAMPLE: 1400544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10900	109	85-115	
Antimony	ug/L	1000	1080	108	85-115	
Arsenic	ug/L	1000	1050	105	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1120	112	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1060	106	85-115	
Iron	ug/L	10000	11100	111	85-115	
Lead	ug/L	1000	1120	112	85-115	
Nickel	ug/L	1000	1130	113	85-115	
Selenium	ug/L	1000	1070	107	85-115	
Silver	ug/L	500	538	108	85-115	
Thallium	ug/L	1000	1100	110	85-115	
Zinc	ug/L	1000	1120	112	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1400545 1400546

Parameter	Units	60172158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	10200	50000	50000	72600	74100	125	128	70-130	2	8	
Antimony	ug/L	85.2	5000	5000	5820	5940	115	117	70-130	2	7	
Arsenic	ug/L	1320	5000	5000	7530	7610	124	126	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5420	5480	108	110	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5780	5840	115	117	70-130	1	10	
Chromium	ug/L	262	5000	5000	5650	5730	108	109	70-130	1	10	
Cobalt	ug/L	42.0	5000	5000	5360	5420	106	107	70-130	1	6	
Copper	ug/L	ND	5000	5000	5820	5890	116	117	70-130	1	11	
Iron	ug/L	793000	50000	50000	866000	874000	145	162	70-130	1	10	M1
Lead	ug/L	120	5000	5000	5120	5200	100	102	70-130	1	10	
Nickel	ug/L	150	5000	5000	5460	5540	106	108	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6590	6680	132	134	70-130	1	10	M1
Silver	ug/L	ND	2500	2500	2910	2940	116	117	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4610	4660	92	93	70-130	1	6	
Zinc	ug/L	5290	5000	5000	10600	10800	106	111	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: MPRP/27818
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172160001

METHOD BLANK: 1401357
Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	06/26/14 14:58	
Antimony, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Arsenic, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Beryllium, Dissolved	ug/L	ND	1.0	06/26/14 14:58	
Cadmium, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Chromium, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Cobalt, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Copper, Dissolved	ug/L	ND	10.0	06/26/14 14:58	
Iron, Dissolved	ug/L	ND	50.0	06/26/14 14:58	
Lead, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Nickel, Dissolved	ug/L	ND	5.0	06/26/14 14:58	
Selenium, Dissolved	ug/L	ND	15.0	06/26/14 14:58	
Silver, Dissolved	ug/L	ND	7.0	06/26/14 14:58	
Thallium, Dissolved	ug/L	ND	20.0	06/26/14 14:58	
Zinc, Dissolved	ug/L	ND	50.0	06/26/14 14:58	

LABORATORY CONTROL SAMPLE: 1401358

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9550	95	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	971	97	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	972	97	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	968	97	85-115	
Iron, Dissolved	ug/L	10000	9610	96	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401359 1401360

Parameter	Units	60172158001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1020	50000	50000	47500	46500	93	91	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5210	5220	103	104	70-130	0	7	
Arsenic, Dissolved	ug/L	938	5000	5000	6230	6230	106	106	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5080	4790	102	96	70-130	6	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5240	104	105	70-130	0	10	
Chromium, Dissolved	ug/L	169	5000	5000	4900	4910	95	95	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4890	97	97	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	4880	4900	97	98	70-130	0	11	
Iron, Dissolved	ug/L	270000	50000	50000	333000	309000	126	79	70-130	7	10	
Lead, Dissolved	ug/L	46.0	5000	5000	4810	4820	95	96	70-130	0	10	
Nickel, Dissolved	ug/L	95.2	5000	5000	5040	5060	99	99	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5860	5820	117	116	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2530	2540	101	102	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4400	4430	88	89	70-130	1	6	
Zinc, Dissolved	ug/L	4200	5000	5000	9150	9120	99	98	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: MSV/62571
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60172160001, 60172160002

METHOD BLANK: 1400773
Matrix: Water
Associated Lab Samples: 60172160001, 60172160002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/25/14 12:41	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,2-Dichloroethane	ug/L	ND	1.0	06/25/14 12:41	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/25/14 12:41	
2-Butanone (MEK)	ug/L	ND	10.0	06/25/14 12:41	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/25/14 12:41	N2
Acetone	ug/L	ND	10.0	06/25/14 12:41	N2
Benzene	ug/L	ND	1.0	06/25/14 12:41	
Bromodichloromethane	ug/L	ND	1.0	06/25/14 12:41	
Bromoform	ug/L	ND	1.0	06/25/14 12:41	
Bromomethane	ug/L	ND	5.0	06/25/14 12:41	
Carbon tetrachloride	ug/L	ND	1.0	06/25/14 12:41	
Chloroethane	ug/L	ND	1.0	06/25/14 12:41	
Chloroform	ug/L	ND	1.0	06/25/14 12:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	N2
Ethylbenzene	ug/L	ND	1.0	06/25/14 12:41	
Methylene chloride	ug/L	ND	1.0	06/25/14 12:41	
Tetrachloroethene	ug/L	ND	1.0	06/25/14 12:41	
Toluene	ug/L	ND	1.0	06/25/14 12:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Trichloroethene	ug/L	ND	1.0	06/25/14 12:41	
Vinyl chloride	ug/L	ND	1.0	06/25/14 12:41	
Xylene (Total)	ug/L	ND	3.0	06/25/14 12:41	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	06/25/14 12:41	
4-Bromofluorobenzene (S)	%	99	80-120	06/25/14 12:41	
Toluene-d8 (S)	%	98	80-120	06/25/14 12:41	

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.5	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.2	116	67-124	
1,2-Dichloroethane	ug/L	20	20.0	100	70-126	
1,4-Dichlorobenzene	ug/L	20	21.5	108	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	113	113	59-131	N2
Acetone	ug/L	100	96.7	97	38-134	N2
Benzene	ug/L	20	21.3	106	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

LABORATORY CONTROL SAMPLE: 1400774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.5	113	68-125	
Bromoform	ug/L	20	23.3	116	65-127	
Bromomethane	ug/L	20	11.7	59	13-157	
Carbon tetrachloride	ug/L	20	20.0	100	70-131	
Chloroethane	ug/L	20	23.4	117	47-133	
Chloroform	ug/L	20	20.4	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.9	109	68-127	N2
Ethylbenzene	ug/L	20	22.0	110	74-122	
Methylene chloride	ug/L	20	19.7	98	64-129	
Tetrachloroethene	ug/L	20	22.6	113	73-125	
Toluene	ug/L	20	20.8	104	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.6	103	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	20.5	102	43-129	
Xylene (Total)	ug/L	60	65.5	109	75-121	N2
1,2-Dichloroethane-d4 (S)	%			92	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4750	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5240	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5280	106	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4360	87	49-144	
1,4-Dichlorobenzene	ug/L	301	5000	5170	97	33-140	
2-Butanone (MEK)	ug/L	37800	25000	61200	94	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	25500	100	40-160	N2
Acetone	ug/L	84100	25000	108000	97	10-160	N2
Benzene	ug/L	ND	5000	4830	95	37-151	
Bromodichloromethane	ug/L	ND	5000	4890	98	35-142	
Bromoform	ug/L	ND	5000	5380	108	45-142	
Bromomethane	ug/L	ND	5000	2010	40	10-158	
Carbon tetrachloride	ug/L	ND	5000	5010	100	70-140	
Chloroethane	ug/L	ND	5000	5060	101	19-152	
Chloroform	ug/L	ND	5000	4630	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4800	96	34-147	N2
Ethylbenzene	ug/L	ND	5000	5100	102	40-142	
Methylene chloride	ug/L	ND	5000	4380	87	31-144	
Tetrachloroethene	ug/L	ND	5000	5410	108	64-148	
Toluene	ug/L	ND	5000	4730	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4620	92	54-151	
Trichloroethene	ug/L	ND	5000	4640	93	71-149	
Vinyl chloride	ug/L	ND	5000	4850	97	22-146	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

MATRIX SPIKE SAMPLE: 1400775

Parameter	Units	60171928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	15600	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				95	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: OEXT/44806
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172160001

METHOD BLANK: 1399642
Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/25/14 13:36	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/25/14 13:36	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/25/14 13:36	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/25/14 13:36	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/25/14 13:36	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/25/14 13:36	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/25/14 13:36	
Hexachloroethane	ug/L	ND	5.0	06/25/14 13:36	
Naphthalene	ug/L	ND	5.0	06/25/14 13:36	
Nitrobenzene	ug/L	ND	5.0	06/25/14 13:36	
Pentachlorophenol	ug/L	ND	5.0	06/25/14 13:36	
Phenol	ug/L	ND	5.0	06/25/14 13:36	
2,4,6-Tribromophenol (S)	%	91	39-120	06/25/14 13:36	
2-Fluorobiphenyl (S)	%	88	39-120	06/25/14 13:36	
2-Fluorophenol (S)	%	47	17-120	06/25/14 13:36	
Nitrobenzene-d5 (S)	%	95	33-120	06/25/14 13:36	
Phenol-d6 (S)	%	30	11-120	06/25/14 13:36	
Terphenyl-d14 (S)	%	92	45-120	06/25/14 13:36	

LABORATORY CONTROL SAMPLE: 1399643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.2	78	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.5	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.4	67	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	30.3	61	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.0	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	37.2	74	44-116	
Hexachlorocyclopentadiene	ug/L	100	64.0	64	24-120	
Hexachloroethane	ug/L	50	36.9	74	43-113	
Naphthalene	ug/L	50	38.9	78	48-120	
Nitrobenzene	ug/L	50	43.5	87	48-120	
Pentachlorophenol	ug/L	50	46.7	93	47-120	
Phenol	ug/L	50	15.8	32	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			89	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			89	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

MATRIX SPIKE SAMPLE: 1399644

Parameter	Units	60172159001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3560	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4440	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6770	5000	8730	39	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	5380	108	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3550	71	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	1810	18	11-120	
Hexachloroethane	ug/L	ND	5000	3200	64	40-113	
Naphthalene	ug/L	ND	5000	4440	69	45-120	
Nitrobenzene	ug/L	ND	5000	3890	78	38-120	
Pentachlorophenol	ug/L	ND	5000	4750	95	43-135	
Phenol	ug/L	9860	5000	9930	1	13-112	M1
2,4,6-Tribromophenol (S)	%				104	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				106	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				95	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: WET/48699
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172160001

METHOD BLANK: 1401054 Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/25/14 16:50	

LABORATORY CONTROL SAMPLE: 1401055

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.1	83	78-114	

MATRIX SPIKE SAMPLE: 1401056

Parameter	Units	60171861004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.0	41.7	52.1	106	78-114	

SAMPLE DUPLICATE: 1401057

Parameter	Units	60171862004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	6.8	5.9	14	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: WET/48701
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172160001

METHOD BLANK: 1401059 Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/25/14 16:56	

LABORATORY CONTROL SAMPLE: 1401060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	24.3	122	64-132	

MATRIX SPIKE SAMPLE: 1401061

Parameter	Units	60171861004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	19.3	84	64-132	

SAMPLE DUPLICATE: 1401062

Parameter	Units	60171862004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.3J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: WET/48660 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172160001

METHOD BLANK: 1400063 Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/24/14 13:49	

SAMPLE DUPLICATE: 1400064

Parameter	Units	60172037001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	640	640	0	10	

SAMPLE DUPLICATE: 1400065

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4240	4560	7	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: WET/48674
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172160001

SAMPLE DUPLICATE: 1400386

Parameter	Units	60171965001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.9	6.9	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: WET/48634 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172160001

METHOD BLANK: 1399509 Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/28/14 08:15	

LABORATORY CONTROL SAMPLE: 1399510

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	93	85-115	

SAMPLE DUPLICATE: 1399511

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	26800	27200	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: WETA/30011
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172160001

METHOD BLANK: 1401323 Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/26/14 11:34	

LABORATORY CONTROL SAMPLE: 1401324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1401325

Parameter	Units	60172214001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	70	90-110	M1

MATRIX SPIKE SAMPLE: 1401326

Parameter	Units	60172228006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	104	90-110	

SAMPLE DUPLICATE: 1401332

Parameter	Units	60172276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	576	584	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

QC Batch: WETA/30005 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172160001

METHOD BLANK: 1401245 Matrix: Water
Associated Lab Samples: 60172160001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/27/14 10:33	

LABORATORY CONTROL SAMPLE: 1401246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.1	104	90-110	

MATRIX SPIKE SAMPLE: 1401247

Parameter	Units	60172158001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	51100	25000	73500	90	90-110	

MATRIX SPIKE SAMPLE: 1401249

Parameter	Units	60171781002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	41700	50000	90100	97	90-110	

SAMPLE DUPLICATE: 1401248

Parameter	Units	60172160001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	50900	51400	1	25	

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QUALIFIERS

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-339
Pace Project No.: 60172160

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172160001	**316-339**	EPA 200.7	MPRP/27804	EPA 200.7	ICP/21020
60172160001	**316-339**	EPA 200.7	MPRP/27818	EPA 200.7	ICP/21032
60172160001	**316-339**	EPA 245.1	MERP/8534	EPA 245.1	MERC/8489
60172160001	**316-339**	EPA 245.1	MERP/8529	EPA 245.1	MERC/8484
60172160001	**316-339**	EPA 625	OEXT/44806	EPA 625	MSSV/14346
60172160001	**316-339**	EPA 624 Low	MSV/62571		
60172160002	**TRIP BLANK**	EPA 624 Low	MSV/62571		
60172160001	**316-339**	EPA 1664A	WET/48699		
60172160001	**316-339**	EPA 1664A	WET/48701		
60172160001	**316-339**	SM 2540D	WET/48660		
60172160001	**316-339**	SM 4500-H+B	WET/48674		
60172160001	**316-339**	SM 5210B	WET/48634	SM 5210B	WET/48744
60172160001	**316-339**	EPA 350.1	WETA/30011		
60172160001	**316-339**	EPA 410.4	WETA/30005		

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Sample Condition Upon Receipt

WO# : 60172160

60172160

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ XRoads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☒ None ☐ Other ☒ ZPLC

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☒ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 11.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JO 6/23

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 holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. pH BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:	DT	13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	HNO_3 initial 5.0 added 2.5ml Final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☐N/A	H_2SO_4 initial pH 4.5 added 2ml Final pH 3.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 6/6/14		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: WI

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/24/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A — Required Client Information:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone: (816) 285-8410	Fax
Requested Due Date/TAT:	10 Day (Default)

Section B — Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C — Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	7585 LINE 2

Regulatory Agency: Of 1

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-339 (2)BP2N BP3N(2)AG4U	OT	G	6/23/14	0806				15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	(3)AG3S BP3S BP3N (5)VG9U	
2	TRIP BLANK (3)VG9U								2	2																				
3																									X					
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

3.5 4.0

60172160

METALS LIST total & LF Dis: Al,Sb,As,Be,Cd,Cr, Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn and Mercury

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	6-23-14	8:30	Dan Doy	6-23-14	8:30				
SITE ADDRESS: BRIDGETON LF				Dan Doy Pace	6/23	1390	11.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	WILLIAM ABERNATHY			
SIGNATURE of SAMPLER:		DATE Signed:	6/23/14	

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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July 02, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 25, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Emily Webb
emily.webb@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172276001	**316-340**	Water	06/24/14 07:45	06/25/14 02:15
60172276002	**TRIP BLANK**	Water	06/24/14 07:45	06/25/14 02:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172276001	**316-340**	EPA 200.7	JGP	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172276002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Sample: 316-340 **Lab ID: 60172276001** Collected: 06/24/14 07:45 Received: 06/25/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**1940**	ug/L	750	2	06/26/14 12:50	06/27/14 18:18	7429-90-5	
Antimony	ND	ug/L	100	2	06/26/14 12:50	06/27/14 18:18	7440-36-0	D3
Arsenic	**905**	ug/L	50.0	1	06/26/14 12:50	06/27/14 18:14	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/26/14 12:50	06/27/14 18:14	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/26/14 12:50	06/27/14 18:14	7440-43-9	
Chromium	**176**	ug/L	25.0	1	06/26/14 12:50	06/27/14 18:14	7440-47-3	
Cobalt	ND	ug/L	25.0	1	06/26/14 12:50	06/27/14 18:14	7440-48-4	
Copper	ND	ug/L	50.0	1	06/26/14 12:50	06/27/14 18:14	7440-50-8	
Iron	**343000**	ug/L	250	1	06/26/14 12:50	06/27/14 18:14	7439-89-6	M1
Lead	**51.0**	ug/L	25.0	1	06/26/14 12:50	06/27/14 18:14	7439-92-1	
Nickel	**93.2**	ug/L	25.0	1	06/26/14 12:50	06/27/14 18:14	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/26/14 12:50	06/27/14 18:14	7782-49-2	
Silver	ND	ug/L	35.0	1	06/26/14 12:50	06/27/14 18:14	7440-22-4	
Thallium	ND	ug/L	100	1	06/26/14 12:50	06/27/14 18:14	7440-28-0	
Zinc	**3710**	ug/L	500	2	06/26/14 12:50	06/27/14 18:18	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1420**	ug/L	750	2	06/30/14 10:50	07/01/14 14:13	7429-90-5	
Antimony, Dissolved	**62.0**	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:11	7440-36-0	D9
Arsenic, Dissolved	**1100**	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:11	7440-38-2	D9
Beryllium, Dissolved	ND	ug/L	5.0	1	06/30/14 10:50	07/01/14 14:11	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:11	7440-43-9	
Chromium, Dissolved	**185**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:11	7440-47-3	D9
Cobalt, Dissolved	**26.8**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:11	7440-48-4	D9
Copper, Dissolved	ND	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:11	7440-50-8	
Iron, Dissolved	**316000**	ug/L	250	1	06/30/14 10:50	07/01/14 14:11	7439-89-6	
Lead, Dissolved	**30.4**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:11	7439-92-1	
Nickel, Dissolved	**105**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:11	7440-02-0	D9
Selenium, Dissolved	ND	ug/L	75.0	1	06/30/14 10:50	07/01/14 14:11	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/30/14 10:50	07/01/14 14:11	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/30/14 10:50	07/01/14 14:11	7440-28-0	
Zinc, Dissolved	**4140**	ug/L	500	2	06/30/14 10:50	07/01/14 14:13	7440-66-6	D9
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	06/26/14 08:45	06/26/14 14:38	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 14:01	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/27/14 00:00	06/28/14 17:23	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/27/14 00:00	06/28/14 17:23	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**5990**	ug/L	4000	2	06/27/14 00:00	06/28/14 17:23		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Sample: 316-340 **Lab ID: 60172276001** Collected: 06/24/14 07:45 Received: 06/25/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	87-86-5	
Phenol	**8650**	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:23	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	81	%	33-120	2	06/27/14 00:00	06/28/14 17:23	4165-60-0	
2-Fluorobiphenyl (S)	74	%	39-120	2	06/27/14 00:00	06/28/14 17:23	321-60-8	
Terphenyl-d14 (S)	83	%	45-120	2	06/27/14 00:00	06/28/14 17:23	1718-51-0	
Phenol-d6 (S)	28	%	11-120	2	06/27/14 00:00	06/28/14 17:23	13127-88-3	
2-Fluorophenol (S)	38	%	17-120	2	06/27/14 00:00	06/28/14 17:23	367-12-4	
2,4,6-Tribromophenol (S)	70	%	39-120	2	06/27/14 00:00	06/28/14 17:23	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**94600**	ug/L	2500	250		06/30/14 04:50	67-64-1	N2
Benzene	ND	ug/L	250	250		06/30/14 04:50	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/30/14 04:50	75-27-4	
Bromoform	ND	ug/L	250	250		06/30/14 04:50	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/30/14 04:50	74-83-9	
2-Butanone (MEK)	**41200**	ug/L	2500	250		06/30/14 04:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/30/14 04:50	56-23-5	
Chloroethane	ND	ug/L	250	250		06/30/14 04:50	75-00-3	
Chloroform	ND	ug/L	250	250		06/30/14 04:50	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/30/14 04:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/30/14 04:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/30/14 04:50	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/30/14 04:50	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/30/14 04:50	100-41-4	
Methylene chloride	**434**	ug/L	250	250		06/30/14 04:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/30/14 04:50	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/30/14 04:50	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/30/14 04:50	127-18-4	
Toluene	ND	ug/L	250	250		06/30/14 04:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/30/14 04:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/30/14 04:50	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/30/14 04:50	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/30/14 04:50	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/30/14 04:50	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	250		06/30/14 04:50	460-00-4	
Toluene-d8 (S)	100	%	80-120	250		06/30/14 04:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	250		06/30/14 04:50	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/30/14 04:50		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**926**	mg/L	5.0	1		06/30/14 09:25		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Sample: 316-340 **Lab ID: 60172276001** Collected: 06/24/14 07:45 Received: 06/25/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**10.8**	mg/L	5.0	1		06/30/14 09:33		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4120**	mg/L	5.0	1		06/25/14 13:31		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/30/14 14:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**32700**	mg/L	2.0	1	06/25/14 15:21	06/30/14 12:17		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**576**	mg/L	20.0	200		06/26/14 12:02	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**50300**	mg/L	5000	500		06/30/14 09:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Sample: TRIP BLANK **Lab ID: 60172276002** Collected: 06/24/14 07:45 Received: 06/25/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/30/14 03:48	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/30/14 03:48	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/30/14 03:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/30/14 03:48	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/30/14 03:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/30/14 03:48	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/30/14 03:48	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/30/14 03:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/30/14 03:48	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/30/14 03:48	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/30/14 03:48	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/30/14 03:48	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/30/14 03:48	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/30/14 03:48	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/30/14 03:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/30/14 03:48	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/30/14 03:48	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/30/14 03:48	127-18-4	
Toluene	ND	ug/L	1.0	1		06/30/14 03:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/30/14 03:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/30/14 03:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/30/14 03:48	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/30/14 03:48	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/30/14 03:48	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		06/30/14 03:48	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		06/30/14 03:48	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		06/30/14 03:48	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/30/14 03:48		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: MERP/8534
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172276001

METHOD BLANK: 1401318 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	06/26/14 14:11	

LABORATORY CONTROL SAMPLE: 1401319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE SAMPLE: 1401320

Parameter	Units	60172072002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1401321 1401322

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	150	150	141	145	93	96	70-130	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: MERP/8551
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172276001

METHOD BLANK: 1404801 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/02/14 13:57	

LABORATORY CONTROL SAMPLE: 1404802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.6	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404803 1404804

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	156	105	104	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: MPRP/27813
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172276001

METHOD BLANK: 1401106
Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	06/27/14 17:20	
Antimony	ug/L	ND	10.0	06/27/14 17:20	
Arsenic	ug/L	ND	10.0	06/27/14 17:20	
Beryllium	ug/L	ND	1.0	06/27/14 17:20	
Cadmium	ug/L	ND	5.0	06/27/14 17:20	
Chromium	ug/L	ND	5.0	06/27/14 17:20	
Cobalt	ug/L	ND	5.0	06/27/14 17:20	
Copper	ug/L	ND	10.0	06/27/14 17:20	
Iron	ug/L	ND	50.0	06/27/14 17:20	
Lead	ug/L	ND	5.0	06/27/14 17:20	
Nickel	ug/L	ND	5.0	06/27/14 17:20	
Selenium	ug/L	ND	15.0	06/27/14 17:20	
Silver	ug/L	ND	7.0	06/27/14 17:20	
Thallium	ug/L	ND	20.0	06/27/14 17:20	
Zinc	ug/L	ND	50.0	06/27/14 17:20	

LABORATORY CONTROL SAMPLE: 1401107

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9320	93	85-115	
Antimony	ug/L	1000	941	94	85-115	
Arsenic	ug/L	1000	904	90	85-115	
Beryllium	ug/L	1000	935	93	85-115	
Cadmium	ug/L	1000	938	94	85-115	
Chromium	ug/L	1000	947	95	85-115	
Cobalt	ug/L	1000	959	96	85-115	
Copper	ug/L	1000	953	95	85-115	
Iron	ug/L	10000	9400	94	85-115	
Lead	ug/L	1000	934	93	85-115	
Nickel	ug/L	1000	949	95	85-115	
Selenium	ug/L	1000	904	90	85-115	
Silver	ug/L	500	484	97	85-115	
Thallium	ug/L	1000	970	97	85-115	
Zinc	ug/L	1000	920	92	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

MATRIX SPIKE SAMPLE: 1401108

Parameter	Units	60171774001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	323	10000	10200	99	70-130	
Antimony	ug/L	ND	1000	956	96	70-130	
Arsenic	ug/L	ND	1000	935	93	70-130	
Beryllium	ug/L	ND	1000	955	96	70-130	
Cadmium	ug/L	ND	1000	948	95	70-130	
Chromium	ug/L	ND	1000	963	96	70-130	
Cobalt	ug/L	ND	1000	962	96	70-130	
Copper	ug/L	12.0	1000	975	96	70-130	
Iron	ug/L	446	10000	10100	97	70-130	
Lead	ug/L	ND	1000	917	91	70-130	
Nickel	ug/L	ND	1000	947	94	70-130	
Selenium	ug/L	ND	1000	911	91	70-130	
Silver	ug/L	ND	500	492	98	70-130	
Thallium	ug/L	ND	1000	946	95	70-130	
Zinc	ug/L	ND	1000	926	93	70-130	

MATRIX SPIKE SAMPLE: 1401109

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	1940	50000	53900	104	70-130	
Antimony	ug/L	ND	5000	5210	103	70-130	
Arsenic	ug/L	905	5000	6240	107	70-130	
Beryllium	ug/L	ND	5000	4810	96	70-130	
Cadmium	ug/L	ND	5000	5100	102	70-130	
Chromium	ug/L	176	5000	5310	103	70-130	
Cobalt	ug/L	ND	5000	4780	95	70-130	
Copper	ug/L	ND	5000	5260	105	70-130	
Iron	ug/L	343000	50000	425000	164	70-130	M1
Lead	ug/L	51.0	5000	4480	89	70-130	
Nickel	ug/L	93.2	5000	4830	95	70-130	
Selenium	ug/L	ND	5000	5460	109	70-130	
Silver	ug/L	ND	2500	2730	109	70-130	
Thallium	ug/L	ND	5000	4260	85	70-130	
Zinc	ug/L	3710	5000	9090	108	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: MPRP/27851
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172276001

METHOD BLANK: 1403271 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/01/14 14:06	
Antimony, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Arsenic, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Beryllium, Dissolved	ug/L	ND	1.0	07/01/14 14:06	
Cadmium, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Chromium, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Cobalt, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Copper, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Iron, Dissolved	ug/L	ND	50.0	07/01/14 14:06	
Lead, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Nickel, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Selenium, Dissolved	ug/L	ND	15.0	07/01/14 14:06	
Silver, Dissolved	ug/L	ND	7.0	07/01/14 14:06	
Thallium, Dissolved	ug/L	ND	20.0	07/01/14 14:06	
Zinc, Dissolved	ug/L	ND	50.0	07/01/14 14:06	

LABORATORY CONTROL SAMPLE: 1403272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	1010	101	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1030	103	85-115	
Cobalt, Dissolved	ug/L	1000	1060	106	85-115	
Copper, Dissolved	ug/L	1000	1020	102	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1060	106	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	508	102	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1403273 1403274

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1420	50000	50000	52300	52800	102	103	70-130	1	8	
Antimony, Dissolved	ug/L	62.0	5000	5000	5500	5470	109	108	70-130	1	7	
Arsenic, Dissolved	ug/L	1100	5000	5000	6720	6820	113	114	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4860	4880	97	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5360	5360	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	185	5000	5000	4960	4960	96	96	70-130	0	10	
Cobalt, Dissolved	ug/L	26.8	5000	5000	4990	4970	99	99	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5380	5420	107	108	70-130	1	11	
Iron, Dissolved	ug/L	316000	50000	50000	352000	375000	71	118	70-130	6	10	
Lead, Dissolved	ug/L	30.4	5000	5000	4720	4690	94	93	70-130	1	10	
Nickel, Dissolved	ug/L	105	5000	5000	5000	4970	98	97	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6020	6080	120	122	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2660	105	106	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4360	4330	87	87	70-130	1	6	
Zinc, Dissolved	ug/L	4140	5000	5000	8900	9150	95	100	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: MSV/62654 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60172276001, 60172276002

METHOD BLANK: 1402437 Matrix: Water
Associated Lab Samples: 60172276001, 60172276002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/30/14 03:17	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,2-Dichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/30/14 03:17	
2-Butanone (MEK)	ug/L	ND	10.0	06/30/14 03:17	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/30/14 03:17	N2
Acetone	ug/L	ND	10.0	06/30/14 03:17	N2
Benzene	ug/L	ND	1.0	06/30/14 03:17	
Bromodichloromethane	ug/L	ND	1.0	06/30/14 03:17	
Bromoform	ug/L	ND	1.0	06/30/14 03:17	
Bromomethane	ug/L	ND	5.0	06/30/14 03:17	
Carbon tetrachloride	ug/L	ND	1.0	06/30/14 03:17	
Chloroethane	ug/L	ND	1.0	06/30/14 03:17	
Chloroform	ug/L	ND	1.0	06/30/14 03:17	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/30/14 03:17	N2
Ethylbenzene	ug/L	ND	1.0	06/30/14 03:17	
Methylene chloride	ug/L	ND	1.0	06/30/14 03:17	
Tetrachloroethene	ug/L	ND	1.0	06/30/14 03:17	
Toluene	ug/L	ND	1.0	06/30/14 03:17	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/30/14 03:17	
Trichloroethene	ug/L	ND	1.0	06/30/14 03:17	
Vinyl chloride	ug/L	ND	1.0	06/30/14 03:17	
Xylene (Total)	ug/L	ND	3.0	06/30/14 03:17	N2
1,2-Dichloroethane-d4 (S)	%	105	80-120	06/30/14 03:17	
4-Bromofluorobenzene (S)	%	104	80-120	06/30/14 03:17	
Toluene-d8 (S)	%	103	80-120	06/30/14 03:17	

LABORATORY CONTROL SAMPLE: 1402438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.6	98	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.2	106	67-124	
1,2-Dichloroethane	ug/L	20	20.3	102	70-126	
1,4-Dichlorobenzene	ug/L	20	20.2	101	74-120	
2-Butanone (MEK)	ug/L	100	101	101	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	59-131	N2
Acetone	ug/L	100	89.6	90	38-134	N2
Benzene	ug/L	20	19.5	98	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

LABORATORY CONTROL SAMPLE: 1402438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	105	68-125	
Bromoform	ug/L	20	19.9	100	65-127	
Bromomethane	ug/L	20	13.2	66	13-157	
Carbon tetrachloride	ug/L	20	19.0	95	70-131	
Chloroethane	ug/L	20	18.2	91	47-133	
Chloroform	ug/L	20	19.8	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	18.0	90	64-129	
Tetrachloroethene	ug/L	20	19.0	95	73-125	
Toluene	ug/L	20	18.3	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	19.9	99	71-123	
Vinyl chloride	ug/L	20	18.6	93	43-129	
Xylene (Total)	ug/L	60	59.9	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1402439

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4840	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5430	109	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4930	99	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4560	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4920	96	33-140	
2-Butanone (MEK)	ug/L	41200	25000	59900	75	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	27300	107	40-160	N2
Acetone	ug/L	94600	25000	106000	46	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4880	98	35-142	
Bromoform	ug/L	ND	5000	4630	93	45-142	
Bromomethane	ug/L	ND	5000	3480	70	10-158	
Carbon tetrachloride	ug/L	ND	5000	4890	98	70-140	
Chloroethane	ug/L	ND	5000	4590	92	19-152	
Chloroform	ug/L	ND	5000	4560	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4600	92	34-147	N2
Ethylbenzene	ug/L	ND	5000	4790	96	40-142	
Methylene chloride	ug/L	434	5000	4350	78	31-144	
Tetrachloroethene	ug/L	ND	5000	4770	95	64-148	
Toluene	ug/L	ND	5000	4230	85	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4580	92	54-151	
Trichloroethene	ug/L	ND	5000	4730	95	71-149	
Vinyl chloride	ug/L	ND	5000	4710	94	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

MATRIX SPIKE SAMPLE: 1402439

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13900	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: OEXT/44868 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60172276001

METHOD BLANK: 1401938 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/28/14 12:54	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/28/14 12:54	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/28/14 12:54	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/28/14 12:54	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/28/14 12:54	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/28/14 12:54	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/28/14 12:54	
Hexachloroethane	ug/L	ND	5.0	06/28/14 12:54	
Naphthalene	ug/L	ND	5.0	06/28/14 12:54	
Nitrobenzene	ug/L	ND	5.0	06/28/14 12:54	
Pentachlorophenol	ug/L	ND	5.0	06/28/14 12:54	
Phenol	ug/L	ND	5.0	06/28/14 12:54	
2,4,6-Tribromophenol (S)	%	81	39-120	06/28/14 12:54	
2-Fluorobiphenyl (S)	%	91	39-120	06/28/14 12:54	
2-Fluorophenol (S)	%	48	17-120	06/28/14 12:54	
Nitrobenzene-d5 (S)	%	96	33-120	06/28/14 12:54	
Phenol-d6 (S)	%	31	11-120	06/28/14 12:54	
Terphenyl-d14 (S)	%	85	45-120	06/28/14 12:54	

LABORATORY CONTROL SAMPLE: 1401939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.0	86	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.1	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.5	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.3	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.4	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.9	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	89.3	89	24-120	
Hexachloroethane	ug/L	50	38.8	78	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	43.7	87	48-120	
Pentachlorophenol	ug/L	50	45.2	90	47-120	
Phenol	ug/L	50	16.8	34	16-112	
2,4,6-Tribromophenol (S)	%			86	39-120	
2-Fluorobiphenyl (S)	%			89	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			83	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			94	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

MATRIX SPIKE SAMPLE: 1401940

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3700	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4390	88	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4020	80	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	5990	5000	9330	67	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	1260J	25	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3510	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	2100	21	11-120	
Hexachloroethane	ug/L	ND	5000	3120	62	40-113	
Naphthalene	ug/L	ND	5000	4580	76	45-120	
Nitrobenzene	ug/L	ND	5000	4090	82	38-120	
Pentachlorophenol	ug/L	ND	5000	4520	90	43-135	
Phenol	ug/L	8650	5000	10900	46	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				44	17-120	
Nitrobenzene-d5 (S)	%				128	33-120	S0
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				95	45-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: WET/48748 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172276001

METHOD BLANK: 1403376 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/30/14 09:21	

LABORATORY CONTROL SAMPLE: 1403377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.5	91	78-114	

MATRIX SPIKE SAMPLE: 1403384

Parameter	Units	60172024002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.0	47.6	56.1	101	78-114	

SAMPLE DUPLICATE: 1403379

Parameter	Units	60172276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	926	928	0	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: WET/48749 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172276001

METHOD BLANK: 1403392 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/30/14 09:31	

LABORATORY CONTROL SAMPLE: 1403393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.7	118	64-132	

MATRIX SPIKE SAMPLE: 1403394

Parameter	Units	60172024002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.2	23.8	23.5	72	64-132	

SAMPLE DUPLICATE: 1403395

Parameter	Units	60172276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	10.8	9.6	12	34	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: WET/48689
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172276001

METHOD BLANK: 1400829
Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/25/14 13:30	

SAMPLE DUPLICATE: 1400830

Parameter	Units	60172238001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	7380	7260	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: WET/48758
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172276001

SAMPLE DUPLICATE: 1403567

Parameter	Units	60172274001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.2	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: WET/48694 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172276001

METHOD BLANK: 1400900 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	06/30/14 12:11	

LABORATORY CONTROL SAMPLE: 1400901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	222	112	85-115	

SAMPLE DUPLICATE: 1400902

Parameter	Units	60172293001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1450	1480	2	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: WETA/30011 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172276001

METHOD BLANK: 1401323 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	06/26/14 11:34	

LABORATORY CONTROL SAMPLE: 1401324

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1401325

Parameter	Units	60172214001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	70	90-110	M1

MATRIX SPIKE SAMPLE: 1401326

Parameter	Units	60172228006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	104	90-110	

SAMPLE DUPLICATE: 1401332

Parameter	Units	60172276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	576	584	1	18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

QC Batch: WETA/30017
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60172276001

METHOD BLANK: 1401914 Matrix: Water
Associated Lab Samples: 60172276001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	06/30/14 09:23	

LABORATORY CONTROL SAMPLE: 1401915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.8	106	90-110	

MATRIX SPIKE SAMPLE: 1401916

Parameter	Units	60172138006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	5260	2500	7310	82	90-110	M1

MATRIX SPIKE SAMPLE: 1401919

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50300	25000	73000	91	90-110	

SAMPLE DUPLICATE: 1401917

Parameter	Units	60172138008 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	6280	6230	1	25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-340
Pace Project No.: 60172276

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172276001	**316-340**	EPA 200.7	MPRP/27813	EPA 200.7	ICP/21034
60172276001	**316-340**	EPA 200.7	MPRP/27851	EPA 200.7	ICP/21056
60172276001	**316-340**	EPA 245.1	MERP/8534	EPA 245.1	MERC/8489
60172276001	**316-340**	EPA 245.1	MERP/8551	EPA 245.1	MERC/8502
60172276001	**316-340**	EPA 625	OEXT/44868	EPA 625	MSSV/14370
60172276001	**316-340**	EPA 624 Low	MSV/62654		
60172276002	**TRIP BLANK**	EPA 624 Low	MSV/62654		
60172276001	**316-340**	EPA 1664A	WET/48748		
60172276001	**316-340**	EPA 1664A	WET/48749		
60172276001	**316-340**	SM 2540D	WET/48689		
60172276001	**316-340**	SM 4500-H+B	WET/48758		
60172276001	**316-340**	SM 5210B	WET/48694	SM 5210B	WET/48768
60172276001	**316-340**	EPA 350.1	WETA/30011		
60172276001	**316-340**	EPA 410.4	WETA/30017		

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Sample Condition Upon Receipt

WO# : 60172276

60172276

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ Xroad

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ☐ Zplc

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 9.0

Date and initials of person examining contents: pv 6/25/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1. not enough ice in cooler
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2. and all ice melted.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5 mL of HNO3 to BP3N. pH 6.0/4.0 Added 2.0 mL of H2SO4 to BP3S. pH 6.0/1.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: pv Lot # of added preservative: 12513
Trip Blank present: Pace Trip Blank lot # (if purchased): COVER	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

F-KS-C-003-Rev.7, 04December2012

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60172276
1	316-340 2AG4U 1BP3U 3AG3S	OT	G	6/24/14	0745				4~~5~~	10	4	1	0	1BP3S	5				X	X	X	X	X	X	X	X	X	X	1BP3N	4.0	2BP2U 5DG9U ea
2	TRIP BLANK								2	2																X					2DG9U ea
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

METALS LIST total & LF Dis:
Al,Sb,As,Be,Cd,Cr,
Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
and Mercury

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	6-24-14	2:15	Danielle Gerth	6-24-14	2:15				
SITE ADDRESS: BRIDGETON LF				PASE	6/25/14	0215	9.0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	WILLIAM ABERNATHY					
SIGNATURE of SAMPLER:		DATE Signed: 6/24/14				

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

July 03, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 26, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172403001	**316-341**	Water	06/25/14 07:46	06/26/14 01:55
60172403002	**TRIP BLANK**	Water	06/25/14 07:46	06/26/14 01:55

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172403001	**316-341**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172403002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Sample: 316-341 **Lab ID: 60172403001** Collected: 06/25/14 07:46 Received: 06/26/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6280**	ug/L	750	2	06/30/14 17:05	07/01/14 16:31	7429-90-5	
Antimony	**62.4**	ug/L	50.0	1	06/30/14 17:05	07/01/14 16:29	7440-36-0	
Arsenic	**1250**	ug/L	50.0	1	06/30/14 17:05	07/01/14 16:29	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/30/14 17:05	07/01/14 16:29	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:29	7440-43-9	
Chromium	**238**	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:29	7440-47-3	
Cobalt	**34.0**	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:29	7440-48-4	
Copper	ND	ug/L	50.0	1	06/30/14 17:05	07/01/14 16:29	7440-50-8	
Iron	**668000**	ug/L	250	1	06/30/14 17:05	07/01/14 16:29	7439-89-6	M1
Lead	**69.9**	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:29	7439-92-1	
Nickel	**122**	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:29	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/30/14 17:05	07/01/14 16:29	7782-49-2	
Silver	ND	ug/L	35.0	1	06/30/14 17:05	07/01/14 16:29	7440-22-4	
Thallium	ND	ug/L	100	1	06/30/14 17:05	07/01/14 16:29	7440-28-0	
Zinc	**4430**	ug/L	500	2	06/30/14 17:05	07/01/14 16:31	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1540**	ug/L	750	2	06/30/14 10:50	07/01/14 14:32	7429-90-5	
Antimony, Dissolved	**56.9**	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:30	7440-36-0	
Arsenic, Dissolved	**1060**	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:30	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/30/14 10:50	07/01/14 14:30	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:30	7440-43-9	
Chromium, Dissolved	**188**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:30	7440-47-3	
Cobalt, Dissolved	**27.6**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:30	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:30	7440-50-8	
Iron, Dissolved	**338000**	ug/L	250	1	06/30/14 10:50	07/01/14 14:30	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:30	7439-92-1	
Nickel, Dissolved	**93.9**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:30	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/30/14 10:50	07/01/14 14:30	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/30/14 10:50	07/01/14 14:30	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/30/14 10:50	07/01/14 14:30	7440-28-0	
Zinc, Dissolved	**3960**	ug/L	500	2	06/30/14 10:50	07/01/14 14:32	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**17.5**	ug/L	6.0	1	07/02/14 10:15	07/02/14 13:19	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 14:13	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	06/27/14 00:00	06/28/14 17:44	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	06/27/14 00:00	06/28/14 17:44	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7170**	ug/L	4000	2	06/27/14 00:00	06/28/14 17:44		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Sample: 316-341 **Lab ID: 60172403001** Collected: 06/25/14 07:46 Received: 06/26/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	87-86-5	
Phenol	**10600**	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	06/27/14 00:00	06/28/14 17:44	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	147	%	33-120	2	06/27/14 00:00	06/28/14 17:44	4165-60-0	S0
2-Fluorobiphenyl (S)	92	%	39-120	2	06/27/14 00:00	06/28/14 17:44	321-60-8	
Terphenyl-d14 (S)	99	%	45-120	2	06/27/14 00:00	06/28/14 17:44	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	06/27/14 00:00	06/28/14 17:44	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	06/27/14 00:00	06/28/14 17:44	367-12-4	
2,4,6-Tribromophenol (S)	92	%	39-120	2	06/27/14 00:00	06/28/14 17:44	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**89100**	ug/L	2500	250		06/30/14 05:22	67-64-1	N2
Benzene	ND	ug/L	250	250		06/30/14 05:22	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/30/14 05:22	75-27-4	
Bromoform	ND	ug/L	250	250		06/30/14 05:22	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/30/14 05:22	74-83-9	
2-Butanone (MEK)	**39400**	ug/L	2500	250		06/30/14 05:22	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/30/14 05:22	56-23-5	
Chloroethane	ND	ug/L	250	250		06/30/14 05:22	75-00-3	
Chloroform	ND	ug/L	250	250		06/30/14 05:22	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/30/14 05:22	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/30/14 05:22	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/30/14 05:22	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/30/14 05:22	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/30/14 05:22	100-41-4	
Methylene chloride	**459**	ug/L	250	250		06/30/14 05:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/30/14 05:22	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/30/14 05:22	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/30/14 05:22	127-18-4	
Toluene	ND	ug/L	250	250		06/30/14 05:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/30/14 05:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/30/14 05:22	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/30/14 05:22	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/30/14 05:22	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/30/14 05:22	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	250		06/30/14 05:22	460-00-4	
Toluene-d8 (S)	98	%	80-120	250		06/30/14 05:22	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	250		06/30/14 05:22	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/30/14 05:22		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1080**	mg/L	5.0	1		06/30/14 09:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Sample: 316-341 **Lab ID: 60172403001** Collected: 06/25/14 07:46 Received: 06/26/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		06/30/14 09:34		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4160**	mg/L	5.0	1		06/26/14 15:51		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		06/30/14 14:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**26300**	mg/L	2.0	1	06/26/14 18:31	07/01/14 13:29		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**620**	mg/L	20.0	200		07/01/14 11:59	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**50500**	mg/L	5000	500		07/02/14 09:18		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Sample: TRIP BLANK **Lab ID: 60172403002** Collected: 06/25/14 07:46 Received: 06/26/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/30/14 04:04	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/30/14 04:04	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/30/14 04:04	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/30/14 04:04	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/30/14 04:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/30/14 04:04	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/30/14 04:04	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/30/14 04:04	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/30/14 04:04	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/30/14 04:04	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/30/14 04:04	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/30/14 04:04	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/30/14 04:04	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/30/14 04:04	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/30/14 04:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/30/14 04:04	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/30/14 04:04	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/30/14 04:04	127-18-4	
Toluene	ND	ug/L	1.0	1		06/30/14 04:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/30/14 04:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/30/14 04:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/30/14 04:04	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/30/14 04:04	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/30/14 04:04	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		06/30/14 04:04	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		06/30/14 04:04	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		06/30/14 04:04	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/30/14 04:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: MERP/8550
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172403001

METHOD BLANK: 1404770 Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/02/14 13:15	

LABORATORY CONTROL SAMPLE: 1404771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404772 1404773

Parameter	Units	60172403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	17.5	150	150	170	169	102	101	70-130	1	20	

MATRIX SPIKE SAMPLE: 1404774

Parameter	Units	60172697001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.2	104	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: MERP/8551
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172403001

METHOD BLANK: 1404801 Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/02/14 13:57	

LABORATORY CONTROL SAMPLE: 1404802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.6	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404803 1404804

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	156	105	104	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: MPRP/27857
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172403001

METHOD BLANK: 1403681
Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/01/14 16:26	
Antimony	ug/L	ND	10.0	07/01/14 16:26	
Arsenic	ug/L	ND	10.0	07/01/14 16:26	
Beryllium	ug/L	ND	1.0	07/01/14 16:26	
Cadmium	ug/L	ND	5.0	07/01/14 16:26	
Chromium	ug/L	ND	5.0	07/01/14 16:26	
Cobalt	ug/L	ND	5.0	07/01/14 16:26	
Copper	ug/L	ND	10.0	07/01/14 16:26	
Iron	ug/L	ND	50.0	07/01/14 16:26	
Lead	ug/L	ND	5.0	07/01/14 16:26	
Nickel	ug/L	ND	5.0	07/01/14 16:26	
Selenium	ug/L	ND	15.0	07/01/14 16:26	
Silver	ug/L	ND	7.0	07/01/14 16:26	
Thallium	ug/L	ND	20.0	07/01/14 16:26	
Zinc	ug/L	ND	50.0	07/01/14 16:26	

LABORATORY CONTROL SAMPLE: 1403682

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	995	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	1010	101	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	503	101	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1020	102	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1403683 1403684

Parameter	Units	60172403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	6280	50000	50000	61100	58900	110	105	70-130	4	8	
Antimony	ug/L	62.4	5000	5000	5520	5320	109	105	70-130	4	7	
Arsenic	ug/L	1250	5000	5000	6930	6680	114	109	70-130	4	10	
Beryllium	ug/L	ND	5000	5000	4820	4720	96	94	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5420	5220	108	104	70-130	4	10	
Chromium	ug/L	238	5000	5000	4990	4900	95	93	70-130	2	10	
Cobalt	ug/L	34.0	5000	5000	4960	4830	99	96	70-130	3	6	
Copper	ug/L	ND	5000	5000	5540	5380	110	107	70-130	3	11	
Iron	ug/L	668000	50000	50000	742000	702000	147	67	70-130	6	10	M1
Lead	ug/L	69.9	5000	5000	4770	4660	94	92	70-130	2	10	
Nickel	ug/L	122	5000	5000	5020	4880	98	95	70-130	3	10	
Selenium	ug/L	ND	5000	5000	6170	5910	123	118	70-130	4	10	
Silver	ug/L	ND	2500	2500	2690	2610	107	104	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4300	4220	86	84	70-130	2	6	
Zinc	ug/L	4430	5000	5000	9150	8780	94	87	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: MPRP/27851
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172403001

METHOD BLANK: 1403271
Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/01/14 14:06	
Antimony, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Arsenic, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Beryllium, Dissolved	ug/L	ND	1.0	07/01/14 14:06	
Cadmium, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Chromium, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Cobalt, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Copper, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Iron, Dissolved	ug/L	ND	50.0	07/01/14 14:06	
Lead, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Nickel, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Selenium, Dissolved	ug/L	ND	15.0	07/01/14 14:06	
Silver, Dissolved	ug/L	ND	7.0	07/01/14 14:06	
Thallium, Dissolved	ug/L	ND	20.0	07/01/14 14:06	
Zinc, Dissolved	ug/L	ND	50.0	07/01/14 14:06	

LABORATORY CONTROL SAMPLE: 1403272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	1010	101	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1030	103	85-115	
Cobalt, Dissolved	ug/L	1000	1060	106	85-115	
Copper, Dissolved	ug/L	1000	1020	102	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1060	106	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	508	102	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1403273 1403274

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1420	50000	50000	52300	52800	102	103	70-130	1	8	
Antimony, Dissolved	ug/L	62.0	5000	5000	5500	5470	109	108	70-130	1	7	
Arsenic, Dissolved	ug/L	1100	5000	5000	6720	6820	113	114	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4860	4880	97	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5360	5360	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	185	5000	5000	4960	4960	96	96	70-130	0	10	
Cobalt, Dissolved	ug/L	26.8	5000	5000	4990	4970	99	99	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5380	5420	107	108	70-130	1	11	
Iron, Dissolved	ug/L	316000	50000	50000	352000	375000	71	118	70-130	6	10	
Lead, Dissolved	ug/L	30.4	5000	5000	4720	4690	94	93	70-130	1	10	
Nickel, Dissolved	ug/L	105	5000	5000	5000	4970	98	97	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6020	6080	120	122	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2660	105	106	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4360	4330	87	87	70-130	1	6	
Zinc, Dissolved	ug/L	4140	5000	5000	8900	9150	95	100	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: MSV/62654
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60172403001, 60172403002

METHOD BLANK: 1402437
Matrix: Water
Associated Lab Samples: 60172403001, 60172403002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/30/14 03:17	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,2-Dichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/30/14 03:17	
2-Butanone (MEK)	ug/L	ND	10.0	06/30/14 03:17	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/30/14 03:17	N2
Acetone	ug/L	ND	10.0	06/30/14 03:17	N2
Benzene	ug/L	ND	1.0	06/30/14 03:17	
Bromodichloromethane	ug/L	ND	1.0	06/30/14 03:17	
Bromoform	ug/L	ND	1.0	06/30/14 03:17	
Bromomethane	ug/L	ND	5.0	06/30/14 03:17	
Carbon tetrachloride	ug/L	ND	1.0	06/30/14 03:17	
Chloroethane	ug/L	ND	1.0	06/30/14 03:17	
Chloroform	ug/L	ND	1.0	06/30/14 03:17	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/30/14 03:17	N2
Ethylbenzene	ug/L	ND	1.0	06/30/14 03:17	
Methylene chloride	ug/L	ND	1.0	06/30/14 03:17	
Tetrachloroethene	ug/L	ND	1.0	06/30/14 03:17	
Toluene	ug/L	ND	1.0	06/30/14 03:17	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/30/14 03:17	
Trichloroethene	ug/L	ND	1.0	06/30/14 03:17	
Vinyl chloride	ug/L	ND	1.0	06/30/14 03:17	
Xylene (Total)	ug/L	ND	3.0	06/30/14 03:17	N2
1,2-Dichloroethane-d4 (S)	%	105	80-120	06/30/14 03:17	
4-Bromofluorobenzene (S)	%	104	80-120	06/30/14 03:17	
Toluene-d8 (S)	%	103	80-120	06/30/14 03:17	

LABORATORY CONTROL SAMPLE: 1402438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.6	98	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.2	106	67-124	
1,2-Dichloroethane	ug/L	20	20.3	102	70-126	
1,4-Dichlorobenzene	ug/L	20	20.2	101	74-120	
2-Butanone (MEK)	ug/L	100	101	101	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	59-131	N2
Acetone	ug/L	100	89.6	90	38-134	N2
Benzene	ug/L	20	19.5	98	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

LABORATORY CONTROL SAMPLE: 1402438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	105	68-125	
Bromoform	ug/L	20	19.9	100	65-127	
Bromomethane	ug/L	20	13.2	66	13-157	
Carbon tetrachloride	ug/L	20	19.0	95	70-131	
Chloroethane	ug/L	20	18.2	91	47-133	
Chloroform	ug/L	20	19.8	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	18.0	90	64-129	
Tetrachloroethene	ug/L	20	19.0	95	73-125	
Toluene	ug/L	20	18.3	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	19.9	99	71-123	
Vinyl chloride	ug/L	20	18.6	93	43-129	
Xylene (Total)	ug/L	60	59.9	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1402439

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4840	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5430	109	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4930	99	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4560	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4920	96	33-140	
2-Butanone (MEK)	ug/L	41200	25000	59900	75	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	27300	107	40-160	N2
Acetone	ug/L	94600	25000	106000	46	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4880	98	35-142	
Bromoform	ug/L	ND	5000	4630	93	45-142	
Bromomethane	ug/L	ND	5000	3480	70	10-158	
Carbon tetrachloride	ug/L	ND	5000	4890	98	70-140	
Chloroethane	ug/L	ND	5000	4590	92	19-152	
Chloroform	ug/L	ND	5000	4560	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4600	92	34-147	N2
Ethylbenzene	ug/L	ND	5000	4790	96	40-142	
Methylene chloride	ug/L	434	5000	4350	78	31-144	
Tetrachloroethene	ug/L	ND	5000	4770	95	64-148	
Toluene	ug/L	ND	5000	4230	85	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4580	92	54-151	
Trichloroethene	ug/L	ND	5000	4730	95	71-149	
Vinyl chloride	ug/L	ND	5000	4710	94	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

MATRIX SPIKE SAMPLE: 1402439

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13900	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: OEXT/44868
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172403001

METHOD BLANK: 1401938
Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	06/28/14 12:54	
2,4,6-Trichlorophenol	ug/L	ND	5.0	06/28/14 12:54	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	06/28/14 12:54	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	06/28/14 12:54	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	06/28/14 12:54	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	06/28/14 12:54	
Hexachlorocyclopentadiene	ug/L	ND	5.0	06/28/14 12:54	
Hexachloroethane	ug/L	ND	5.0	06/28/14 12:54	
Naphthalene	ug/L	ND	5.0	06/28/14 12:54	
Nitrobenzene	ug/L	ND	5.0	06/28/14 12:54	
Pentachlorophenol	ug/L	ND	5.0	06/28/14 12:54	
Phenol	ug/L	ND	5.0	06/28/14 12:54	
2,4,6-Tribromophenol (S)	%	81	39-120	06/28/14 12:54	
2-Fluorobiphenyl (S)	%	91	39-120	06/28/14 12:54	
2-Fluorophenol (S)	%	48	17-120	06/28/14 12:54	
Nitrobenzene-d5 (S)	%	96	33-120	06/28/14 12:54	
Phenol-d6 (S)	%	31	11-120	06/28/14 12:54	
Terphenyl-d14 (S)	%	85	45-120	06/28/14 12:54	

LABORATORY CONTROL SAMPLE: 1401939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.0	86	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.1	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.5	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.3	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.4	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.9	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	89.3	89	24-120	
Hexachloroethane	ug/L	50	38.8	78	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	43.7	87	48-120	
Pentachlorophenol	ug/L	50	45.2	90	47-120	
Phenol	ug/L	50	16.8	34	16-112	
2,4,6-Tribromophenol (S)	%			86	39-120	
2-Fluorobiphenyl (S)	%			89	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			83	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			94	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

MATRIX SPIKE SAMPLE: 1401940

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3700	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4390	88	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4020	80	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	5990	5000	9330	67	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	1260J	25	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3510	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	2100	21	11-120	
Hexachloroethane	ug/L	ND	5000	3120	62	40-113	
Naphthalene	ug/L	ND	5000	4580	76	45-120	
Nitrobenzene	ug/L	ND	5000	4090	82	38-120	
Pentachlorophenol	ug/L	ND	5000	4520	90	43-135	
Phenol	ug/L	8650	5000	10900	46	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				44	17-120	
Nitrobenzene-d5 (S)	%				128	33-120	S0
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				95	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: WET/48748 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172403001

METHOD BLANK: 1403376 Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	06/30/14 09:21	

LABORATORY CONTROL SAMPLE: 1403377

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.5	91	78-114	

MATRIX SPIKE SAMPLE: 1403384

Parameter	Units	60172024002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.0	47.6	56.1	101	78-114	

SAMPLE DUPLICATE: 1403379

Parameter	Units	60172276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	926	928	0	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: WET/48749 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172403001

METHOD BLANK: 1403392 Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	06/30/14 09:31	

LABORATORY CONTROL SAMPLE: 1403393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.7	118	64-132	

MATRIX SPIKE SAMPLE: 1403394

Parameter	Units	60172024002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.2	23.8	23.5	72	64-132	

SAMPLE DUPLICATE: 1403395

Parameter	Units	60172276001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	10.8	9.6	12	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: WET/48714
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172403001

METHOD BLANK: 1401609
Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/26/14 15:50	

SAMPLE DUPLICATE: 1401610

Parameter	Units	60172394001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: WET/48758
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172403001

SAMPLE DUPLICATE: 1403567

Parameter	Units	60172274001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.2	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: WET/48725
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172403001

METHOD BLANK: 1401896 Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/01/14 13:27	

LABORATORY CONTROL SAMPLE: 1401897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	193	97	85-115	

SAMPLE DUPLICATE: 1401898

Parameter	Units	60172407001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	148	130	13	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: WETA/30064 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172403001

METHOD BLANK: 1404059 Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1404060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1404061

Parameter	Units	60172395001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.8	4	7.1	83	90-110	M1

MATRIX SPIKE SAMPLE: 1404062

Parameter	Units	60172399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	83	90-110	M1

SAMPLE DUPLICATE: 1404063

Parameter	Units	60172400001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

QC Batch: WETA/30057
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60172403001

METHOD BLANK: 1403910 Matrix: Water
Associated Lab Samples: 60172403001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/02/14 08:56	

LABORATORY CONTROL SAMPLE: 1403911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.6	107	90-110	

MATRIX SPIKE SAMPLE: 1403912

Parameter	Units	60172125004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	55.1	105	90-110	

MATRIX SPIKE SAMPLE: 1403914

Parameter	Units	60172262007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	7480	2500	9380	76	90-110	M1

SAMPLE DUPLICATE: 1403913

Parameter	Units	60172238002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	6200	6160	1	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-341
Pace Project No.: 60172403

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172403001	**316-341**	EPA 200.7	MPRP/27857	EPA 200.7	ICP/21066
60172403001	**316-341**	EPA 200.7	MPRP/27851	EPA 200.7	ICP/21056
60172403001	**316-341**	EPA 245.1	MERP/8550	EPA 245.1	MERC/8501
60172403001	**316-341**	EPA 245.1	MERP/8551	EPA 245.1	MERC/8502
60172403001	**316-341**	EPA 625	OEXT/44868	EPA 625	MSSV/14370
60172403001	**316-341**	EPA 624 Low	MSV/62654		
60172403002	**TRIP BLANK**	EPA 624 Low	MSV/62654		
60172403001	**316-341**	EPA 1664A	WET/48748		
60172403001	**316-341**	EPA 1664A	WET/48749		
60172403001	**316-341**	SM 2540D	WET/48714		
60172403001	**316-341**	SM 4500-H+B	WET/48758		
60172403001	**316-341**	SM 5210B	WET/48725	SM 5210B	WET/48803
60172403001	**316-341**	EPA 350.1	WETA/30064		
60172403001	**316-341**	EPA 410.4	WETA/30057		

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www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60172403

60172403

Client Name: Barr Engineering

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Cross roads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Optional
Proj Due Date:
Proj Name:

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ Ziploc

Thermometer Used: T-239 / T-194 Type of Ice: Wet / Blue / None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 7.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AH 6/1/26

Chain of Custody present:	☑Yes	☐No	☐N/A	1. Not enough Ice
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 holding time:	☑Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes	☐No	☐N/A	6. pH, ROD
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A	7.
Sufficient volume:	☑Yes	☐No	☐N/A	8.
Correct containers used:	☑Yes	☐No	☐N/A	
Pace containers used:	☑Yes	☐No	☐N/A	9.
Containers intact:	☑Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes	☐No	☐N/A	13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	Sample BP3N initial pH 4.5 added 0.5mL HNO3 final pH 4.0 Sample BP3S initial pH 4.5 added 2mL H2SO4 final pH 2.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed: AH Lot # of added preservative: 125B13-2-3-2, 125B22-2-7
Trip Blank present: Pace Trip Blank lot # (if purchased): covered	☑Yes	☐No	☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes	☑No	☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes	☐No	☑N/A	17. List State: MD

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/1/26

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 **Of** 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N Analyses Test	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60172403
1	2(AG4U) 316-341 1(BP3U) 2(BP2U) 1(RP3N) 4.5/ 1(RP3S) 4.5/	OT	G	6/25/14	0746	—	—		12	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) 2(AG3S) 001
2	TRIP BLANK	—		—	—	—	—		2	2																X						2(DG9U) 005
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FET	6-25-14	2:00pm	[signature] 851 6/25/14	6-25-14	2:00pm				
SITE ADDRESS: BRIDGETON LF				[signature] /PAM	6/26	1:55	7.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] **DATE Signed:** 6/25/14

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

July 07, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 27, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172477001	**316-342**	Water	06/26/14 13:30	06/27/14 01:30
60172477002	**TRIP BLANK**	Water	06/26/14 13:30	06/27/14 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172477001	**316-342**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172477002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Date: July 07, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Sample: 316-342 **Lab ID: 60172477001** Collected: 06/26/14 13:30 Received: 06/27/14 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5900**	ug/L	750	2	06/30/14 17:05	07/01/14 16:53	7429-90-5	
Antimony	**63.6**	ug/L	50.0	1	06/30/14 17:05	07/01/14 16:50	7440-36-0	
Arsenic	**1340**	ug/L	50.0	1	06/30/14 17:05	07/01/14 16:50	7440-38-2	
Beryllium	ND	ug/L	5.0	1	06/30/14 17:05	07/01/14 16:50	7440-41-7	
Cadmium	ND	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:50	7440-43-9	
Chromium	**247**	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:50	7440-47-3	
Cobalt	**39.1**	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:50	7440-48-4	
Copper	ND	ug/L	50.0	1	06/30/14 17:05	07/01/14 16:50	7440-50-8	
Iron	**642000**	ug/L	250	1	06/30/14 17:05	07/01/14 16:50	7439-89-6	
Lead	**67.8**	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:50	7439-92-1	
Nickel	**132**	ug/L	25.0	1	06/30/14 17:05	07/01/14 16:50	7440-02-0	
Selenium	ND	ug/L	75.0	1	06/30/14 17:05	07/01/14 16:50	7782-49-2	
Silver	ND	ug/L	35.0	1	06/30/14 17:05	07/01/14 16:50	7440-22-4	
Thallium	ND	ug/L	100	1	06/30/14 17:05	07/01/14 16:50	7440-28-0	
Zinc	**4980**	ug/L	500	2	06/30/14 17:05	07/01/14 16:53	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1340**	ug/L	750	2	06/30/14 10:50	07/01/14 14:37	7429-90-5	
Antimony, Dissolved	**54.4**	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:34	7440-36-0	
Arsenic, Dissolved	**1100**	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:34	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	06/30/14 10:50	07/01/14 14:34	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:34	7440-43-9	
Chromium, Dissolved	**185**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:34	7440-47-3	
Cobalt, Dissolved	**28.8**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:34	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	06/30/14 10:50	07/01/14 14:34	7440-50-8	
Iron, Dissolved	**308000**	ug/L	250	1	06/30/14 10:50	07/01/14 14:34	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:34	7439-92-1	
Nickel, Dissolved	**100**	ug/L	25.0	1	06/30/14 10:50	07/01/14 14:34	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	06/30/14 10:50	07/01/14 14:34	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	06/30/14 10:50	07/01/14 14:34	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	06/30/14 10:50	07/01/14 14:34	7440-28-0	
Zinc, Dissolved	**4040**	ug/L	500	2	06/30/14 10:50	07/01/14 14:37	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**19.9**	ug/L	6.0	1	07/02/14 10:15	07/02/14 13:28	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 14:15	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/02/14 00:00	07/03/14 13:20	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/02/14 00:00	07/03/14 13:20	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6410**	ug/L	4000	2	07/02/14 00:00	07/03/14 13:20		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Sample: 316-342 **Lab ID: 60172477001** Collected: 06/26/14 13:30 Received: 06/27/14 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	87-86-5	
Phenol	**9200**	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:20	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	120	%	33-120	2	07/02/14 00:00	07/03/14 13:20	4165-60-0	
2-Fluorobiphenyl (S)	80	%	39-120	2	07/02/14 00:00	07/03/14 13:20	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	2	07/02/14 00:00	07/03/14 13:20	1718-51-0	
Phenol-d6 (S)	32	%	11-120	2	07/02/14 00:00	07/03/14 13:20	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	07/02/14 00:00	07/03/14 13:20	367-12-4	
2,4,6-Tribromophenol (S)	89	%	39-120	2	07/02/14 00:00	07/03/14 13:20	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**89100**	ug/L	2500	250		06/30/14 05:37	67-64-1	N2
Benzene	ND	ug/L	250	250		06/30/14 05:37	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		06/30/14 05:37	75-27-4	
Bromoform	ND	ug/L	250	250		06/30/14 05:37	75-25-2	
Bromomethane	ND	ug/L	1250	250		06/30/14 05:37	74-83-9	
2-Butanone (MEK)	**37700**	ug/L	2500	250		06/30/14 05:37	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		06/30/14 05:37	56-23-5	
Chloroethane	ND	ug/L	250	250		06/30/14 05:37	75-00-3	
Chloroform	ND	ug/L	250	250		06/30/14 05:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		06/30/14 05:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		06/30/14 05:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		06/30/14 05:37	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		06/30/14 05:37	156-60-5	
Ethylbenzene	ND	ug/L	250	250		06/30/14 05:37	100-41-4	
Methylene chloride	**514**	ug/L	250	250		06/30/14 05:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		06/30/14 05:37	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		06/30/14 05:37	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		06/30/14 05:37	127-18-4	
Toluene	ND	ug/L	250	250		06/30/14 05:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		06/30/14 05:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		06/30/14 05:37	79-00-5	
Trichloroethene	ND	ug/L	250	250		06/30/14 05:37	79-01-6	
Vinyl chloride	ND	ug/L	250	250		06/30/14 05:37	75-01-4	
Xylene (Total)	ND	ug/L	750	250		06/30/14 05:37	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	250		06/30/14 05:37	460-00-4	
Toluene-d8 (S)	99	%	80-120	250		06/30/14 05:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	250		06/30/14 05:37	17060-07-0	
Preservation pH	**6.0**		1.0	250		06/30/14 05:37		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**555**	mg/L	5.0	1		07/01/14 18:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Sample: 316-342 **Lab ID: 60172477001** Collected: 06/26/14 13:30 Received: 06/27/14 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**22.5**	mg/L	5.0	1		07/01/14 18:37		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4100**	mg/L	5.0	1		06/27/14 10:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/01/14 14:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**27300**	mg/L	2.0	1	06/27/14 14:38	07/02/14 16:54		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**600**	mg/L	20.0	200		07/01/14 12:09	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**47600**	mg/L	5000	500		07/04/14 07:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Sample: TRIP BLANK **Lab ID: 60172477002** Collected: 06/26/14 13:30 Received: 06/27/14 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		06/30/14 04:35	67-64-1	N2
Benzene	ND	ug/L	1.0	1		06/30/14 04:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		06/30/14 04:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		06/30/14 04:35	75-25-2	
Bromomethane	ND	ug/L	5.0	1		06/30/14 04:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		06/30/14 04:35	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		06/30/14 04:35	56-23-5	
Chloroethane	ND	ug/L	1.0	1		06/30/14 04:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		06/30/14 04:35	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		06/30/14 04:35	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		06/30/14 04:35	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		06/30/14 04:35	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		06/30/14 04:35	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		06/30/14 04:35	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		06/30/14 04:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		06/30/14 04:35	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		06/30/14 04:35	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		06/30/14 04:35	127-18-4	
Toluene	ND	ug/L	1.0	1		06/30/14 04:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		06/30/14 04:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		06/30/14 04:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		06/30/14 04:35	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		06/30/14 04:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		06/30/14 04:35	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		06/30/14 04:35	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		06/30/14 04:35	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		06/30/14 04:35	17060-07-0	
Preservation pH	**6.0**		1.0	1		06/30/14 04:35		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: MERP/8550
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172477001

METHOD BLANK: 1404770 Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/02/14 13:15	

LABORATORY CONTROL SAMPLE: 1404771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404772 1404773

Parameter	Units	60172403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	17.5	150	150	170	169	102	101	70-130	1	20	

MATRIX SPIKE SAMPLE: 1404774

Parameter	Units	60172697001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.2	104	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: MERP/8551
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172477001

METHOD BLANK: 1404801 Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/02/14 13:57	

LABORATORY CONTROL SAMPLE: 1404802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.6	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404803 1404804

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	156	105	104	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: MPRP/27857
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172477001

METHOD BLANK: 1403681
Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/01/14 16:26	
Antimony	ug/L	ND	10.0	07/01/14 16:26	
Arsenic	ug/L	ND	10.0	07/01/14 16:26	
Beryllium	ug/L	ND	1.0	07/01/14 16:26	
Cadmium	ug/L	ND	5.0	07/01/14 16:26	
Chromium	ug/L	ND	5.0	07/01/14 16:26	
Cobalt	ug/L	ND	5.0	07/01/14 16:26	
Copper	ug/L	ND	10.0	07/01/14 16:26	
Iron	ug/L	ND	50.0	07/01/14 16:26	
Lead	ug/L	ND	5.0	07/01/14 16:26	
Nickel	ug/L	ND	5.0	07/01/14 16:26	
Selenium	ug/L	ND	15.0	07/01/14 16:26	
Silver	ug/L	ND	7.0	07/01/14 16:26	
Thallium	ug/L	ND	20.0	07/01/14 16:26	
Zinc	ug/L	ND	50.0	07/01/14 16:26	

LABORATORY CONTROL SAMPLE: 1403682

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	995	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	1010	101	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	503	101	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1403683 1403684

Parameter	Units	60172403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	6280	50000	50000	61100	58900	110	105	70-130	4	8	
Antimony	ug/L	62.4	5000	5000	5520	5320	109	105	70-130	4	7	
Arsenic	ug/L	1250	5000	5000	6930	6680	114	109	70-130	4	10	
Beryllium	ug/L	ND	5000	5000	4820	4720	96	94	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5420	5220	108	104	70-130	4	10	
Chromium	ug/L	238	5000	5000	4990	4900	95	93	70-130	2	10	
Cobalt	ug/L	34.0	5000	5000	4960	4830	99	96	70-130	3	6	
Copper	ug/L	ND	5000	5000	5540	5380	110	107	70-130	3	11	
Iron	ug/L	668000	50000	50000	742000	702000	147	67	70-130	6	10	M1
Lead	ug/L	69.9	5000	5000	4770	4660	94	92	70-130	2	10	
Nickel	ug/L	122	5000	5000	5020	4880	98	95	70-130	3	10	
Selenium	ug/L	ND	5000	5000	6170	5910	123	118	70-130	4	10	
Silver	ug/L	ND	2500	2500	2690	2610	107	104	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4300	4220	86	84	70-130	2	6	
Zinc	ug/L	4430	5000	5000	9150	8780	94	87	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: MPRP/27851
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172477001

METHOD BLANK: 1403271
Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/01/14 14:06	
Antimony, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Arsenic, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Beryllium, Dissolved	ug/L	ND	1.0	07/01/14 14:06	
Cadmium, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Chromium, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Cobalt, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Copper, Dissolved	ug/L	ND	10.0	07/01/14 14:06	
Iron, Dissolved	ug/L	ND	50.0	07/01/14 14:06	
Lead, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Nickel, Dissolved	ug/L	ND	5.0	07/01/14 14:06	
Selenium, Dissolved	ug/L	ND	15.0	07/01/14 14:06	
Silver, Dissolved	ug/L	ND	7.0	07/01/14 14:06	
Thallium, Dissolved	ug/L	ND	20.0	07/01/14 14:06	
Zinc, Dissolved	ug/L	ND	50.0	07/01/14 14:06	

LABORATORY CONTROL SAMPLE: 1403272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	1010	101	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1030	103	85-115	
Cobalt, Dissolved	ug/L	1000	1060	106	85-115	
Copper, Dissolved	ug/L	1000	1020	102	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1060	106	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	508	102	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1403273 1403274

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1420	50000	50000	52300	52800	102	103	70-130	1	8	
Antimony, Dissolved	ug/L	62.0	5000	5000	5500	5470	109	108	70-130	1	7	
Arsenic, Dissolved	ug/L	1100	5000	5000	6720	6820	113	114	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4860	4880	97	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5360	5360	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	185	5000	5000	4960	4960	96	96	70-130	0	10	
Cobalt, Dissolved	ug/L	26.8	5000	5000	4990	4970	99	99	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5380	5420	107	108	70-130	1	11	
Iron, Dissolved	ug/L	316000	50000	50000	352000	375000	71	118	70-130	6	10	
Lead, Dissolved	ug/L	30.4	5000	5000	4720	4690	94	93	70-130	1	10	
Nickel, Dissolved	ug/L	105	5000	5000	5000	4970	98	97	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6020	6080	120	122	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2660	105	106	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4360	4330	87	87	70-130	1	6	
Zinc, Dissolved	ug/L	4140	5000	5000	8900	9150	95	100	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: MSV/62654
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60172477001, 60172477002

METHOD BLANK: 1402437
Matrix: Water
Associated Lab Samples: 60172477001, 60172477002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	06/30/14 03:17	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,2-Dichloroethane	ug/L	ND	1.0	06/30/14 03:17	
1,4-Dichlorobenzene	ug/L	ND	1.0	06/30/14 03:17	
2-Butanone (MEK)	ug/L	ND	10.0	06/30/14 03:17	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	06/30/14 03:17	N2
Acetone	ug/L	ND	10.0	06/30/14 03:17	N2
Benzene	ug/L	ND	1.0	06/30/14 03:17	
Bromodichloromethane	ug/L	ND	1.0	06/30/14 03:17	
Bromoform	ug/L	ND	1.0	06/30/14 03:17	
Bromomethane	ug/L	ND	5.0	06/30/14 03:17	
Carbon tetrachloride	ug/L	ND	1.0	06/30/14 03:17	
Chloroethane	ug/L	ND	1.0	06/30/14 03:17	
Chloroform	ug/L	ND	1.0	06/30/14 03:17	
cis-1,2-Dichloroethene	ug/L	ND	1.0	06/30/14 03:17	N2
Ethylbenzene	ug/L	ND	1.0	06/30/14 03:17	
Methylene chloride	ug/L	ND	1.0	06/30/14 03:17	
Tetrachloroethene	ug/L	ND	1.0	06/30/14 03:17	
Toluene	ug/L	ND	1.0	06/30/14 03:17	
trans-1,2-Dichloroethene	ug/L	ND	1.0	06/30/14 03:17	
Trichloroethene	ug/L	ND	1.0	06/30/14 03:17	
Vinyl chloride	ug/L	ND	1.0	06/30/14 03:17	
Xylene (Total)	ug/L	ND	3.0	06/30/14 03:17	N2
1,2-Dichloroethane-d4 (S)	%	105	80-120	06/30/14 03:17	
4-Bromofluorobenzene (S)	%	104	80-120	06/30/14 03:17	
Toluene-d8 (S)	%	103	80-120	06/30/14 03:17	

LABORATORY CONTROL SAMPLE: 1402438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.6	98	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.2	106	67-124	
1,2-Dichloroethane	ug/L	20	20.3	102	70-126	
1,4-Dichlorobenzene	ug/L	20	20.2	101	74-120	
2-Butanone (MEK)	ug/L	100	101	101	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	59-131	N2
Acetone	ug/L	100	89.6	90	38-134	N2
Benzene	ug/L	20	19.5	98	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

LABORATORY CONTROL SAMPLE: 1402438

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	105	68-125	
Bromoform	ug/L	20	19.9	100	65-127	
Bromomethane	ug/L	20	13.2	66	13-157	
Carbon tetrachloride	ug/L	20	19.0	95	70-131	
Chloroethane	ug/L	20	18.2	91	47-133	
Chloroform	ug/L	20	19.8	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	18.0	90	64-129	
Tetrachloroethene	ug/L	20	19.0	95	73-125	
Toluene	ug/L	20	18.3	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	19.9	99	71-123	
Vinyl chloride	ug/L	20	18.6	93	43-129	
Xylene (Total)	ug/L	60	59.9	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1402439

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4840	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	5430	109	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4930	99	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4560	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4920	96	33-140	
2-Butanone (MEK)	ug/L	41200	25000	59900	75	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	27300	107	40-160	N2
Acetone	ug/L	94600	25000	106000	46	10-160	N2
Benzene	ug/L	ND	5000	4490	90	37-151	
Bromodichloromethane	ug/L	ND	5000	4880	98	35-142	
Bromoform	ug/L	ND	5000	4630	93	45-142	
Bromomethane	ug/L	ND	5000	3480	70	10-158	
Carbon tetrachloride	ug/L	ND	5000	4890	98	70-140	
Chloroethane	ug/L	ND	5000	4590	92	19-152	
Chloroform	ug/L	ND	5000	4560	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4600	92	34-147	N2
Ethylbenzene	ug/L	ND	5000	4790	96	40-142	
Methylene chloride	ug/L	434	5000	4350	78	31-144	
Tetrachloroethene	ug/L	ND	5000	4770	95	64-148	
Toluene	ug/L	ND	5000	4230	85	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4580	92	54-151	
Trichloroethene	ug/L	ND	5000	4730	95	71-149	
Vinyl chloride	ug/L	ND	5000	4710	94	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

MATRIX SPIKE SAMPLE: 1402439

Parameter	Units	60172276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13900	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: OEXT/44932 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60172477001

METHOD BLANK: 1404630 Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/03/14 12:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/03/14 12:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/03/14 12:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/03/14 12:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachloroethane	ug/L	ND	5.0	07/03/14 12:18	
Naphthalene	ug/L	ND	5.0	07/03/14 12:18	
Nitrobenzene	ug/L	ND	5.0	07/03/14 12:18	
Pentachlorophenol	ug/L	ND	5.0	07/03/14 12:18	
Phenol	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Tribromophenol (S)	%	78	39-120	07/03/14 12:18	
2-Fluorobiphenyl (S)	%	82	39-120	07/03/14 12:18	
2-Fluorophenol (S)	%	43	17-120	07/03/14 12:18	
Nitrobenzene-d5 (S)	%	83	33-120	07/03/14 12:18	
Phenol-d6 (S)	%	28	11-120	07/03/14 12:18	
Terphenyl-d14 (S)	%	88	45-120	07/03/14 12:18	

LABORATORY CONTROL SAMPLE: 1404631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.8	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.0	54	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	39.3	79	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.5	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.9	66	24-120	
Hexachloroethane	ug/L	50	34.2	68	43-113	
Naphthalene	ug/L	50	37.6	75	48-120	
Nitrobenzene	ug/L	50	39.8	80	48-120	
Pentachlorophenol	ug/L	50	44.1	88	47-120	
Phenol	ug/L	50	13.9	28	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

MATRIX SPIKE SAMPLE: 1404632

Parameter	Units	60172477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3310	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4090	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6410	5000	9480	61	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3240J	65	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5440	54	11-120	
Hexachloroethane	ug/L	ND	5000	3000	60	40-113	
Naphthalene	ug/L	ND	5000	3940	67	45-120	
Nitrobenzene	ug/L	ND	5000	3850	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4440	89	43-135	
Phenol	ug/L	9200	5000	11100	38	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				121	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: WET/48807 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172477001

METHOD BLANK: 1404475 Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/01/14 18:28	

LABORATORY CONTROL SAMPLE: 1404476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.0	82	78-114	

MATRIX SPIKE SAMPLE: 1404477

Parameter	Units	60172173003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44.4	42.0	93	78-114	

SAMPLE DUPLICATE: 1404478

Parameter	Units	60172173004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.6J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: WET/48806 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172477001

METHOD BLANK: 1404463 Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/01/14 18:36	

LABORATORY CONTROL SAMPLE: 1404464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.8	119	64-132	

MATRIX SPIKE SAMPLE: 1404465

Parameter	Units	60172173003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.2	17.9	76	64-132	

SAMPLE DUPLICATE: 1404466

Parameter	Units	60172173004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: WET/48729
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172477001

METHOD BLANK: 1402071
Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/27/14 10:05	

SAMPLE DUPLICATE: 1402072

Parameter	Units	60172404001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	15.0	10	40	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: WET/48760
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172477001

SAMPLE DUPLICATE: 1403571

Parameter	Units	60172448001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.3	8.3	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: WET/48735 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172477001

METHOD BLANK: 1402315 Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/02/14 16:06	

LABORATORY CONTROL SAMPLE: 1402316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	200	101	85-115	

SAMPLE DUPLICATE: 1402317

Parameter	Units	60172503001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1170	1170	0	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: WETA/30064
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172477001

METHOD BLANK: 1404059 Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1404060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1404061

Parameter	Units	60172395001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.8	4	7.1	83	90-110	M1

MATRIX SPIKE SAMPLE: 1404062

Parameter	Units	60172399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	83	90-110	M1

SAMPLE DUPLICATE: 1404063

Parameter	Units	60172400001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

QC Batch: WETA/30098 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172477001

METHOD BLANK: 1404868 Matrix: Water
Associated Lab Samples: 60172477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/04/14 07:33	

LABORATORY CONTROL SAMPLE: 1404869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.3	101	90-110	

MATRIX SPIKE SAMPLE: 1404870

Parameter	Units	60171947001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	648	250	825	71	90-110	M1

MATRIX SPIKE SAMPLE: 1404872

Parameter	Units	60172477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	47600	25000	70900	93	90-110	

SAMPLE DUPLICATE: 1404871

Parameter	Units	60172183001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	10800	11400	6	25	

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QUALIFIERS

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-342
Pace Project No.: 60172477

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172477001	**316-342**	EPA 200.7	MPRP/27857	EPA 200.7	ICP/21066
60172477001	**316-342**	EPA 200.7	MPRP/27851	EPA 200.7	ICP/21056
60172477001	**316-342**	EPA 245.1	MERP/8550	EPA 245.1	MERC/8501
60172477001	**316-342**	EPA 245.1	MERP/8551	EPA 245.1	MERC/8502
60172477001	**316-342**	EPA 625	OEXT/44932	EPA 625	MSSV/14397
60172477001	**316-342**	EPA 624 Low	MSV/62654		
60172477002	**TRIP BLANK**	EPA 624 Low	MSV/62654		
60172477001	**316-342**	EPA 1664A	WET/48807		
60172477001	**316-342**	EPA 1664A	WET/48806		
60172477001	**316-342**	SM 2540D	WET/48729		
60172477001	**316-342**	SM 4500-H+B	WET/48760		
60172477001	**316-342**	SM 5210B	WET/48735	SM 5210B	WET/48836
60172477001	**316-342**	EPA 350.1	WETA/30064		
60172477001	**316-342**	EPA 410.4	WETA/30098		

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Sample Condition Upon Receipt

WO#: 60172477

60172477

Client Name: Barr Eng

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ xroad

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ ziplc

Thermometer Used: (T-239) / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 8.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pv 6/2 7/14

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8. Sample was not in temp range. because most of the ice were melted.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2-5 ml of HNO3 to BP3N. pH 6.0/4-0 Added 2-0 ml of H2SO4 to BP3S. pH 6.0/2-0
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☑No ☐N/A	14.
Exceptions: (VOA) coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: pv Lot # of added preservative: 12513 12522 ~~12522~~ pv 6/27/14
Trip Blank present: Pace Trip Blank lot # (if purchased): 052214-3	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MN

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: FOOTNOTE TEMP BASED ON HISTORICAL INSTRUCTIONS AS

Project Manager Review: [signature] Date: 6/27/14

Pace Analytical®

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	6017247?
1	316-342 2AG4U 1BP3U	OT	G			6/26/14	1330		14	10	4	1	0	3AG3S	1BP3		S2-0		X	X	X	X	X	X	X	X	X	X	X	1BP3N	4·· 2BP2U 5DG9U 001
2	TRIP BLANK								2	2																X					2DG9U 002
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sarah M. Dehio / FEI	6/26	2:16P	[signature]	6/26/14	2:16				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	6/27/14	0130	8.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 6/26/14

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

July 07, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 28, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172589001	**316-343**	Water	06/27/14 13:30	06/28/14 01:20
60172589002	**TRIP BLANK**	Water	06/27/14 13:30	06/28/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172589001	**316-343**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172589002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Sample: 316-343 **Lab ID: 60172589001** Collected: 06/27/14 13:30 Received: 06/28/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2020**	ug/L	750	2	07/01/14 18:00	07/02/14 12:51	7429-90-5	
Antimony	ND	ug/L	50.0	1	07/01/14 18:00	07/02/14 12:49	7440-36-0	
Arsenic	**1080**	ug/L	50.0	1	07/01/14 18:00	07/02/14 12:49	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/01/14 18:00	07/02/14 12:49	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/01/14 18:00	07/02/14 12:49	7440-43-9	
Chromium	**187**	ug/L	25.0	1	07/01/14 18:00	07/02/14 12:49	7440-47-3	
Cobalt	**30.6**	ug/L	25.0	1	07/01/14 18:00	07/02/14 12:49	7440-48-4	
Copper	ND	ug/L	50.0	1	07/01/14 18:00	07/02/14 12:49	7440-50-8	
Iron	**317000**	ug/L	250	1	07/01/14 18:00	07/02/14 12:49	7439-89-6	
Lead	**25.9**	ug/L	25.0	1	07/01/14 18:00	07/02/14 12:49	7439-92-1	
Nickel	**107**	ug/L	25.0	1	07/01/14 18:00	07/02/14 12:49	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/01/14 18:00	07/02/14 12:49	7782-49-2	
Silver	ND	ug/L	35.0	1	07/01/14 18:00	07/02/14 12:49	7440-22-4	
Thallium	ND	ug/L	100	1	07/01/14 18:00	07/02/14 12:49	7440-28-0	
Zinc	**4580**	ug/L	500	2	07/01/14 18:00	07/02/14 12:51	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1520**	ug/L	750	2	07/02/14 17:00	07/03/14 16:01	7429-90-5	
Antimony, Dissolved	**53.3**	ug/L	50.0	1	07/02/14 17:00	07/03/14 15:55	7440-36-0	D9
Arsenic, Dissolved	**1060**	ug/L	50.0	1	07/02/14 17:00	07/03/14 15:55	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/02/14 17:00	07/03/14 15:55	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/02/14 17:00	07/03/14 15:55	7440-43-9	
Chromium, Dissolved	**183**	ug/L	25.0	1	07/02/14 17:00	07/03/14 15:55	7440-47-3	
Cobalt, Dissolved	**30.9**	ug/L	25.0	1	07/02/14 17:00	07/03/14 15:55	7440-48-4	D9
Copper, Dissolved	ND	ug/L	50.0	1	07/02/14 17:00	07/03/14 15:55	7440-50-8	
Iron, Dissolved	**302000**	ug/L	250	1	07/02/14 17:00	07/03/14 15:55	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	07/02/14 17:00	07/03/14 15:55	7439-92-1	
Nickel, Dissolved	**105**	ug/L	25.0	1	07/02/14 17:00	07/03/14 15:55	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/02/14 17:00	07/03/14 15:55	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/02/14 17:00	07/03/14 15:55	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/02/14 17:00	07/03/14 15:55	7440-28-0	
Zinc, Dissolved	**4340**	ug/L	500	2	07/02/14 17:00	07/03/14 16:01	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**21.9**	ug/L	6.0	1	07/02/14 10:15	07/02/14 13:35	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 14:17	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/02/14 00:00	07/03/14 13:40	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/02/14 00:00	07/03/14 13:40	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**8410**	ug/L	4000	2	07/02/14 00:00	07/03/14 13:40		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Sample: 316-343 **Lab ID: 60172589001** Collected: 06/27/14 13:30 Received: 06/28/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	87-86-5	
Phenol	**12300**	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 13:40	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	136	%	33-120	2	07/02/14 00:00	07/03/14 13:40	4165-60-0	S0
2-Fluorobiphenyl (S)	84	%	39-120	2	07/02/14 00:00	07/03/14 13:40	321-60-8	
Terphenyl-d14 (S)	87	%	45-120	2	07/02/14 00:00	07/03/14 13:40	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	07/02/14 00:00	07/03/14 13:40	13127-88-3	
2-Fluorophenol (S)	46	%	17-120	2	07/02/14 00:00	07/03/14 13:40	367-12-4	
2,4,6-Tribromophenol (S)	94	%	39-120	2	07/02/14 00:00	07/03/14 13:40	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**85800**	ug/L	2500	250		07/02/14 07:06	67-64-1	N2
Benzene	ND	ug/L	250	250		07/02/14 07:06	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		07/02/14 07:06	75-27-4	
Bromoform	ND	ug/L	250	250		07/02/14 07:06	75-25-2	
Bromomethane	ND	ug/L	1250	250		07/02/14 07:06	74-83-9	
2-Butanone (MEK)	**36200**	ug/L	2500	250		07/02/14 07:06	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		07/02/14 07:06	56-23-5	
Chloroethane	ND	ug/L	250	250		07/02/14 07:06	75-00-3	
Chloroform	ND	ug/L	250	250		07/02/14 07:06	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		07/02/14 07:06	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		07/02/14 07:06	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		07/02/14 07:06	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		07/02/14 07:06	156-60-5	
Ethylbenzene	ND	ug/L	250	250		07/02/14 07:06	100-41-4	
Methylene chloride	ND	ug/L	250	250		07/02/14 07:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		07/02/14 07:06	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		07/02/14 07:06	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		07/02/14 07:06	127-18-4	
Toluene	ND	ug/L	250	250		07/02/14 07:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		07/02/14 07:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		07/02/14 07:06	79-00-5	
Trichloroethene	ND	ug/L	250	250		07/02/14 07:06	79-01-6	
Vinyl chloride	ND	ug/L	250	250		07/02/14 07:06	75-01-4	
Xylene (Total)	ND	ug/L	750	250		07/02/14 07:06	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	250		07/02/14 07:06	460-00-4	HS
Toluene-d8 (S)	97	%	80-120	250		07/02/14 07:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	250		07/02/14 07:06	17060-07-0	
Preservation pH	**6.0**		1.0	250		07/02/14 07:06		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**690**	mg/L	5.0	1		07/01/14 18:31		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Sample: 316-343 **Lab ID: 60172589001** Collected: 06/27/14 13:30 Received: 06/28/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**16.5**	mg/L	5.0	1		07/01/14 18:37		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4200**	mg/L	5.0	1		06/30/14 11:54		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**26900**	mg/L	2.0	1	06/28/14 11:26	07/03/14 16:19		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**634**	mg/L	20.0	200		07/01/14 12:12	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**48900**	mg/L	5000	500		07/04/14 07:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Sample: TRIP BLANK **Lab ID: 60172589002** Collected: 06/27/14 13:30 Received: 06/28/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/02/14 05:48	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/02/14 05:48	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/02/14 05:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/02/14 05:48	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/02/14 05:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/02/14 05:48	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/02/14 05:48	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/02/14 05:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/02/14 05:48	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/02/14 05:48	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/02/14 05:48	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/02/14 05:48	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/02/14 05:48	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/02/14 05:48	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/02/14 05:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/02/14 05:48	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/02/14 05:48	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/02/14 05:48	127-18-4	
Toluene	ND	ug/L	1.0	1		07/02/14 05:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/02/14 05:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/02/14 05:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/02/14 05:48	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/02/14 05:48	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/02/14 05:48	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		07/02/14 05:48	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		07/02/14 05:48	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		07/02/14 05:48	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/02/14 05:48		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: MERP/8550
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172589001

METHOD BLANK: 1404770 Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/02/14 13:15	

LABORATORY CONTROL SAMPLE: 1404771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404772 1404773

Parameter	Units	60172403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	17.5	150	150	170	169	102	101	70-130	1	20	

MATRIX SPIKE SAMPLE: 1404774

Parameter	Units	60172697001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.2	104	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: MERP/8551
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172589001

METHOD BLANK: 1404801 Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/02/14 13:57	

LABORATORY CONTROL SAMPLE: 1404802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.6	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404803 1404804

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	156	105	104	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: MPRP/27877
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172589001

METHOD BLANK: 1404364
Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/02/14 12:39	
Antimony	ug/L	ND	10.0	07/02/14 12:39	
Arsenic	ug/L	ND	10.0	07/02/14 12:39	
Beryllium	ug/L	ND	1.0	07/02/14 12:39	
Cadmium	ug/L	ND	5.0	07/02/14 12:39	
Chromium	ug/L	ND	5.0	07/02/14 12:39	
Cobalt	ug/L	ND	5.0	07/02/14 12:39	
Copper	ug/L	ND	10.0	07/02/14 12:39	
Iron	ug/L	ND	50.0	07/02/14 12:39	
Lead	ug/L	ND	5.0	07/02/14 12:39	
Nickel	ug/L	ND	5.0	07/02/14 12:39	
Selenium	ug/L	ND	15.0	07/02/14 12:39	
Silver	ug/L	ND	7.0	07/02/14 12:39	
Thallium	ug/L	ND	20.0	07/02/14 12:39	
Zinc	ug/L	ND	50.0	07/02/14 12:39	

LABORATORY CONTROL SAMPLE: 1404365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9720	97	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	993	99	85-115	
Beryllium	ug/L	1000	980	98	85-115	
Cadmium	ug/L	1000	999	100	85-115	
Chromium	ug/L	1000	982	98	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	993	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	986	99	85-115	
Silver	ug/L	500	485	97	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404366 1404367

Parameter	Units	60172589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2020	50000	50000	51200	53300	98	103	70-130	4	8	
Antimony	ug/L	ND	5000	5000	5380	5510	107	109	70-130	2	7	
Arsenic	ug/L	1080	5000	5000	6690	6900	112	116	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4710	4730	94	95	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5260	5380	105	108	70-130	2	10	
Chromium	ug/L	187	5000	5000	4840	4930	93	95	70-130	2	10	
Cobalt	ug/L	30.6	5000	5000	4910	5000	98	99	70-130	2	6	
Copper	ug/L	ND	5000	5000	5400	5520	108	110	70-130	2	11	
Iron	ug/L	317000	50000	50000	365000	375000	96	117	70-130	3	10	
Lead	ug/L	25.9	5000	5000	4570	4670	91	93	70-130	2	10	
Nickel	ug/L	107	5000	5000	4850	4940	95	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5900	6080	118	122	70-130	3	10	
Silver	ug/L	ND	2500	2500	2620	2670	105	107	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4300	4380	86	88	70-130	2	6	
Zinc	ug/L	4580	5000	5000	9280	9690	94	102	70-130	4	11	

MATRIX SPIKE SAMPLE: 1404368

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	3000	50000	54100	102	70-130	
Antimony	ug/L	55.0	5000	5510	109	70-130	
Arsenic	ug/L	1180	5000	6930	115	70-130	
Beryllium	ug/L	ND	5000	4730	95	70-130	
Cadmium	ug/L	ND	5000	5380	107	70-130	
Chromium	ug/L	206	5000	4940	95	70-130	
Cobalt	ug/L	36.2	5000	5000	99	70-130	
Copper	ug/L	ND	5000	5440	108	70-130	
Iron	ug/L	419000	50000	465000	93	70-130	
Lead	ug/L	36.8	5000	4650	92	70-130	
Nickel	ug/L	114	5000	4940	96	70-130	
Selenium	ug/L	ND	5000	6020	120	70-130	
Silver	ug/L	ND	2500	2630	105	70-130	
Thallium	ug/L	ND	5000	4380	88	70-130	
Zinc	ug/L	5440	5000	10300	96	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: MPRP/27889
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172589001

METHOD BLANK: 1405013
Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/03/14 15:52	
Antimony, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Arsenic, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Beryllium, Dissolved	ug/L	ND	1.0	07/03/14 15:52	
Cadmium, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Chromium, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Cobalt, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Copper, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Iron, Dissolved	ug/L	ND	50.0	07/03/14 15:52	
Lead, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Nickel, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Selenium, Dissolved	ug/L	ND	15.0	07/03/14 15:52	
Silver, Dissolved	ug/L	ND	7.0	07/03/14 15:52	
Thallium, Dissolved	ug/L	ND	20.0	07/03/14 15:52	
Zinc, Dissolved	ug/L	ND	50.0	07/03/14 15:52	

LABORATORY CONTROL SAMPLE: 1405014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	993	99	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	998	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405015 1405016

Parameter	Units	60172589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1520	50000	50000	53400	53500	104	104	70-130	0	8	
Antimony, Dissolved	ug/L	53.3	5000	5000	5580	5660	110	112	70-130	2	7	
Arsenic, Dissolved	ug/L	1060	5000	5000	6780	6740	114	114	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4870	4980	97	100	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5360	5470	107	109	70-130	2	10	
Chromium, Dissolved	ug/L	183	5000	5000	4900	4980	94	96	70-130	2	10	
Cobalt, Dissolved	ug/L	30.9	5000	5000	4980	5080	99	101	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5440	5520	109	110	70-130	1	11	
Iron, Dissolved	ug/L	302000	50000	50000	362000	350000	119	96	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	4690	4790	93	95	70-130	2	10	
Nickel, Dissolved	ug/L	105	5000	5000	4990	5080	98	100	70-130	2	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6120	6140	122	123	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2670	105	106	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4390	4520	88	90	70-130	3	6	
Zinc, Dissolved	ug/L	4340	5000	5000	9200	9000	97	93	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: MSV/62746
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60172589001, 60172589002

METHOD BLANK: 1404394
Matrix: Water
Associated Lab Samples: 60172589001, 60172589002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/02/14 05:01	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,2-Dichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/02/14 05:01	
2-Butanone (MEK)	ug/L	ND	10.0	07/02/14 05:01	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/02/14 05:01	N2
Acetone	ug/L	ND	10.0	07/02/14 05:01	N2
Benzene	ug/L	ND	1.0	07/02/14 05:01	
Bromodichloromethane	ug/L	ND	1.0	07/02/14 05:01	
Bromoform	ug/L	ND	1.0	07/02/14 05:01	
Bromomethane	ug/L	ND	5.0	07/02/14 05:01	
Carbon tetrachloride	ug/L	ND	1.0	07/02/14 05:01	
Chloroethane	ug/L	ND	1.0	07/02/14 05:01	
Chloroform	ug/L	ND	1.0	07/02/14 05:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 05:01	N2
Ethylbenzene	ug/L	ND	1.0	07/02/14 05:01	
Methylene chloride	ug/L	ND	1.0	07/02/14 05:01	
Tetrachloroethene	ug/L	ND	1.0	07/02/14 05:01	
Toluene	ug/L	ND	1.0	07/02/14 05:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 05:01	
Trichloroethene	ug/L	ND	1.0	07/02/14 05:01	
Vinyl chloride	ug/L	ND	1.0	07/02/14 05:01	
Xylene (Total)	ug/L	ND	3.0	07/02/14 05:01	N2
1,2-Dichloroethane-d4 (S)	%	106	80-120	07/02/14 05:01	
4-Bromofluorobenzene (S)	%	100	80-120	07/02/14 05:01	
Toluene-d8 (S)	%	100	80-120	07/02/14 05:01	

LABORATORY CONTROL SAMPLE: 1404395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.7	108	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.8	119	67-124	
1,2-Dichloroethane	ug/L	20	22.2	111	70-126	
1,4-Dichlorobenzene	ug/L	20	21.6	108	74-120	
2-Butanone (MEK)	ug/L	100	109	109	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	128	128	59-131	N2
Acetone	ug/L	100	98.2	98	38-134	N2
Benzene	ug/L	20	21.2	106	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

LABORATORY CONTROL SAMPLE: 1404395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.9	115	68-125	
Bromoform	ug/L	20	21.5	108	65-127	
Bromomethane	ug/L	20	21.7	108	13-157	
Carbon tetrachloride	ug/L	20	20.9	104	70-131	
Chloroethane	ug/L	20	22.2	111	47-133	
Chloroform	ug/L	20	21.1	106	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.6	108	68-127	N2
Ethylbenzene	ug/L	20	21.2	106	74-122	
Methylene chloride	ug/L	20	19.9	99	64-129	
Tetrachloroethene	ug/L	20	20.3	102	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.7	103	66-129	
Trichloroethene	ug/L	20	23.7	118	71-123	
Vinyl chloride	ug/L	20	23.8	119	43-129	
Xylene (Total)	ug/L	60	63.6	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1404396

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4740	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4950	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4630	93	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4460	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4520	90	33-140	
2-Butanone (MEK)	ug/L	27600	25000	45600	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23700	94	40-160	N2
Acetone	ug/L	72100	25000	82300	41	10-160	N2
Benzene	ug/L	ND	5000	4370	87	37-151	
Bromodichloromethane	ug/L	ND	5000	4550	91	35-142	
Bromoform	ug/L	ND	5000	4150	83	45-142	
Bromomethane	ug/L	ND	5000	4470	89	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	4270	85	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4300	86	34-147	N2
Ethylbenzene	ug/L	ND	5000	4670	93	40-142	
Methylene chloride	ug/L	256	5000	4110	77	31-144	
Tetrachloroethene	ug/L	ND	5000	4490	90	64-148	
Toluene	ug/L	ND	5000	4150	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4340	87	54-151	
Trichloroethene	ug/L	ND	5000	4500	90	71-149	
Vinyl chloride	ug/L	ND	5000	4070	81	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

MATRIX SPIKE SAMPLE: 1404396

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13500	90	37-144	N2
1,2-Dichloroethane-d4 (S)	%				101	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: OEXT/44932
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172589001

METHOD BLANK: 1404630
Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/03/14 12:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/03/14 12:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/03/14 12:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/03/14 12:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachloroethane	ug/L	ND	5.0	07/03/14 12:18	
Naphthalene	ug/L	ND	5.0	07/03/14 12:18	
Nitrobenzene	ug/L	ND	5.0	07/03/14 12:18	
Pentachlorophenol	ug/L	ND	5.0	07/03/14 12:18	
Phenol	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Tribromophenol (S)	%	78	39-120	07/03/14 12:18	
2-Fluorobiphenyl (S)	%	82	39-120	07/03/14 12:18	
2-Fluorophenol (S)	%	43	17-120	07/03/14 12:18	
Nitrobenzene-d5 (S)	%	83	33-120	07/03/14 12:18	
Phenol-d6 (S)	%	28	11-120	07/03/14 12:18	
Terphenyl-d14 (S)	%	88	45-120	07/03/14 12:18	

LABORATORY CONTROL SAMPLE: 1404631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.8	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.0	54	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	39.3	79	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.5	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.9	66	24-120	
Hexachloroethane	ug/L	50	34.2	68	43-113	
Naphthalene	ug/L	50	37.6	75	48-120	
Nitrobenzene	ug/L	50	39.8	80	48-120	
Pentachlorophenol	ug/L	50	44.1	88	47-120	
Phenol	ug/L	50	13.9	28	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			92	45-120	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

MATRIX SPIKE SAMPLE: 1404632

Parameter	Units	60172477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3310	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4090	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6410	5000	9480	61	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3240J	65	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5440	54	11-120	
Hexachloroethane	ug/L	ND	5000	3000	60	40-113	
Naphthalene	ug/L	ND	5000	3940	67	45-120	
Nitrobenzene	ug/L	ND	5000	3850	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4440	89	43-135	
Phenol	ug/L	9200	5000	11100	38	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				121	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: WET/48807 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172589001

METHOD BLANK: 1404475 Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/01/14 18:28	

LABORATORY CONTROL SAMPLE: 1404476

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.0	82	78-114	

MATRIX SPIKE SAMPLE: 1404477

Parameter	Units	60172173003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44.4	42.0	93	78-114	

SAMPLE DUPLICATE: 1404478

Parameter	Units	60172173004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.6J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: WET/48806 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172589001

METHOD BLANK: 1404463 Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/01/14 18:36	

LABORATORY CONTROL SAMPLE: 1404464

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.8	119	64-132	

MATRIX SPIKE SAMPLE: 1404465

Parameter	Units	60172173003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.2	17.9	76	64-132	

SAMPLE DUPLICATE: 1404466

Parameter	Units	60172173004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: WET/48756
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172589001

METHOD BLANK: 1403485
Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	06/30/14 11:50	

SAMPLE DUPLICATE: 1403486

Parameter	Units	60172474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1403654

Parameter	Units	60172523001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	67.8	66.7	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172589001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: WET/48745 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172589001

METHOD BLANK: 1402849 Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/03/14 15:57	

LABORATORY CONTROL SAMPLE: 1402850

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	189	95	85-115	

SAMPLE DUPLICATE: 1402851

Parameter	Units	60172559002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	3570	3270	9	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: WETA/30064 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172589001

METHOD BLANK: 1404059 Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1404060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1404061

Parameter	Units	60172395001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.8	4	7.1	83	90-110	M1

MATRIX SPIKE SAMPLE: 1404062

Parameter	Units	60172399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	83	90-110	M1

SAMPLE DUPLICATE: 1404063

Parameter	Units	60172400001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

QC Batch: WETA/30098 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172589001

METHOD BLANK: 1404868 Matrix: Water
Associated Lab Samples: 60172589001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/04/14 07:33	

LABORATORY CONTROL SAMPLE: 1404869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.3	101	90-110	

MATRIX SPIKE SAMPLE: 1404870

Parameter	Units	60171947001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	648	250	825	71	90-110	M1

MATRIX SPIKE SAMPLE: 1404872

Parameter	Units	60172477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	47600	25000	70900	93	90-110	

SAMPLE DUPLICATE: 1404871

Parameter	Units	60172183001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	10800	11400	6	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-343
Pace Project No.: 60172589

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172589001	**316-343**	EPA 200.7	MPRP/27877	EPA 200.7	ICP/21076
60172589001	**316-343**	EPA 200.7	MPRP/27889	EPA 200.7	ICP/21092
60172589001	**316-343**	EPA 245.1	MERP/8550	EPA 245.1	MERC/8501
60172589001	**316-343**	EPA 245.1	MERP/8551	EPA 245.1	MERC/8502
60172589001	**316-343**	EPA 625	OEXT/44932	EPA 625	MSSV/14397
60172589001	**316-343**	EPA 624 Low	MSV/62746		
60172589002	**TRIP BLANK**	EPA 624 Low	MSV/62746		
60172589001	**316-343**	EPA 1664A	WET/48807		
60172589001	**316-343**	EPA 1664A	WET/48806		
60172589001	**316-343**	SM 2540D	WET/48756		
60172589001	**316-343**	SM 4500-H+B	WET/48861		
60172589001	**316-343**	SM 5210B	WET/48745	SM 5210B	WET/48850
60172589001	**316-343**	EPA 350.1	WETA/30064		
60172589001	**316-343**	EPA 410.4	WETA/30098		

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Sample Condition Upon Receipt

WO# : 60172589

60172589

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Xroad

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ☑ ZPIC

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 5.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 06/28/14

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr): 06/28/14	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:	WT	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2-5mL of HNO3 to BP3N. PH 6.0/4.0 Added 2.0mL of H2SO4 to BP3S. PH 5.0/3.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed: PV / Lot # of added preservative: 12513 12522
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 040714-3		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 of 5 ~~Dbm~~ DGW 06/28/14
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MD

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / (N)

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/28/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER	
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES	
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044	Regulatory Agency
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588	
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie	State / Location
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2	Missouri

MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other
1	5DG9U 316-343 2AG4U 1BP3U 3AG5S	OT	G			6/27/14	1330		14	10	4	1	0	1BP	3S3	0	
2	TRIP BLANK								2	2							
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

Requested Analysis Filtered (Y/N)

ITEM#	Analyses Test (Y/N)	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60172589
1		X	X	X	X	X	X	X	X	X	X	X			1BP3N 4-0 2BP2U ar
2									X						2DG9U ar
3															
4															
5															
6															METALS LIST total & LF Dis:
7															Al,Sb,As,Be,Cd,Cr,
8															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9															and Mercury
10															
11															
12															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / FEI	06/27/14	215 pm	[signature]	6/27/14	2:15				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	6/28/14	0120	5-8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter [signature] DATE Signed: 6/27/14

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

July 07, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 30, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172688001	**316-344**	Water	06/28/14 17:30	06/30/14 13:05
60172688002	**TRIP BLANK**	Water	06/28/14 17:30	06/30/14 13:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172688001	**316-344**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172688002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Sample: 316-344 **Lab ID: 60172688001** Collected: 06/28/14 17:30 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**3000**	ug/L	750	2	07/01/14 18:00	07/02/14 13:12	7429-90-5	
Antimony	**55.0**	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:10	7440-36-0	
Arsenic	**1180**	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:10	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/01/14 18:00	07/02/14 13:10	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:10	7440-43-9	
Chromium	**206**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:10	7440-47-3	
Cobalt	**36.2**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:10	7440-48-4	
Copper	ND	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:10	7440-50-8	
Iron	**419000**	ug/L	250	1	07/01/14 18:00	07/02/14 13:10	7439-89-6	
Lead	**36.8**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:10	7439-92-1	
Nickel	**114**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:10	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/01/14 18:00	07/02/14 13:10	7782-49-2	
Silver	ND	ug/L	35.0	1	07/01/14 18:00	07/02/14 13:10	7440-22-4	
Thallium	ND	ug/L	100	1	07/01/14 18:00	07/02/14 13:10	7440-28-0	
Zinc	**5440**	ug/L	500	2	07/01/14 18:00	07/02/14 13:12	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2080**	ug/L	750	2	07/02/14 17:00	07/03/14 16:16	7429-90-5	
Antimony, Dissolved	**59.0**	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:13	7440-36-0	D9
Arsenic, Dissolved	**1010**	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:13	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/02/14 17:00	07/03/14 16:13	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:13	7440-43-9	
Chromium, Dissolved	**174**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:13	7440-47-3	
Cobalt, Dissolved	**27.9**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:13	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:13	7440-50-8	
Iron, Dissolved	**294000**	ug/L	250	1	07/02/14 17:00	07/03/14 16:13	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:13	7439-92-1	
Nickel, Dissolved	**104**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:13	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/02/14 17:00	07/03/14 16:13	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/02/14 17:00	07/03/14 16:13	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/02/14 17:00	07/03/14 16:13	7440-28-0	
Zinc, Dissolved	**4740**	ug/L	500	2	07/02/14 17:00	07/03/14 16:16	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**33.3**	ug/L	6.0	1	07/02/14 10:15	07/02/14 13:41	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 14:19	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/02/14 00:00	07/03/14 14:01	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/02/14 00:00	07/03/14 14:01	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7200**	ug/L	4000	2	07/02/14 00:00	07/03/14 14:01		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Sample: 316-344 **Lab ID: 60172688001** Collected: 06/28/14 17:30 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	87-86-5	
Phenol	**11100**	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:01	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	134	%	33-120	2	07/02/14 00:00	07/03/14 14:01	4165-60-0	S0
2-Fluorobiphenyl (S)	93	%	39-120	2	07/02/14 00:00	07/03/14 14:01	321-60-8	
Terphenyl-d14 (S)	98	%	45-120	2	07/02/14 00:00	07/03/14 14:01	1718-51-0	
Phenol-d6 (S)	38	%	11-120	2	07/02/14 00:00	07/03/14 14:01	13127-88-3	
2-Fluorophenol (S)	52	%	17-120	2	07/02/14 00:00	07/03/14 14:01	367-12-4	
2,4,6-Tribromophenol (S)	105	%	39-120	2	07/02/14 00:00	07/03/14 14:01	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**72100**	ug/L	2500	250		07/02/14 07:21	67-64-1	N2
Benzene	ND	ug/L	250	250		07/02/14 07:21	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		07/02/14 07:21	75-27-4	
Bromoform	ND	ug/L	250	250		07/02/14 07:21	75-25-2	
Bromomethane	ND	ug/L	1250	250		07/02/14 07:21	74-83-9	
2-Butanone (MEK)	**27600**	ug/L	2500	250		07/02/14 07:21	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		07/02/14 07:21	56-23-5	
Chloroethane	ND	ug/L	250	250		07/02/14 07:21	75-00-3	
Chloroform	ND	ug/L	250	250		07/02/14 07:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	250	250		07/02/14 07:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		07/02/14 07:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		07/02/14 07:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		07/02/14 07:21	156-60-5	
Ethylbenzene	ND	ug/L	250	250		07/02/14 07:21	100-41-4	
Methylene chloride	**256**	ug/L	250	250		07/02/14 07:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		07/02/14 07:21	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		07/02/14 07:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		07/02/14 07:21	127-18-4	
Toluene	ND	ug/L	250	250		07/02/14 07:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		07/02/14 07:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		07/02/14 07:21	79-00-5	
Trichloroethene	ND	ug/L	250	250		07/02/14 07:21	79-01-6	
Vinyl chloride	ND	ug/L	250	250		07/02/14 07:21	75-01-4	
Xylene (Total)	ND	ug/L	750	250		07/02/14 07:21	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	250		07/02/14 07:21	460-00-4	
Toluene-d8 (S)	98	%	80-120	250		07/02/14 07:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	250		07/02/14 07:21	17060-07-0	
Preservation pH	**6.0**		1.0	250		07/02/14 07:21		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**404**	mg/L	5.0	1		07/02/14 17:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Sample: 316-344 **Lab ID: 60172688001** Collected: 06/28/14 17:30 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**13.2**	mg/L	5.0	1		07/02/14 17:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4540**	mg/L	5.0	1		07/01/14 10:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**25100**	mg/L	2.0	1	06/30/14 16:39	07/05/14 08:12		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**613**	mg/L	20.0	200		07/01/14 12:14	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**49900**	mg/L	5000	500		07/04/14 08:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Sample: TRIP BLANK **Lab ID: 60172688002** Collected: 06/28/14 17:30 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/02/14 06:03	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/02/14 06:03	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/02/14 06:03	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/02/14 06:03	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/02/14 06:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/02/14 06:03	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/02/14 06:03	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/02/14 06:03	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/02/14 06:03	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/02/14 06:03	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/02/14 06:03	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/02/14 06:03	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/02/14 06:03	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/02/14 06:03	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/02/14 06:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/02/14 06:03	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/02/14 06:03	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/02/14 06:03	127-18-4	
Toluene	ND	ug/L	1.0	1		07/02/14 06:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/02/14 06:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/02/14 06:03	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/02/14 06:03	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/02/14 06:03	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/02/14 06:03	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		07/02/14 06:03	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		07/02/14 06:03	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		07/02/14 06:03	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/02/14 06:03		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: MERP/8550
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172688001

METHOD BLANK: 1404770 Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/02/14 13:15	

LABORATORY CONTROL SAMPLE: 1404771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404772 1404773

Parameter	Units	60172403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	17.5	150	150	170	169	102	101	70-130	1	20	

MATRIX SPIKE SAMPLE: 1404774

Parameter	Units	60172697001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.2	104	70-130	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: MERP/8551
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172688001

METHOD BLANK: 1404801 Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/02/14 13:57	

LABORATORY CONTROL SAMPLE: 1404802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.6	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404803 1404804

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	156	105	104	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: MPRP/27877
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172688001

METHOD BLANK: 1404364
Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/02/14 12:39	
Antimony	ug/L	ND	10.0	07/02/14 12:39	
Arsenic	ug/L	ND	10.0	07/02/14 12:39	
Beryllium	ug/L	ND	1.0	07/02/14 12:39	
Cadmium	ug/L	ND	5.0	07/02/14 12:39	
Chromium	ug/L	ND	5.0	07/02/14 12:39	
Cobalt	ug/L	ND	5.0	07/02/14 12:39	
Copper	ug/L	ND	10.0	07/02/14 12:39	
Iron	ug/L	ND	50.0	07/02/14 12:39	
Lead	ug/L	ND	5.0	07/02/14 12:39	
Nickel	ug/L	ND	5.0	07/02/14 12:39	
Selenium	ug/L	ND	15.0	07/02/14 12:39	
Silver	ug/L	ND	7.0	07/02/14 12:39	
Thallium	ug/L	ND	20.0	07/02/14 12:39	
Zinc	ug/L	ND	50.0	07/02/14 12:39	

LABORATORY CONTROL SAMPLE: 1404365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9720	97	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	993	99	85-115	
Beryllium	ug/L	1000	980	98	85-115	
Cadmium	ug/L	1000	999	100	85-115	
Chromium	ug/L	1000	982	98	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	993	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	986	99	85-115	
Silver	ug/L	500	485	97	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404366 1404367

Parameter	Units	60172589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2020	50000	50000	51200	53300	98	103	70-130	4	8	
Antimony	ug/L	ND	5000	5000	5380	5510	107	109	70-130	2	7	
Arsenic	ug/L	1080	5000	5000	6690	6900	112	116	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4710	4730	94	95	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5260	5380	105	108	70-130	2	10	
Chromium	ug/L	187	5000	5000	4840	4930	93	95	70-130	2	10	
Cobalt	ug/L	30.6	5000	5000	4910	5000	98	99	70-130	2	6	
Copper	ug/L	ND	5000	5000	5400	5520	108	110	70-130	2	11	
Iron	ug/L	317000	50000	50000	365000	375000	96	117	70-130	3	10	
Lead	ug/L	25.9	5000	5000	4570	4670	91	93	70-130	2	10	
Nickel	ug/L	107	5000	5000	4850	4940	95	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5900	6080	118	122	70-130	3	10	
Silver	ug/L	ND	2500	2500	2620	2670	105	107	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4300	4380	86	88	70-130	2	6	
Zinc	ug/L	4580	5000	5000	9280	9690	94	102	70-130	4	11	

MATRIX SPIKE SAMPLE: 1404368

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	3000	50000	54100	102	70-130	
Antimony	ug/L	55.0	5000	5510	109	70-130	
Arsenic	ug/L	1180	5000	6930	115	70-130	
Beryllium	ug/L	ND	5000	4730	95	70-130	
Cadmium	ug/L	ND	5000	5380	107	70-130	
Chromium	ug/L	206	5000	4940	95	70-130	
Cobalt	ug/L	36.2	5000	5000	99	70-130	
Copper	ug/L	ND	5000	5440	108	70-130	
Iron	ug/L	419000	50000	465000	93	70-130	
Lead	ug/L	36.8	5000	4650	92	70-130	
Nickel	ug/L	114	5000	4940	96	70-130	
Selenium	ug/L	ND	5000	6020	120	70-130	
Silver	ug/L	ND	2500	2630	105	70-130	
Thallium	ug/L	ND	5000	4380	88	70-130	
Zinc	ug/L	5440	5000	10300	96	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: MPRP/27889
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172688001

METHOD BLANK: 1405013 Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/03/14 15:52	
Antimony, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Arsenic, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Beryllium, Dissolved	ug/L	ND	1.0	07/03/14 15:52	
Cadmium, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Chromium, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Cobalt, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Copper, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Iron, Dissolved	ug/L	ND	50.0	07/03/14 15:52	
Lead, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Nickel, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Selenium, Dissolved	ug/L	ND	15.0	07/03/14 15:52	
Silver, Dissolved	ug/L	ND	7.0	07/03/14 15:52	
Thallium, Dissolved	ug/L	ND	20.0	07/03/14 15:52	
Zinc, Dissolved	ug/L	ND	50.0	07/03/14 15:52	

LABORATORY CONTROL SAMPLE: 1405014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	993	99	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	998	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405015 1405016

Parameter	Units	60172589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1520	50000	50000	53400	53500	104	104	70-130	0	8	
Antimony, Dissolved	ug/L	53.3	5000	5000	5580	5660	110	112	70-130	2	7	
Arsenic, Dissolved	ug/L	1060	5000	5000	6780	6740	114	114	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4870	4980	97	100	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5360	5470	107	109	70-130	2	10	
Chromium, Dissolved	ug/L	183	5000	5000	4900	4980	94	96	70-130	2	10	
Cobalt, Dissolved	ug/L	30.9	5000	5000	4980	5080	99	101	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5440	5520	109	110	70-130	1	11	
Iron, Dissolved	ug/L	302000	50000	50000	362000	350000	119	96	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	4690	4790	93	95	70-130	2	10	
Nickel, Dissolved	ug/L	105	5000	5000	4990	5080	98	100	70-130	2	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6120	6140	122	123	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2670	105	106	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4390	4520	88	90	70-130	3	6	
Zinc, Dissolved	ug/L	4340	5000	5000	9200	9000	97	93	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: MSV/62746
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60172688001, 60172688002

METHOD BLANK: 1404394
Matrix: Water
Associated Lab Samples: 60172688001, 60172688002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/02/14 05:01	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,2-Dichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/02/14 05:01	
2-Butanone (MEK)	ug/L	ND	10.0	07/02/14 05:01	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/02/14 05:01	N2
Acetone	ug/L	ND	10.0	07/02/14 05:01	N2
Benzene	ug/L	ND	1.0	07/02/14 05:01	
Bromodichloromethane	ug/L	ND	1.0	07/02/14 05:01	
Bromoform	ug/L	ND	1.0	07/02/14 05:01	
Bromomethane	ug/L	ND	5.0	07/02/14 05:01	
Carbon tetrachloride	ug/L	ND	1.0	07/02/14 05:01	
Chloroethane	ug/L	ND	1.0	07/02/14 05:01	
Chloroform	ug/L	ND	1.0	07/02/14 05:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 05:01	N2
Ethylbenzene	ug/L	ND	1.0	07/02/14 05:01	
Methylene chloride	ug/L	ND	1.0	07/02/14 05:01	
Tetrachloroethene	ug/L	ND	1.0	07/02/14 05:01	
Toluene	ug/L	ND	1.0	07/02/14 05:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 05:01	
Trichloroethene	ug/L	ND	1.0	07/02/14 05:01	
Vinyl chloride	ug/L	ND	1.0	07/02/14 05:01	
Xylene (Total)	ug/L	ND	3.0	07/02/14 05:01	N2
1,2-Dichloroethane-d4 (S)	%	106	80-120	07/02/14 05:01	
4-Bromofluorobenzene (S)	%	100	80-120	07/02/14 05:01	
Toluene-d8 (S)	%	100	80-120	07/02/14 05:01	

LABORATORY CONTROL SAMPLE: 1404395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.7	108	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.8	119	67-124	
1,2-Dichloroethane	ug/L	20	22.2	111	70-126	
1,4-Dichlorobenzene	ug/L	20	21.6	108	74-120	
2-Butanone (MEK)	ug/L	100	109	109	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	128	128	59-131	N2
Acetone	ug/L	100	98.2	98	38-134	N2
Benzene	ug/L	20	21.2	106	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

LABORATORY CONTROL SAMPLE: 1404395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.9	115	68-125	
Bromoform	ug/L	20	21.5	108	65-127	
Bromomethane	ug/L	20	21.7	108	13-157	
Carbon tetrachloride	ug/L	20	20.9	104	70-131	
Chloroethane	ug/L	20	22.2	111	47-133	
Chloroform	ug/L	20	21.1	106	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.6	108	68-127	N2
Ethylbenzene	ug/L	20	21.2	106	74-122	
Methylene chloride	ug/L	20	19.9	99	64-129	
Tetrachloroethene	ug/L	20	20.3	102	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.7	103	66-129	
Trichloroethene	ug/L	20	23.7	118	71-123	
Vinyl chloride	ug/L	20	23.8	119	43-129	
Xylene (Total)	ug/L	60	63.6	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1404396

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4740	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4950	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4630	93	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4460	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4520	90	33-140	
2-Butanone (MEK)	ug/L	27600	25000	45600	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23700	94	40-160	N2
Acetone	ug/L	72100	25000	82300	41	10-160	N2
Benzene	ug/L	ND	5000	4370	87	37-151	
Bromodichloromethane	ug/L	ND	5000	4550	91	35-142	
Bromoform	ug/L	ND	5000	4150	83	45-142	
Bromomethane	ug/L	ND	5000	4470	89	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	4270	85	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4300	86	34-147	N2
Ethylbenzene	ug/L	ND	5000	4670	93	40-142	
Methylene chloride	ug/L	256	5000	4110	77	31-144	
Tetrachloroethene	ug/L	ND	5000	4490	90	64-148	
Toluene	ug/L	ND	5000	4150	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4340	87	54-151	
Trichloroethene	ug/L	ND	5000	4500	90	71-149	
Vinyl chloride	ug/L	ND	5000	4070	81	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

MATRIX SPIKE SAMPLE: 1404396

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13500	90	37-144	N2
1,2-Dichloroethane-d4 (S)	%				101	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: OEXT/44932
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172688001

METHOD BLANK: 1404630
Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/03/14 12:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/03/14 12:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/03/14 12:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/03/14 12:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachloroethane	ug/L	ND	5.0	07/03/14 12:18	
Naphthalene	ug/L	ND	5.0	07/03/14 12:18	
Nitrobenzene	ug/L	ND	5.0	07/03/14 12:18	
Pentachlorophenol	ug/L	ND	5.0	07/03/14 12:18	
Phenol	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Tribromophenol (S)	%	78	39-120	07/03/14 12:18	
2-Fluorobiphenyl (S)	%	82	39-120	07/03/14 12:18	
2-Fluorophenol (S)	%	43	17-120	07/03/14 12:18	
Nitrobenzene-d5 (S)	%	83	33-120	07/03/14 12:18	
Phenol-d6 (S)	%	28	11-120	07/03/14 12:18	
Terphenyl-d14 (S)	%	88	45-120	07/03/14 12:18	

LABORATORY CONTROL SAMPLE: 1404631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.8	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.0	54	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	39.3	79	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.5	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.9	66	24-120	
Hexachloroethane	ug/L	50	34.2	68	43-113	
Naphthalene	ug/L	50	37.6	75	48-120	
Nitrobenzene	ug/L	50	39.8	80	48-120	
Pentachlorophenol	ug/L	50	44.1	88	47-120	
Phenol	ug/L	50	13.9	28	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

MATRIX SPIKE SAMPLE: 1404632

Parameter	Units	60172477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3310	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4090	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6410	5000	9480	61	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3240J	65	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5440	54	11-120	
Hexachloroethane	ug/L	ND	5000	3000	60	40-113	
Naphthalene	ug/L	ND	5000	3940	67	45-120	
Nitrobenzene	ug/L	ND	5000	3850	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4440	89	43-135	
Phenol	ug/L	9200	5000	11100	38	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				121	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: WET/48830
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172688001

METHOD BLANK: 1405280 Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/02/14 17:14	

LABORATORY CONTROL SAMPLE: 1405281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	32.9	82	78-114	

MATRIX SPIKE SAMPLE: 1405282

Parameter	Units	60172258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44	39.1	87	78-114	

SAMPLE DUPLICATE: 1405283

Parameter	Units	60172258002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: WET/48831
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172688001

METHOD BLANK: 1405294 Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/02/14 17:26	

LABORATORY CONTROL SAMPLE: 1405295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.7	114	64-132	

MATRIX SPIKE SAMPLE: 1405296

Parameter	Units	60172258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22	15.4	67	64-132	

SAMPLE DUPLICATE: 1405297

Parameter	Units	60172258002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: WET/48785
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172688001

METHOD BLANK: 1404008
Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/01/14 10:24	

SAMPLE DUPLICATE: 1404009

Parameter	Units	60172586001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2840	2860	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172688001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: WET/48775 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172688001

METHOD BLANK: 1403834 Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/05/14 08:10	

LABORATORY CONTROL SAMPLE: 1403835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	198	100	85-115	

SAMPLE DUPLICATE: 1403836

Parameter	Units	60172688001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	25100	30000	18	17	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: WETA/30064 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172688001

METHOD BLANK: 1404059 Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1404060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1404061

Parameter	Units	60172395001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.8	4	7.1	83	90-110	M1

MATRIX SPIKE SAMPLE: 1404062

Parameter	Units	60172399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	83	90-110	M1

SAMPLE DUPLICATE: 1404063

Parameter	Units	60172400001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

QC Batch: WETA/30112 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172688001

METHOD BLANK: 1405609 Matrix: Water
Associated Lab Samples: 60172688001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/04/14 07:50	

LABORATORY CONTROL SAMPLE: 1405610

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.4	99	90-110	

MATRIX SPIKE SAMPLE: 1405611

Parameter	Units	60172572007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	9230	5000	13600	88	90-110	M1

MATRIX SPIKE SAMPLE: 1405613

Parameter	Units	60172666001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	28.4	50	76.7	97	90-110	

SAMPLE DUPLICATE: 1405612

Parameter	Units	60172572009 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2800	2770	1	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-344
Pace Project No.: 60172688

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172688001	**316-344**	EPA 200.7	MPRP/27877	EPA 200.7	ICP/21076
60172688001	**316-344**	EPA 200.7	MPRP/27889	EPA 200.7	ICP/21092
60172688001	**316-344**	EPA 245.1	MERP/8550	EPA 245.1	MERC/8501
60172688001	**316-344**	EPA 245.1	MERP/8551	EPA 245.1	MERC/8502
60172688001	**316-344**	EPA 625	OEXT/44932	EPA 625	MSSV/14397
60172688001	**316-344**	EPA 624 Low	MSV/62746		
60172688002	**TRIP BLANK**	EPA 624 Low	MSV/62746		
60172688001	**316-344**	EPA 1664A	WET/48830		
60172688001	**316-344**	EPA 1664A	WET/48831		
60172688001	**316-344**	SM 2540D	WET/48785		
60172688001	**316-344**	SM 4500-H+B	WET/48861		
60172688001	**316-344**	SM 5210B	WET/48775	SM 5210B	WET/48864
60172688001	**316-344**	EPA 350.1	WETA/30064		
60172688001	**316-344**	EPA 410.4	WETA/30112		

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Sample Condition Upon Receipt

WO# : 60172688

60172688

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Lionmail

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ Zplc

Thermometer Used: T-239 / T-194 **Type of Ice:** Wet (circle one) Blue None ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 2.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: atf 6/30

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 holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Sample BP3N initial pH 2.0, added 2.5mL HNO_3 final pH 4.0 Sample BP3S initial pH 4.5 added ~2.0mL H_2SO_4 final pH 2.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed atf / Lot # of added preservative 1209-2-3-2, 12522-2-7
Trip Blank present: Pace Trip Blank lot # (if purchased): 040714-3 BE2	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	2 of 5 DG9U headspace 16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/11/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 **Of** 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

Requested Analysis Filtered (Y/N)

60172688

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	1(BP3S) 1(BP3N) S16-344 2(BP2U) 1(BP3U)	OT	G			6/23/14	1730		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) 3(AG3S) 2(AG4U) W
2	TRIP BLANK								2	2																X						2(DG9U) W
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FED	6-30-14	8:55a	[signature]	6-30-14	8:55am				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	6/30	13:05	2.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Paul Linzott

SIGNATURE of SAMPLER: [signature] DATE Signed: 06/28/14

Pace Analytical Services, Inc.
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(913)599-5665

July 07, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 30, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172694001	**316-346**	Water	06/30/14 07:17	06/30/14 13:05
60172694002	**TRIP BLANK**	Water	06/30/14 07:17	06/30/14 13:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172694001	**316-346**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172694002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Sample: 316-346 **Lab ID: 60172694001** Collected: 06/30/14 07:17 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2540**	ug/L	750	2	07/01/14 18:00	07/02/14 13:22	7429-90-5	
Antimony	**61.6**	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:20	7440-36-0	
Arsenic	**1280**	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:20	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/01/14 18:00	07/02/14 13:20	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:20	7440-43-9	
Chromium	**208**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:20	7440-47-3	
Cobalt	**32.7**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:20	7440-48-4	
Copper	ND	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:20	7440-50-8	
Iron	**448000**	ug/L	250	1	07/01/14 18:00	07/02/14 13:20	7439-89-6	
Lead	**36.3**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:20	7439-92-1	
Nickel	**113**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:20	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/01/14 18:00	07/02/14 13:20	7782-49-2	
Silver	ND	ug/L	35.0	1	07/01/14 18:00	07/02/14 13:20	7440-22-4	
Thallium	ND	ug/L	100	1	07/01/14 18:00	07/02/14 13:20	7440-28-0	
Zinc	**6280**	ug/L	500	2	07/01/14 18:00	07/02/14 13:22	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1740**	ug/L	750	2	07/02/14 17:00	07/03/14 16:21	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:18	7440-36-0	
Arsenic, Dissolved	**1020**	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:18	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/02/14 17:00	07/03/14 16:18	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:18	7440-43-9	
Chromium, Dissolved	**172**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:18	7440-47-3	
Cobalt, Dissolved	**25.8**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:18	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:18	7440-50-8	
Iron, Dissolved	**337000**	ug/L	250	1	07/02/14 17:00	07/03/14 16:18	7439-89-6	
Lead, Dissolved	**32.9**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:18	7439-92-1	
Nickel, Dissolved	**96.9**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:18	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/02/14 17:00	07/03/14 16:18	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/02/14 17:00	07/03/14 16:18	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/02/14 17:00	07/03/14 16:18	7440-28-0	
Zinc, Dissolved	**5090**	ug/L	500	2	07/02/14 17:00	07/03/14 16:21	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 13:44	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 14:21	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/02/14 00:00	07/03/14 14:21	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/02/14 00:00	07/03/14 14:21	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6840**	ug/L	4000	2	07/02/14 00:00	07/03/14 14:21		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Sample: 316-346 **Lab ID: 60172694001** Collected: 06/30/14 07:17 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	87-86-5	
Phenol	**10300**	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:21	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	125	%	33-120	2	07/02/14 00:00	07/03/14 14:21	4165-60-0	S0
2-Fluorobiphenyl (S)	82	%	39-120	2	07/02/14 00:00	07/03/14 14:21	321-60-8	
Terphenyl-d14 (S)	85	%	45-120	2	07/02/14 00:00	07/03/14 14:21	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	07/02/14 00:00	07/03/14 14:21	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	07/02/14 00:00	07/03/14 14:21	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	07/02/14 00:00	07/03/14 14:21	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**78500**	ug/L	2000	200		07/02/14 08:08	67-64-1	N2
Benzene	ND	ug/L	200	200		07/02/14 08:08	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/02/14 08:08	75-27-4	
Bromoform	ND	ug/L	200	200		07/02/14 08:08	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/02/14 08:08	74-83-9	
2-Butanone (MEK)	**31900**	ug/L	2000	200		07/02/14 08:08	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/02/14 08:08	56-23-5	
Chloroethane	ND	ug/L	200	200		07/02/14 08:08	75-00-3	
Chloroform	ND	ug/L	200	200		07/02/14 08:08	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/02/14 08:08	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/02/14 08:08	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/02/14 08:08	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/02/14 08:08	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/02/14 08:08	100-41-4	
Methylene chloride	**202**	ug/L	200	200		07/02/14 08:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/02/14 08:08	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/02/14 08:08	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/02/14 08:08	127-18-4	
Toluene	ND	ug/L	200	200		07/02/14 08:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/02/14 08:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/02/14 08:08	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/02/14 08:08	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/02/14 08:08	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/02/14 08:08	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		07/02/14 08:08	460-00-4	
Toluene-d8 (S)	97	%	80-120	200		07/02/14 08:08	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		07/02/14 08:08	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/02/14 08:08		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**380**	mg/L	5.0	1		07/02/14 17:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Sample: 316-346 **Lab ID: 60172694001** Collected: 06/30/14 07:17 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.2**	mg/L	5.0	1		07/02/14 17:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4380**	mg/L	5.0	1		07/01/14 10:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**28300**	mg/L	2.0	1	06/30/14 16:47	07/05/14 08:24		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**643**	mg/L	20.0	200		07/01/14 12:16	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**50500**	mg/L	5000	500		07/04/14 08:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Sample: TRIP BLANK **Lab ID: 60172694002** Collected: 06/30/14 07:17 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/02/14 06:34	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/02/14 06:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/02/14 06:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/02/14 06:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/02/14 06:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/02/14 06:34	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/02/14 06:34	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/02/14 06:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/02/14 06:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/02/14 06:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/02/14 06:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/02/14 06:34	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/02/14 06:34	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/02/14 06:34	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/02/14 06:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/02/14 06:34	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/02/14 06:34	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/02/14 06:34	127-18-4	
Toluene	ND	ug/L	1.0	1		07/02/14 06:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/02/14 06:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/02/14 06:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/02/14 06:34	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/02/14 06:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/02/14 06:34	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		07/02/14 06:34	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		07/02/14 06:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		07/02/14 06:34	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/02/14 06:34		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: MERP/8550
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172694001

METHOD BLANK: 1404770 Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/02/14 13:15	

LABORATORY CONTROL SAMPLE: 1404771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404772 1404773

Parameter	Units	60172403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	17.5	150	150	170	169	102	101	70-130	1	20	

MATRIX SPIKE SAMPLE: 1404774

Parameter	Units	60172697001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.2	104	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: MERP/8551
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172694001

METHOD BLANK: 1404801 Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/02/14 13:57	

LABORATORY CONTROL SAMPLE: 1404802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.6	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404803 1404804

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	156	105	104	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: MPRP/27877
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172694001

METHOD BLANK: 1404364
Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/02/14 12:39	
Antimony	ug/L	ND	10.0	07/02/14 12:39	
Arsenic	ug/L	ND	10.0	07/02/14 12:39	
Beryllium	ug/L	ND	1.0	07/02/14 12:39	
Cadmium	ug/L	ND	5.0	07/02/14 12:39	
Chromium	ug/L	ND	5.0	07/02/14 12:39	
Cobalt	ug/L	ND	5.0	07/02/14 12:39	
Copper	ug/L	ND	10.0	07/02/14 12:39	
Iron	ug/L	ND	50.0	07/02/14 12:39	
Lead	ug/L	ND	5.0	07/02/14 12:39	
Nickel	ug/L	ND	5.0	07/02/14 12:39	
Selenium	ug/L	ND	15.0	07/02/14 12:39	
Silver	ug/L	ND	7.0	07/02/14 12:39	
Thallium	ug/L	ND	20.0	07/02/14 12:39	
Zinc	ug/L	ND	50.0	07/02/14 12:39	

LABORATORY CONTROL SAMPLE: 1404365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9720	97	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	993	99	85-115	
Beryllium	ug/L	1000	980	98	85-115	
Cadmium	ug/L	1000	999	100	85-115	
Chromium	ug/L	1000	982	98	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	993	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	986	99	85-115	
Silver	ug/L	500	485	97	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404366 1404367

Parameter	Units	60172589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2020	50000	50000	51200	53300	98	103	70-130	4	8	
Antimony	ug/L	ND	5000	5000	5380	5510	107	109	70-130	2	7	
Arsenic	ug/L	1080	5000	5000	6690	6900	112	116	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4710	4730	94	95	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5260	5380	105	108	70-130	2	10	
Chromium	ug/L	187	5000	5000	4840	4930	93	95	70-130	2	10	
Cobalt	ug/L	30.6	5000	5000	4910	5000	98	99	70-130	2	6	
Copper	ug/L	ND	5000	5000	5400	5520	108	110	70-130	2	11	
Iron	ug/L	317000	50000	50000	365000	375000	96	117	70-130	3	10	
Lead	ug/L	25.9	5000	5000	4570	4670	91	93	70-130	2	10	
Nickel	ug/L	107	5000	5000	4850	4940	95	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5900	6080	118	122	70-130	3	10	
Silver	ug/L	ND	2500	2500	2620	2670	105	107	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4300	4380	86	88	70-130	2	6	
Zinc	ug/L	4580	5000	5000	9280	9690	94	102	70-130	4	11	

MATRIX SPIKE SAMPLE: 1404368

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	3000	50000	54100	102	70-130	
Antimony	ug/L	55.0	5000	5510	109	70-130	
Arsenic	ug/L	1180	5000	6930	115	70-130	
Beryllium	ug/L	ND	5000	4730	95	70-130	
Cadmium	ug/L	ND	5000	5380	107	70-130	
Chromium	ug/L	206	5000	4940	95	70-130	
Cobalt	ug/L	36.2	5000	5000	99	70-130	
Copper	ug/L	ND	5000	5440	108	70-130	
Iron	ug/L	419000	50000	465000	93	70-130	
Lead	ug/L	36.8	5000	4650	92	70-130	
Nickel	ug/L	114	5000	4940	96	70-130	
Selenium	ug/L	ND	5000	6020	120	70-130	
Silver	ug/L	ND	2500	2630	105	70-130	
Thallium	ug/L	ND	5000	4380	88	70-130	
Zinc	ug/L	5440	5000	10300	96	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: MPRP/27889
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172694001

METHOD BLANK: 1405013
Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/03/14 15:52	
Antimony, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Arsenic, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Beryllium, Dissolved	ug/L	ND	1.0	07/03/14 15:52	
Cadmium, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Chromium, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Cobalt, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Copper, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Iron, Dissolved	ug/L	ND	50.0	07/03/14 15:52	
Lead, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Nickel, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Selenium, Dissolved	ug/L	ND	15.0	07/03/14 15:52	
Silver, Dissolved	ug/L	ND	7.0	07/03/14 15:52	
Thallium, Dissolved	ug/L	ND	20.0	07/03/14 15:52	
Zinc, Dissolved	ug/L	ND	50.0	07/03/14 15:52	

LABORATORY CONTROL SAMPLE: 1405014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	993	99	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	998	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405015 1405016

Parameter	Units	60172589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1520	50000	50000	53400	53500	104	104	70-130	0	8	
Antimony, Dissolved	ug/L	53.3	5000	5000	5580	5660	110	112	70-130	2	7	
Arsenic, Dissolved	ug/L	1060	5000	5000	6780	6740	114	114	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4870	4980	97	100	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5360	5470	107	109	70-130	2	10	
Chromium, Dissolved	ug/L	183	5000	5000	4900	4980	94	96	70-130	2	10	
Cobalt, Dissolved	ug/L	30.9	5000	5000	4980	5080	99	101	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5440	5520	109	110	70-130	1	11	
Iron, Dissolved	ug/L	302000	50000	50000	362000	350000	119	96	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	4690	4790	93	95	70-130	2	10	
Nickel, Dissolved	ug/L	105	5000	5000	4990	5080	98	100	70-130	2	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6120	6140	122	123	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2670	105	106	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4390	4520	88	90	70-130	3	6	
Zinc, Dissolved	ug/L	4340	5000	5000	9200	9000	97	93	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: MSV/62746 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60172694001, 60172694002

METHOD BLANK: 1404394 Matrix: Water
Associated Lab Samples: 60172694001, 60172694002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/02/14 05:01	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,2-Dichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/02/14 05:01	
2-Butanone (MEK)	ug/L	ND	10.0	07/02/14 05:01	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/02/14 05:01	N2
Acetone	ug/L	ND	10.0	07/02/14 05:01	N2
Benzene	ug/L	ND	1.0	07/02/14 05:01	
Bromodichloromethane	ug/L	ND	1.0	07/02/14 05:01	
Bromoform	ug/L	ND	1.0	07/02/14 05:01	
Bromomethane	ug/L	ND	5.0	07/02/14 05:01	
Carbon tetrachloride	ug/L	ND	1.0	07/02/14 05:01	
Chloroethane	ug/L	ND	1.0	07/02/14 05:01	
Chloroform	ug/L	ND	1.0	07/02/14 05:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 05:01	N2
Ethylbenzene	ug/L	ND	1.0	07/02/14 05:01	
Methylene chloride	ug/L	ND	1.0	07/02/14 05:01	
Tetrachloroethene	ug/L	ND	1.0	07/02/14 05:01	
Toluene	ug/L	ND	1.0	07/02/14 05:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 05:01	
Trichloroethene	ug/L	ND	1.0	07/02/14 05:01	
Vinyl chloride	ug/L	ND	1.0	07/02/14 05:01	
Xylene (Total)	ug/L	ND	3.0	07/02/14 05:01	N2
1,2-Dichloroethane-d4 (S)	%	106	80-120	07/02/14 05:01	
4-Bromofluorobenzene (S)	%	100	80-120	07/02/14 05:01	
Toluene-d8 (S)	%	100	80-120	07/02/14 05:01	

LABORATORY CONTROL SAMPLE: 1404395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.7	108	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.8	119	67-124	
1,2-Dichloroethane	ug/L	20	22.2	111	70-126	
1,4-Dichlorobenzene	ug/L	20	21.6	108	74-120	
2-Butanone (MEK)	ug/L	100	109	109	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	128	128	59-131	N2
Acetone	ug/L	100	98.2	98	38-134	N2
Benzene	ug/L	20	21.2	106	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

LABORATORY CONTROL SAMPLE: 1404395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.9	115	68-125	
Bromoform	ug/L	20	21.5	108	65-127	
Bromomethane	ug/L	20	21.7	108	13-157	
Carbon tetrachloride	ug/L	20	20.9	104	70-131	
Chloroethane	ug/L	20	22.2	111	47-133	
Chloroform	ug/L	20	21.1	106	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.6	108	68-127	N2
Ethylbenzene	ug/L	20	21.2	106	74-122	
Methylene chloride	ug/L	20	19.9	99	64-129	
Tetrachloroethene	ug/L	20	20.3	102	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.7	103	66-129	
Trichloroethene	ug/L	20	23.7	118	71-123	
Vinyl chloride	ug/L	20	23.8	119	43-129	
Xylene (Total)	ug/L	60	63.6	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1404396

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4740	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4950	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4630	93	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4460	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4520	90	33-140	
2-Butanone (MEK)	ug/L	27600	25000	45600	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23700	94	40-160	N2
Acetone	ug/L	72100	25000	82300	41	10-160	N2
Benzene	ug/L	ND	5000	4370	87	37-151	
Bromodichloromethane	ug/L	ND	5000	4550	91	35-142	
Bromoform	ug/L	ND	5000	4150	83	45-142	
Bromomethane	ug/L	ND	5000	4470	89	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	4270	85	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4300	86	34-147	N2
Ethylbenzene	ug/L	ND	5000	4670	93	40-142	
Methylene chloride	ug/L	256	5000	4110	77	31-144	
Tetrachloroethene	ug/L	ND	5000	4490	90	64-148	
Toluene	ug/L	ND	5000	4150	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4340	87	54-151	
Trichloroethene	ug/L	ND	5000	4500	90	71-149	
Vinyl chloride	ug/L	ND	5000	4070	81	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

MATRIX SPIKE SAMPLE: 1404396

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13500	90	37-144	N2
1,2-Dichloroethane-d4 (S)	%				101	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: OEXT/44932 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60172694001

METHOD BLANK: 1404630 Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/03/14 12:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/03/14 12:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/03/14 12:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/03/14 12:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachloroethane	ug/L	ND	5.0	07/03/14 12:18	
Naphthalene	ug/L	ND	5.0	07/03/14 12:18	
Nitrobenzene	ug/L	ND	5.0	07/03/14 12:18	
Pentachlorophenol	ug/L	ND	5.0	07/03/14 12:18	
Phenol	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Tribromophenol (S)	%	78	39-120	07/03/14 12:18	
2-Fluorobiphenyl (S)	%	82	39-120	07/03/14 12:18	
2-Fluorophenol (S)	%	43	17-120	07/03/14 12:18	
Nitrobenzene-d5 (S)	%	83	33-120	07/03/14 12:18	
Phenol-d6 (S)	%	28	11-120	07/03/14 12:18	
Terphenyl-d14 (S)	%	88	45-120	07/03/14 12:18	

LABORATORY CONTROL SAMPLE: 1404631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.8	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.0	54	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	39.3	79	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.5	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.9	66	24-120	
Hexachloroethane	ug/L	50	34.2	68	43-113	
Naphthalene	ug/L	50	37.6	75	48-120	
Nitrobenzene	ug/L	50	39.8	80	48-120	
Pentachlorophenol	ug/L	50	44.1	88	47-120	
Phenol	ug/L	50	13.9	28	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

MATRIX SPIKE SAMPLE: 1404632

Parameter	Units	60172477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3310	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4090	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6410	5000	9480	61	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3240J	65	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5440	54	11-120	
Hexachloroethane	ug/L	ND	5000	3000	60	40-113	
Naphthalene	ug/L	ND	5000	3940	67	45-120	
Nitrobenzene	ug/L	ND	5000	3850	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4440	89	43-135	
Phenol	ug/L	9200	5000	11100	38	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				121	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: WET/48830 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172694001

METHOD BLANK: 1405280 Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/02/14 17:14	

LABORATORY CONTROL SAMPLE: 1405281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	32.9	82	78-114	

MATRIX SPIKE SAMPLE: 1405282

Parameter	Units	60172258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44	39.1	87	78-114	

SAMPLE DUPLICATE: 1405283

Parameter	Units	60172258002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: WET/48831 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172694001

METHOD BLANK: 1405294 Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/02/14 17:26	

LABORATORY CONTROL SAMPLE: 1405295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.7	114	64-132	

MATRIX SPIKE SAMPLE: 1405296

Parameter	Units	60172258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22	15.4	67	64-132	

SAMPLE DUPLICATE: 1405297

Parameter	Units	60172258002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: WET/48785
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172694001

METHOD BLANK: 1404008
Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/01/14 10:24	

SAMPLE DUPLICATE: 1404009

Parameter	Units	60172586001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2840	2860	1	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172694001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: WET/48775 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172694001

METHOD BLANK: 1403834 Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/05/14 08:10	

LABORATORY CONTROL SAMPLE: 1403835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	198	100	85-115	

SAMPLE DUPLICATE: 1403836

Parameter	Units	60172688001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	25100	30000	18	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: WETA/30064 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172694001

METHOD BLANK: 1404059 Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1404060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1404061

Parameter	Units	60172395001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.8	4	7.1	83	90-110	M1

MATRIX SPIKE SAMPLE: 1404062

Parameter	Units	60172399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	83	90-110	M1

SAMPLE DUPLICATE: 1404063

Parameter	Units	60172400001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

QC Batch: WETA/30112 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172694001

METHOD BLANK: 1405609 Matrix: Water
Associated Lab Samples: 60172694001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/04/14 07:50	

LABORATORY CONTROL SAMPLE: 1405610

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.4	99	90-110	

MATRIX SPIKE SAMPLE: 1405611

Parameter	Units	60172572007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	9230	5000	13600	88	90-110	M1

MATRIX SPIKE SAMPLE: 1405613

Parameter	Units	60172666001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	28.4	50	76.7	97	90-110	

SAMPLE DUPLICATE: 1405612

Parameter	Units	60172572009 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2800	2770	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-346
Pace Project No.: 60172694

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172694001	**316-346**	EPA 200.7	MPRP/27877	EPA 200.7	ICP/21076
60172694001	**316-346**	EPA 200.7	MPRP/27889	EPA 200.7	ICP/21092
60172694001	**316-346**	EPA 245.1	MERP/8550	EPA 245.1	MERC/8501
60172694001	**316-346**	EPA 245.1	MERP/8551	EPA 245.1	MERC/8502
60172694001	**316-346**	EPA 625	OEXT/44932	EPA 625	MSSV/14397
60172694001	**316-346**	EPA 624 Low	MSV/62746		
60172694002	**TRIP BLANK**	EPA 624 Low	MSV/62746		
60172694001	**316-346**	EPA 1664A	WET/48830		
60172694001	**316-346**	EPA 1664A	WET/48831		
60172694001	**316-346**	SM 2540D	WET/48785		
60172694001	**316-346**	SM 4500-H+B	WET/48861		
60172694001	**316-346**	SM 5210B	WET/48775	SM 5210B	WET/48864
60172694001	**316-346**	EPA 350.1	WETA/30064		
60172694001	**316-346**	EPA 410.4	WETA/30112		

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Sample Condition Upon Receipt

WO# : 60172694

60172694

Optional
Proj Due Date:
Proj Name:

Client Name: Barr Engineering

Courier: Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace ☐ Other ☑ commads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ zplc

Thermometer Used: T-239 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 16.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: _____

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 holding time:	☑Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes	☐No	☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A	7.
Sufficient volume:	☑Yes	☐No	☐N/A	8.
Correct containers used:	☑Yes	☐No	☐N/A	
Pace containers used:	☑Yes	☐No	☐N/A	9.
Containers intact:	☑Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A	12.
Sample labels match COC:	☑Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: WT				13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	Sample BP3N initial pH 6.0 added 2.5mL HNO_3 final pH 4.0 BP3S initial pH 4.5 added 1mL H_2SO_4 Final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed: ATH / Lot # of added preservative: 12513-2-3-2
Trip Blank present:	☑Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): Covered				15.
Headspace in VOA vials (>6mm):	☑Yes	☐No	☐N/A	1 of 5.0 OGW headspace
				16.
Project sampled in USDA Regulated Area:	☐Yes	☐No	☑N/A	17. List State: NO

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	AMY HARGROVE/BRIAN POWER
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS

SAMPLE ID — One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N Analyses Test	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60172694
1	4.5 5.01 1(BP3S) 1(BP3N) 316-346 2(BP2U) 1(BP3U)	OT	G	6/30/14	0717	—	—		12	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) 3(AG3S) 2(N64U)
2	TRIP BLANK	—		—		—	—		2	2																X						2(DG9U)
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	6-30-14	8:55am	[signature] 3??	6-30-14	8:55am				
SITE ADDRESS: BRIDGETON LF				Anattameedi / PASI	6/30	13:05	16.0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 6/30/14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

July 07, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 30, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172695001	**316-345**	Water	06/29/14 13:15	06/30/14 13:05
60172695002	**TRIP BLANK**	Water	06/29/14 13:15	06/30/14 13:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172695001	**316-345**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172695002	**TRIP BLANK**	EPA 624 Low	EAK	28

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Sample: 316-345 **Lab ID: 60172695001** Collected: 06/29/14 13:15 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4210**	ug/L	750	2	07/01/14 18:00	07/02/14 13:27	7429-90-5	
Antimony	**63.5**	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:25	7440-36-0	
Arsenic	**1170**	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:25	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/01/14 18:00	07/02/14 13:25	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:25	7440-43-9	
Chromium	**210**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:25	7440-47-3	
Cobalt	**35.4**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:25	7440-48-4	
Copper	ND	ug/L	50.0	1	07/01/14 18:00	07/02/14 13:25	7440-50-8	
Iron	**579000**	ug/L	250	1	07/01/14 18:00	07/02/14 13:25	7439-89-6	
Lead	**65.3**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:25	7439-92-1	
Nickel	**116**	ug/L	25.0	1	07/01/14 18:00	07/02/14 13:25	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/01/14 18:00	07/02/14 13:25	7782-49-2	
Silver	ND	ug/L	35.0	1	07/01/14 18:00	07/02/14 13:25	7440-22-4	
Thallium	ND	ug/L	100	1	07/01/14 18:00	07/02/14 13:25	7440-28-0	
Zinc	**5410**	ug/L	500	2	07/01/14 18:00	07/02/14 13:27	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1670**	ug/L	750	2	07/02/14 17:00	07/03/14 16:30	7429-90-5	
Antimony, Dissolved	**57.8**	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:23	7440-36-0	
Arsenic, Dissolved	**1000**	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:23	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/02/14 17:00	07/03/14 16:23	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:23	7440-43-9	
Chromium, Dissolved	**172**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:23	7440-47-3	
Cobalt, Dissolved	**26.1**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:23	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/02/14 17:00	07/03/14 16:23	7440-50-8	
Iron, Dissolved	**321000**	ug/L	250	1	07/02/14 17:00	07/03/14 16:23	7439-89-6	
Lead, Dissolved	**29.7**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:23	7439-92-1	
Nickel, Dissolved	**99.0**	ug/L	25.0	1	07/02/14 17:00	07/03/14 16:23	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/02/14 17:00	07/03/14 16:23	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/02/14 17:00	07/03/14 16:23	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/02/14 17:00	07/03/14 16:23	7440-28-0	
Zinc, Dissolved	**4880**	ug/L	500	2	07/02/14 17:00	07/03/14 16:30	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 13:46	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/02/14 10:15	07/02/14 14:24	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/02/14 00:00	07/03/14 14:42	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/02/14 00:00	07/03/14 14:42	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6370**	ug/L	4000	2	07/02/14 00:00	07/03/14 14:42		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Sample: 316-345 **Lab ID: 60172695001** Collected: 06/29/14 13:15 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	87-86-5	
Phenol	**9510**	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 14:42	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	128	%	33-120	2	07/02/14 00:00	07/03/14 14:42	4165-60-0	S0
2-Fluorobiphenyl (S)	86	%	39-120	2	07/02/14 00:00	07/03/14 14:42	321-60-8	
Terphenyl-d14 (S)	88	%	45-120	2	07/02/14 00:00	07/03/14 14:42	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	07/02/14 00:00	07/03/14 14:42	13127-88-3	
2-Fluorophenol (S)	46	%	17-120	2	07/02/14 00:00	07/03/14 14:42	367-12-4	
2,4,6-Tribromophenol (S)	95	%	39-120	2	07/02/14 00:00	07/03/14 14:42	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**76400**	ug/L	2000	200		07/02/14 07:52	67-64-1	N2
Benzene	ND	ug/L	200	200		07/02/14 07:52	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/02/14 07:52	75-27-4	
Bromoform	ND	ug/L	200	200		07/02/14 07:52	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/02/14 07:52	74-83-9	
2-Butanone (MEK)	**31200**	ug/L	2000	200		07/02/14 07:52	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/02/14 07:52	56-23-5	
Chloroethane	ND	ug/L	200	200		07/02/14 07:52	75-00-3	
Chloroform	ND	ug/L	200	200		07/02/14 07:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/02/14 07:52	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/02/14 07:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/02/14 07:52	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/02/14 07:52	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/02/14 07:52	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/02/14 07:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/02/14 07:52	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/02/14 07:52	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/02/14 07:52	127-18-4	
Toluene	ND	ug/L	200	200		07/02/14 07:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/02/14 07:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/02/14 07:52	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/02/14 07:52	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/02/14 07:52	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/02/14 07:52	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		07/02/14 07:52	460-00-4	
Toluene-d8 (S)	98	%	80-120	200		07/02/14 07:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	200		07/02/14 07:52	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/02/14 07:52		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**416**	mg/L	5.0	1		07/02/14 17:16		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Sample: 316-345 **Lab ID: 60172695001** Collected: 06/29/14 13:15 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**12.2**	mg/L	5.0	1		07/02/14 17:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5120**	mg/L	5.0	1		07/01/14 10:26		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31000**	mg/L	2.0	1	06/30/14 16:44	07/05/14 08:21		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**626**	mg/L	20.0	200		07/01/14 12:17	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**51200**	mg/L	5000	500		07/04/14 08:01		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Sample: TRIP BLANK **Lab ID: 60172695002** Collected: 06/29/14 13:15 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/02/14 06:19	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/02/14 06:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/02/14 06:19	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/02/14 06:19	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/02/14 06:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/02/14 06:19	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/02/14 06:19	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/02/14 06:19	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/02/14 06:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/02/14 06:19	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/02/14 06:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/02/14 06:19	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/02/14 06:19	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/02/14 06:19	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/02/14 06:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/02/14 06:19	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/02/14 06:19	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/02/14 06:19	127-18-4	
Toluene	ND	ug/L	1.0	1		07/02/14 06:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/02/14 06:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/02/14 06:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/02/14 06:19	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/02/14 06:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/02/14 06:19	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		07/02/14 06:19	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/02/14 06:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		07/02/14 06:19	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/02/14 06:19		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: MERP/8550
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172695001

METHOD BLANK: 1404770 Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/02/14 13:15	

LABORATORY CONTROL SAMPLE: 1404771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404772 1404773

Parameter	Units	60172403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	17.5	150	150	170	169	102	101	70-130	1	20	

MATRIX SPIKE SAMPLE: 1404774

Parameter	Units	60172697001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.2	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: MERP/8551
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172695001

METHOD BLANK: 1404801 Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/02/14 13:57	

LABORATORY CONTROL SAMPLE: 1404802

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.6	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404803 1404804

Parameter	Units	60172276001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	156	105	104	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: MPRP/27877
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172695001

METHOD BLANK: 1404364
Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/02/14 12:39	
Antimony	ug/L	ND	10.0	07/02/14 12:39	
Arsenic	ug/L	ND	10.0	07/02/14 12:39	
Beryllium	ug/L	ND	1.0	07/02/14 12:39	
Cadmium	ug/L	ND	5.0	07/02/14 12:39	
Chromium	ug/L	ND	5.0	07/02/14 12:39	
Cobalt	ug/L	ND	5.0	07/02/14 12:39	
Copper	ug/L	ND	10.0	07/02/14 12:39	
Iron	ug/L	ND	50.0	07/02/14 12:39	
Lead	ug/L	ND	5.0	07/02/14 12:39	
Nickel	ug/L	ND	5.0	07/02/14 12:39	
Selenium	ug/L	ND	15.0	07/02/14 12:39	
Silver	ug/L	ND	7.0	07/02/14 12:39	
Thallium	ug/L	ND	20.0	07/02/14 12:39	
Zinc	ug/L	ND	50.0	07/02/14 12:39	

LABORATORY CONTROL SAMPLE: 1404365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9720	97	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	993	99	85-115	
Beryllium	ug/L	1000	980	98	85-115	
Cadmium	ug/L	1000	999	100	85-115	
Chromium	ug/L	1000	982	98	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	993	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	986	99	85-115	
Silver	ug/L	500	485	97	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1404366 1404367

Parameter	Units	60172589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2020	50000	50000	51200	53300	98	103	70-130	4	8	
Antimony	ug/L	ND	5000	5000	5380	5510	107	109	70-130	2	7	
Arsenic	ug/L	1080	5000	5000	6690	6900	112	116	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4710	4730	94	95	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5260	5380	105	108	70-130	2	10	
Chromium	ug/L	187	5000	5000	4840	4930	93	95	70-130	2	10	
Cobalt	ug/L	30.6	5000	5000	4910	5000	98	99	70-130	2	6	
Copper	ug/L	ND	5000	5000	5400	5520	108	110	70-130	2	11	
Iron	ug/L	317000	50000	50000	365000	375000	96	117	70-130	3	10	
Lead	ug/L	25.9	5000	5000	4570	4670	91	93	70-130	2	10	
Nickel	ug/L	107	5000	5000	4850	4940	95	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5900	6080	118	122	70-130	3	10	
Silver	ug/L	ND	2500	2500	2620	2670	105	107	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4300	4380	86	88	70-130	2	6	
Zinc	ug/L	4580	5000	5000	9280	9690	94	102	70-130	4	11	

MATRIX SPIKE SAMPLE: 1404368

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	3000	50000	54100	102	70-130	
Antimony	ug/L	55.0	5000	5510	109	70-130	
Arsenic	ug/L	1180	5000	6930	115	70-130	
Beryllium	ug/L	ND	5000	4730	95	70-130	
Cadmium	ug/L	ND	5000	5380	107	70-130	
Chromium	ug/L	206	5000	4940	95	70-130	
Cobalt	ug/L	36.2	5000	5000	99	70-130	
Copper	ug/L	ND	5000	5440	108	70-130	
Iron	ug/L	419000	50000	465000	93	70-130	
Lead	ug/L	36.8	5000	4650	92	70-130	
Nickel	ug/L	114	5000	4940	96	70-130	
Selenium	ug/L	ND	5000	6020	120	70-130	
Silver	ug/L	ND	2500	2630	105	70-130	
Thallium	ug/L	ND	5000	4380	88	70-130	
Zinc	ug/L	5440	5000	10300	96	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: MPRP/27889
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172695001

METHOD BLANK: 1405013
Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/03/14 15:52	
Antimony, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Arsenic, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Beryllium, Dissolved	ug/L	ND	1.0	07/03/14 15:52	
Cadmium, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Chromium, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Cobalt, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Copper, Dissolved	ug/L	ND	10.0	07/03/14 15:52	
Iron, Dissolved	ug/L	ND	50.0	07/03/14 15:52	
Lead, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Nickel, Dissolved	ug/L	ND	5.0	07/03/14 15:52	
Selenium, Dissolved	ug/L	ND	15.0	07/03/14 15:52	
Silver, Dissolved	ug/L	ND	7.0	07/03/14 15:52	
Thallium, Dissolved	ug/L	ND	20.0	07/03/14 15:52	
Zinc, Dissolved	ug/L	ND	50.0	07/03/14 15:52	

LABORATORY CONTROL SAMPLE: 1405014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	993	99	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	998	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405015 1405016

Parameter	Units	60172589001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	1520	50000	50000	53400	53500	104	104	70-130	0	8	
Antimony, Dissolved	ug/L	53.3	5000	5000	5580	5660	110	112	70-130	2	7	
Arsenic, Dissolved	ug/L	1060	5000	5000	6780	6740	114	114	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4870	4980	97	100	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5360	5470	107	109	70-130	2	10	
Chromium, Dissolved	ug/L	183	5000	5000	4900	4980	94	96	70-130	2	10	
Cobalt, Dissolved	ug/L	30.9	5000	5000	4980	5080	99	101	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5440	5520	109	110	70-130	1	11	
Iron, Dissolved	ug/L	302000	50000	50000	362000	350000	119	96	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	4690	4790	93	95	70-130	2	10	
Nickel, Dissolved	ug/L	105	5000	5000	4990	5080	98	100	70-130	2	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6120	6140	122	123	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2670	105	106	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4390	4520	88	90	70-130	3	6	
Zinc, Dissolved	ug/L	4340	5000	5000	9200	9000	97	93	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: MSV/62746
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60172695001, 60172695002

METHOD BLANK: 1404394
Matrix: Water
Associated Lab Samples: 60172695001, 60172695002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/02/14 05:01	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,2-Dichloroethane	ug/L	ND	1.0	07/02/14 05:01	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/02/14 05:01	
2-Butanone (MEK)	ug/L	ND	10.0	07/02/14 05:01	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/02/14 05:01	N2
Acetone	ug/L	ND	10.0	07/02/14 05:01	N2
Benzene	ug/L	ND	1.0	07/02/14 05:01	
Bromodichloromethane	ug/L	ND	1.0	07/02/14 05:01	
Bromoform	ug/L	ND	1.0	07/02/14 05:01	
Bromomethane	ug/L	ND	5.0	07/02/14 05:01	
Carbon tetrachloride	ug/L	ND	1.0	07/02/14 05:01	
Chloroethane	ug/L	ND	1.0	07/02/14 05:01	
Chloroform	ug/L	ND	1.0	07/02/14 05:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 05:01	N2
Ethylbenzene	ug/L	ND	1.0	07/02/14 05:01	
Methylene chloride	ug/L	ND	1.0	07/02/14 05:01	
Tetrachloroethene	ug/L	ND	1.0	07/02/14 05:01	
Toluene	ug/L	ND	1.0	07/02/14 05:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 05:01	
Trichloroethene	ug/L	ND	1.0	07/02/14 05:01	
Vinyl chloride	ug/L	ND	1.0	07/02/14 05:01	
Xylene (Total)	ug/L	ND	3.0	07/02/14 05:01	N2
1,2-Dichloroethane-d4 (S)	%	106	80-120	07/02/14 05:01	
4-Bromofluorobenzene (S)	%	100	80-120	07/02/14 05:01	
Toluene-d8 (S)	%	100	80-120	07/02/14 05:01	

LABORATORY CONTROL SAMPLE: 1404395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.7	108	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	23.8	119	67-124	
1,2-Dichloroethane	ug/L	20	22.2	111	70-126	
1,4-Dichlorobenzene	ug/L	20	21.6	108	74-120	
2-Butanone (MEK)	ug/L	100	109	109	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	128	128	59-131	N2
Acetone	ug/L	100	98.2	98	38-134	N2
Benzene	ug/L	20	21.2	106	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

LABORATORY CONTROL SAMPLE: 1404395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	22.9	115	68-125	
Bromoform	ug/L	20	21.5	108	65-127	
Bromomethane	ug/L	20	21.7	108	13-157	
Carbon tetrachloride	ug/L	20	20.9	104	70-131	
Chloroethane	ug/L	20	22.2	111	47-133	
Chloroform	ug/L	20	21.1	106	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.6	108	68-127	N2
Ethylbenzene	ug/L	20	21.2	106	74-122	
Methylene chloride	ug/L	20	19.9	99	64-129	
Tetrachloroethene	ug/L	20	20.3	102	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.7	103	66-129	
Trichloroethene	ug/L	20	23.7	118	71-123	
Vinyl chloride	ug/L	20	23.8	119	43-129	
Xylene (Total)	ug/L	60	63.6	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1404396

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	4740	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	4950	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	4630	93	52-143	
1,2-Dichloroethane	ug/L	ND	5000	4460	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	5000	4520	90	33-140	
2-Butanone (MEK)	ug/L	27600	25000	45600	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	23700	94	40-160	N2
Acetone	ug/L	72100	25000	82300	41	10-160	N2
Benzene	ug/L	ND	5000	4370	87	37-151	
Bromodichloromethane	ug/L	ND	5000	4550	91	35-142	
Bromoform	ug/L	ND	5000	4150	83	45-142	
Bromomethane	ug/L	ND	5000	4470	89	10-158	
Carbon tetrachloride	ug/L	ND	5000	4650	93	70-140	
Chloroethane	ug/L	ND	5000	4270	85	19-152	
Chloroform	ug/L	ND	5000	4400	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	4300	86	34-147	N2
Ethylbenzene	ug/L	ND	5000	4670	93	40-142	
Methylene chloride	ug/L	256	5000	4110	77	31-144	
Tetrachloroethene	ug/L	ND	5000	4490	90	64-148	
Toluene	ug/L	ND	5000	4150	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4340	87	54-151	
Trichloroethene	ug/L	ND	5000	4500	90	71-149	
Vinyl chloride	ug/L	ND	5000	4070	81	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

MATRIX SPIKE SAMPLE: 1404396

Parameter	Units	60172688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	15000	13500	90	37-144	N2
1,2-Dichloroethane-d4 (S)	%				101	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: OEXT/44932 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60172695001

METHOD BLANK: 1404630 Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/03/14 12:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/03/14 12:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/03/14 12:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/03/14 12:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachloroethane	ug/L	ND	5.0	07/03/14 12:18	
Naphthalene	ug/L	ND	5.0	07/03/14 12:18	
Nitrobenzene	ug/L	ND	5.0	07/03/14 12:18	
Pentachlorophenol	ug/L	ND	5.0	07/03/14 12:18	
Phenol	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Tribromophenol (S)	%	78	39-120	07/03/14 12:18	
2-Fluorobiphenyl (S)	%	82	39-120	07/03/14 12:18	
2-Fluorophenol (S)	%	43	17-120	07/03/14 12:18	
Nitrobenzene-d5 (S)	%	83	33-120	07/03/14 12:18	
Phenol-d6 (S)	%	28	11-120	07/03/14 12:18	
Terphenyl-d14 (S)	%	88	45-120	07/03/14 12:18	

LABORATORY CONTROL SAMPLE: 1404631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.8	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.0	54	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	39.3	79	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.5	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.9	66	24-120	
Hexachloroethane	ug/L	50	34.2	68	43-113	
Naphthalene	ug/L	50	37.6	75	48-120	
Nitrobenzene	ug/L	50	39.8	80	48-120	
Pentachlorophenol	ug/L	50	44.1	88	47-120	
Phenol	ug/L	50	13.9	28	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

MATRIX SPIKE SAMPLE: 1404632

Parameter	Units	60172477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3310	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4090	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6410	5000	9480	61	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3240J	65	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5440	54	11-120	
Hexachloroethane	ug/L	ND	5000	3000	60	40-113	
Naphthalene	ug/L	ND	5000	3940	67	45-120	
Nitrobenzene	ug/L	ND	5000	3850	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4440	89	43-135	
Phenol	ug/L	9200	5000	11100	38	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				121	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: WET/48830
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172695001

METHOD BLANK: 1405280 Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/02/14 17:14	

LABORATORY CONTROL SAMPLE: 1405281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	32.9	82	78-114	

MATRIX SPIKE SAMPLE: 1405282

Parameter	Units	60172258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44	39.1	87	78-114	

SAMPLE DUPLICATE: 1405283

Parameter	Units	60172258002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: WET/48831
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172695001

METHOD BLANK: 1405294 Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/02/14 17:26	

LABORATORY CONTROL SAMPLE: 1405295

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.7	114	64-132	

MATRIX SPIKE SAMPLE: 1405296

Parameter	Units	60172258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22	15.4	67	64-132	

SAMPLE DUPLICATE: 1405297

Parameter	Units	60172258002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: WET/48785
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172695001

METHOD BLANK: 1404008
Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/01/14 10:24	

SAMPLE DUPLICATE: 1404009

Parameter	Units	60172586001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2840	2860	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172695001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: WET/48775 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172695001

METHOD BLANK: 1403834 Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/05/14 08:10	

LABORATORY CONTROL SAMPLE: 1403835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	198	100	85-115	

SAMPLE DUPLICATE: 1403836

Parameter	Units	60172688001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	25100	30000	18	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: WETA/30064
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172695001

METHOD BLANK: 1404059 Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1404060

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	105	90-110	

MATRIX SPIKE SAMPLE: 1404061

Parameter	Units	60172395001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.8	4	7.1	83	90-110	M1

MATRIX SPIKE SAMPLE: 1404062

Parameter	Units	60172399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	83	90-110	M1

SAMPLE DUPLICATE: 1404063

Parameter	Units	60172400001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

QC Batch: WETA/30112 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172695001

METHOD BLANK: 1405609 Matrix: Water
Associated Lab Samples: 60172695001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/04/14 07:50	

LABORATORY CONTROL SAMPLE: 1405610

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.4	99	90-110	

MATRIX SPIKE SAMPLE: 1405611

Parameter	Units	60172572007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	9230	5000	13600	88	90-110	M1

MATRIX SPIKE SAMPLE: 1405613

Parameter	Units	60172666001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	28.4	50	76.7	97	90-110	

SAMPLE DUPLICATE: 1405612

Parameter	Units	60172572009 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2800	2770	1	25	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-345
Pace Project No.: 60172695

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172695001	**316-345**	EPA 200.7	MPRP/27877	EPA 200.7	ICP/21076
60172695001	**316-345**	EPA 200.7	MPRP/27889	EPA 200.7	ICP/21092
60172695001	**316-345**	EPA 245.1	MERP/8550	EPA 245.1	MERC/8501
60172695001	**316-345**	EPA 245.1	MERP/8551	EPA 245.1	MERC/8502
60172695001	**316-345**	EPA 625	OEXT/44932	EPA 625	MSSV/14397
60172695001	**316-345**	EPA 624 Low	MSV/62746		
60172695002	**TRIP BLANK**	EPA 624 Low	MSV/62746		
60172695001	**316-345**	EPA 1664A	WET/48830		
60172695001	**316-345**	EPA 1664A	WET/48831		
60172695001	**316-345**	SM 2540D	WET/48785		
60172695001	**316-345**	SM 4500-H+B	WET/48861		
60172695001	**316-345**	SM 5210B	WET/48775	SM 5210B	WET/48864
60172695001	**316-345**	EPA 350.1	WETA/30064		
60172695001	**316-345**	EPA 410.4	WETA/30112		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60172695

60172695

Client Name: BARR Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ X Roads

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☐

Custody Seal on Cooler/Box Present: Yes ☒ No ☐ Seals intact: Yes ☒ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☒ None ☐ Other ☐

Thermometer Used: ~~T-239~~ / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: -0.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 6/30

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 holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. pH BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BP3S initial pH 6.0 added 1mL Final pH 4.0 BP3N initial pH 6.0 added 2.5mL Final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 6/12/14		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: MO

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/1/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: AMY HARGROVE/BRIAN POWER
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency
State / Location
Missouri

SAMPLE ID
One Character per box.
(A-Z, 0-9 / , -)
Sample Ids must be unique

MATRIX	CODE
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Other	OT
Tissue	TS

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	601 72695 4.0 4.0
1	316-345 (5)DG9U (6)DP2U (3)AG3S BP3N	OT	G	06/29/14	1115				14	10	4	1	0					X	X	X	X	X	X	X	X	X	X	(2)AG4U		DP3S BP3N 4U 2(DG9U)
2	TRIP BLANK				PM				2	2															X				
3																													
4																													
5																													
6																													METALS LIST total & LF Dis:
7																													Al,Sb,As,Be,Cd,Cr,
8																													Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																													and Mercury
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	6-30-14	8:55am	Dan Pace	6-30-14	8:55am	~0.2	DP4/30		
SITE ADDRESS: BRIDGETON LF				Dan Pace	6/30	1305	~0.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Paul Linscott					
SIGNATURE of SAMPLER:	Paul Linscott	DATE Signed: 06-29-14				

Pace Analytical Services, Inc.
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Lenexa, KS 66219
(913)599-5665

July 09, 2014

Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on June 30, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Kansas Certification IDs
9608 Loiret Boulevard, Lenexa, KS 66219
WY STR Certification #: 2456.01
Arkansas Certification #: 13-012-0
Illinois Certification #: 003097
Iowa Certification #: 118
Kansas/NELAP Certification #: E-10116
Louisiana Certification #: 03055
Nevada Certification #: KS000212008A
Oklahoma Certification #: 9205/9935
Texas Certification #: T104704407-13-4
Utah Certification #: KS000212013-3
Illinois Certification #: 003097

Dallas Certification IDs:
400 West Bethany Dr Suite 190 75013 Allen TX 75013
Texas Certification #: T104704232-13-5
Kansas Certification #: E-10388
Arkansas Certification #: 88-0647
Oklahoma Certification #: 2012-080
Louisiana Certification #: 02007

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SAMPLE SUMMARY

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172716001	**TCLP SEMI-ANNUAL**	Water	06/28/14 17:45	06/30/14 13:05
60172716002	**TRIP BLANK**	Water	06/28/14 17:45	06/30/14 13:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60172716001	**TCLP SEMI-ANNUAL**	EPA 8081	TA	9	PASI-D
		EPA 8151	PMS	3	PASI-D
		EPA 6010	NDJ	7	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 8270	JMT	18	PASI-K
		EPA 8260	JKL	13	PASI-K
		EPA 5030B/8260	PRG	28	PASI-K
		EPA 1664A	CRT	1	PASI-K
		SM 2540B	ESM	1	PASI-K
60172716002	**TRIP BLANK**	EPA 5030B/8260	PRG	28	PASI-K

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Sample: TCLP SEMI-ANNUAL **Lab ID: 60172716001** Collected: 06/28/14 17:45 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, TCLP	Analytical Method: EPA 8081 Preparation Method: EPA 3510 Leachate Method/Date: EPA 1311; 07/02/14 16:20								
gamma-BHC (Lindane)	ND	mg/L	0.00020	.4	1	07/02/14 16:58	07/07/14 17:15	58-89-9	
Chlordane (Technical)	ND	mg/L	0.0050	.03	1	07/02/14 16:58	07/07/14 17:15	57-74-9	
Endrin	ND	mg/L	0.00020	.02	1	07/02/14 16:58	07/07/14 17:15	72-20-8	R1
Heptachlor	ND	mg/L	0.00020	.008	1	07/02/14 16:58	07/07/14 17:15	76-44-8	
Heptachlor epoxide	ND	mg/L	0.00050	.008	1	07/02/14 16:58	07/07/14 17:15	1024-57-3	R1
Methoxychlor	ND	mg/L	0.00050	10	1	07/02/14 16:58	07/07/14 17:15	72-43-5	R1
Toxaphene	ND	mg/L	0.010	.5	1	07/02/14 16:58	07/07/14 17:15	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	41	%.	40-140		1	07/02/14 16:58	07/07/14 17:15	2051-24-3	
Tetrachloro-m-xylene (S)	91	%.	40-140		1	07/02/14 16:58	07/07/14 17:15	877-09-8	
8151 Chlorinate Herbicide TCLP	Analytical Method: EPA 8151 Preparation Method: EPA 8151 Leachate Method/Date: EPA 1311; 07/02/14 16:20								
2,4-D	ND	mg/L	0.0050	10	10	07/02/14 19:03	07/08/14 16:50	94-75-7	M6,R1
2,4,5-TP (Silvex)	ND	mg/L	0.0050	1	10	07/02/14 19:03	07/08/14 16:50	93-72-1	M6
Surrogates									
2,4-DCAA (S)	3180	%.	40-140		10	07/02/14 19:03	07/08/14 16:50	19719-28-9	S4
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Leachate Method/Date: EPA 1311; 07/03/14 00:00								
Arsenic	**0.88**	mg/L	0.50	5	1	07/03/14 16:00	07/07/14 11:11	7440-38-2	
Barium	**3.5**	mg/L	2.5	100	1	07/03/14 16:00	07/07/14 11:11	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	07/03/14 16:00	07/07/14 11:11	7440-43-9	
Chromium	**0.15**	mg/L	0.10	5	1	07/03/14 16:00	07/07/14 11:11	7440-47-3	
Lead	ND	mg/L	0.50	5	1	07/03/14 16:00	07/07/14 11:11	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	07/03/14 16:00	07/07/14 11:11	7782-49-2	
Silver	ND	mg/L	0.10	5	1	07/03/14 16:00	07/07/14 11:11	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Leachate Method/Date: EPA 1311; 07/03/14 00:00								
Mercury	ND	mg/L	0.0020	.2	1	07/03/14 16:00	07/07/14 10:18	7439-97-6	
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510 Leachate Method/Date: EPA 1311; 07/03/14 14:51								
1,4-Dichlorobenzene	ND	ug/L	1000	7500	1	07/07/14 00:00	07/08/14 10:31	106-46-7	
2,4-Dinitrotoluene	ND	ug/L	1000	130	1	07/07/14 00:00	07/08/14 10:31	121-14-2	
Hexachloro-1,3-butadiene	ND	ug/L	1000	500	1	07/07/14 00:00	07/08/14 10:31	87-68-3	
Hexachlorobenzene	ND	ug/L	1000	130	1	07/07/14 00:00	07/08/14 10:31	118-74-1	
Hexachloroethane	ND	ug/L	1000	3000	1	07/07/14 00:00	07/08/14 10:31	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	200000	1	07/07/14 00:00	07/08/14 10:31	95-48-7	
3&4-Methylphenol(m&p Cresol)	**6830**	ug/L	2000	200000	1	07/07/14 00:00	07/08/14 10:31		
Nitrobenzene	ND	ug/L	1000	2000	1	07/07/14 00:00	07/08/14 10:31	98-95-3	
Pentachlorophenol	ND	ug/L	5000	100000	1	07/07/14 00:00	07/08/14 10:31	87-86-5	
Pyridine	ND	ug/L	1000	5000	1	07/07/14 00:00	07/08/14 10:31	110-86-1	
2,4,5-Trichlorophenol	ND	ug/L	5000	400000	1	07/07/14 00:00	07/08/14 10:31	95-95-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Sample: TCLP SEMI-ANNUAL **Lab ID: 60172716001** Collected: 06/28/14 17:45 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510 Leachate Method/Date: EPA 1311; 07/03/14 14:51								
2,4,6-Trichlorophenol	ND	ug/L	1000	2000	1	07/07/14 00:00	07/08/14 10:31	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	91	%	44-120		1	07/07/14 00:00	07/08/14 10:31	4165-60-0	
2-Fluorobiphenyl (S)	73	%	49-120		1	07/07/14 00:00	07/08/14 10:31	321-60-8	
Terphenyl-d14 (S)	74	%	52-122		1	07/07/14 00:00	07/08/14 10:31	1718-51-0	
Phenol-d6 (S)	78	%	36-120		1	07/07/14 00:00	07/08/14 10:31	13127-88-3	
2-Fluorophenol (S)	70	%	37-120		1	07/07/14 00:00	07/08/14 10:31	367-12-4	
2,4,6-Tribromophenol (S)	70	%	36-128		1	07/07/14 00:00	07/08/14 10:31	118-79-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 07/03/14 14:56								
Benzene	**281**	ug/L	250	500	5		07/07/14 11:18	71-43-2	
2-Butanone (MEK)	**24000**	ug/L	5000	200000	5		07/07/14 11:18	78-93-3	
Carbon tetrachloride	ND	ug/L	250	500	5		07/07/14 11:18	56-23-5	
Chlorobenzene	ND	ug/L	250	100000	5		07/07/14 11:18	108-90-7	
Chloroform	ND	ug/L	1000	6000	5		07/07/14 11:18	67-66-3	
1,2-Dichloroethane	ND	ug/L	250	500	5		07/07/14 11:18	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	700	5		07/07/14 11:18	75-35-4	
Tetrachloroethene	ND	ug/L	250	700	5		07/07/14 11:18	127-18-4	
Trichloroethene	ND	ug/L	250	500	5		07/07/14 11:18	79-01-6	
Vinyl chloride	ND	ug/L	100	200	5		07/07/14 11:18	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	96	%	80-120		5		07/07/14 11:18	17060-07-0	
Toluene-d8 (S)	103	%	80-120		5		07/07/14 11:18	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120		5		07/07/14 11:18	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260								
Acetone	**68900**	ug/L	2500		250		07/02/14 15:05	67-64-1	
Benzene	**395**	ug/L	250		250		07/02/14 15:05	71-43-2	
Bromodichloromethane	ND	ug/L	250		250		07/02/14 15:05	75-27-4	
Bromoform	ND	ug/L	250		250		07/02/14 15:05	75-25-2	
Bromomethane	ND	ug/L	1250		250		07/02/14 15:05	74-83-9	
2-Butanone (MEK)	**30400**	ug/L	2500		250		07/02/14 15:05	78-93-3	
Carbon tetrachloride	ND	ug/L	250		250		07/02/14 15:05	56-23-5	
Chloroethane	ND	ug/L	250		250		07/02/14 15:05	75-00-3	
Chloroform	ND	ug/L	250		250		07/02/14 15:05	67-66-3	
1,4-Dichlorobenzene	**427**	ug/L	250		250		07/02/14 15:05	106-46-7	
1,2-Dichloroethane	ND	ug/L	250		250		07/02/14 15:05	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250		250		07/02/14 15:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	250		250		07/02/14 15:05	156-60-5	
Ethylbenzene	ND	ug/L	250		250		07/02/14 15:05	100-41-4	
Methylene chloride	ND	ug/L	250		250		07/02/14 15:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500		250		07/02/14 15:05	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	250		250		07/02/14 15:05	79-34-5	
Tetrachloroethene	ND	ug/L	250		250		07/02/14 15:05	127-18-4	
Toluene	**611**	ug/L	250		250		07/02/14 15:05	108-88-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Sample: TCLP SEMI-ANNUAL **Lab ID: 60172716001** Collected: 06/28/14 17:45 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
1,1,1-Trichloroethane	ND	ug/L	250		250		07/02/14 15:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250		250		07/02/14 15:05	79-00-5	
Trichloroethene	ND	ug/L	250		250		07/02/14 15:05	79-01-6	
Vinyl chloride	ND	ug/L	250		250		07/02/14 15:05	75-01-4	
Xylene (Total)	ND	ug/L	750		250		07/02/14 15:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		250		07/02/14 15:05	460-00-4	HS
1,2-Dichloroethane-d4 (S)	105	%	80-120		250		07/02/14 15:05	17060-07-0	
Toluene-d8 (S)	101	%	80-120		250		07/02/14 15:05	2037-26-5	
Preservation pH	**5.0**		0.10		250		07/02/14 15:05		pH
HEM, Oil and Grease	Analytical Method: EPA 1664A								
Oil and Grease	**15.8**	mg/L	5.0		1		07/07/14 10:53		
2540B Total Solids	Analytical Method: SM 2540B								
Total Solids	**30000**	mg/L	5.0		1		07/01/14 08:47		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Sample: TRIP BLANK **Lab ID: 60172716002** Collected: 06/28/14 17:45 Received: 06/30/14 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Acetone	ND	ug/L	10.0		1		07/02/14 14:51	67-64-1	
Benzene	ND	ug/L	1.0		1		07/02/14 14:51	71-43-2	
Bromodichloromethane	ND	ug/L	1.0		1		07/02/14 14:51	75-27-4	
Bromoform	ND	ug/L	1.0		1		07/02/14 14:51	75-25-2	
Bromomethane	ND	ug/L	5.0		1		07/02/14 14:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0		1		07/02/14 14:51	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0		1		07/02/14 14:51	56-23-5	
Chloroethane	ND	ug/L	1.0		1		07/02/14 14:51	75-00-3	
Chloroform	ND	ug/L	1.0		1		07/02/14 14:51	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0		1		07/02/14 14:51	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0		1		07/02/14 14:51	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0		1		07/02/14 14:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0		1		07/02/14 14:51	156-60-5	
Ethylbenzene	ND	ug/L	1.0		1		07/02/14 14:51	100-41-4	
Methylene chloride	ND	ug/L	1.0		1		07/02/14 14:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0		1		07/02/14 14:51	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1		07/02/14 14:51	79-34-5	
Tetrachloroethene	ND	ug/L	1.0		1		07/02/14 14:51	127-18-4	
Toluene	ND	ug/L	1.0		1		07/02/14 14:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0		1		07/02/14 14:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0		1		07/02/14 14:51	79-00-5	
Trichloroethene	ND	ug/L	1.0		1		07/02/14 14:51	79-01-6	
Vinyl chloride	ND	ug/L	1.0		1		07/02/14 14:51	75-01-4	
Xylene (Total)	ND	ug/L	3.0		1		07/02/14 14:51	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		1		07/02/14 14:51	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	80-120		1		07/02/14 14:51	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		07/02/14 14:51	2037-26-5	
Preservation pH	**1.0**		0.10		1		07/02/14 14:51		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: MERP/8556
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 60172716001

METHOD BLANK: 1406003 Matrix: Water
Associated Lab Samples: 60172716001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/L	ND	0.0020	07/07/14 09:38	

LABORATORY CONTROL SAMPLE: 1406004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.005	0.0047	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1406005 1406006

Parameter	Units	60172142006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.015	.015	0.015	0.015	98	103	75-125	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: MPRP/27915
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET TCLP
Associated Lab Samples: 60172716001

METHOD BLANK: 1405946 Matrix: Water
Associated Lab Samples: 60172716001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	07/07/14 10:30	
Barium	mg/L	ND	2.5	07/07/14 10:30	
Cadmium	mg/L	ND	0.050	07/07/14 10:30	
Chromium	mg/L	ND	0.10	07/07/14 10:30	
Lead	mg/L	ND	0.50	07/07/14 10:30	
Selenium	mg/L	ND	0.50	07/07/14 10:30	
Silver	mg/L	ND	0.10	07/07/14 10:30	

LABORATORY CONTROL SAMPLE: 1405948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.95	95	80-120	
Barium	mg/L	1	1.0	101	80-120	
Cadmium	mg/L	1	0.96	96	80-120	
Chromium	mg/L	1	1.0	101	80-120	
Lead	mg/L	1	0.99	99	80-120	
Selenium	mg/L	1	0.92	92	80-120	
Silver	mg/L	.5	0.48	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405949 1405954

Parameter	Units	60172142006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	10	10	10.0	10.1	100	101	75-125	1	20	
Barium	mg/L	ND	10	10	10.4	10.3	103	102	75-125	1	20	
Cadmium	mg/L	ND	10	10	10	10.0	100	100	75-125	0	20	
Chromium	mg/L	ND	10	10	10.4	10.3	104	103	75-125	1	20	
Lead	mg/L	ND	10	10	10	10.0	100	100	75-125	1	20	
Selenium	mg/L	ND	10	10	9.8	9.8	98	98	75-125	1	20	
Silver	mg/L	ND	5	5	5.0	5.0	101	101	75-125	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: MSV/62817
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60172716001

METHOD BLANK: 1405924 Matrix: Water
Associated Lab Samples: 60172716001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	07/07/14 10:01	
1,2-Dichloroethane	ug/L	ND	50.0	07/07/14 10:01	
2-Butanone (MEK)	ug/L	ND	1000	07/07/14 10:01	
Benzene	ug/L	ND	50.0	07/07/14 10:01	
Carbon tetrachloride	ug/L	ND	50.0	07/07/14 10:01	
Chlorobenzene	ug/L	ND	50.0	07/07/14 10:01	
Chloroform	ug/L	ND	200	07/07/14 10:01	
Tetrachloroethene	ug/L	ND	50.0	07/07/14 10:01	
Trichloroethene	ug/L	ND	50.0	07/07/14 10:01	
Vinyl chloride	ug/L	ND	20.0	07/07/14 10:01	
1,2-Dichloroethane-d4 (S)	%	97	80-120	07/07/14 10:01	
4-Bromofluorobenzene (S)	%	98	80-120	07/07/14 10:01	
Toluene-d8 (S)	%	101	80-120	07/07/14 10:01	

LABORATORY CONTROL SAMPLE: 1405925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	942	94	78-126	
1,2-Dichloroethane	ug/L	1000	1010	101	77-123	
2-Butanone (MEK)	ug/L	5000	4190	84	52-145	
Benzene	ug/L	1000	1020	102	80-120	
Carbon tetrachloride	ug/L	1000	1170	117	78-128	
Chlorobenzene	ug/L	1000	1010	101	80-120	
Chloroform	ug/L	1000	1040	104	79-120	
Tetrachloroethene	ug/L	1000	1010	101	80-121	
Trichloroethene	ug/L	1000	1100	110	80-120	
Vinyl chloride	ug/L	1000	657	66	59-120	
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			108	80-120	

MATRIX SPIKE SAMPLE: 1405926

Parameter	Units	60172236001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	915	92	60-144	
1,2-Dichloroethane	ug/L	ND	1000	985	98	49-148	
2-Butanone (MEK)	ug/L	ND	5000	3950	79	36-145	
Benzene	ug/L	ND	1000	996	100	37-157	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

MATRIX SPIKE SAMPLE: 1405926

Parameter	Units	60172236001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	ND	1000	1100	110	68-142	
Chlorobenzene	ug/L	ND	1000	971	97	66-133	
Chloroform	ug/L	ND	1000	1060	103	66-127	
Tetrachloroethene	ug/L	ND	1000	1020	102	69-133	
Trichloroethene	ug/L	ND	1000	1050	105	61-135	
Vinyl chloride	ug/L	ND	1000	610	61	44-128	
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				103	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: MSV/62745
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60172716001, 60172716002

METHOD BLANK: 1404335 Matrix: Water
Associated Lab Samples: 60172716001, 60172716002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/02/14 14:36	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/02/14 14:36	
1,1,2-Trichloroethane	ug/L	ND	1.0	07/02/14 14:36	
1,2-Dichloroethane	ug/L	ND	1.0	07/02/14 14:36	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/02/14 14:36	
2-Butanone (MEK)	ug/L	ND	10.0	07/02/14 14:36	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/02/14 14:36	
Acetone	ug/L	ND	10.0	07/02/14 14:36	
Benzene	ug/L	ND	1.0	07/02/14 14:36	
Bromodichloromethane	ug/L	ND	1.0	07/02/14 14:36	
Bromoform	ug/L	ND	1.0	07/02/14 14:36	
Bromomethane	ug/L	ND	5.0	07/02/14 14:36	
Carbon tetrachloride	ug/L	ND	1.0	07/02/14 14:36	
Chloroethane	ug/L	ND	1.0	07/02/14 14:36	
Chloroform	ug/L	ND	1.0	07/02/14 14:36	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 14:36	
Ethylbenzene	ug/L	ND	1.0	07/02/14 14:36	
Methylene chloride	ug/L	ND	1.0	07/02/14 14:36	
Tetrachloroethene	ug/L	ND	1.0	07/02/14 14:36	
Toluene	ug/L	ND	1.0	07/02/14 14:36	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/02/14 14:36	
Trichloroethene	ug/L	ND	1.0	07/02/14 14:36	
Vinyl chloride	ug/L	ND	1.0	07/02/14 14:36	
Xylene (Total)	ug/L	ND	3.0	07/02/14 14:36	
1,2-Dichloroethane-d4 (S)	%	100	80-120	07/02/14 14:36	
4-Bromofluorobenzene (S)	%	101	80-120	07/02/14 14:36	
Toluene-d8 (S)	%	100	80-120	07/02/14 14:36	

LABORATORY CONTROL SAMPLE: 1404336

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.8	99	80-121	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	73-124	
1,1,2-Trichloroethane	ug/L	20	19.8	99	80-120	
1,2-Dichloroethane	ug/L	20	19.9	100	77-123	
1,4-Dichlorobenzene	ug/L	20	20.5	103	80-120	
2-Butanone (MEK)	ug/L	100	96.6	97	52-145	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	71-131	
Acetone	ug/L	100	97.8	98	32-155	
Benzene	ug/L	20	20.3	102	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

LABORATORY CONTROL SAMPLE: 1404336

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.3	102	80-120	
Bromoform	ug/L	20	20.4	102	73-124	
Bromomethane	ug/L	20	21.6	108	31-144	
Carbon tetrachloride	ug/L	20	20.1	101	78-128	
Chloroethane	ug/L	20	19.3	97	55-137	
Chloroform	ug/L	20	20.0	100	79-120	
cis-1,2-Dichloroethene	ug/L	20	21.2	106	80-120	
Ethylbenzene	ug/L	20	20.6	103	80-121	
Methylene chloride	ug/L	20	20.0	100	73-126	
Tetrachloroethene	ug/L	20	21.1	105	80-121	
Toluene	ug/L	20	19.9	99	80-122	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	79-121	
Trichloroethene	ug/L	20	21.5	107	80-120	
Vinyl chloride	ug/L	20	18.5	93	59-120	
Xylene (Total)	ug/L	60	63.0	105	80-121	
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: OEXT/4176
QC Batch Method: EPA 3510
Analysis Method: EPA 8081
Analysis Description: 8081 GCS TCLP Pesticides
Associated Lab Samples: 60172716001

METHOD BLANK: 84207 Matrix: Water
Associated Lab Samples: 60172716001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.00050	07/07/14 12:57	
Endrin	mg/L	ND	0.000020	07/07/14 12:57	
gamma-BHC (Lindane)	mg/L	ND	0.000020	07/07/14 12:57	
Heptachlor	mg/L	ND	0.000020	07/07/14 12:57	
Heptachlor epoxide	mg/L	ND	0.000050	07/07/14 12:57	
Methoxychlor	mg/L	ND	0.000050	07/07/14 12:57	
Toxaphene	mg/L	ND	0.0010	07/07/14 12:57	
Decachlorobiphenyl (S)	%.	88	40-140	07/07/14 12:57	
Tetrachloro-m-xylene (S)	%.	84	40-140	07/07/14 12:57	

LABORATORY CONTROL SAMPLE: 84208

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlordane (Technical)	mg/L		ND			
Endrin	mg/L	.001	0.0010	104	40-140	
gamma-BHC (Lindane)	mg/L	.001	0.0010	100	40-140	
Heptachlor	mg/L	.001	0.00094	94	40-140	
Heptachlor epoxide	mg/L	.001	0.00099	99	40-140	
Methoxychlor	mg/L	.001	0.0011	115	40-140	
Toxaphene	mg/L		ND			
Decachlorobiphenyl (S)	%.			104	40-140	
Tetrachloro-m-xylene (S)	%.			83	40-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 84209 84210

Parameter	Units	60172716001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlordane (Technical)	mg/L	ND			ND	ND					40	
Endrin	mg/L	ND	.01	.01	0.011	0.0066	106	66	40-140	46	40	R1
gamma-BHC (Lindane)	mg/L	ND	.01	.01	0.010	0.0072	101	72	40-140	33	40	
Heptachlor	mg/L	ND	.01	.01	0.013	0.0090	129	90	40-140	35	40	
Heptachlor epoxide	mg/L	ND	.01	.01	0.0088	0.0057	88	57	40-140	43	40	R1
Methoxychlor	mg/L	ND	.01	.01	0.0098	0.0047	98	47	40-140	70	40	R1
Toxaphene	mg/L	ND			ND	ND					40	
Decachlorobiphenyl (S)	%.						43	28	40-140			S0
Tetrachloro-m-xylene (S)	%.						99	78	40-140			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: OEXT/4175
QC Batch Method: EPA 8151
Analysis Method: EPA 8151
Analysis Description: 8151 GCS TCLP Herbicides
Associated Lab Samples: 60172716001

METHOD BLANK: 84203 Matrix: Water
Associated Lab Samples: 60172716001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.000050	07/07/14 17:13	
2,4-D	mg/L	ND	0.000050	07/07/14 17:13	
2,4-DCAA (S)	%.	100	40-140	07/07/14 17:13	

LABORATORY CONTROL SAMPLE: 84204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	mg/L	.002	0.0023	117	10-140	
2,4-D	mg/L	.002	0.0026	131	40-140	
2,4-DCAA (S)	%.			120	40-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 84205 84206

Parameter	Units	60172716001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	ND	.02	.02	ND	0.18	0	877	10-140		40	M6
2,4-D	mg/L	ND	.02	.02	0.32	0.13	1590	633	40-140	86	40	M6,R1
2,4-DCAA (S)	%.						2870	433	40-140			S4

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: OEXT/44972
QC Batch Method: EPA 3510
Analysis Method: EPA 8270
Analysis Description: 8270 TCLP MSSV
Associated Lab Samples: 60172716001

METHOD BLANK: 1406440 Matrix: Water
Associated Lab Samples: 60172716001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	100	07/08/14 08:46	
2,4,5-Trichlorophenol	ug/L	ND	500	07/08/14 08:46	
2,4,6-Trichlorophenol	ug/L	ND	100	07/08/14 08:46	
2,4-Dinitrotoluene	ug/L	ND	100	07/08/14 08:46	
2-Methylphenol(o-Cresol)	ug/L	ND	100	07/08/14 08:46	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	200	07/08/14 08:46	
Hexachloro-1,3-butadiene	ug/L	ND	100	07/08/14 08:46	
Hexachlorobenzene	ug/L	ND	100	07/08/14 08:46	
Hexachloroethane	ug/L	ND	100	07/08/14 08:46	
Nitrobenzene	ug/L	ND	100	07/08/14 08:46	
Pentachlorophenol	ug/L	ND	500	07/08/14 08:46	
Pyridine	ug/L	ND	100	07/08/14 08:46	
2,4,6-Tribromophenol (S)	%	65	36-128	07/08/14 08:46	
2-Fluorobiphenyl (S)	%	70	49-120	07/08/14 08:46	
2-Fluorophenol (S)	%	63	37-120	07/08/14 08:46	
Nitrobenzene-d5 (S)	%	67	44-120	07/08/14 08:46	
Phenol-d6 (S)	%	63	36-120	07/08/14 08:46	
Terphenyl-d14 (S)	%	68	52-122	07/08/14 08:46	

LABORATORY CONTROL SAMPLE: 1406441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	500	320	64	47-120	
2,4,5-Trichlorophenol	ug/L	500	343J	69	51-124	
2,4,6-Trichlorophenol	ug/L	500	342	68	46-120	
2,4-Dinitrotoluene	ug/L	500	305	61	38-120	
2-Methylphenol(o-Cresol)	ug/L	500	311	62	46-120	
3&4-Methylphenol(m&p Cresol)	ug/L	1000	626	63	41-120	
Hexachloro-1,3-butadiene	ug/L	500	306	61	49-120	
Hexachlorobenzene	ug/L	500	342	68	50-120	
Hexachloroethane	ug/L	500	305	61	38-120	
Nitrobenzene	ug/L	500	335	67	49-120	
Pentachlorophenol	ug/L	500	324J	65	35-125	
Pyridine	ug/L	500	197	39	10-120	
2,4,6-Tribromophenol (S)	%			62	36-128	
2-Fluorobiphenyl (S)	%			67	49-120	
2-Fluorophenol (S)	%			59	37-120	
Nitrobenzene-d5 (S)	%			65	44-120	
Phenol-d6 (S)	%			60	36-120	
Terphenyl-d14 (S)	%			71	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

MATRIX SPIKE SAMPLE: 1406442

Parameter	Units	60172174001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	500	325	65	48-120	
2,4,5-Trichlorophenol	ug/L	ND	500	359J	72	57-120	
2,4,6-Trichlorophenol	ug/L	ND	500	351	70	48-120	
2,4-Dinitrotoluene	ug/L	ND	500	304	61	38-120	
2-Methylphenol(o-Cresol)	ug/L	ND	500	307	61	48-120	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	1000	624	62	47-120	
Hexachloro-1,3-butadiene	ug/L	ND	500	312	62	49-120	
Hexachlorobenzene	ug/L	ND	500	323	65	53-120	
Hexachloroethane	ug/L	ND	500	307	61	38-120	
Nitrobenzene	ug/L	ND	500	328	66	51-120	
Pentachlorophenol	ug/L	ND	500	316J	63	34-131	
Pyridine	ug/L	ND	500	279	56	10-120	
2,4,6-Tribromophenol (S)	%				65	36-128	
2-Fluorobiphenyl (S)	%				69	49-120	
2-Fluorophenol (S)	%				58	37-120	
Nitrobenzene-d5 (S)	%				64	44-120	
Phenol-d6 (S)	%				59	36-120	
Terphenyl-d14 (S)	%				69	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: WET/48865 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172716001

METHOD BLANK: 1406481 Matrix: Water
Associated Lab Samples: 60172716001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/07/14 10:50	

LABORATORY CONTROL SAMPLE: 1406482

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.6	99	78-114	

MATRIX SPIKE SAMPLE: 1406547

Parameter	Units	60172326002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	121	44	161	92	78-114	

SAMPLE DUPLICATE: 1406484

Parameter	Units	60172311001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.3J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

QC Batch: WET/48784 Analysis Method: SM 2540B
QC Batch Method: SM 2540B Analysis Description: 2540B Total Solids
Associated Lab Samples: 60172716001

METHOD BLANK: 1404004 Matrix: Water
Associated Lab Samples: 60172716001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	07/01/14 08:46	

LABORATORY CONTROL SAMPLE: 1404005

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	988	99	80-120	

SAMPLE DUPLICATE: 1404006

Parameter	Units	60172716001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	30000	30400	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

LABORATORIES

PASI-D	Pace Analytical Services - Dallas
PASI-K	Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/62745

[M5]	A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60172716

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172716001	**TCLP SEMI-ANNUAL**	EPA 3510	OEXT/4176	EPA 8081	GCSV/2715
60172716001	**TCLP SEMI-ANNUAL**	EPA 8151	OEXT/4175	EPA 8151	GCSV/2718
60172716001	**TCLP SEMI-ANNUAL**	EPA 3010	MPRP/27915	EPA 6010	ICP/21107
60172716001	**TCLP SEMI-ANNUAL**	EPA 7470	MERP/8556	EPA 7470	MERC/8510
60172716001	**TCLP SEMI-ANNUAL**	EPA 3510	OEXT/44972	EPA 8270	MSSV/14415
60172716001	**TCLP SEMI-ANNUAL**	EPA 8260	MSV/62817		
60172716001	**TCLP SEMI-ANNUAL**	EPA 5030B/8260	MSV/62745		
60172716002	**TRIP BLANK**	EPA 5030B/8260	MSV/62745		
60172716001	**TCLP SEMI-ANNUAL**	EPA 1664A	WET/48865		
60172716001	**TCLP SEMI-ANNUAL**	SM 2540B	WET/48784		

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Sample Condition Upon Receipt

WO# : 60172716

60172716

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ Crossmarks

Tracking #: _____ Pace Shipping Label Used? Yes ☐ No ☑

Custody Seal on Cooler/Box Present: Yes ☑ No ☐ Seals intact: Yes ☑ No ☐

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ ziplc

Thermometer Used: T-239 T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AH 7/1/11

Chain of Custody present:	☑Yes	☐No	☐N/A
Chain of Custody filled out:	☑Yes	☐No	☐N/A
Chain of Custody relinquished:	☑Yes	☐No	☐N/A
Sampler name & signature on COC:	☑Yes	☐No	☐N/A
Samples arrived within holding time:	☑Yes	☐No	☐N/A
Short Hold Time analyses (<72hr):	☐Yes	☑No	☐N/A
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A
Sufficient volume:	☑Yes	☐No	☐N/A
Correct containers used:	☑Yes	☐No	☐N/A
Pace containers used:	☑Yes	☐No	☐N/A
Containers intact:	☑Yes	☐No	☐N/A
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes	☐No	☐N/A
All containers needing preservation have been checked.	☐Yes	☐No	☑N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☐No	☑N/A
Exceptions: (VOA), coliform, TOC, (O&G), WI-DRO (water), Phenolics	☐Yes	☐No	
Trip Blank present: Pace Trip Blank lot # (if purchased): 031014-JOEP	☑Yes	☐No	☐N/A
Headspace in VOA vials (>6mm):	☑Yes	☐No	☐N/A
Project sampled in USDA Regulated Area:	☐Yes	☐No	☑N/A

1.
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12.
13. only 3 DGAH. received, ~~no other VOA containers~~
14.

Initial when completed	Lot # of added preservative

15.
16. 3 of 3 DGAH have headspace
1 of 2 TB have headspace
17. List State:

Client Notification/ Resolution: Copy COC to Client? Y / N Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

Section A
Required Client Information:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone:	Fax:
Requested Due Date/TAT:	

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR DANA BAKER/MARGARET TREANOR-BARR
Purchase Order No.:	PO 3727110
Project Name:	BRIDGETON UNTREATED COMMINGLED
Project Number:	

Section C
Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	
Pace Project Manager:	Angie Brown 913-563-1402
Pace Profile #:	PROFILE 6787-LINE 6

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: MO

Section D
Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

6472716

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	↓Analysis Test↓ Y/N	8260 Volatiles **	TCLP Volatiles *	Total Solids/water matrix	Oil and Grease	TCLP SEMI-VOLATILES	TCLP RCRA 8	TCLP HERBICIDES	TCLP PESTICIDES	Residual Chlorine (Y/N)	3(D69H)2(A635)2(A610)1(B830) Pace Project No./ Lab I.D.
1	TCLP ~~[illegible]~~ ~~II~~ Semiannual 06/14	OT	G			6/28/14	1315		10	3	2		5						X	X	X	X	X	X	X	X		** total VOCs Bridgeton List (1)
2	TRIP BLANK 2(D69H)	WT	G						2				2						x									* footnote %dry solids TCLP (2)
3																												
4																												
5																												MONTHLY = FULL TCLP SUITE
6																												
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] FEI	6-30-14	8:55am	[signature] 3 [illegible]	6-30-14	8:55a				
				[signature]/PASI	6/30	13:05	1.8	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 06/28/14

F-ALL-Q-020rev.08, 12-Oct-2007

Chain of Custody

WO# : 7516751

7516751

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Workorder: 60172716 **Workorder Name:** BRIDGETON UNTREATED COMMINGLED **Owner Received Date:** 6/30/2014 **Results Requested By:** 7/8/2014

Report To	Subcontract To
Angie Brown Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665 Fax (913)599-1759	Pace Analytical Dallas 400 West Bethany Drive Suite 190 Allen, TX 75013 Phone (972)727-1123

Item	Sample ID	Sample Type	Collect Date/Tim	Lab ID	Matrix	Preserved Containers	TCLP HERBICIDES	TCLP PESTICIDES	TCLP EPA 1311	LAB USE ONLY
1	TCLP SEMI-ANNUAL	PS	6/28/2014 17:45	60172716001	Water	1	X	X	X	001
2										
3										
4										
5										

7516751

Transfers	Released By	Date/Time	Received By	Date/Time
1		6/30/14 1700	Melvin McCoy PACE	7/2/14 0915
2				
3	IR#9			

Comments

Cooler Temperature on Receipt 4.8 °C | Custody Seal Y or | Received on Ice Y or | Samples Intact Y or N

Pace Analytical

Sample Condition Upon Receipt
Dallas

Client Name: Pace - Kansas Project Work order: 7516751

Courier: FedEX ☑ UPS ☐ USPS ☐ Client ☐ Courier ☐ LSO ☐ PACE ☐ Other:_____

Tracking#: 6113 5276 5039

Custody Seal on Cooler/Box: Yes ☒ No ☐ **Seals Intact:** Yes ☑ No ☐ NA ☐

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

Thermometer Used: IR-01 Type of Ice: Wet ☑ Blue ☐ None ☐ Sample Received on ice, cooling process has begun ☑

Cooler Temp: 4.8oC (Temp should be above freezing to 6°C)

Chain of Custody Present	Yes ☑ No ☐ NA ☐	1
Chain of Custody filled out	Yes ☑ No ☐ NA ☐	2
Chain of Custody relinquished	Yes ☑ No ☐ NA ☐	3
Sampler name & signature on COC	Yes ☐ No ☑ NA ☐	4
Sample received within HT	Yes ☑ No ☐ NA ☐	5
Short HT analyses (<72 hrs)	Yes ☐ No ☑ NA ☐	6
Rush TAT requested	Yes ☑ No ☐ NA ☐	7
Sufficient Volume received	Yes ☑ No ☐ NA ☐	8
Correct Container used Pace Container used	Yes ☑ No ☐ NA ☐ Yes ☑ No ☐ NA ☐	9
Container Intact	Yes ☑ No ☐ NA ☐	10
Unpreserved 5035A soil frozen within 48 hrs	Yes ☐ No ☐ NA ☑	11
Filtered volume received for Dissolved tests	Yes ☐ No ☐ NA ☑	12
Sample labels match COC Include date/time/ID/analyses Matrix: Water	Yes ☑ No ☐ NA ☐	13
All containers needing preservation have been checked	Yes ☐ No ☐ NA ☑	14a. Lot# of pH strip:_____ pH checked Yes ☐ No ☐ pH<2 ☐ pH>9 ☐ pH>12 ☐ Lot# of Iodine strip:_____ Lot# of Lead Acetate strip:_____
Do containers require preservation at the lab	Yes ☐ No ☐ NA ☑	14b. Preservation: / Lot#:
All containers needing preservation are found to be in Compliance with EPA recommendation Exception: VOA, coliform, O&G	Yes ☐ No ☐ NA ☑ Yes ☐ No ☑	14c.
Trip Blank present Trip Blank Custody Seals Intact Pace Trip Blank Lot# (if purchased):_____	Yes ☐ No ☐ NA ☑ Yes ☐ No ☐ NA ☑	15
Headspace in VOA (>6mm)	Yes ☐ No ☐ NA ☑	16
Project sampled in USDA Regulated Area:	Yes ☐ No ☐ NA ☑	17. List State _____

Client Notification/Resolution/Comments:

Person Contacted:_____ Date:_____

Comments/Resolution:_____

Person Examining Contents: KLw Date: 7-2-14

Sample Container Count

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COC PAGE 1 of 1

COC ID# _____

Pace Project # 7516751

Sample Line Item	BP2N	AG1U	VG9U	VG9H	BP2S	BP1U	BP2U	BG1H	AG1S	BP20	SP5T	WGFU	WGKU			Comments
1		1														
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																

Container Codes

DG9H	40mL HCL amber voa vial	AF	Air Filter	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber gl	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved **amber** vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber gla	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber gla	BP3A	250mL NaOh, Asc Acid plastic	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved **clear** vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gla	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag
WGKU	8oz wide jar upreserved	SP5T	120mL Coliform Na Thiosulfate	SP5U	120mL Coliform unpreserved	GN	General unpreserved
Other	Other						

TCLP/SPLP Determination of Percent Solids

(Only if sample is liquid or semi-liquid. Skip if sample is obviously 100% solid.)

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Date: 7/2/14 Batch: 6447

Analyst: ZNA Balance ID: 600EXTS Reviewed by: [signature] 7/9/14

Sample Number	A Weight of Beaker (g)	B Weight of Sample & Beaker (g)	C Weight of Filtrate Container (g)	D Weight of 142-mm TCLP Filter (g)	E Weight of Waste Beaker After Filtration (g)	F Weight of Filtrate & Container (g)	G Weight of Filter and Solid Phase After Filtration (g)	H Weight of Filtrate (g) (F - C)	I Weight of Waste Filtered (g) (E - B)	J Percent WET Solids ((I - H) / I × 0.01)	K DRY Weight #1 of Solid Phase plus Filter (g)	L DRY Weight #2 of Solid Phase plus Filter (g) (1)	M Percent DRY Solids ((L - D) / I × 0.01)	If Multiphase, Are Phases Compatible (2)
60172028.001	114.1	260.4	281.8	1.3	115.1	421.2	4.7	139.4	145.3	4.06	1.3	T	T	Yes / No / NA
60172716-001	118.3	246.7	284.4	1.3	119.1	404.3	3.8	119.9	127.6	6.03	1.4	NA		Yes / No / NA
60172029-001	131.0	287.2	279.0	1.3	121.7	439.0	3.5	160	165.5	3.32	1.6			Yes / No / NA
60172174-001	120.1	271.6	281.1	1.3	120.9	425.5	2.9	144.4	150.7	4.18	1.3			Yes / No / NA
60172175-001	118.4	272.3	280.4	1.3	119.3	428.3	3.3	147.9	153.0	3.33	1.3			Yes / No / NA
60172255-001	121.5	258.1	280.9	1.3	122.4	411.7	3.1	130.8	135.7	3.61	1.4			Yes / No / NA
60172275-001	116.6	216.2	282.4	1.3	118.4	349.6	27.9	67.2	97.8	31.29				Yes / No / NA
60172345-001	120.1	255.7	280.7	1.3	120.9	407.6	2.8	127.4	134.8	5.49	1.3			Yes / No / NA
ZNB 7/3/14														
60172344-001	121.6	~~280.6~~ 268.8	~~280.6~~	1.3	122.5	435.4	3.2	154.8			1.8			Yes / No / NA
60172350-001	114.3	~~278.9~~ 278.9	278.9	1.3	115.0	426.3	1.7	147.4	153.8	4.16	1.3			Yes / No / NA
60172349-001	116.7	195.2	279.9	1.3	117.1	354.6	2.9	74.7	78.1	4.35				Yes / No / NA
														Yes / No / NA

NOTE: If Wet Solids are ≥0.5 and <5% and a small amount of liquid is entrapped in the filter, then determine Percent Dry Solids. If the entrapped liquid is oily (non-aqueous) do not determine Percent Dry Solids. If Solids are <0.5%, tumbling is not required because the filtrate is considered to be the TCLP/SPLP extract.

(1) Dry Weight #1 and Dry Weight #2 must be within 1% of each other. If the weights are within 1% of each other, use Dry Weight #2 in further calculations. If not within 1%, continue drying and weighing until two successive weighings are within 1%.

(2) If compatible, combine the filtered liquid resulting from extraction with the initial liquid phase of sample. If the initial liquid phase is not compatible with the filtered liquid resulting from extraction, do not combine. Analyze liquids separately and combine the results mathematically.

If solids are ≥5.0 and <100%	Weight of waste to charge the ZHE = $\frac{25}{\text{Percent solids}} \times 100$ Weight of waste to filter = $\frac{\text{mL of leachate required}}{20 \times \text{Percent solids}} \times 100$