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

March 10, 2014

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

RE: Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 03, 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: Dana Baker, Barr Engineering Co.
Scott Fedak, Feezor Engineering
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

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 316-232
Pace Project No.: 60164043

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164043001	**316-232**	Water	03/01/14 15:15	03/03/14 14:30
60164043002	**TRIP BLANK**	Water	03/01/14 08:00	03/03/14 14:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164043001	**316-232**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	OL	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164043002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

Sample: 316-232 **Lab ID: 60164043001** Collected: 03/01/14 15:15 Received: 03/03/14 14:30 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	**8600**	ug/L	750	2	03/06/14 10:20	03/07/14 12:15	7429-90-5	
Antimony	ND	ug/L	100	2	03/06/14 10:20	03/07/14 12:15	7440-36-0	D3
Arsenic	**1180**	ug/L	50.0	1	03/06/14 10:20	03/07/14 12:12	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/06/14 10:20	03/07/14 12:12	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:12	7440-43-9	
Chromium	**335**	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:12	7440-47-3	
Cobalt	**65.2**	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:12	7440-48-4	
Copper	ND	ug/L	50.0	1	03/06/14 10:20	03/07/14 12:12	7440-50-8	
Iron	**1030000**	ug/L	250	1	03/06/14 10:20	03/07/14 12:12	7439-89-6	
Lead	**204**	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:12	7439-92-1	
Nickel	**158**	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:12	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/06/14 10:20	03/07/14 12:12	7782-49-2	
Silver	ND	ug/L	35.0	1	03/06/14 10:20	03/07/14 12:12	7440-22-4	
Thallium	ND	ug/L	200	2	03/06/14 10:20	03/07/14 12:15	7440-28-0	
Zinc	**9860**	ug/L	500	2	03/06/14 10:20	03/07/14 12:15	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1550**	ug/L	750	2	03/07/14 16:30	03/10/14 10:34	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/07/14 16:30	03/10/14 10:34	7440-36-0	D3
Arsenic, Dissolved	**853**	ug/L	50.0	1	03/07/14 16:30	03/10/14 10:30	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/07/14 16:30	03/10/14 10:30	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:30	7440-43-9	
Chromium, Dissolved	**230**	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:30	7440-47-3	
Cobalt, Dissolved	**39.8**	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:30	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/07/14 16:30	03/10/14 10:30	7440-50-8	
Iron, Dissolved	**681000**	ug/L	250	1	03/07/14 16:30	03/10/14 10:30	7439-89-6	
Lead, Dissolved	**102**	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:30	7439-92-1	
Nickel, Dissolved	**111**	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:30	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/07/14 16:30	03/10/14 10:30	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/07/14 16:30	03/10/14 10:30	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/07/14 16:30	03/10/14 10:30	7440-28-0	
Zinc, Dissolved	**7670**	ug/L	500	2	03/07/14 16:30	03/10/14 10:34	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**39.9**	ug/L	6.0	1	03/05/14 15:00	03/06/14 14:51	7439-97-6	R1
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	03/10/14 11:15	03/10/14 16:15	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	2	03/06/14 00:00	03/07/14 16:18	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	77-47-4	
Hexachloroethane	ND	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	20.0	2	03/06/14 00:00	03/07/14 16:18	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**71.8**	ug/L	40.0	2	03/06/14 00:00	03/07/14 16:18		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

Sample: 316-232 **Lab ID: 60164043001** Collected: 03/01/14 15:15 Received: 03/03/14 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**12.5**	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	91-20-3	
Nitrobenzene	ND	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	98-95-3	
Pentachlorophenol	ND	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	87-86-5	
Phenol	**95.2**	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	2	03/06/14 00:00	03/07/14 16:18	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	120	%	33-120	2	03/06/14 00:00	03/07/14 16:18	4165-60-0	
2-Fluorobiphenyl (S)	80	%	39-120	2	03/06/14 00:00	03/07/14 16:18	321-60-8	
Terphenyl-d14 (S)	85	%	45-120	2	03/06/14 00:00	03/07/14 16:18	1718-51-0	
Phenol-d6 (S)	42	%	11-120	2	03/06/14 00:00	03/07/14 16:18	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	03/06/14 00:00	03/07/14 16:18	367-12-4	
2,4,6-Tribromophenol (S)	86	%	39-120	2	03/06/14 00:00	03/07/14 16:18	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**153000**	ug/L	2000	200		03/07/14 13:27	67-64-1	N2
Benzene	ND	ug/L	200	200		03/07/14 13:27	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/07/14 13:27	75-27-4	
Bromoform	ND	ug/L	200	200		03/07/14 13:27	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/07/14 13:27	74-83-9	
2-Butanone (MEK)	**81600**	ug/L	2000	200		03/07/14 13:27	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/07/14 13:27	56-23-5	
Chloroethane	ND	ug/L	200	200		03/07/14 13:27	75-00-3	
Chloroform	ND	ug/L	200	200		03/07/14 13:27	67-66-3	
1,4-Dichlorobenzene	**751**	ug/L	200	200		03/07/14 13:27	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/07/14 13:27	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 13:27	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 13:27	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/07/14 13:27	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/07/14 13:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2460**	ug/L	2000	200		03/07/14 13:27	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/07/14 13:27	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/07/14 13:27	127-18-4	
Toluene	ND	ug/L	200	200		03/07/14 13:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/07/14 13:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/07/14 13:27	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/07/14 13:27	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/07/14 13:27	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/07/14 13:27	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		03/07/14 13:27	460-00-4	
Toluene-d8 (S)	96	%	80-120	200		03/07/14 13:27	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		03/07/14 13:27	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/07/14 13:27		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1150**	mg/L	5.0	1		03/06/14 15:57		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

Sample: 316-232 **Lab ID: 60164043001** Collected: 03/01/14 15:15 Received: 03/03/14 14:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**14.0**	mg/L	5.0	1		03/10/14 07:07		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4620**	mg/L	5.0	1		03/05/14 16:20		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/05/14 12:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**18800**	mg/L	2.0	1	03/03/14 17:56	03/08/14 10:24		H2
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**638**	mg/L	20.0	200		03/05/14 16:49	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**46800**	mg/L	5000	500		03/10/14 14:25		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

Sample: TRIP BLANK **Lab ID: 60164043002** Collected: 03/01/14 08:00 Received: 03/03/14 14:30 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		03/07/14 13:12	67-64-1	N2
Benzene	ND	ug/L	1.0	1		03/07/14 13:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/07/14 13:12	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/07/14 13:12	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/07/14 13:12	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/07/14 13:12	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/07/14 13:12	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/07/14 13:12	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/07/14 13:12	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/07/14 13:12	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/07/14 13:12	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 13:12	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 13:12	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/07/14 13:12	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/07/14 13:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/07/14 13:12	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/07/14 13:12	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/07/14 13:12	127-18-4	
Toluene	ND	ug/L	1.0	1		03/07/14 13:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/07/14 13:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/07/14 13:12	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/07/14 13:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/07/14 13:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/07/14 13:12	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	112	%	80-120	1		03/07/14 13:12	460-00-4	
Toluene-d8 (S)	104	%	80-120	1		03/07/14 13:12	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	80-120	1		03/07/14 13:12	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/07/14 13:12		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: MERP/8200 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164043001

METHOD BLANK: 1339000 | Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/06/14 14:17	

LABORATORY CONTROL SAMPLE: 1339001

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	99	85-115	

MATRIX SPIKE SAMPLE: 1339002

Parameter	Units	60163729023 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.9	98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339003 1339004

Parameter	Units	60164043001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	39.9	150	150	228	165	126	83	70-130	32	20	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: MERP/8210
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164043001

METHOD BLANK: 1341401
Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/10/14 16:11	

LABORATORY CONTROL SAMPLE: 1341402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341403 1341404

Parameter	Units	60164113001 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	181	130	120	87	70-130	32	20	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: MPRP/26342
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164043001

METHOD BLANK: 1339299
Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/07/14 11:15	
Antimony	ug/L	ND	10.0	03/07/14 11:15	
Arsenic	ug/L	ND	10.0	03/07/14 11:15	
Beryllium	ug/L	ND	1.0	03/07/14 11:15	
Cadmium	ug/L	ND	5.0	03/07/14 11:15	
Chromium	ug/L	ND	5.0	03/07/14 11:15	
Cobalt	ug/L	ND	5.0	03/07/14 11:15	
Copper	ug/L	ND	10.0	03/07/14 11:15	
Iron	ug/L	ND	50.0	03/07/14 11:15	
Lead	ug/L	ND	5.0	03/07/14 11:15	
Nickel	ug/L	ND	5.0	03/07/14 11:15	
Selenium	ug/L	ND	15.0	03/07/14 11:15	
Silver	ug/L	ND	7.0	03/07/14 11:15	
Thallium	ug/L	ND	20.0	03/07/14 11:15	
Zinc	ug/L	ND	50.0	03/07/14 11:15	

LABORATORY CONTROL SAMPLE: 1339300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	1020	102	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1070	107	85-115	
Cobalt	ug/L	1000	1060	106	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10600	106	85-115	
Lead	ug/L	1000	1070	107	85-115	
Nickel	ug/L	1000	1070	107	85-115	
Selenium	ug/L	1000	1030	103	85-115	
Silver	ug/L	500	505	101	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1070	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339301 1339302

Parameter	Units	60163872001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8590	50000	50000	65200	67100	113	117	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339301 1339302

Parameter	Units	60163872001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5320	5470	106	109	70-130	3	7	
Arsenic	ug/L	1430	5000	5000	6940	6980	110	111	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4600	4570	92	91	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5300	5290	106	106	70-130	0	10	
Chromium	ug/L	378	5000	5000	5340	5340	99	99	70-130	0	10	
Cobalt	ug/L	75.4	5000	5000	4770	4750	94	93	70-130	0	6	
Copper	ug/L	ND	5000	5000	5360	5340	106	106	70-130	0	11	
Iron	ug/L	1160000	50000	50000	1130000	1160000	-57	-8	70-130	2	10	M1
Lead	ug/L	216	5000	5000	4630	4600	88	88	70-130	0	10	
Nickel	ug/L	174	5000	5000	4780	4750	92	91	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6300	6300	125	125	70-130	0	10	
Silver	ug/L	ND	2500	2500	2730	2710	109	108	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4030	3990	81	80	70-130	1	6	
Zinc	ug/L	10400	5000	5000	14700	15300	86	98	70-130	4	11	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339303 1339304

Parameter	Units	60164113001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	26100	50000	50000	94100	92800	136	134	70-130	1	8	M1
Antimony	ug/L	ND	5000	5000	5260	5160	104	102	70-130	2	7	
Arsenic	ug/L	1100	5000	5000	6740	7190	113	122	70-130	7	10	
Beryllium	ug/L	ND	5000	5000	4520	4530	90	91	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5340	5740	107	114	70-130	7	10	
Chromium	ug/L	335	5000	5000	5340	5380	100	101	70-130	1	10	
Cobalt	ug/L	72.2	5000	5000	4820	5180	95	102	70-130	7	6	R1
Copper	ug/L	54.7	5000	5000	5340	5380	106	107	70-130	1	11	
Iron	ug/L	1000000	50000	50000	1030000	1010000	57	16	70-130	2	10	M1
Lead	ug/L	207	5000	5000	4690	5020	90	96	70-130	7	10	
Nickel	ug/L	167	5000	5000	4810	5160	93	100	70-130	7	10	
Selenium	ug/L	ND	5000	5000	6250	6700	124	133	70-130	7	10	M1
Silver	ug/L	ND	2500	2500	2720	2740	109	109	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4070	4390	81	88	70-130	8	6	R1
Zinc	ug/L	8420	5000	5000	13100	12700	93	86	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: MPRP/26364
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164043001

METHOD BLANK: 1340542
Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/10/14 10:24	
Antimony, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Arsenic, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Beryllium, Dissolved	ug/L	ND	1.0	03/10/14 10:24	
Cadmium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Chromium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Cobalt, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Copper, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Iron, Dissolved	ug/L	ND	50.0	03/10/14 10:24	
Lead, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Nickel, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Selenium, Dissolved	ug/L	ND	15.0	03/10/14 10:24	
Silver, Dissolved	ug/L	ND	7.0	03/10/14 10:24	
Thallium, Dissolved	ug/L	ND	20.0	03/10/14 10:24	
Zinc, Dissolved	ug/L	ND	50.0	03/10/14 10:24	

LABORATORY CONTROL SAMPLE: 1340543

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	980	98	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1040	104	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	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 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	51500	52400	100	102	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5190	5230	103	104	70-130	1	7	
Arsenic, Dissolved	ug/L	874	5000	5000	6160	6240	106	107	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4940	5010	99	100	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5250	5300	105	106	70-130	1	10	
Chromium, Dissolved	ug/L	238	5000	5000	5120	5180	98	99	70-130	1	10	
Cobalt, Dissolved	ug/L	44.2	5000	5000	4810	4860	95	96	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5320	5390	106	108	70-130	1	11	
Iron, Dissolved	ug/L	696000	50000	50000	672000	690000	-48	-14	70-130	2	10	M1
Lead, Dissolved	ug/L	107	5000	5000	4660	4710	91	92	70-130	1	10	
Nickel, Dissolved	ug/L	115	5000	5000	4870	4920	95	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6000	6090	120	122	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2680	2710	107	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4360	87	87	70-130	0	6	
Zinc, Dissolved	ug/L	7040	5000	5000	11100	11300	81	85	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: MSV/59849 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164043001, 60164043002

METHOD BLANK: 1339764 | Matrix: Water
Associated Lab Samples: 60164043001, 60164043002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/07/14 12:56	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,2-Dichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/07/14 12:56	
2-Butanone (MEK)	ug/L	ND	10.0	03/07/14 12:56	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/07/14 12:56	N2
Acetone	ug/L	ND	10.0	03/07/14 12:56	N2
Benzene	ug/L	ND	1.0	03/07/14 12:56	
Bromodichloromethane	ug/L	ND	1.0	03/07/14 12:56	
Bromoform	ug/L	ND	1.0	03/07/14 12:56	
Bromomethane	ug/L	ND	5.0	03/07/14 12:56	
Carbon tetrachloride	ug/L	ND	1.0	03/07/14 12:56	
Chloroethane	ug/L	ND	1.0	03/07/14 12:56	
Chloroform	ug/L	ND	1.0	03/07/14 12:56	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	N2
Ethylbenzene	ug/L	ND	1.0	03/07/14 12:56	
Methylene chloride	ug/L	ND	1.0	03/07/14 12:56	
Tetrachloroethene	ug/L	ND	1.0	03/07/14 12:56	
Toluene	ug/L	ND	1.0	03/07/14 12:56	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Trichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Vinyl chloride	ug/L	ND	1.0	03/07/14 12:56	
Xylene (Total)	ug/L	ND	3.0	03/07/14 12:56	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	03/07/14 12:56	
4-Bromofluorobenzene (S)	%	100	80-120	03/07/14 12:56	
Toluene-d8 (S)	%	97	80-120	03/07/14 12:56	

LABORATORY CONTROL SAMPLE: 1339765

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.8	84	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	17.5	87	67-127	N2
1,1,2-Trichloroethane	ug/L	20	15.4	77	67-124	
1,2-Dichloroethane	ug/L	20	15.6	78	70-126	
1,4-Dichlorobenzene	ug/L	20	16.9	84	74-120	
2-Butanone (MEK)	ug/L	100	84.4	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	77.8	78	59-131	N2
Acetone	ug/L	100	106	106	38-134	N2
Benzene	ug/L	20	15.8	79	75-120	
Bromodichloromethane	ug/L	20	16.3	82	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

LABORATORY CONTROL SAMPLE: 1339765

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	17.0	85	65-127	
Bromomethane	ug/L	20	12.8	64	13-157	
Carbon tetrachloride	ug/L	20	16.6	83	70-131	
Chloroethane	ug/L	20	16.1	81	47-133	
Chloroform	ug/L	20	16.1	80	65-127	
cis-1,2-Dichloroethene	ug/L	20	16.4	82	68-127	N2
Ethylbenzene	ug/L	20	16.0	80	74-122	
Methylene chloride	ug/L	20	14.9	74	64-129	
Tetrachloroethene	ug/L	20	15.7	79	73-125	
Toluene	ug/L	20	16.1	81	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	66-129	
Trichloroethene	ug/L	20	16.4	82	71-123	
Vinyl chloride	ug/L	20	16.2	81	43-129	
Xylene (Total)	ug/L	60	48.3	81	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1339766

Parameter	Units	60164043001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4270	107	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3960	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4400	110	52-143	
1,2-Dichloroethane	ug/L	ND	4000	4080	102	49-144	
1,4-Dichlorobenzene	ug/L	751	4000	4650	97	33-140	
2-Butanone (MEK)	ug/L	81600	20000	105000	115	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	2460	20000	23400	104	40-160	N2
Acetone	ug/L	153000	20000	181000	138	10-160	N2
Benzene	ug/L	ND	4000	4270	107	37-151	
Bromodichloromethane	ug/L	ND	4000	4260	106	35-142	
Bromoform	ug/L	ND	4000	4070	102	45-142	
Bromomethane	ug/L	ND	4000	3430	85	10-158	
Carbon tetrachloride	ug/L	ND	4000	4470	112	70-140	
Chloroethane	ug/L	ND	4000	4300	108	19-152	
Chloroform	ug/L	ND	4000	3940	99	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4350	109	34-147	N2
Ethylbenzene	ug/L	ND	4000	4490	111	40-142	
Methylene chloride	ug/L	ND	4000	3840	96	31-144	
Tetrachloroethene	ug/L	ND	4000	4640	116	64-148	
Toluene	ug/L	ND	4000	4340	108	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4120	103	54-151	
Trichloroethene	ug/L	ND	4000	4400	110	71-149	
Vinyl chloride	ug/L	ND	4000	4610	115	22-146	
Xylene (Total)	ug/L	ND	12000	13900	116	37-144	N2
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				93	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

MATRIX SPIKE SAMPLE: 1339766

Parameter	Units	60164043001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				97	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: OEXT/42995 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164043001

METHOD BLANK: 1339163 | Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/07/14 13:06	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/07/14 13:06	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/07/14 13:06	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/07/14 13:06	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/07/14 13:06	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/07/14 13:06	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/07/14 13:06	
Hexachloroethane	ug/L	ND	5.0	03/07/14 13:06	
Naphthalene	ug/L	ND	5.0	03/07/14 13:06	
Nitrobenzene	ug/L	ND	5.0	03/07/14 13:06	
Pentachlorophenol	ug/L	ND	5.0	03/07/14 13:06	
Phenol	ug/L	ND	5.0	03/07/14 13:06	
2,4,6-Tribromophenol (S)	%	88	39-120	03/07/14 13:06	
2-Fluorobiphenyl (S)	%	91	39-120	03/07/14 13:06	
2-Fluorophenol (S)	%	44	17-120	03/07/14 13:06	
Nitrobenzene-d5 (S)	%	77	33-120	03/07/14 13:06	
Phenol-d6 (S)	%	25	11-120	03/07/14 13:06	
Terphenyl-d14 (S)	%	107	45-120	03/07/14 13:06	

LABORATORY CONTROL SAMPLE: 1339164

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.7	77	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.5	65		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	28.8	58		N2
4,6-Dinitro-2-methylphenol	ug/L	50	46.6	93	40-133	
Hexachloro-1,3-butadiene	ug/L	50	43.9	88	44-116	
Hexachlorocyclopentadiene	ug/L	100	79.1	79	24-120	
Hexachloroethane	ug/L	50	43.5	87	43-113	
Naphthalene	ug/L	50	42.3	85	48-120	
Nitrobenzene	ug/L	50	43.6	87	48-120	
Pentachlorophenol	ug/L	50	37.2	74	47-120	
Phenol	ug/L	50	14.6	29	16-112	
2,4,6-Tribromophenol (S)	%			96	39-120	
2-Fluorobiphenyl (S)	%			90	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			86	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			103	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

MATRIX SPIKE SAMPLE: 1339165

Parameter	Units	60163973001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	2940	59	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3700	74	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3510	70		N2
3&4-Methylphenol(m&p Cresol)	ug/L	6740	5000	9200	49		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	1950J	39	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3070	61	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4010	40	11-120	
Hexachloroethane	ug/L	ND	5000	3540	71	40-113	
Naphthalene	ug/L	ND	5000	3410	64	45-120	
Nitrobenzene	ug/L	ND	5000	4860	97	38-120	
Pentachlorophenol	ug/L	ND	5000	3910	78	43-135	
Phenol	ug/L	7230	5000	10300	61	13-112	
2,4,6-Tribromophenol (S)	%				77	39-120	
2-Fluorobiphenyl (S)	%				74	39-120	
2-Fluorophenol (S)	%				42	17-120	
Nitrobenzene-d5 (S)	%				107	33-120	
Phenol-d6 (S)	%				42	11-120	
Terphenyl-d14 (S)	%				82	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: WET/46531 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164043001

METHOD BLANK: 1339735 | Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/06/14 15:54	

LABORATORY CONTROL SAMPLE: 1339736

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.4	101	78-114	

MATRIX SPIKE SAMPLE: 1339737

Parameter	Units	60163855002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	9.1	47.1	49.4	86	78-114	

SAMPLE DUPLICATE: 1339738

Parameter	Units	60163973001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	966	1120	15	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: WET/46563 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164043001

METHOD BLANK: 1341129 | Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/10/14 07:06	

LABORATORY CONTROL SAMPLE: 1341130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.4	92	64-132	

MATRIX SPIKE SAMPLE: 1341131

Parameter	Units	60163855002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.5	25.2	94	64-132	

SAMPLE DUPLICATE: 1341132

Parameter	Units	60163973001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	16.8	18.8	11	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: WET/46482 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164043001

METHOD BLANK: 1338639 | Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/05/14 16:17	

SAMPLE DUPLICATE: 1338640

Parameter	Units	60163876003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	34.0	36.0	6	10	

SAMPLE DUPLICATE: 1338641

Parameter	Units	60163974001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4500	4600	2	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: WET/46455
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164043001

SAMPLE DUPLICATE: 1338263

Parameter	Units	60164043001 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 316-232
Pace Project No.: 60164043

QC Batch: WET/46443 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164043001

METHOD BLANK: 1338170 | Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/08/14 10:18	

LABORATORY CONTROL SAMPLE: 1338171

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

SAMPLE DUPLICATE: 1338172

Parameter	Units	60164036002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	354	360	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: WETA/28461 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164043001

METHOD BLANK: 1338792 | Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/05/14 16:43	

LABORATORY CONTROL SAMPLE: 1338793

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1338794

Parameter	Units	60164031001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	87	90-110	M1

MATRIX SPIKE SAMPLE: 1338795

Parameter	Units	60164095001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	104	90-110	

SAMPLE DUPLICATE: 1338796

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	623	679	9	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

QC Batch: WETA/28480 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164043001

METHOD BLANK: 1339818 | Matrix: Water
Associated Lab Samples: 60164043001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/10/14 13:53	

LABORATORY CONTROL SAMPLE: 1339819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.6	103	90-110	

MATRIX SPIKE SAMPLE: 1339820

Parameter	Units	60163575001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3460	2500	5340	75	90-110	M1

SAMPLE DUPLICATE: 1339821

Parameter	Units	60163761004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2960	3100	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

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.
H2	Extraction or preparation conducted outside EPA method holding time.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-232
Pace Project No.: 60164043

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164043001	**316-232**	EPA 200.7	MPRP/26342	EPA 200.7	ICP/20103
60164043001	**316-232**	EPA 200.7	MPRP/26364	EPA 200.7	ICP/20111
60164043001	**316-232**	EPA 245.1	MERP/8200	EPA 245.1	MERC/8152
60164043001	**316-232**	EPA 245.1	MERP/8210	EPA 245.1	MERC/8165
60164043001	**316-232**	EPA 625	OEXT/42995	EPA 625	MSSV/13690
60164043001	**316-232**	EPA 624 Low	MSV/59849		
60164043002	**TRIP BLANK**	EPA 624 Low	MSV/59849		
60164043001	**316-232**	EPA 1664A	WET/46531		
60164043001	**316-232**	EPA 1664A	WET/46563		
60164043001	**316-232**	SM 2540D	WET/46482		
60164043001	**316-232**	SM 4500-H+B	WET/46455		
60164043001	**316-232**	SM 5210B	WET/46443	SM 5210B	WET/46589
60164043001	**316-232**	EPA 350.1	WETA/28461		
60164043001	**316-232**	EPA 410.4	WETA/28480		

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Sample Condition Upon Receipt

WO#: 60164043

60164043

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 ☒ Tupi

Thermometer Used: T-238 / 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: S 3/3/14

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: Includes date/time/ID/analyses Matrix: WT	☒Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Added hno3 2.5 to 316-232 BP3N 6.0/2.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	Added h2so4 2.0 to 316-232 BP3S 6.0/1.5 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed S — Lot # of added preservative 13513, 13514
Trip Blank present: Pace Trip Blank lot # (if purchased): Feb 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: _____

Project Manager Review: _____ Date: 3/4/14

F-KS-C-003-Rev.7, 04December2012

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:

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.	PO 3727110
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 #:	6787 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 AIR; Other OT; Tissue TS

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	316-222 2(AGB4U) 5(DG9U)	OT	G	03/01/14	3:15 pm				14	10	4	1	0					X	X	X	X	X	X	X	X	X	X	X	3(AGB35)	BP3N, BP3S, BP3U, 2(BP2U) (03)	
2	TRIP BLANK								2	2															X					2(DG9U) TB	R02
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	Paul Unsell	03-03-14	8:48am	Bill Storee 4/12	03-03-14	8:48AM				
SITE ADDRESS: BRIDGETON LF				Andell McCoy / PASI	3/3/14	1430	5.8	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 Unsell					
SIGNATURE of SAMPLER: Paul Unsell	DATE Signed: 03-03-14				

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March 18, 2014

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

RE: Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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.

Amended report, REV-1 on 3/12/14 to correct project name.

Amended report, Rev-2 on March 18 to correct total metals list reported.

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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

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 316-233R
Pace Project No.: 60164113

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164113001	**316-233R**	Water	03/03/14 12:15	03/05/14 01:30
60164113002	**TRIP BLANK**	Water	03/03/14 12:15	03/05/14 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164113001	**316-233R**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164113002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

Sample: 316-233R **Lab ID: 60164113001** Collected: 03/03/14 12:15 Received: 03/05/14 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	**26100**	ug/L	750	2	03/06/14 10:20	03/07/14 12:45	7429-90-5	M1
Antimony	ND	ug/L	100	2	03/06/14 10:20	03/07/14 12:45	7440-36-0	D3
Arsenic	**1100**	ug/L	50.0	1	03/06/14 10:20	03/07/14 12:42	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/06/14 10:20	03/07/14 12:42	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:42	7440-43-9	
Chromium	**335**	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:42	7440-47-3	
Cobalt	**72.2**	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:42	7440-48-4	R1
Copper	**54.7**	ug/L	50.0	1	03/06/14 10:20	03/07/14 12:42	7440-50-8	
Iron	**1000000**	ug/L	250	1	03/06/14 10:20	03/07/14 12:42	7439-89-6	M1
Lead	**207**	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:42	7439-92-1	
Nickel	**167**	ug/L	25.0	1	03/06/14 10:20	03/07/14 12:42	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/06/14 10:20	03/07/14 12:42	7782-49-2	M1
Silver	ND	ug/L	35.0	1	03/06/14 10:20	03/07/14 12:42	7440-22-4	
Thallium	ND	ug/L	100	1	03/06/14 10:20	03/07/14 12:42	7440-28-0	R1
Zinc	**8420**	ug/L	500	2	03/06/14 10:20	03/07/14 12:45	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	03/07/14 16:30	03/10/14 10:40	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/07/14 16:30	03/10/14 10:40	7440-36-0	D3
Arsenic, Dissolved	**874**	ug/L	50.0	1	03/07/14 16:30	03/10/14 10:37	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/07/14 16:30	03/10/14 10:37	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:37	7440-43-9	
Chromium, Dissolved	**238**	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:37	7440-47-3	
Cobalt, Dissolved	**44.2**	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:37	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/07/14 16:30	03/10/14 10:37	7440-50-8	
Iron, Dissolved	**696000**	ug/L	250	1	03/07/14 16:30	03/10/14 10:37	7439-89-6	M1
Lead, Dissolved	**107**	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:37	7439-92-1	
Nickel, Dissolved	**115**	ug/L	25.0	1	03/07/14 16:30	03/10/14 10:37	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/07/14 16:30	03/10/14 10:37	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/07/14 16:30	03/10/14 10:37	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/07/14 16:30	03/10/14 10:37	7440-28-0	
Zinc, Dissolved	**7040**	ug/L	500	2	03/07/14 16:30	03/10/14 10:40	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/06/14 14:30	03/07/14 11:52	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	03/10/14 11:15	03/10/14 16:17	7439-97-6	R1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Phenol	**88.3**	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	108-95-2	M1
2-Methylphenol(o-Cresol)	ND	ug/L	20.0	2	03/07/14 00:00	03/10/14 11:33	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**66.6**	ug/L	40.0	2	03/07/14 00:00	03/10/14 11:33		N2
Nitrobenzene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	98-95-3	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	120-82-1	
Naphthalene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	91-20-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

Sample: 316-233R **Lab ID: 60164113001** Collected: 03/03/14 12:15 Received: 03/05/14 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							
Hexachloro-1,3-butadiene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	77-47-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	88-06-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	2	03/07/14 00:00	03/10/14 11:33	534-52-1	
Pentachlorophenol	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	87-86-5	
Hexachloroethane	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 11:33	67-72-1	
Surrogates								
Nitrobenzene-d5 (S)	122	%	33-120	2	03/07/14 00:00	03/10/14 11:33	4165-60-0	S0
2-Fluorobiphenyl (S)	77	%	39-120	2	03/07/14 00:00	03/10/14 11:33	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	03/07/14 00:00	03/10/14 11:33	1718-51-0	
Phenol-d6 (S)	38	%	11-120	2	03/07/14 00:00	03/10/14 11:33	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	03/07/14 00:00	03/10/14 11:33	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	03/07/14 00:00	03/10/14 11:33	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**115000**	ug/L	2000	200		03/07/14 15:01	67-64-1	M1,N2
Benzene	ND	ug/L	200	200		03/07/14 15:01	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/07/14 15:01	75-27-4	
Bromoform	ND	ug/L	200	200		03/07/14 15:01	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/07/14 15:01	74-83-9	
2-Butanone (MEK)	**60400**	ug/L	2000	200		03/07/14 15:01	78-93-3	M1,N2
Carbon tetrachloride	ND	ug/L	200	200		03/07/14 15:01	56-23-5	
Chloroethane	ND	ug/L	200	200		03/07/14 15:01	75-00-3	
Chloroform	ND	ug/L	200	200		03/07/14 15:01	67-66-3	
1,4-Dichlorobenzene	**421**	ug/L	200	200		03/07/14 15:01	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/07/14 15:01	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 15:01	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 15:01	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/07/14 15:01	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/07/14 15:01	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		03/07/14 15:01	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/07/14 15:01	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/07/14 15:01	127-18-4	M1
Toluene	ND	ug/L	200	200		03/07/14 15:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/07/14 15:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/07/14 15:01	79-00-5	M1
Trichloroethene	ND	ug/L	200	200		03/07/14 15:01	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/07/14 15:01	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/07/14 15:01	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	115	%	80-120	200		03/07/14 15:01	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		03/07/14 15:01	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	80-120	200		03/07/14 15:01	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/07/14 15:01		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**932**	mg/L	5.0	1		03/07/14 15:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

Sample: 316-233R **Lab ID: 60164113001** Collected: 03/03/14 12:15 Received: 03/05/14 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	**10.8**	mg/L	5.0	1		03/12/14 07:26		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5000**	mg/L	5.0	1		03/06/14 12:58		D6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/10/14 13:43		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**28000**	mg/L	2.0	1	03/05/14 11:23	03/10/14 10:18		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**623**	mg/L	20.0	200		03/05/14 17:05	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**59600**	mg/L	5000	500		03/12/14 08:11		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

Sample: TRIP BLANK **Lab ID: 60164113002** Collected: 03/03/14 12:15 Received: 03/05/14 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		03/07/14 14:15	67-64-1	N2
Benzene	ND	ug/L	1.0	1		03/07/14 14:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/07/14 14:15	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/07/14 14:15	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/07/14 14:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/07/14 14:15	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/07/14 14:15	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/07/14 14:15	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/07/14 14:15	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/07/14 14:15	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/07/14 14:15	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 14:15	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 14:15	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/07/14 14:15	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/07/14 14:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/07/14 14:15	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/07/14 14:15	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/07/14 14:15	127-18-4	
Toluene	ND	ug/L	1.0	1		03/07/14 14:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/07/14 14:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/07/14 14:15	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/07/14 14:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/07/14 14:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/07/14 14:15	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	1		03/07/14 14:15	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/07/14 14:15	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		03/07/14 14:15	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/07/14 14:15		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: MERP/8206
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164113001

METHOD BLANK: 1339605
Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/07/14 11:46	

LABORATORY CONTROL SAMPLE: 1339606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.4	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339607 1339608

Parameter	Units	60164113001 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	137	154	87	99	70-130	12	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: MERP/8210
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164113001

METHOD BLANK: 1341401
Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/10/14 16:11	

LABORATORY CONTROL SAMPLE: 1341402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341403 1341404

Parameter	Units	60164113001 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	181	130	120	87	70-130	32	20	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: MPRP/26342
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164113001

METHOD BLANK: 1339299
Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/07/14 11:15	
Antimony	ug/L	ND	10.0	03/07/14 11:15	
Arsenic	ug/L	ND	10.0	03/07/14 11:15	
Beryllium	ug/L	ND	1.0	03/07/14 11:15	
Cadmium	ug/L	ND	5.0	03/07/14 11:15	
Chromium	ug/L	ND	5.0	03/07/14 11:15	
Cobalt	ug/L	ND	5.0	03/07/14 11:15	
Copper	ug/L	ND	10.0	03/07/14 11:15	
Iron	ug/L	ND	50.0	03/07/14 11:15	
Lead	ug/L	ND	5.0	03/07/14 11:15	
Nickel	ug/L	ND	5.0	03/07/14 11:15	
Selenium	ug/L	ND	15.0	03/07/14 11:15	
Silver	ug/L	ND	7.0	03/07/14 11:15	
Thallium	ug/L	ND	20.0	03/07/14 11:15	
Zinc	ug/L	ND	50.0	03/07/14 11:15	

LABORATORY CONTROL SAMPLE: 1339300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	1020	102	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1070	107	85-115	
Cobalt	ug/L	1000	1060	106	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10600	106	85-115	
Lead	ug/L	1000	1070	107	85-115	
Nickel	ug/L	1000	1070	107	85-115	
Selenium	ug/L	1000	1030	103	85-115	
Silver	ug/L	500	505	101	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1070	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339301 1339302

Parameter	Units	60163872001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8590	50000	50000	65200	67100	113	117	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339301 1339302

Parameter	Units	60163872001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5320	5470	106	109	70-130	3	7	
Arsenic	ug/L	1430	5000	5000	6940	6980	110	111	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4600	4570	92	91	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5300	5290	106	106	70-130	0	10	
Chromium	ug/L	378	5000	5000	5340	5340	99	99	70-130	0	10	
Cobalt	ug/L	75.4	5000	5000	4770	4750	94	93	70-130	0	6	
Copper	ug/L	ND	5000	5000	5360	5340	106	106	70-130	0	11	
Iron	ug/L	1160000	50000	50000	1130000	1160000	-57	-8	70-130	2	10	M1
Lead	ug/L	216	5000	5000	4630	4600	88	88	70-130	0	10	
Nickel	ug/L	174	5000	5000	4780	4750	92	91	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6300	6300	125	125	70-130	0	10	
Silver	ug/L	ND	2500	2500	2730	2710	109	108	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4030	3990	81	80	70-130	1	6	
Zinc	ug/L	10400	5000	5000	14700	15300	86	98	70-130	4	11	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339303 1339304

Parameter	Units	60164113001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	26100	50000	50000	94100	92800	136	134	70-130	1	8	M1
Antimony	ug/L	ND	5000	5000	5260	5160	104	102	70-130	2	7	
Arsenic	ug/L	1100	5000	5000	6740	7190	113	122	70-130	7	10	
Beryllium	ug/L	ND	5000	5000	4520	4530	90	91	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5340	5740	107	114	70-130	7	10	
Chromium	ug/L	335	5000	5000	5340	5380	100	101	70-130	1	10	
Cobalt	ug/L	72.2	5000	5000	4820	5180	95	102	70-130	7	6	R1
Copper	ug/L	54.7	5000	5000	5340	5380	106	107	70-130	1	11	
Iron	ug/L	1000000	50000	50000	1030000	1010000	57	16	70-130	2	10	M1
Lead	ug/L	207	5000	5000	4690	5020	90	96	70-130	7	10	
Nickel	ug/L	167	5000	5000	4810	5160	93	100	70-130	7	10	
Selenium	ug/L	ND	5000	5000	6250	6700	124	133	70-130	7	10	M1
Silver	ug/L	ND	2500	2500	2720	2740	109	109	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4070	4390	81	88	70-130	8	6	R1
Zinc	ug/L	8420	5000	5000	13100	12700	93	86	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: MPRP/26364
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164113001

METHOD BLANK: 1340542
Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/10/14 10:24	
Antimony, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Arsenic, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Beryllium, Dissolved	ug/L	ND	1.0	03/10/14 10:24	
Cadmium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Chromium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Cobalt, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Copper, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Iron, Dissolved	ug/L	ND	50.0	03/10/14 10:24	
Lead, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Nickel, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Selenium, Dissolved	ug/L	ND	15.0	03/10/14 10:24	
Silver, Dissolved	ug/L	ND	7.0	03/10/14 10:24	
Thallium, Dissolved	ug/L	ND	20.0	03/10/14 10:24	
Zinc, Dissolved	ug/L	ND	50.0	03/10/14 10:24	

LABORATORY CONTROL SAMPLE: 1340543

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	980	98	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1040	104	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	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 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	51500	52400	100	102	70-130	2	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5190	5230	103	104	70-130	1	7	
Arsenic, Dissolved	ug/L	874	5000	5000	6160	6240	106	107	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4940	5010	99	100	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5250	5300	105	106	70-130	1	10	
Chromium, Dissolved	ug/L	238	5000	5000	5120	5180	98	99	70-130	1	10	
Cobalt, Dissolved	ug/L	44.2	5000	5000	4810	4860	95	96	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5320	5390	106	108	70-130	1	11	
Iron, Dissolved	ug/L	696000	50000	50000	672000	690000	-48	-14	70-130	2	10	M1
Lead, Dissolved	ug/L	107	5000	5000	4660	4710	91	92	70-130	1	10	
Nickel, Dissolved	ug/L	115	5000	5000	4870	4920	95	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6000	6090	120	122	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2680	2710	107	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4360	87	87	70-130	0	6	
Zinc, Dissolved	ug/L	7040	5000	5000	11100	11300	81	85	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: MSV/59871 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164113001, 60164113002

METHOD BLANK: 1340110 | Matrix: Water
Associated Lab Samples: 60164113001, 60164113002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/07/14 12:56	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,2-Dichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/07/14 12:56	
2-Butanone (MEK)	ug/L	ND	10.0	03/07/14 12:56	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/07/14 12:56	N2
Acetone	ug/L	ND	10.0	03/07/14 12:56	N2
Benzene	ug/L	ND	1.0	03/07/14 12:56	
Bromodichloromethane	ug/L	ND	1.0	03/07/14 12:56	
Bromoform	ug/L	ND	1.0	03/07/14 12:56	
Bromomethane	ug/L	ND	5.0	03/07/14 12:56	
Carbon tetrachloride	ug/L	ND	1.0	03/07/14 12:56	
Chloroethane	ug/L	ND	1.0	03/07/14 12:56	
Chloroform	ug/L	ND	1.0	03/07/14 12:56	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	N2
Ethylbenzene	ug/L	ND	1.0	03/07/14 12:56	
Methylene chloride	ug/L	ND	1.0	03/07/14 12:56	
Tetrachloroethene	ug/L	ND	1.0	03/07/14 12:56	
Toluene	ug/L	ND	1.0	03/07/14 12:56	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Trichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Vinyl chloride	ug/L	ND	1.0	03/07/14 12:56	
Xylene (Total)	ug/L	ND	3.0	03/07/14 12:56	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	03/07/14 12:56	
4-Bromofluorobenzene (S)	%	100	80-120	03/07/14 12:56	
Toluene-d8 (S)	%	97	80-120	03/07/14 12:56	

LABORATORY CONTROL SAMPLE: 1340111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.8	84	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	17.5	87	67-127	N2
1,1,2-Trichloroethane	ug/L	20	15.4	77	67-124	
1,2-Dichloroethane	ug/L	20	15.6	78	70-126	
1,4-Dichlorobenzene	ug/L	20	16.9	84	74-120	
2-Butanone (MEK)	ug/L	100	84.4	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	77.8	78	59-131	N2
Acetone	ug/L	100	106	106	38-134	N2
Benzene	ug/L	20	15.8	79	75-120	
Bromodichloromethane	ug/L	20	16.3	82	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

LABORATORY CONTROL SAMPLE: 1340111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	17.0	85	65-127	
Bromomethane	ug/L	20	12.8	64	13-157	
Carbon tetrachloride	ug/L	20	16.6	83	70-131	
Chloroethane	ug/L	20	16.1	81	47-133	
Chloroform	ug/L	20	16.1	80	65-127	
cis-1,2-Dichloroethene	ug/L	20	16.4	82	68-127	N2
Ethylbenzene	ug/L	20	16.0	80	74-122	
Methylene chloride	ug/L	20	14.9	74	64-129	
Tetrachloroethene	ug/L	20	15.7	79	73-125	
Toluene	ug/L	20	16.1	81	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	66-129	
Trichloroethene	ug/L	20	16.4	82	71-123	
Vinyl chloride	ug/L	20	16.2	81	43-129	
Xylene (Total)	ug/L	60	48.3	81	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1340112

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2930	73	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	2590	65	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	2050	51	52-143	M1
1,2-Dichloroethane	ug/L	ND	4000	2860	72	49-144	
1,4-Dichlorobenzene	ug/L	421	4000	2790	59	33-140	
2-Butanone (MEK)	ug/L	60400	20000	61100	3	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	15500	70	40-160	N2
Acetone	ug/L	115000	20000	116000	4	10-160	M1,N2
Benzene	ug/L	ND	4000	2980	74	37-151	
Bromodichloromethane	ug/L	ND	4000	2990	75	35-142	
Bromoform	ug/L	ND	4000	2780	70	45-142	
Bromomethane	ug/L	ND	4000	2420	61	10-158	
Carbon tetrachloride	ug/L	ND	4000	3090	77	70-140	
Chloroethane	ug/L	ND	4000	2900	72	19-152	
Chloroform	ug/L	ND	4000	2740	69	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2940	73	34-147	N2
Ethylbenzene	ug/L	ND	4000	2260	57	40-142	
Methylene chloride	ug/L	ND	4000	2680	67	31-144	
Tetrachloroethene	ug/L	ND	4000	2270	57	64-148	M1
Toluene	ug/L	ND	4000	3070	77	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2810	70	54-151	
Trichloroethene	ug/L	ND	4000	3100	78	71-149	
Vinyl chloride	ug/L	ND	4000	3070	77	22-146	
Xylene (Total)	ug/L	ND	12000	6880	57	37-144	N2
1,2-Dichloroethane-d4 (S)	%				105	80-120	
4-Bromofluorobenzene (S)	%				116	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

MATRIX SPIKE SAMPLE: 1340112

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				108	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: OEXT/43020 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164113001

METHOD BLANK: 1339845 | Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/10/14 10:50	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/10/14 10:50	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/10/14 10:50	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/10/14 10:50	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/10/14 10:50	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/10/14 10:50	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/10/14 10:50	
Hexachloroethane	ug/L	ND	5.0	03/10/14 10:50	
Naphthalene	ug/L	ND	5.0	03/10/14 10:50	
Nitrobenzene	ug/L	ND	5.0	03/10/14 10:50	
Pentachlorophenol	ug/L	ND	5.0	03/10/14 10:50	
Phenol	ug/L	ND	5.0	03/10/14 10:50	
2,4,6-Tribromophenol (S)	%	90	39-120	03/10/14 10:50	
2-Fluorobiphenyl (S)	%	84	39-120	03/10/14 10:50	
2-Fluorophenol (S)	%	44	17-120	03/10/14 10:50	
Nitrobenzene-d5 (S)	%	71	33-120	03/10/14 10:50	
Phenol-d6 (S)	%	25	11-120	03/10/14 10:50	
Terphenyl-d14 (S)	%	88	45-120	03/10/14 10:50	

LABORATORY CONTROL SAMPLE: 1339846

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.3	81	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.2	86	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.6	61		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.6	55		N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.7	89	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.5	83	44-116	
Hexachlorocyclopentadiene	ug/L	100	82.2	82	24-120	
Hexachloroethane	ug/L	50	36.9	74	43-113	
Naphthalene	ug/L	50	39.2	78	48-120	
Nitrobenzene	ug/L	50	34.5	69	48-120	
Pentachlorophenol	ug/L	50	45.4	91	47-120	
Phenol	ug/L	50	16.0	32	16-112	
2,4,6-Tribromophenol (S)	%			96	39-120	
2-Fluorobiphenyl (S)	%			86	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			70	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

MATRIX SPIKE SAMPLE: 1339847

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	37.5	75	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.6	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	31.3	63		N2
3&4-Methylphenol(m&p Cresol)	ug/L	66.6	50	80.8	29		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	43.1J	86	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.6	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	73.1	73	11-120	
Hexachloroethane	ug/L	ND	50	34.0	68	40-113	
Naphthalene	ug/L	ND	50	42.4	70	45-120	
Nitrobenzene	ug/L	ND	50	51.5	103	38-120	
Pentachlorophenol	ug/L	ND	50	48.2	96	43-135	
Phenol	ug/L	88.3	50	86.7	-3	13-112	M1
2,4,6-Tribromophenol (S)	%				101	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				116	33-120	
Phenol-d6 (S)	%				35	11-120	
Terphenyl-d14 (S)	%				82	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: WET/46554 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164113001

METHOD BLANK: 1340529 | Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/07/14 15:48	

LABORATORY CONTROL SAMPLE: 1340530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.8	94	78-114	

MATRIX SPIKE SAMPLE: 1340532

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	932	160	1060	81	78-114	

SAMPLE DUPLICATE: 1340531

Parameter	Units	60163937008 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	425	394	7	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: WET/46606
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164113001

METHOD BLANK: 1342171
Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/12/14 07:25	

LABORATORY CONTROL SAMPLE: 1342172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.9	100	64-132	

MATRIX SPIKE SAMPLE: 1342174

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	10.8	80	90.8	100	64-132	

SAMPLE DUPLICATE: 1342173

Parameter	Units	60163660002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.3J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: WET/46519 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164113001

METHOD BLANK: 1339463 | Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/06/14 12:57	

SAMPLE DUPLICATE: 1339464

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5000	5580	11	10	D6

SAMPLE DUPLICATE: 1339465

Parameter	Units	60164097001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	30.0	31.0	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: WET/46567
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164113001

SAMPLE DUPLICATE: 1341256

Parameter	Units	60164072001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: WET/46488 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164113001

METHOD BLANK: 1338712 | Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/10/14 09:41	

LABORATORY CONTROL SAMPLE: 1338713

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

SAMPLE DUPLICATE: 1338714

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	28000	28100	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: WETA/28461 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164113001

METHOD BLANK: 1338792 | Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/05/14 16:43	

LABORATORY CONTROL SAMPLE: 1338793

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1338794

Parameter	Units	60164031001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	87	90-110	M1

MATRIX SPIKE SAMPLE: 1338795

Parameter	Units	60164095001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	104	90-110	

SAMPLE DUPLICATE: 1338796

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	623	679	9	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

QC Batch: WETA/28548 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164113001

METHOD BLANK: 1341906 | Matrix: Water
Associated Lab Samples: 60164113001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/12/14 07:58	

LABORATORY CONTROL SAMPLE: 1341907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.2	106	90-110	

MATRIX SPIKE SAMPLE: 1341908

Parameter	Units	60163928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	25.9	50	69.0	86	90-110	M1

MATRIX SPIKE SAMPLE: 1341910

Parameter	Units	60163847001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	896	500	1440	108	90-110	

SAMPLE DUPLICATE: 1341911

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	59600	57500	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-233R
Pace Project No.: 60164113

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.
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 316-233R
Pace Project No.: 60164113

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164113001	**316-233R**	EPA 200.7	MPRP/26342	EPA 200.7	ICP/20103
60164113001	**316-233R**	EPA 200.7	MPRP/26364	EPA 200.7	ICP/20111
60164113001	**316-233R**	EPA 245.1	MERP/8206	EPA 245.1	MERC/8158
60164113001	**316-233R**	EPA 245.1	MERP/8210	EPA 245.1	MERC/8165
60164113001	**316-233R**	EPA 625	OEXT/43020	EPA 625	MSSV/13703
60164113001	**316-233R**	EPA 624 Low	MSV/59871		
60164113002	**TRIP BLANK**	EPA 624 Low	MSV/59871		
60164113001	**316-233R**	EPA 1664A	WET/46554		
60164113001	**316-233R**	EPA 1664A	WET/46606		
60164113001	**316-233R**	SM 2540D	WET/46519		
60164113001	**316-233R**	SM 4500-H+B	WET/46567		
60164113001	**316-233R**	SM 5210B	WET/46488	SM 5210B	WET/46575
60164113001	**316-233R**	EPA 350.1	WETA/28461		
60164113001	**316-233R**	EPA 410.4	WETA/28548		

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Sample Condition Upon Receipt

WO#: 60164113
60164113

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: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: BW 3/5/14

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	HNO_3 initial pH ~5.5; added 2.5ml; no change
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	H_2SO_4 initial pH ~5.5; added 2 ml; final pH ~4.0 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed BW Lot # of added preservative 125.3
Trip Blank present:	☑Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): _____				15.
Headspace in VOA vials (>6mm):	☐Yes	☑No	☐N/A	No headspace in any VOA vial 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: 3/5/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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.	PO 3727110	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 #:	6787 LINE 2

Regulatory Agency	
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	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analysis 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)	60164113
1	316-233R	OT	G	3.3.14	12:15pm				14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		5(BR2U) 3(AG3U) 101
2	TRIP BLANK								2	2																X					2(BR2U) 102
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		3.4.14	1450		3/4/14	1450				
SITE ADDRESS: BRIDGETON LF					3/5/14	0130	5.8	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: 03-03-14				

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March 12, 2014

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

RE: Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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,

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

Enclosures

cc: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

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 316-234
Pace Project No.: 60164114

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164114001	**316-234**	Water	03/04/14 14:00	03/05/14 01:30
60164114002	**TRIP BLANK**	Water	03/04/14 14:00	03/05/14 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164114001	**316-234**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164114002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

Sample: 316-234 **Lab ID: 60164114001** Collected: 03/04/14 14:00 Received: 03/05/14 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	**14400**	ug/L	750	2	03/06/14 10:20	03/07/14 13:12	7429-90-5	
Antimony	ND	ug/L	100	2	03/06/14 10:20	03/07/14 13:12	7440-36-0	D3
Arsenic	**1140**	ug/L	50.0	1	03/06/14 10:20	03/07/14 13:08	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/06/14 10:20	03/07/14 13:08	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/06/14 10:20	03/07/14 13:08	7440-43-9	
Chromium	**303**	ug/L	25.0	1	03/06/14 10:20	03/07/14 13:08	7440-47-3	
Cobalt	**62.7**	ug/L	25.0	1	03/06/14 10:20	03/07/14 13:08	7440-48-4	
Copper	ND	ug/L	50.0	1	03/06/14 10:20	03/07/14 13:08	7440-50-8	
Iron	**918000**	ug/L	250	1	03/06/14 10:20	03/07/14 13:08	7439-89-6	
Lead	**165**	ug/L	25.0	1	03/06/14 10:20	03/07/14 13:08	7439-92-1	
Nickel	**140**	ug/L	25.0	1	03/06/14 10:20	03/07/14 13:08	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/06/14 10:20	03/07/14 13:08	7782-49-2	
Silver	ND	ug/L	35.0	1	03/06/14 10:20	03/07/14 13:08	7440-22-4	
Thallium	ND	ug/L	100	1	03/06/14 10:20	03/07/14 13:08	7440-28-0	
Zinc	**7490**	ug/L	500	2	03/06/14 10:20	03/07/14 13:12	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1180**	ug/L	750	2	03/07/14 16:30	03/10/14 11:07	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/07/14 16:30	03/10/14 11:07	7440-36-0	D3
Arsenic, Dissolved	**868**	ug/L	50.0	1	03/07/14 16:30	03/10/14 11:03	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/07/14 16:30	03/10/14 11:03	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:03	7440-43-9	
Chromium, Dissolved	**209**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:03	7440-47-3	
Cobalt, Dissolved	**39.7**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:03	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/07/14 16:30	03/10/14 11:03	7440-50-8	
Iron, Dissolved	**620000**	ug/L	250	1	03/07/14 16:30	03/10/14 11:03	7439-89-6	
Lead, Dissolved	**95.3**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:03	7439-92-1	
Nickel, Dissolved	**99.2**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:03	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/07/14 16:30	03/10/14 11:03	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/07/14 16:30	03/10/14 11:03	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/07/14 16:30	03/10/14 11:03	7440-28-0	
Zinc, Dissolved	**5840**	ug/L	500	2	03/07/14 16:30	03/10/14 11:07	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/06/14 14:30	03/07/14 11:59	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	03/10/14 11:15	03/11/14 09:46	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	2	03/07/14 00:00	03/10/14 12:16	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:16	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:16	77-47-4	
Hexachloroethane	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:16	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	20.0	2	03/07/14 00:00	03/10/14 12:16	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**50.4**	ug/L	40.0	2	03/07/14 00:00	03/10/14 12:16		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

Sample: 316-234 **Lab ID: 60164114001** Collected: 03/04/14 14:00 Received: 03/05/14 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	10.0	2	03/07/14 00:00	03/10/14 12:16	91-20-3	
Nitrobenzene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:16	98-95-3	
Pentachlorophenol	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:16	87-86-5	
Phenol	**67.5**	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:16	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:16	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:16	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	110	%	33-120	2	03/07/14 00:00	03/10/14 12:16	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	2	03/07/14 00:00	03/10/14 12:16	321-60-8	
Terphenyl-d14 (S)	74	%	45-120	2	03/07/14 00:00	03/10/14 12:16	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	03/07/14 00:00	03/10/14 12:16	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	03/07/14 00:00	03/10/14 12:16	367-12-4	
2,4,6-Tribromophenol (S)	86	%	39-120	2	03/07/14 00:00	03/10/14 12:16	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**140000**	ug/L	2000	200		03/07/14 19:22	67-64-1	N2
Benzene	ND	ug/L	200	200		03/07/14 19:22	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/07/14 19:22	75-27-4	
Bromoform	ND	ug/L	200	200		03/07/14 19:22	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/07/14 19:22	74-83-9	
2-Butanone (MEK)	**63100**	ug/L	2000	200		03/07/14 19:22	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/07/14 19:22	56-23-5	
Chloroethane	ND	ug/L	200	200		03/07/14 19:22	75-00-3	
Chloroform	ND	ug/L	200	200		03/07/14 19:22	67-66-3	
1,4-Dichlorobenzene	**460**	ug/L	200	200		03/07/14 19:22	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/07/14 19:22	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 19:22	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 19:22	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/07/14 19:22	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/07/14 19:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		03/07/14 19:22	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/07/14 19:22	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/07/14 19:22	127-18-4	
Toluene	ND	ug/L	200	200		03/07/14 19:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/07/14 19:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/07/14 19:22	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/07/14 19:22	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/07/14 19:22	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/07/14 19:22	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	200		03/07/14 19:22	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		03/07/14 19:22	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		03/07/14 19:22	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/07/14 19:22		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**754**	mg/L	5.0	1		03/07/14 15:50		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

Sample: 316-234 **Lab ID: 60164114001** Collected: 03/04/14 14:00 Received: 03/05/14 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	**10**	mg/L	5.0	1		03/12/14 07:26		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4400**	mg/L	5.0	1		03/06/14 12:59		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/10/14 13:43		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29000**	mg/L	2.0	1	03/06/14 10:57	03/11/14 14:11		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**691**	mg/L	20.0	200		03/05/14 17:08	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**59500**	mg/L	5000	500		03/12/14 08:14		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

Sample: TRIP BLANK **Lab ID: 60164114002** Collected: 03/04/14 14:00 Received: 03/05/14 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		03/07/14 14:30	67-64-1	N2
Benzene	ND	ug/L	1.0	1		03/07/14 14:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/07/14 14:30	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/07/14 14:30	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/07/14 14:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/07/14 14:30	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/07/14 14:30	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/07/14 14:30	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/07/14 14:30	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/07/14 14:30	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/07/14 14:30	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 14:30	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 14:30	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/07/14 14:30	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/07/14 14:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/07/14 14:30	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/07/14 14:30	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/07/14 14:30	127-18-4	
Toluene	ND	ug/L	1.0	1		03/07/14 14:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/07/14 14:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/07/14 14:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/07/14 14:30	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/07/14 14:30	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/07/14 14:30	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	108	%	80-120	1		03/07/14 14:30	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		03/07/14 14:30	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		03/07/14 14:30	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/07/14 14:30		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: MERP/8206 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164114001

METHOD BLANK: 1339605 | Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/07/14 11:46	

LABORATORY CONTROL SAMPLE: 1339606

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.4	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339607 1339608

Parameter	Units	60164113001 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	137	154	87	99	70-130	12	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: MERP/8210
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164114001

METHOD BLANK: 1341401
Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/10/14 16:11	

LABORATORY CONTROL SAMPLE: 1341402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341403 1341404

Parameter	Units	60164113001 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	181	130	120	87	70-130	32	20	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: MPRP/26342
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164114001

METHOD BLANK: 1339299
Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/07/14 11:15	
Antimony	ug/L	ND	10.0	03/07/14 11:15	
Arsenic	ug/L	ND	10.0	03/07/14 11:15	
Beryllium	ug/L	ND	1.0	03/07/14 11:15	
Cadmium	ug/L	ND	5.0	03/07/14 11:15	
Chromium	ug/L	ND	5.0	03/07/14 11:15	
Cobalt	ug/L	ND	5.0	03/07/14 11:15	
Copper	ug/L	ND	10.0	03/07/14 11:15	
Iron	ug/L	ND	50.0	03/07/14 11:15	
Lead	ug/L	ND	5.0	03/07/14 11:15	
Nickel	ug/L	ND	5.0	03/07/14 11:15	
Selenium	ug/L	ND	15.0	03/07/14 11:15	
Silver	ug/L	ND	7.0	03/07/14 11:15	
Thallium	ug/L	ND	20.0	03/07/14 11:15	
Zinc	ug/L	ND	50.0	03/07/14 11:15	

LABORATORY CONTROL SAMPLE: 1339300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	1020	102	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1070	107	85-115	
Cobalt	ug/L	1000	1060	106	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10600	106	85-115	
Lead	ug/L	1000	1070	107	85-115	
Nickel	ug/L	1000	1070	107	85-115	
Selenium	ug/L	1000	1030	103	85-115	
Silver	ug/L	500	505	101	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1070	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339301 1339302

Parameter	Units	60163872001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8590	50000	50000	65200	67100	113	117	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339301 1339302

Parameter	Units	60163872001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5320	5470	106	109	70-130	3	7	
Arsenic	ug/L	1430	5000	5000	6940	6980	110	111	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4600	4570	92	91	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5300	5290	106	106	70-130	0	10	
Chromium	ug/L	378	5000	5000	5340	5340	99	99	70-130	0	10	
Cobalt	ug/L	75.4	5000	5000	4770	4750	94	93	70-130	0	6	
Copper	ug/L	ND	5000	5000	5360	5340	106	106	70-130	0	11	
Iron	ug/L	1160000	50000	50000	1130000	1160000	-57	-8	70-130	2	10	M1
Lead	ug/L	216	5000	5000	4630	4600	88	88	70-130	0	10	
Nickel	ug/L	174	5000	5000	4780	4750	92	91	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6300	6300	125	125	70-130	0	10	
Silver	ug/L	ND	2500	2500	2730	2710	109	108	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4030	3990	81	80	70-130	1	6	
Zinc	ug/L	10400	5000	5000	14700	15300	86	98	70-130	4	11	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1339303 1339304

Parameter	Units	60164113001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	26100	50000	50000	94100	92800	136	134	70-130	1	8	M1
Antimony	ug/L	ND	5000	5000	5260	5160	104	102	70-130	2	7	
Arsenic	ug/L	1100	5000	5000	6740	7190	113	122	70-130	7	10	
Beryllium	ug/L	ND	5000	5000	4520	4530	90	91	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5340	5740	107	114	70-130	7	10	
Chromium	ug/L	335	5000	5000	5340	5380	100	101	70-130	1	10	
Cobalt	ug/L	72.2	5000	5000	4820	5180	95	102	70-130	7	6	R1
Copper	ug/L	54.7	5000	5000	5340	5380	106	107	70-130	1	11	
Iron	ug/L	1000000	50000	50000	1030000	1010000	57	16	70-130	2	10	M1
Lead	ug/L	207	5000	5000	4690	5020	90	96	70-130	7	10	
Nickel	ug/L	167	5000	5000	4810	5160	93	100	70-130	7	10	
Selenium	ug/L	ND	5000	5000	6250	6700	124	133	70-130	7	10	M1
Silver	ug/L	ND	2500	2500	2720	2740	109	109	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4070	4390	81	88	70-130	8	6	R1
Zinc	ug/L	8420	5000	5000	13100	12700	93	86	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: MPRP/26364
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164114001

METHOD BLANK: 1340542
Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/10/14 10:24	
Antimony, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Arsenic, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Beryllium, Dissolved	ug/L	ND	1.0	03/10/14 10:24	
Cadmium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Chromium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Cobalt, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Copper, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Iron, Dissolved	ug/L	ND	50.0	03/10/14 10:24	
Lead, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Nickel, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Selenium, Dissolved	ug/L	ND	15.0	03/10/14 10:24	
Silver, Dissolved	ug/L	ND	7.0	03/10/14 10:24	
Thallium, Dissolved	ug/L	ND	20.0	03/10/14 10:24	
Zinc, Dissolved	ug/L	ND	50.0	03/10/14 10:24	

LABORATORY CONTROL SAMPLE: 1340543

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	980	98	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1040	104	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	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 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	51500	52400	100	102	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5190	5230	103	104	70-130	1	7	
Arsenic, Dissolved	ug/L	874	5000	5000	6160	6240	106	107	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4940	5010	99	100	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5250	5300	105	106	70-130	1	10	
Chromium, Dissolved	ug/L	238	5000	5000	5120	5180	98	99	70-130	1	10	
Cobalt, Dissolved	ug/L	44.2	5000	5000	4810	4860	95	96	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5320	5390	106	108	70-130	1	11	
Iron, Dissolved	ug/L	696000	50000	50000	672000	690000	-48	-14	70-130	2	10	M1
Lead, Dissolved	ug/L	107	5000	5000	4660	4710	91	92	70-130	1	10	
Nickel, Dissolved	ug/L	115	5000	5000	4870	4920	95	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6000	6090	120	122	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2680	2710	107	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4360	87	87	70-130	0	6	
Zinc, Dissolved	ug/L	7040	5000	5000	11100	11300	81	85	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: MSV/59871 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164114001, 60164114002

METHOD BLANK: 1340110 | Matrix: Water
Associated Lab Samples: 60164114001, 60164114002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/07/14 12:56	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,2-Dichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/07/14 12:56	
2-Butanone (MEK)	ug/L	ND	10.0	03/07/14 12:56	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/07/14 12:56	N2
Acetone	ug/L	ND	10.0	03/07/14 12:56	N2
Benzene	ug/L	ND	1.0	03/07/14 12:56	
Bromodichloromethane	ug/L	ND	1.0	03/07/14 12:56	
Bromoform	ug/L	ND	1.0	03/07/14 12:56	
Bromomethane	ug/L	ND	5.0	03/07/14 12:56	
Carbon tetrachloride	ug/L	ND	1.0	03/07/14 12:56	
Chloroethane	ug/L	ND	1.0	03/07/14 12:56	
Chloroform	ug/L	ND	1.0	03/07/14 12:56	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	N2
Ethylbenzene	ug/L	ND	1.0	03/07/14 12:56	
Methylene chloride	ug/L	ND	1.0	03/07/14 12:56	
Tetrachloroethene	ug/L	ND	1.0	03/07/14 12:56	
Toluene	ug/L	ND	1.0	03/07/14 12:56	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Trichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Vinyl chloride	ug/L	ND	1.0	03/07/14 12:56	
Xylene (Total)	ug/L	ND	3.0	03/07/14 12:56	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	03/07/14 12:56	
4-Bromofluorobenzene (S)	%	100	80-120	03/07/14 12:56	
Toluene-d8 (S)	%	97	80-120	03/07/14 12:56	

LABORATORY CONTROL SAMPLE: 1340111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.8	84	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	17.5	87	67-127	N2
1,1,2-Trichloroethane	ug/L	20	15.4	77	67-124	
1,2-Dichloroethane	ug/L	20	15.6	78	70-126	
1,4-Dichlorobenzene	ug/L	20	16.9	84	74-120	
2-Butanone (MEK)	ug/L	100	84.4	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	77.8	78	59-131	N2
Acetone	ug/L	100	106	106	38-134	N2
Benzene	ug/L	20	15.8	79	75-120	
Bromodichloromethane	ug/L	20	16.3	82	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

LABORATORY CONTROL SAMPLE: 1340111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	17.0	85	65-127	
Bromomethane	ug/L	20	12.8	64	13-157	
Carbon tetrachloride	ug/L	20	16.6	83	70-131	
Chloroethane	ug/L	20	16.1	81	47-133	
Chloroform	ug/L	20	16.1	80	65-127	
cis-1,2-Dichloroethene	ug/L	20	16.4	82	68-127	N2
Ethylbenzene	ug/L	20	16.0	80	74-122	
Methylene chloride	ug/L	20	14.9	74	64-129	
Tetrachloroethene	ug/L	20	15.7	79	73-125	
Toluene	ug/L	20	16.1	81	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	66-129	
Trichloroethene	ug/L	20	16.4	82	71-123	
Vinyl chloride	ug/L	20	16.2	81	43-129	
Xylene (Total)	ug/L	60	48.3	81	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1340112

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2930	73	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	2590	65	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	2050	51	52-143	M1
1,2-Dichloroethane	ug/L	ND	4000	2860	72	49-144	
1,4-Dichlorobenzene	ug/L	421	4000	2790	59	33-140	
2-Butanone (MEK)	ug/L	60400	20000	61100	3	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	15500	70	40-160	N2
Acetone	ug/L	115000	20000	116000	4	10-160	M1,N2
Benzene	ug/L	ND	4000	2980	74	37-151	
Bromodichloromethane	ug/L	ND	4000	2990	75	35-142	
Bromoform	ug/L	ND	4000	2780	70	45-142	
Bromomethane	ug/L	ND	4000	2420	61	10-158	
Carbon tetrachloride	ug/L	ND	4000	3090	77	70-140	
Chloroethane	ug/L	ND	4000	2900	72	19-152	
Chloroform	ug/L	ND	4000	2740	69	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2940	73	34-147	N2
Ethylbenzene	ug/L	ND	4000	2260	57	40-142	
Methylene chloride	ug/L	ND	4000	2680	67	31-144	
Tetrachloroethene	ug/L	ND	4000	2270	57	64-148	M1
Toluene	ug/L	ND	4000	3070	77	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2810	70	54-151	
Trichloroethene	ug/L	ND	4000	3100	78	71-149	
Vinyl chloride	ug/L	ND	4000	3070	77	22-146	
Xylene (Total)	ug/L	ND	12000	6880	57	37-144	N2
1,2-Dichloroethane-d4 (S)	%				105	80-120	
4-Bromofluorobenzene (S)	%				116	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

MATRIX SPIKE SAMPLE: 1340112

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				108	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: OEXT/43020 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164114001

METHOD BLANK: 1339845 | Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/10/14 10:50	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/10/14 10:50	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/10/14 10:50	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/10/14 10:50	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/10/14 10:50	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/10/14 10:50	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/10/14 10:50	
Hexachloroethane	ug/L	ND	5.0	03/10/14 10:50	
Naphthalene	ug/L	ND	5.0	03/10/14 10:50	
Nitrobenzene	ug/L	ND	5.0	03/10/14 10:50	
Pentachlorophenol	ug/L	ND	5.0	03/10/14 10:50	
Phenol	ug/L	ND	5.0	03/10/14 10:50	
2,4,6-Tribromophenol (S)	%	90	39-120	03/10/14 10:50	
2-Fluorobiphenyl (S)	%	84	39-120	03/10/14 10:50	
2-Fluorophenol (S)	%	44	17-120	03/10/14 10:50	
Nitrobenzene-d5 (S)	%	71	33-120	03/10/14 10:50	
Phenol-d6 (S)	%	25	11-120	03/10/14 10:50	
Terphenyl-d14 (S)	%	88	45-120	03/10/14 10:50	

LABORATORY CONTROL SAMPLE: 1339846

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.3	81	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.2	86	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.6	61		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.6	55		N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.7	89	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.5	83	44-116	
Hexachlorocyclopentadiene	ug/L	100	82.2	82	24-120	
Hexachloroethane	ug/L	50	36.9	74	43-113	
Naphthalene	ug/L	50	39.2	78	48-120	
Nitrobenzene	ug/L	50	34.5	69	48-120	
Pentachlorophenol	ug/L	50	45.4	91	47-120	
Phenol	ug/L	50	16.0	32	16-112	
2,4,6-Tribromophenol (S)	%			96	39-120	
2-Fluorobiphenyl (S)	%			86	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			70	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

MATRIX SPIKE SAMPLE: 1339847

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	37.5	75	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.6	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	31.3	63		N2
3&4-Methylphenol(m&p Cresol)	ug/L	66.6	50	80.8	29		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	43.1J	86	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.6	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	73.1	73	11-120	
Hexachloroethane	ug/L	ND	50	34.0	68	40-113	
Naphthalene	ug/L	ND	50	42.4	70	45-120	
Nitrobenzene	ug/L	ND	50	51.5	103	38-120	
Pentachlorophenol	ug/L	ND	50	48.2	96	43-135	
Phenol	ug/L	88.3	50	86.7	-3	13-112	M1
2,4,6-Tribromophenol (S)	%				101	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				116	33-120	
Phenol-d6 (S)	%				35	11-120	
Terphenyl-d14 (S)	%				82	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: WET/46554 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164114001

METHOD BLANK: 1340529 | Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/07/14 15:48	

LABORATORY CONTROL SAMPLE: 1340530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.8	94	78-114	

MATRIX SPIKE SAMPLE: 1340532

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	932	160	1060	81	78-114	

SAMPLE DUPLICATE: 1340531

Parameter	Units	60163937008 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	425	394	7	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: WET/46606 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164114001

METHOD BLANK: 1342171 | Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/12/14 07:25	

LABORATORY CONTROL SAMPLE: 1342172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.9	100	64-132	

MATRIX SPIKE SAMPLE: 1342174

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	10.8	80	90.8	100	64-132	

SAMPLE DUPLICATE: 1342173

Parameter	Units	60163660002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.3J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: WET/46519 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164114001

METHOD BLANK: 1339463 | Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/06/14 12:57	

SAMPLE DUPLICATE: 1339464

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5000	5580	11	10	D6

SAMPLE DUPLICATE: 1339465

Parameter	Units	60164097001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	30.0	31.0	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: WET/46567
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164114001

SAMPLE DUPLICATE: 1341256

Parameter	Units	60164072001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: WET/46511 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164114001

METHOD BLANK: 1339318 | Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/11/14 13:47	

LABORATORY CONTROL SAMPLE: 1339319

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	169	86	85-115	

SAMPLE DUPLICATE: 1339320

Parameter	Units	60164206002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	3680	4230	14	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: WETA/28461 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164114001

METHOD BLANK: 1338792 | Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/05/14 16:43	

LABORATORY CONTROL SAMPLE: 1338793

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1338794

Parameter	Units	60164031001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.7	87	90-110	M1

MATRIX SPIKE SAMPLE: 1338795

Parameter	Units	60164095001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	104	90-110	

SAMPLE DUPLICATE: 1338796

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	623	679	9	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

QC Batch: WETA/28548
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60164114001

METHOD BLANK: 1341906
Matrix: Water
Associated Lab Samples: 60164114001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/12/14 07:58	

LABORATORY CONTROL SAMPLE: 1341907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.2	106	90-110	

MATRIX SPIKE SAMPLE: 1341908

Parameter	Units	60163928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	25.9	50	69.0	86	90-110	M1

MATRIX SPIKE SAMPLE: 1341910

Parameter	Units	60163847001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	896	500	1440	108	90-110	

SAMPLE DUPLICATE: 1341911

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	59600	57500	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

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.

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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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-234
Pace Project No.: 60164114

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164114001	**316-234**	EPA 200.7	MPRP/26342	EPA 200.7	ICP/20103
60164114001	**316-234**	EPA 200.7	MPRP/26364	EPA 200.7	ICP/20111
60164114001	**316-234**	EPA 245.1	MERP/8206	EPA 245.1	MERC/8158
60164114001	**316-234**	EPA 245.1	MERP/8210	EPA 245.1	MERC/8165
60164114001	**316-234**	EPA 625	OEXT/43020	EPA 625	MSSV/13703
60164114001	**316-234**	EPA 624 Low	MSV/59871		
60164114002	**TRIP BLANK**	EPA 624 Low	MSV/59871		
60164114001	**316-234**	EPA 1664A	WET/46554		
60164114001	**316-234**	EPA 1664A	WET/46606		
60164114001	**316-234**	SM 2540D	WET/46519		
60164114001	**316-234**	SM 4500-H+B	WET/46567		
60164114001	**316-234**	SM 5210B	WET/46511	SM 5210B	WET/46605
60164114001	**316-234**	EPA 350.1	WETA/28461		
60164114001	**316-234**	EPA 410.4	WETA/28548		

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Sample Condition Upon Receipt

WO#: 60164114
60164114

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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DW 3/5/14

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: Includes date/time/ID/analyses Matrix: WT	☑Yes	☐No	☐N/A	13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	HNO_3 initial pH ~5.5; added 2.5ml; no change
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	H_2SO_4 initial pH ~6.5; added 2 ml; final pH ~4.0 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed DW Lot # of added preservative 12513
Trip Blank present: Pace Trip Blank lot # (if purchased): _____	☑Yes	☐No	☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes	☑No	☐N/A	No headspace in any VOA vial 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: 3/5/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of

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. PO 3727110	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 #: 6787 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

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)	60164114 2(BP2U) BP3U 3(AG3S) 2(AG4U) BP3N 5.5 BP3S 4.0
1	316 234	OT	G	3/4/14	1400				14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		5(DG9U) 101
2	TRIP BLANK								2	2																X					2(DG9U) 102
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	Craig Hegna / CBL	3.4.14	1450	Bangette Heath	3/4/14	1450				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	3/5/14	0130	5.6	Y	N	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: CRAIG HEGNA

SIGNATURE of SAMPLER: [signature]

DATE Signed: 3-4-14

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

March 13, 2014

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

RE: Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

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 316-235
Pace Project No.: 60164213

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164213001	**316-235**	Water	03/05/14 11:15	03/06/14 00:40
60164213002	**TRIP BLANK**	Water	03/05/14 11:15	03/06/14 00:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164213001	**316-235**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164213002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

Sample: 316-235 **Lab ID: 60164213001** Collected: 03/05/14 11:15 Received: 03/06/14 00:40 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	03/10/14 10:00	03/10/14 16:30	7429-90-5	
Antimony	**69.4**	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:28	7440-36-0	
Arsenic	**1090**	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:28	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/10/14 10:00	03/10/14 16:28	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:28	7440-43-9	
Chromium	**245**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:28	7440-47-3	
Cobalt	**38.7**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:28	7440-48-4	
Copper	ND	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:28	7440-50-8	
Iron	**674000**	ug/L	250	1	03/10/14 10:00	03/10/14 16:28	7439-89-6	
Lead	**95.0**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:28	7439-92-1	
Nickel	**107**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:28	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/10/14 10:00	03/10/14 16:28	7782-49-2	
Silver	ND	ug/L	35.0	1	03/10/14 10:00	03/10/14 16:28	7440-22-4	
Thallium	ND	ug/L	100	1	03/10/14 10:00	03/10/14 16:28	7440-28-0	
Zinc	**5170**	ug/L	500	2	03/10/14 10:00	03/10/14 16:30	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1310**	ug/L	750	2	03/07/14 16:30	03/10/14 11:14	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/07/14 16:30	03/10/14 11:14	7440-36-0	D3
Arsenic, Dissolved	**1060**	ug/L	50.0	1	03/07/14 16:30	03/10/14 11:10	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/07/14 16:30	03/10/14 11:10	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:10	7440-43-9	
Chromium, Dissolved	**217**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:10	7440-47-3	
Cobalt, Dissolved	**41.9**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:10	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/07/14 16:30	03/10/14 11:10	7440-50-8	
Iron, Dissolved	**638000**	ug/L	250	1	03/07/14 16:30	03/10/14 11:10	7439-89-6	
Lead, Dissolved	**83.8**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:10	7439-92-1	
Nickel, Dissolved	**104**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:10	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/07/14 16:30	03/10/14 11:10	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/07/14 16:30	03/10/14 11:10	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/07/14 16:30	03/10/14 11:10	7440-28-0	
Zinc, Dissolved	**5130**	ug/L	500	2	03/07/14 16:30	03/10/14 11:14	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/10/14 11:15	03/11/14 10:02	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	03/10/14 11:15	03/11/14 09:50	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	2	03/07/14 00:00	03/10/14 12:37	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	77-47-4	
Hexachloroethane	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	20.0	2	03/07/14 00:00	03/10/14 12:37	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**88.7**	ug/L	40.0	2	03/07/14 00:00	03/10/14 12:37		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

Sample: 316-235 **Lab ID: 60164213001** Collected: 03/05/14 11:15 Received: 03/06/14 00:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**19.3**	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	91-20-3	
Nitrobenzene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	98-95-3	
Pentachlorophenol	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	87-86-5	
Phenol	**113**	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	2	03/07/14 00:00	03/10/14 12:37	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	135	%	33-120	2	03/07/14 00:00	03/10/14 12:37	4165-60-0	S0
2-Fluorobiphenyl (S)	72	%	39-120	2	03/07/14 00:00	03/10/14 12:37	321-60-8	
Terphenyl-d14 (S)	68	%	45-120	2	03/07/14 00:00	03/10/14 12:37	1718-51-0	
Phenol-d6 (S)	37	%	11-120	2	03/07/14 00:00	03/10/14 12:37	13127-88-3	
2-Fluorophenol (S)	35	%	17-120	2	03/07/14 00:00	03/10/14 12:37	367-12-4	
2,4,6-Tribromophenol (S)	84	%	39-120	2	03/07/14 00:00	03/10/14 12:37	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**170000**	ug/L	2000	200		03/07/14 16:16	67-64-1	N2
Benzene	ND	ug/L	200	200		03/07/14 16:16	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/07/14 16:16	75-27-4	
Bromoform	ND	ug/L	200	200		03/07/14 16:16	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/07/14 16:16	74-83-9	
2-Butanone (MEK)	**82200**	ug/L	2000	200		03/07/14 16:16	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/07/14 16:16	56-23-5	
Chloroethane	ND	ug/L	200	200		03/07/14 16:16	75-00-3	
Chloroform	ND	ug/L	200	200		03/07/14 16:16	67-66-3	
1,4-Dichlorobenzene	**1160**	ug/L	200	200		03/07/14 16:16	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/07/14 16:16	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 16:16	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 16:16	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/07/14 16:16	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/07/14 16:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3780**	ug/L	2000	200		03/07/14 16:16	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/07/14 16:16	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/07/14 16:16	127-18-4	
Toluene	ND	ug/L	200	200		03/07/14 16:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/07/14 16:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/07/14 16:16	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/07/14 16:16	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/07/14 16:16	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/07/14 16:16	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	200		03/07/14 16:16	460-00-4	
Toluene-d8 (S)	97	%	80-120	200		03/07/14 16:16	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		03/07/14 16:16	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/07/14 16:16		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**785**	mg/L	5.0	1		03/07/14 15:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

Sample: 316-235 **Lab ID: 60164213001** Collected: 03/05/14 11:15 Received: 03/06/14 00:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**17.6**	mg/L	5.0	1		03/12/14 07:27		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3000**	mg/L	5.0	1		03/06/14 13:03		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		03/10/14 13:43		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31800**	mg/L	2.0	1	03/07/14 08:27	03/12/14 15:49		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**622**	mg/L	20.0	200		03/06/14 13:47	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55100**	mg/L	5000	500		03/12/14 08:34		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

Sample: TRIP BLANK **Lab ID: 60164213002** Collected: 03/05/14 11:15 Received: 03/06/14 00:40 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		03/07/14 17:03	67-64-1	N2
Benzene	ND	ug/L	1.0	1		03/07/14 17:03	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/07/14 17:03	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/07/14 17:03	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/07/14 17:03	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/07/14 17:03	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/07/14 17:03	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/07/14 17:03	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/07/14 17:03	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/07/14 17:03	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/07/14 17:03	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 17:03	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 17:03	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/07/14 17:03	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/07/14 17:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/07/14 17:03	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/07/14 17:03	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/07/14 17:03	127-18-4	
Toluene	ND	ug/L	1.0	1		03/07/14 17:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/07/14 17:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/07/14 17:03	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/07/14 17:03	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/07/14 17:03	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/07/14 17:03	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	1		03/07/14 17:03	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		03/07/14 17:03	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		03/07/14 17:03	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/07/14 17:03		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: MERP/8211 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164213001

METHOD BLANK: 1341405 | Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/11/14 09:55	

LABORATORY CONTROL SAMPLE: 1341406

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341407 1341408

Parameter	Units	60164169001 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	5.8	4.9	116	98	70-130	17	20	

MATRIX SPIKE SAMPLE: 1341409

Parameter	Units	60164285001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.5	108	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: MERP/8210
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164213001

METHOD BLANK: 1341401
Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/10/14 16:11	

LABORATORY CONTROL SAMPLE: 1341402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341403 1341404

Parameter	Units	60164113001 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	181	130	120	87	70-130	32	20	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: MPRP/26370
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164213001

METHOD BLANK: 1341271
Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/10/14 16:06	
Antimony	ug/L	ND	10.0	03/10/14 16:06	
Arsenic	ug/L	ND	10.0	03/10/14 16:06	
Beryllium	ug/L	ND	1.0	03/10/14 16:06	
Cadmium	ug/L	ND	5.0	03/10/14 16:06	
Chromium	ug/L	ND	5.0	03/10/14 16:06	
Cobalt	ug/L	ND	5.0	03/10/14 16:06	
Copper	ug/L	ND	10.0	03/10/14 16:06	
Iron	ug/L	ND	50.0	03/10/14 16:06	
Lead	ug/L	ND	5.0	03/10/14 16:06	
Nickel	ug/L	ND	5.0	03/10/14 16:06	
Selenium	ug/L	ND	15.0	03/10/14 16:06	
Silver	ug/L	ND	7.0	03/10/14 16:06	
Thallium	ug/L	ND	20.0	03/10/14 16:06	
Zinc	ug/L	ND	50.0	03/10/14 16:06	

LABORATORY CONTROL SAMPLE: 1341272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9940	99	85-115	
Antimony	ug/L	1000	981	98	85-115	
Arsenic	ug/L	1000	986	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	1060	106	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	994	99	85-115	
Silver	ug/L	500	468	94	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	1030	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341273 1341274

Parameter	Units	60163846002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10100	10000	101	100	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341273 1341274

Parameter	Units	60163846002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1020	1020	102	102	70-130	0	7	
Arsenic	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	10	
Chromium	ug/L	ND	1000	1000	1070	1080	107	107	70-130	0	10	
Cobalt	ug/L	ND	1000	1000	1030	1020	103	102	70-130	0	6	
Copper	ug/L	ND	1000	1000	1060	1060	106	105	70-130	0	11	
Iron	ug/L	69.5	10000	10000	10300	10300	102	102	70-130	0	10	
Lead	ug/L	ND	1000	1000	1010	1010	100	100	70-130	0	10	
Nickel	ug/L	ND	1000	1000	1050	1050	105	105	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	10	
Silver	ug/L	ND	500	500	484	487	97	97	70-130	0	10	
Thallium	ug/L	ND	1000	1000	965	963	96	96	70-130	0	6	
Zinc	ug/L	ND	1000	1000	1040	1040	103	103	70-130	0	11	

MATRIX SPIKE SAMPLE: 1341275

Parameter	Units	60164341001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9910	99	70-130	
Antimony	ug/L	ND	1000	988	99	70-130	
Arsenic	ug/L	3.9J	1000	1000	100	70-130	
Beryllium	ug/L	ND	1000	1010	101	70-130	
Cadmium	ug/L	0.61J	1000	1000	100	70-130	
Chromium	ug/L	ND	1000	1060	106	70-130	
Cobalt	ug/L	ND	1000	998	100	70-130	
Copper	ug/L	3.1J	1000	1020	102	70-130	
Iron	ug/L	37.8J	10000	10000	100	70-130	
Lead	ug/L	2.5J	1000	994	99	70-130	
Nickel	ug/L	1.1J	1000	1020	102	70-130	
Selenium	ug/L	ND	1000	986	99	70-130	
Silver	ug/L	ND	500	477	95	70-130	
Thallium	ug/L	ND	1000	970	97	70-130	
Zinc	ug/L	29.6J	1000	1030	100	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: MPRP/26364
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164213001

METHOD BLANK: 1340542
Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/10/14 10:24	
Antimony, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Arsenic, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Beryllium, Dissolved	ug/L	ND	1.0	03/10/14 10:24	
Cadmium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Chromium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Cobalt, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Copper, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Iron, Dissolved	ug/L	ND	50.0	03/10/14 10:24	
Lead, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Nickel, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Selenium, Dissolved	ug/L	ND	15.0	03/10/14 10:24	
Silver, Dissolved	ug/L	ND	7.0	03/10/14 10:24	
Thallium, Dissolved	ug/L	ND	20.0	03/10/14 10:24	
Zinc, Dissolved	ug/L	ND	50.0	03/10/14 10:24	

LABORATORY CONTROL SAMPLE: 1340543

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	980	98	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1040	104	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	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 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	51500	52400	100	102	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5190	5230	103	104	70-130	1	7	
Arsenic, Dissolved	ug/L	874	5000	5000	6160	6240	106	107	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4940	5010	99	100	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5250	5300	105	106	70-130	1	10	
Chromium, Dissolved	ug/L	238	5000	5000	5120	5180	98	99	70-130	1	10	
Cobalt, Dissolved	ug/L	44.2	5000	5000	4810	4860	95	96	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5320	5390	106	108	70-130	1	11	
Iron, Dissolved	ug/L	696000	50000	50000	672000	690000	-48	-14	70-130	2	10	M1
Lead, Dissolved	ug/L	107	5000	5000	4660	4710	91	92	70-130	1	10	
Nickel, Dissolved	ug/L	115	5000	5000	4870	4920	95	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6000	6090	120	122	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2680	2710	107	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4360	87	87	70-130	0	6	
Zinc, Dissolved	ug/L	7040	5000	5000	11100	11300	81	85	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: MSV/59871 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164213001, 60164213002

METHOD BLANK: 1340110 | Matrix: Water
Associated Lab Samples: 60164213001, 60164213002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/07/14 12:56	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,2-Dichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/07/14 12:56	
2-Butanone (MEK)	ug/L	ND	10.0	03/07/14 12:56	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/07/14 12:56	N2
Acetone	ug/L	ND	10.0	03/07/14 12:56	N2
Benzene	ug/L	ND	1.0	03/07/14 12:56	
Bromodichloromethane	ug/L	ND	1.0	03/07/14 12:56	
Bromoform	ug/L	ND	1.0	03/07/14 12:56	
Bromomethane	ug/L	ND	5.0	03/07/14 12:56	
Carbon tetrachloride	ug/L	ND	1.0	03/07/14 12:56	
Chloroethane	ug/L	ND	1.0	03/07/14 12:56	
Chloroform	ug/L	ND	1.0	03/07/14 12:56	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	N2
Ethylbenzene	ug/L	ND	1.0	03/07/14 12:56	
Methylene chloride	ug/L	ND	1.0	03/07/14 12:56	
Tetrachloroethene	ug/L	ND	1.0	03/07/14 12:56	
Toluene	ug/L	ND	1.0	03/07/14 12:56	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Trichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Vinyl chloride	ug/L	ND	1.0	03/07/14 12:56	
Xylene (Total)	ug/L	ND	3.0	03/07/14 12:56	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	03/07/14 12:56	
4-Bromofluorobenzene (S)	%	100	80-120	03/07/14 12:56	
Toluene-d8 (S)	%	97	80-120	03/07/14 12:56	

LABORATORY CONTROL SAMPLE: 1340111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.8	84	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	17.5	87	67-127	N2
1,1,2-Trichloroethane	ug/L	20	15.4	77	67-124	
1,2-Dichloroethane	ug/L	20	15.6	78	70-126	
1,4-Dichlorobenzene	ug/L	20	16.9	84	74-120	
2-Butanone (MEK)	ug/L	100	84.4	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	77.8	78	59-131	N2
Acetone	ug/L	100	106	106	38-134	N2
Benzene	ug/L	20	15.8	79	75-120	
Bromodichloromethane	ug/L	20	16.3	82	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

LABORATORY CONTROL SAMPLE: 1340111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	17.0	85	65-127	
Bromomethane	ug/L	20	12.8	64	13-157	
Carbon tetrachloride	ug/L	20	16.6	83	70-131	
Chloroethane	ug/L	20	16.1	81	47-133	
Chloroform	ug/L	20	16.1	80	65-127	
cis-1,2-Dichloroethene	ug/L	20	16.4	82	68-127	N2
Ethylbenzene	ug/L	20	16.0	80	74-122	
Methylene chloride	ug/L	20	14.9	74	64-129	
Tetrachloroethene	ug/L	20	15.7	79	73-125	
Toluene	ug/L	20	16.1	81	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	66-129	
Trichloroethene	ug/L	20	16.4	82	71-123	
Vinyl chloride	ug/L	20	16.2	81	43-129	
Xylene (Total)	ug/L	60	48.3	81	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1340112

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2930	73	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	2590	65	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	2050	51	52-143	M1
1,2-Dichloroethane	ug/L	ND	4000	2860	72	49-144	
1,4-Dichlorobenzene	ug/L	421	4000	2790	59	33-140	
2-Butanone (MEK)	ug/L	60400	20000	61100	3	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	15500	70	40-160	N2
Acetone	ug/L	115000	20000	116000	4	10-160	M1,N2
Benzene	ug/L	ND	4000	2980	74	37-151	
Bromodichloromethane	ug/L	ND	4000	2990	75	35-142	
Bromoform	ug/L	ND	4000	2780	70	45-142	
Bromomethane	ug/L	ND	4000	2420	61	10-158	
Carbon tetrachloride	ug/L	ND	4000	3090	77	70-140	
Chloroethane	ug/L	ND	4000	2900	72	19-152	
Chloroform	ug/L	ND	4000	2740	69	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2940	73	34-147	N2
Ethylbenzene	ug/L	ND	4000	2260	57	40-142	
Methylene chloride	ug/L	ND	4000	2680	67	31-144	
Tetrachloroethene	ug/L	ND	4000	2270	57	64-148	M1
Toluene	ug/L	ND	4000	3070	77	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2810	70	54-151	
Trichloroethene	ug/L	ND	4000	3100	78	71-149	
Vinyl chloride	ug/L	ND	4000	3070	77	22-146	
Xylene (Total)	ug/L	ND	12000	6880	57	37-144	N2
1,2-Dichloroethane-d4 (S)	%				105	80-120	
4-Bromofluorobenzene (S)	%				116	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

MATRIX SPIKE SAMPLE: 1340112

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				108	80-120	
Preservation pH		6.0		6.0			

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: OEXT/43020 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164213001

METHOD BLANK: 1339845 | Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/10/14 10:50	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/10/14 10:50	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/10/14 10:50	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/10/14 10:50	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/10/14 10:50	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/10/14 10:50	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/10/14 10:50	
Hexachloroethane	ug/L	ND	5.0	03/10/14 10:50	
Naphthalene	ug/L	ND	5.0	03/10/14 10:50	
Nitrobenzene	ug/L	ND	5.0	03/10/14 10:50	
Pentachlorophenol	ug/L	ND	5.0	03/10/14 10:50	
Phenol	ug/L	ND	5.0	03/10/14 10:50	
2,4,6-Tribromophenol (S)	%	90	39-120	03/10/14 10:50	
2-Fluorobiphenyl (S)	%	84	39-120	03/10/14 10:50	
2-Fluorophenol (S)	%	44	17-120	03/10/14 10:50	
Nitrobenzene-d5 (S)	%	71	33-120	03/10/14 10:50	
Phenol-d6 (S)	%	25	11-120	03/10/14 10:50	
Terphenyl-d14 (S)	%	88	45-120	03/10/14 10:50	

LABORATORY CONTROL SAMPLE: 1339846

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.3	81	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.2	86	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.6	61		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.6	55		N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.7	89	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.5	83	44-116	
Hexachlorocyclopentadiene	ug/L	100	82.2	82	24-120	
Hexachloroethane	ug/L	50	36.9	74	43-113	
Naphthalene	ug/L	50	39.2	78	48-120	
Nitrobenzene	ug/L	50	34.5	69	48-120	
Pentachlorophenol	ug/L	50	45.4	91	47-120	
Phenol	ug/L	50	16.0	32	16-112	
2,4,6-Tribromophenol (S)	%			96	39-120	
2-Fluorobiphenyl (S)	%			86	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			70	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

MATRIX SPIKE SAMPLE: 1339847

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	37.5	75	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.6	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	31.3	63		N2
3&4-Methylphenol(m&p Cresol)	ug/L	66.6	50	80.8	29		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	43.1J	86	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.6	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	73.1	73	11-120	
Hexachloroethane	ug/L	ND	50	34.0	68	40-113	
Naphthalene	ug/L	ND	50	42.4	70	45-120	
Nitrobenzene	ug/L	ND	50	51.5	103	38-120	
Pentachlorophenol	ug/L	ND	50	48.2	96	43-135	
Phenol	ug/L	88.3	50	86.7	-3	13-112	M1
2,4,6-Tribromophenol (S)	%				101	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				116	33-120	
Phenol-d6 (S)	%				35	11-120	
Terphenyl-d14 (S)	%				82	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: WET/46554 — Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A — Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164213001

METHOD BLANK: 1340529 — Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/07/14 15:48	

LABORATORY CONTROL SAMPLE: 1340530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.8	94	78-114	

MATRIX SPIKE SAMPLE: 1340532

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	932	160	1060	81	78-114	

SAMPLE DUPLICATE: 1340531

Parameter	Units	60163937008 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	425	394	7	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: WET/46606 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164213001

METHOD BLANK: 1342171 | Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/12/14 07:25	

LABORATORY CONTROL SAMPLE: 1342172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.9	100	64-132	

MATRIX SPIKE SAMPLE: 1342174

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	10.8	80	90.8	100	64-132	

SAMPLE DUPLICATE: 1342173

Parameter	Units	60163660002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.3J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: WET/46519 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164213001

METHOD BLANK: 1339463 | Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/06/14 12:57	

SAMPLE DUPLICATE: 1339464

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5000	5580	11	10	D6

SAMPLE DUPLICATE: 1339465

Parameter	Units	60164097001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	30.0	31.0	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: WET/46567
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164213001

SAMPLE DUPLICATE: 1341256

Parameter	Units	60164072001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: WET/46535 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164213001

METHOD BLANK: 1339806 | Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/12/14 15:46	

LABORATORY CONTROL SAMPLE: 1339807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	193	97	85-115	

SAMPLE DUPLICATE: 1339808

Parameter	Units	60164291003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	36.0	36.5	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: WETA/28478
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164213001

METHOD BLANK: 1339537
Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/06/14 13:17	

LABORATORY CONTROL SAMPLE: 1339538

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

MATRIX SPIKE SAMPLE: 1339539

Parameter	Units	60164076003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	90	90-110	

MATRIX SPIKE SAMPLE: 1339540

Parameter	Units	60164122002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	31.5	20	48.0	82	90-110	M1

SAMPLE DUPLICATE: 1339541

Parameter	Units	60164136001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

QC Batch: WETA/28548 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164213001

METHOD BLANK: 1341906 | Matrix: Water
Associated Lab Samples: 60164213001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/12/14 07:58	

LABORATORY CONTROL SAMPLE: 1341907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.2	106	90-110	

MATRIX SPIKE SAMPLE: 1341908

Parameter	Units	60163928001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	25.9	50	69.0	86	90-110	M1

MATRIX SPIKE SAMPLE: 1341910

Parameter	Units	60163847001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	896	500	1440	108	90-110	

SAMPLE DUPLICATE: 1341911

Parameter	Units	60164113001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	59600	57500	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-235
Pace Project No.: 60164213

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.
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 316-235
Pace Project No.: 60164213

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164213001	**316-235**	EPA 200.7	MPRP/26370	EPA 200.7	ICP/20115
60164213001	**316-235**	EPA 200.7	MPRP/26364	EPA 200.7	ICP/20111
60164213001	**316-235**	EPA 245.1	MERP/8211	EPA 245.1	MERC/8166
60164213001	**316-235**	EPA 245.1	MERP/8210	EPA 245.1	MERC/8165
60164213001	**316-235**	EPA 625	OEXT/43020	EPA 625	MSSV/13703
60164213001	**316-235**	EPA 624 Low	MSV/59871		
60164213002	**TRIP BLANK**	EPA 624 Low	MSV/59871		
60164213001	**316-235**	EPA 1664A	WET/46554		
60164213001	**316-235**	EPA 1664A	WET/46606		
60164213001	**316-235**	SM 2540D	WET/46519		
60164213001	**316-235**	SM 4500-H+B	WET/46567		
60164213001	**316-235**	SM 5210B	WET/46535	SM 5210B	WET/46642
60164213001	**316-235**	EPA 350.1	WETA/28478		
60164213001	**316-235**	EPA 410.4	WETA/28548		

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Sample Condition Upon Receipt

WO#: 60164213

60164213

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ ~~UPS~~ Xroad pv3/6/14

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 PIC

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

Cooler Temperature: 4.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pv 3/6/14

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. 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
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☑No ☐N/A	Added 2.0 ml of H2SO4 to BP3S. PH 6.0/2.0 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed PV Lot # of added preservative 12513 ~~12514~~ 12514 pv 3/6/14
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 012014-3		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: MW for AKB Date: 3/6/14

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.	PO 3727110	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 #:	6787 LINE 2

Regulatory Agency	
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)	60164213 6064
1	316-235 2AG4U 1BP3U 3AG3S	OT	G	3/5/14	1115				14	10	4	1	0	1B	P3/5/14		P3/6/14	X	X	X	X	X	X	X	X	X	X	X	1B P3/5/14	2BP2U 5D64U 001
2	TRIP BLANK								2	2														X				P3/5/14	2D64U 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] / CIR	3-5-14	1145	Julie Croak / FEI	3-5-14	1145				
SITE ADDRESS: BRIDGETON LF	Julie Croak / FEI	3-5-14	1507	[signature]	3-5-14	1507				
13570 ST. CHARLES ROCK RD				[signature] PACE	3/6/14	0040	4.6	Y	Y	Y
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: CRAIG HEGNA

SIGNATURE of SAMPLER: [signature] DATE Signed: 3-5-14

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(913)599-5665

March 13, 2014

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

RE: Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

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 316-236
Pace Project No.: 60164304

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164304001	**316-236**	Water	03/06/14 10:26	03/07/14 01:25
60164304002	**TRIP BLANK**	Water	03/06/14 10:26	03/07/14 01:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164304001	**316-236**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164304002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

Sample: 316-236 **Lab ID: 60164304001** Collected: 03/06/14 10:26 Received: 03/07/14 01:25 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	**7680**	ug/L	750	2	03/10/14 10:00	03/10/14 16:49	7429-90-5	
Antimony	**53.7**	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:46	7440-36-0	
Arsenic	**956**	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:46	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/10/14 10:00	03/10/14 16:46	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:46	7440-43-9	
Chromium	**228**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:46	7440-47-3	
Cobalt	**32.4**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:46	7440-48-4	
Copper	ND	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:46	7440-50-8	
Iron	**636000**	ug/L	250	1	03/10/14 10:00	03/10/14 16:46	7439-89-6	
Lead	**81.4**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:46	7439-92-1	
Nickel	**98.2**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:46	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/10/14 10:00	03/10/14 16:46	7782-49-2	
Silver	ND	ug/L	35.0	1	03/10/14 10:00	03/10/14 16:46	7440-22-4	
Thallium	ND	ug/L	100	1	03/10/14 10:00	03/10/14 16:46	7440-28-0	
Zinc	**4740**	ug/L	500	2	03/10/14 10:00	03/10/14 16:49	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**891**	ug/L	750	2	03/07/14 16:30	03/10/14 11:20	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/07/14 16:30	03/10/14 11:20	7440-36-0	D3
Arsenic, Dissolved	**894**	ug/L	50.0	1	03/07/14 16:30	03/10/14 11:17	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/07/14 16:30	03/10/14 11:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:17	7440-43-9	
Chromium, Dissolved	**184**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:17	7440-47-3	
Cobalt, Dissolved	**33.0**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:17	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/07/14 16:30	03/10/14 11:17	7440-50-8	
Iron, Dissolved	**516000**	ug/L	250	1	03/07/14 16:30	03/10/14 11:17	7439-89-6	
Lead, Dissolved	**61.4**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:17	7439-92-1	
Nickel, Dissolved	**81.7**	ug/L	25.0	1	03/07/14 16:30	03/10/14 11:17	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/07/14 16:30	03/10/14 11:17	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/07/14 16:30	03/10/14 11:17	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/07/14 16:30	03/10/14 11:17	7440-28-0	
Zinc, Dissolved	**4480**	ug/L	500	2	03/07/14 16:30	03/10/14 11:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**28.4**	ug/L	6.0	1	03/10/14 11:15	03/11/14 10:17	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	03/10/14 11:15	03/11/14 09:53	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/11/14 00:00	03/12/14 19:06	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/11/14 00:00	03/12/14 19:06	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7750**	ug/L	4000	2	03/11/14 00:00	03/12/14 19:06		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

Sample: 316-236 **Lab ID: 60164304001** Collected: 03/06/14 10:26 Received: 03/07/14 01:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1370**	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	98-95-3	M1
Pentachlorophenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	87-86-5	
Phenol	**10600**	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:06	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	138	%	33-120	2	03/11/14 00:00	03/12/14 19:06	4165-60-0	S0
2-Fluorobiphenyl (S)	77	%	39-120	2	03/11/14 00:00	03/12/14 19:06	321-60-8	
Terphenyl-d14 (S)	79	%	45-120	2	03/11/14 00:00	03/12/14 19:06	1718-51-0	
Phenol-d6 (S)	46	%	11-120	2	03/11/14 00:00	03/12/14 19:06	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	03/11/14 00:00	03/12/14 19:06	367-12-4	
2,4,6-Tribromophenol (S)	85	%	39-120	2	03/11/14 00:00	03/12/14 19:06	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**145000**	ug/L	2000	200		03/07/14 16:32	67-64-1	N2
Benzene	ND	ug/L	200	200		03/07/14 16:32	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/07/14 16:32	75-27-4	
Bromoform	ND	ug/L	200	200		03/07/14 16:32	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/07/14 16:32	74-83-9	
2-Butanone (MEK)	**69000**	ug/L	2000	200		03/07/14 16:32	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/07/14 16:32	56-23-5	
Chloroethane	ND	ug/L	200	200		03/07/14 16:32	75-00-3	
Chloroform	ND	ug/L	200	200		03/07/14 16:32	67-66-3	
1,4-Dichlorobenzene	**1280**	ug/L	200	200		03/07/14 16:32	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/07/14 16:32	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 16:32	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/07/14 16:32	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/07/14 16:32	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/07/14 16:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2900**	ug/L	2000	200		03/07/14 16:32	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/07/14 16:32	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/07/14 16:32	127-18-4	
Toluene	ND	ug/L	200	200		03/07/14 16:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/07/14 16:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/07/14 16:32	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/07/14 16:32	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/07/14 16:32	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/07/14 16:32	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	200		03/07/14 16:32	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		03/07/14 16:32	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	80-120	200		03/07/14 16:32	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/07/14 16:32		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**859**	mg/L	5.0	1		03/07/14 15:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

Sample: 316-236 **Lab ID: 60164304001** Collected: 03/06/14 10:26 Received: 03/07/14 01:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**28.4**	mg/L	5.0	1		03/12/14 07:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1900**	mg/L	5.0	1		03/11/14 08:05		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/10/14 13:43		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29700**	mg/L	2.0	1	03/07/14 16:17	03/12/14 14:22		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**589**	mg/L	20.0	200		03/07/14 14:06	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**45800**	mg/L	5000	500		03/13/14 08:17		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

Sample: TRIP BLANK **Lab ID: 60164304002** Collected: 03/06/14 10:26 Received: 03/07/14 01:25 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		03/07/14 16:47	67-64-1	N2
Benzene	ND	ug/L	1.0	1		03/07/14 16:47	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/07/14 16:47	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/07/14 16:47	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/07/14 16:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/07/14 16:47	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/07/14 16:47	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/07/14 16:47	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/07/14 16:47	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/07/14 16:47	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/07/14 16:47	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 16:47	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/07/14 16:47	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/07/14 16:47	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/07/14 16:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/07/14 16:47	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/07/14 16:47	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/07/14 16:47	127-18-4	
Toluene	ND	ug/L	1.0	1		03/07/14 16:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/07/14 16:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/07/14 16:47	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/07/14 16:47	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/07/14 16:47	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/07/14 16:47	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		03/07/14 16:47	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/07/14 16:47	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		03/07/14 16:47	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/07/14 16:47		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: MERP/8211 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164304001

METHOD BLANK: 1341405 | Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/11/14 09:55	

LABORATORY CONTROL SAMPLE: 1341406

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341407 1341408

Parameter	Units	60164169001 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	5.8	4.9	116	98	70-130	17	20	

MATRIX SPIKE SAMPLE: 1341409

Parameter	Units	60164285001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.5	108	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: MERP/8210
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164304001

METHOD BLANK: 1341401
Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/10/14 16:11	

LABORATORY CONTROL SAMPLE: 1341402

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341403 1341404

Parameter	Units	60164113001 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	181	130	120	87	70-130	32	20	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: MPRP/26370
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164304001

METHOD BLANK: 1341271
Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/10/14 16:06	
Antimony	ug/L	ND	10.0	03/10/14 16:06	
Arsenic	ug/L	ND	10.0	03/10/14 16:06	
Beryllium	ug/L	ND	1.0	03/10/14 16:06	
Cadmium	ug/L	ND	5.0	03/10/14 16:06	
Chromium	ug/L	ND	5.0	03/10/14 16:06	
Cobalt	ug/L	ND	5.0	03/10/14 16:06	
Copper	ug/L	ND	10.0	03/10/14 16:06	
Iron	ug/L	ND	50.0	03/10/14 16:06	
Lead	ug/L	ND	5.0	03/10/14 16:06	
Nickel	ug/L	ND	5.0	03/10/14 16:06	
Selenium	ug/L	ND	15.0	03/10/14 16:06	
Silver	ug/L	ND	7.0	03/10/14 16:06	
Thallium	ug/L	ND	20.0	03/10/14 16:06	
Zinc	ug/L	ND	50.0	03/10/14 16:06	

LABORATORY CONTROL SAMPLE: 1341272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9940	99	85-115	
Antimony	ug/L	1000	981	98	85-115	
Arsenic	ug/L	1000	986	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	1060	106	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	994	99	85-115	
Silver	ug/L	500	468	94	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	1030	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341273 1341274

Parameter	Units	60163846002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10100	10000	101	100	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341273 1341274

Parameter	Units	60163846002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1020	1020	102	102	70-130	0	7	
Arsenic	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	10	
Chromium	ug/L	ND	1000	1000	1070	1080	107	107	70-130	0	10	
Cobalt	ug/L	ND	1000	1000	1030	1020	103	102	70-130	0	6	
Copper	ug/L	ND	1000	1000	1060	1060	106	105	70-130	0	11	
Iron	ug/L	69.5	10000	10000	10300	10300	102	102	70-130	0	10	
Lead	ug/L	ND	1000	1000	1010	1010	100	100	70-130	0	10	
Nickel	ug/L	ND	1000	1000	1050	1050	105	105	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	10	
Silver	ug/L	ND	500	500	484	487	97	97	70-130	0	10	
Thallium	ug/L	ND	1000	1000	965	963	96	96	70-130	0	6	
Zinc	ug/L	ND	1000	1000	1040	1040	103	103	70-130	0	11	

MATRIX SPIKE SAMPLE: 1341275

Parameter	Units	60164341001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9910	99	70-130	
Antimony	ug/L	ND	1000	988	99	70-130	
Arsenic	ug/L	3.9J	1000	1000	100	70-130	
Beryllium	ug/L	ND	1000	1010	101	70-130	
Cadmium	ug/L	0.61J	1000	1000	100	70-130	
Chromium	ug/L	ND	1000	1060	106	70-130	
Cobalt	ug/L	ND	1000	998	100	70-130	
Copper	ug/L	3.1J	1000	1020	102	70-130	
Iron	ug/L	37.8J	10000	10000	100	70-130	
Lead	ug/L	2.5J	1000	994	99	70-130	
Nickel	ug/L	1.1J	1000	1020	102	70-130	
Selenium	ug/L	ND	1000	986	99	70-130	
Silver	ug/L	ND	500	477	95	70-130	
Thallium	ug/L	ND	1000	970	97	70-130	
Zinc	ug/L	29.6J	1000	1030	100	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: MPRP/26364
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164304001

METHOD BLANK: 1340542
Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/10/14 10:24	
Antimony, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Arsenic, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Beryllium, Dissolved	ug/L	ND	1.0	03/10/14 10:24	
Cadmium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Chromium, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Cobalt, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Copper, Dissolved	ug/L	ND	10.0	03/10/14 10:24	
Iron, Dissolved	ug/L	ND	50.0	03/10/14 10:24	
Lead, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Nickel, Dissolved	ug/L	ND	5.0	03/10/14 10:24	
Selenium, Dissolved	ug/L	ND	15.0	03/10/14 10:24	
Silver, Dissolved	ug/L	ND	7.0	03/10/14 10:24	
Thallium, Dissolved	ug/L	ND	20.0	03/10/14 10:24	
Zinc, Dissolved	ug/L	ND	50.0	03/10/14 10:24	

LABORATORY CONTROL SAMPLE: 1340543

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	980	98	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1040	104	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	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 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	51500	52400	100	102	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1340544 1340545

Parameter	Units	60164113001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5190	5230	103	104	70-130	1	7	
Arsenic, Dissolved	ug/L	874	5000	5000	6160	6240	106	107	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4940	5010	99	100	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5250	5300	105	106	70-130	1	10	
Chromium, Dissolved	ug/L	238	5000	5000	5120	5180	98	99	70-130	1	10	
Cobalt, Dissolved	ug/L	44.2	5000	5000	4810	4860	95	96	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5320	5390	106	108	70-130	1	11	
Iron, Dissolved	ug/L	696000	50000	50000	672000	690000	-48	-14	70-130	2	10	M1
Lead, Dissolved	ug/L	107	5000	5000	4660	4710	91	92	70-130	1	10	
Nickel, Dissolved	ug/L	115	5000	5000	4870	4920	95	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6000	6090	120	122	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2680	2710	107	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4360	87	87	70-130	0	6	
Zinc, Dissolved	ug/L	7040	5000	5000	11100	11300	81	85	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: MSV/59871 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164304001, 60164304002

METHOD BLANK: 1340110 | Matrix: Water
Associated Lab Samples: 60164304001, 60164304002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/07/14 12:56	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,2-Dichloroethane	ug/L	ND	1.0	03/07/14 12:56	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/07/14 12:56	
2-Butanone (MEK)	ug/L	ND	10.0	03/07/14 12:56	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/07/14 12:56	N2
Acetone	ug/L	ND	10.0	03/07/14 12:56	N2
Benzene	ug/L	ND	1.0	03/07/14 12:56	
Bromodichloromethane	ug/L	ND	1.0	03/07/14 12:56	
Bromoform	ug/L	ND	1.0	03/07/14 12:56	
Bromomethane	ug/L	ND	5.0	03/07/14 12:56	
Carbon tetrachloride	ug/L	ND	1.0	03/07/14 12:56	
Chloroethane	ug/L	ND	1.0	03/07/14 12:56	
Chloroform	ug/L	ND	1.0	03/07/14 12:56	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	N2
Ethylbenzene	ug/L	ND	1.0	03/07/14 12:56	
Methylene chloride	ug/L	ND	1.0	03/07/14 12:56	
Tetrachloroethene	ug/L	ND	1.0	03/07/14 12:56	
Toluene	ug/L	ND	1.0	03/07/14 12:56	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Trichloroethene	ug/L	ND	1.0	03/07/14 12:56	
Vinyl chloride	ug/L	ND	1.0	03/07/14 12:56	
Xylene (Total)	ug/L	ND	3.0	03/07/14 12:56	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	03/07/14 12:56	
4-Bromofluorobenzene (S)	%	100	80-120	03/07/14 12:56	
Toluene-d8 (S)	%	97	80-120	03/07/14 12:56	

LABORATORY CONTROL SAMPLE: 1340111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.8	84	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	17.5	87	67-127	N2
1,1,2-Trichloroethane	ug/L	20	15.4	77	67-124	
1,2-Dichloroethane	ug/L	20	15.6	78	70-126	
1,4-Dichlorobenzene	ug/L	20	16.9	84	74-120	
2-Butanone (MEK)	ug/L	100	84.4	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	77.8	78	59-131	N2
Acetone	ug/L	100	106	106	38-134	N2
Benzene	ug/L	20	15.8	79	75-120	
Bromodichloromethane	ug/L	20	16.3	82	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

LABORATORY CONTROL SAMPLE: 1340111

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	17.0	85	65-127	
Bromomethane	ug/L	20	12.8	64	13-157	
Carbon tetrachloride	ug/L	20	16.6	83	70-131	
Chloroethane	ug/L	20	16.1	81	47-133	
Chloroform	ug/L	20	16.1	80	65-127	
cis-1,2-Dichloroethene	ug/L	20	16.4	82	68-127	N2
Ethylbenzene	ug/L	20	16.0	80	74-122	
Methylene chloride	ug/L	20	14.9	74	64-129	
Tetrachloroethene	ug/L	20	15.7	79	73-125	
Toluene	ug/L	20	16.1	81	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	66-129	
Trichloroethene	ug/L	20	16.4	82	71-123	
Vinyl chloride	ug/L	20	16.2	81	43-129	
Xylene (Total)	ug/L	60	48.3	81	75-121	N2
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1340112

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2930	73	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	2590	65	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	2050	51	52-143	M1
1,2-Dichloroethane	ug/L	ND	4000	2860	72	49-144	
1,4-Dichlorobenzene	ug/L	421	4000	2790	59	33-140	
2-Butanone (MEK)	ug/L	60400	20000	61100	3	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	15500	70	40-160	N2
Acetone	ug/L	115000	20000	116000	4	10-160	M1,N2
Benzene	ug/L	ND	4000	2980	74	37-151	
Bromodichloromethane	ug/L	ND	4000	2990	75	35-142	
Bromoform	ug/L	ND	4000	2780	70	45-142	
Bromomethane	ug/L	ND	4000	2420	61	10-158	
Carbon tetrachloride	ug/L	ND	4000	3090	77	70-140	
Chloroethane	ug/L	ND	4000	2900	72	19-152	
Chloroform	ug/L	ND	4000	2740	69	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2940	73	34-147	N2
Ethylbenzene	ug/L	ND	4000	2260	57	40-142	
Methylene chloride	ug/L	ND	4000	2680	67	31-144	
Tetrachloroethene	ug/L	ND	4000	2270	57	64-148	M1
Toluene	ug/L	ND	4000	3070	77	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2810	70	54-151	
Trichloroethene	ug/L	ND	4000	3100	78	71-149	
Vinyl chloride	ug/L	ND	4000	3070	77	22-146	
Xylene (Total)	ug/L	ND	12000	6880	57	37-144	N2
1,2-Dichloroethane-d4 (S)	%				105	80-120	
4-Bromofluorobenzene (S)	%				116	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

MATRIX SPIKE SAMPLE: 1340112

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				108	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: OEXT/43074 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164304001

METHOD BLANK: 1341714 | Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/12/14 18:03	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/12/14 18:03	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/12/14 18:03	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/12/14 18:03	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachloroethane	ug/L	ND	5.0	03/12/14 18:03	
Naphthalene	ug/L	ND	5.0	03/12/14 18:03	
Nitrobenzene	ug/L	ND	5.0	03/12/14 18:03	
Pentachlorophenol	ug/L	ND	5.0	03/12/14 18:03	
Phenol	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Tribromophenol (S)	%	81	39-120	03/12/14 18:03	
2-Fluorobiphenyl (S)	%	71	39-120	03/12/14 18:03	
2-Fluorophenol (S)	%	42	17-120	03/12/14 18:03	
Nitrobenzene-d5 (S)	%	74	33-120	03/12/14 18:03	
Phenol-d6 (S)	%	30	11-120	03/12/14 18:03	
Terphenyl-d14 (S)	%	82	45-120	03/12/14 18:03	

LABORATORY CONTROL SAMPLE: 1341715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	35.1	70	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.9	72	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	29.2	58		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.8	54		N2
4,6-Dinitro-2-methylphenol	ug/L	50	27.7	55	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.1	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	53.9	54	24-120	
Hexachloroethane	ug/L	50	31.3	63	43-113	
Naphthalene	ug/L	50	36.4	73	48-120	
Nitrobenzene	ug/L	50	36.5	73	48-120	
Pentachlorophenol	ug/L	50	36.2	72	47-120	
Phenol	ug/L	50	14.9	30	16-112	
2,4,6-Tribromophenol (S)	%			84	39-120	
2-Fluorobiphenyl (S)	%			74	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			29	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

MATRIX SPIKE SAMPLE: 1341716

Parameter	Units	60164304001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3430	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4020	80	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75		N2
3&4-Methylphenol(m&p Cresol)	ug/L	7750	5000	11700	79		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	2650J	53	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5630	56	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	1370	5000	5170	76	45-120	
Nitrobenzene	ug/L	ND	5000	7190	144	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4230	85	43-135	
Phenol	ug/L	10600	5000	13800	63	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				152	33-120	S0
Phenol-d6 (S)	%				48	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: WET/46555 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164304001

METHOD BLANK: 1340533 | Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/07/14 15:54	

LABORATORY CONTROL SAMPLE: 1340534

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.4	101	78-114	

MATRIX SPIKE SAMPLE: 1340535

Parameter	Units	60164278001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	101	41.7	138	87	78-114	

SAMPLE DUPLICATE: 1340536

Parameter	Units	60164297002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	8.9	8.6	4	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: WET/46606 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164304001

METHOD BLANK: 1342171 | Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/12/14 07:25	

LABORATORY CONTROL SAMPLE: 1342172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.9	100	64-132	

MATRIX SPIKE SAMPLE: 1342174

Parameter	Units	60164113001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	10.8	80	90.8	100	64-132	

SAMPLE DUPLICATE: 1342173

Parameter	Units	60163660002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.3J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: WET/46568 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164304001

METHOD BLANK: 1341261 | Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/11/14 08:00	

SAMPLE DUPLICATE: 1341262

Parameter	Units	60164321001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	13.0	12.0	8	10	

SAMPLE DUPLICATE: 1341263

Parameter	Units	60164233001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	30.0	27.0	11	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: WET/46567
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164304001

SAMPLE DUPLICATE: 1341256

Parameter	Units	60164072001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: WET/46552 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164304001

METHOD BLANK: 1340378 | Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/12/14 13:32	

LABORATORY CONTROL SAMPLE: 1340379

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

SAMPLE DUPLICATE: 1340380

Parameter	Units	60164300002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	134	119	12	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: WETA/28493 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164304001

METHOD BLANK: 1339955 | Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/07/14 13:35	

LABORATORY CONTROL SAMPLE: 1339956

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	96	90-110	

MATRIX SPIKE SAMPLE: 1339957

Parameter	Units	60164164001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	91	90-110	

MATRIX SPIKE SAMPLE: 1339958

Parameter	Units	60164187001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.46	2	2.1	84	90-110	M1

SAMPLE DUPLICATE: 1339959

Parameter	Units	60164192001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

QC Batch: WETA/28561 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164304001

METHOD BLANK: 1342314 | Matrix: Water
Associated Lab Samples: 60164304001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/13/14 08:06	

LABORATORY CONTROL SAMPLE: 1342315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	47.2	94	90-110	

MATRIX SPIKE SAMPLE: 1342316

Parameter	Units	60163963001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	160	200	345	92	90-110	

MATRIX SPIKE SAMPLE: 1342318

Parameter	Units	60164430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4520	2500	6790	91	90-110	

SAMPLE DUPLICATE: 1342317

Parameter	Units	60164060002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		25	

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QUALIFIERS

Project: BRIDGETON LF 316-236
Pace Project No.: 60164304

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.
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 316-236
Pace Project No.: 60164304

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164304001	**316-236**	EPA 200.7	MPRP/26370	EPA 200.7	ICP/20115
60164304001	**316-236**	EPA 200.7	MPRP/26364	EPA 200.7	ICP/20111
60164304001	**316-236**	EPA 245.1	MERP/8211	EPA 245.1	MERC/8166
60164304001	**316-236**	EPA 245.1	MERP/8210	EPA 245.1	MERC/8165
60164304001	**316-236**	EPA 625	OEXT/43074	EPA 625	MSSV/13725
60164304001	**316-236**	EPA 624 Low	MSV/59871		
60164304002	**TRIP BLANK**	EPA 624 Low	MSV/59871		
60164304001	**316-236**	EPA 1664A	WET/46555		
60164304001	**316-236**	EPA 1664A	WET/46606		
60164304001	**316-236**	SM 2540D	WET/46568		
60164304001	**316-236**	SM 4500-H+B	WET/46567		
60164304001	**316-236**	SM 5210B	WET/46552	SM 5210B	WET/46635
60164304001	**316-236**	EPA 350.1	WETA/28493		
60164304001	**316-236**	EPA 410.4	WETA/28561		

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Sample Condition Upon Receipt

WO#: 60164304
60164304

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 ☑ 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: 3.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 8/7/14

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.
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	
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): 012014-3		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: 8/7/14

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. PO 3727110	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 #: 6787 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 (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	316-236 2AG4U 1BP3S 1-5	OT	G	3/6/14	1026	1BP3U	3AG3S		14	10	4	1	0	1BP3N			5		X	X	X	X	X	X	X	X	X	X	X			2BP2U 5DG9U cu
2	TRIP BLANK								2	2																X						2DG9U cu
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																																

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)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / CBL	3-6-14	1049	Julie Croak / FEI	3/6/14	1049				
SITE ADDRESS: BRIDGETON LF	Julie Croak / FEI	3-6-14	1455	[signature]	3/6/14	1455				
13570 ST. CHARLES ROCK RD				[signature] PASI	3/7/14	0125	3.8	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: CRAIG HEGNA

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

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March 17, 2014

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

RE: Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 08, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

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 OB-322-MSD
Pace Project No.: 60164430

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164430001	**OB-322-MSD**	Water	03/07/14 11:30	03/08/14 00:45
60164430002	**TRIP BLANK**	Water	03/07/14 11:30	03/08/14 00:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164430001	**OB-322-MSD**	EPA 200.7	SMW, TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	TJT	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164430002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

Sample: OB-322-MSD **Lab ID: 60164430001** Collected: 03/07/14 11:30 Received: 03/08/14 00:45 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	**1500**	ug/L	75.0	1	03/11/14 13:30	03/12/14 13:57	7429-90-5	
Antimony	ND	ug/L	10.0	1	03/11/14 13:30	03/12/14 13:57	7440-36-0	
Arsenic	**36.6**	ug/L	10.0	1	03/11/14 13:30	03/12/14 13:57	7440-38-2	
Beryllium	ND	ug/L	1.0	1	03/11/14 13:30	03/12/14 13:57	7440-41-7	
Cadmium	ND	ug/L	5.0	1	03/11/14 13:30	03/12/14 13:57	7440-43-9	
Chromium	**21.4**	ug/L	5.0	1	03/11/14 13:30	03/12/14 13:57	7440-47-3	
Cobalt	**7.0**	ug/L	5.0	1	03/11/14 13:30	03/12/14 13:57	7440-48-4	
Copper	**26.0**	ug/L	10.0	1	03/11/14 13:30	03/12/14 13:57	7440-50-8	
Iron	**92300**	ug/L	50.0	1	03/11/14 13:30	03/12/14 13:57	7439-89-6	
Lead	**17.8**	ug/L	5.0	1	03/11/14 13:30	03/12/14 13:57	7439-92-1	
Nickel	**26.4**	ug/L	5.0	1	03/11/14 13:30	03/12/14 13:57	7440-02-0	
Selenium	ND	ug/L	15.0	1	03/11/14 13:30	03/12/14 13:57	7782-49-2	
Silver	ND	ug/L	7.0	1	03/11/14 13:30	03/12/14 13:57	7440-22-4	
Thallium	ND	ug/L	20.0	1	03/11/14 13:30	03/12/14 13:57	7440-28-0	
Zinc	**798**	ug/L	50.0	1	03/11/14 13:30	03/12/14 17:29	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**151**	ug/L	75.0	1	03/12/14 14:00	03/13/14 10:24	7429-90-5	
Antimony, Dissolved	ND	ug/L	10.0	1	03/12/14 14:00	03/13/14 10:24	7440-36-0	
Arsenic, Dissolved	**32.8**	ug/L	10.0	1	03/12/14 14:00	03/13/14 10:24	7440-38-2	
Beryllium, Dissolved	ND	ug/L	1.0	1	03/12/14 14:00	03/13/14 10:24	7440-41-7	
Cadmium, Dissolved	ND	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:24	7440-43-9	
Chromium, Dissolved	**10.9**	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:24	7440-47-3	
Cobalt, Dissolved	**5.4**	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:24	7440-48-4	
Copper, Dissolved	**22.1**	ug/L	10.0	1	03/12/14 14:00	03/13/14 10:24	7440-50-8	
Iron, Dissolved	**51200**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:24	7439-89-6	
Lead, Dissolved	**5.6**	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:24	7439-92-1	
Nickel, Dissolved	**19.4**	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:24	7440-02-0	
Selenium, Dissolved	ND	ug/L	15.0	1	03/12/14 14:00	03/13/14 10:24	7782-49-2	
Silver, Dissolved	ND	ug/L	7.0	1	03/12/14 14:00	03/13/14 10:24	7440-22-4	
Thallium, Dissolved	ND	ug/L	20.0	1	03/12/14 14:00	03/13/14 10:24	7440-28-0	
Zinc, Dissolved	**711**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:24	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**4.4**	ug/L	0.20	1	03/10/14 11:15	03/11/14 10:22	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/14/14 10:30	03/14/14 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	03/11/14 00:00	03/12/14 19:27	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:27	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:27	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:27	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/11/14 00:00	03/12/14 19:27	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	4000	2	03/11/14 00:00	03/12/14 19:27		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

Sample: OB-322-MSD **Lab ID: 60164430001** Collected: 03/07/14 11:30 Received: 03/08/14 00:45 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	03/11/14 00:00	03/12/14 19:27	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:27	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:27	87-86-5	
Phenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:27	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:27	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 19:27	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	63	%	33-120	2	03/11/14 00:00	03/12/14 19:27	4165-60-0	
2-Fluorobiphenyl (S)	60	%	39-120	2	03/11/14 00:00	03/12/14 19:27	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	03/11/14 00:00	03/12/14 19:27	1718-51-0	
Phenol-d6 (S)	30	%	11-120	2	03/11/14 00:00	03/12/14 19:27	13127-88-3	
2-Fluorophenol (S)	37	%	17-120	2	03/11/14 00:00	03/12/14 19:27	367-12-4	
2,4,6-Tribromophenol (S)	78	%	39-120	2	03/11/14 00:00	03/12/14 19:27	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**8090**	ug/L	500	50		03/13/14 15:59	67-64-1	L1,N2
Benzene	ND	ug/L	50.0	50		03/13/14 15:59	71-43-2	
Bromodichloromethane	ND	ug/L	50.0	50		03/13/14 15:59	75-27-4	
Bromoform	ND	ug/L	50.0	50		03/13/14 15:59	75-25-2	
Bromomethane	ND	ug/L	250	50		03/13/14 15:59	74-83-9	
2-Butanone (MEK)	**3380**	ug/L	500	50		03/13/14 15:59	78-93-3	N2
Carbon tetrachloride	ND	ug/L	50.0	50		03/13/14 15:59	56-23-5	
Chloroethane	ND	ug/L	50.0	50		03/13/14 15:59	75-00-3	
Chloroform	ND	ug/L	50.0	50		03/13/14 15:59	67-66-3	
1,4-Dichlorobenzene	**116**	ug/L	50.0	50		03/13/14 15:59	106-46-7	
1,2-Dichloroethane	ND	ug/L	50.0	50		03/13/14 15:59	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	50.0	50		03/13/14 15:59	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	50.0	50		03/13/14 15:59	156-60-5	
Ethylbenzene	ND	ug/L	50.0	50		03/13/14 15:59	100-41-4	
Methylene chloride	ND	ug/L	50.0	50		03/13/14 15:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	500	50		03/13/14 15:59	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	50.0	50		03/13/14 15:59	79-34-5	N2
Tetrachloroethene	ND	ug/L	50.0	50		03/13/14 15:59	127-18-4	
Toluene	ND	ug/L	50.0	50		03/13/14 15:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	50.0	50		03/13/14 15:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	50.0	50		03/13/14 15:59	79-00-5	
Trichloroethene	ND	ug/L	50.0	50		03/13/14 15:59	79-01-6	
Vinyl chloride	ND	ug/L	50.0	50		03/13/14 15:59	75-01-4	
Xylene (Total)	ND	ug/L	150	50		03/13/14 15:59	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	50		03/13/14 15:59	460-00-4	
Toluene-d8 (S)	98	%	80-120	50		03/13/14 15:59	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	50		03/13/14 15:59	17060-07-0	
Preservation pH	**6.0**		1.0	50		03/13/14 15:59		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**20.4**	mg/L	5.0	1		03/10/14 14:53		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

Sample: OB-322-MSD **Lab ID: 60164430001** Collected: 03/07/14 11:30 Received: 03/08/14 00:45 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		03/14/14 11:36		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**144**	mg/L	5.0	1		03/12/14 07:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/11/14 09:47		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**3410**	mg/L	2.0	1	03/08/14 11:40	03/13/14 12:49		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**22.1**	mg/L	0.50	5		03/11/14 14:26	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**4520**	mg/L	500	50		03/13/14 08:23		

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ANALYTICAL RESULTS

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

Sample: TRIP BLANK **Lab ID: 60164430002** Collected: 03/07/14 11:30 Received: 03/08/14 00:45 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		03/11/14 19:55	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/11/14 19:55	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/11/14 19:55	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/11/14 19:55	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/11/14 19:55	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/11/14 19:55	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/11/14 19:55	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/11/14 19:55	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/11/14 19:55	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/11/14 19:55	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/11/14 19:55	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/11/14 19:55	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/11/14 19:55	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/11/14 19:55	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/11/14 19:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/11/14 19:55	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/11/14 19:55	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/11/14 19:55	127-18-4	
Toluene	ND	ug/L	1.0	1		03/11/14 19:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/11/14 19:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/11/14 19:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/11/14 19:55	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/11/14 19:55	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/11/14 19:55	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		03/11/14 19:55	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		03/11/14 19:55	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		03/11/14 19:55	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/11/14 19:55		

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: MERP/8211
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164430001

METHOD BLANK: 1341405
Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/11/14 09:55	

LABORATORY CONTROL SAMPLE: 1341406

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341407 1341408

Parameter	Units	60164169001 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	5.8	4.9	116	98	70-130	17	20	

MATRIX SPIKE SAMPLE: 1341409

Parameter	Units	60164285001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.5	108	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: MERP/8225
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164430001

METHOD BLANK: 1343846
Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/14/14 14:13	

LABORATORY CONTROL SAMPLE: 1343847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343848 1343849

Parameter	Units	60164431001 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	132	121	88	80	70-130	9	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: MPRP/26404
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164430001

METHOD BLANK: 1341979
Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/12/14 13:50	
Antimony	ug/L	ND	10.0	03/12/14 13:50	
Arsenic	ug/L	ND	10.0	03/12/14 13:50	
Beryllium	ug/L	ND	1.0	03/12/14 13:50	
Cadmium	ug/L	ND	5.0	03/12/14 13:50	
Chromium	ug/L	ND	5.0	03/12/14 13:50	
Cobalt	ug/L	ND	5.0	03/12/14 13:50	
Copper	ug/L	ND	10.0	03/12/14 13:50	
Iron	ug/L	ND	50.0	03/12/14 13:50	
Lead	ug/L	ND	5.0	03/12/14 13:50	
Nickel	ug/L	ND	5.0	03/12/14 13:50	
Selenium	ug/L	ND	15.0	03/12/14 13:50	
Silver	ug/L	ND	7.0	03/12/14 13:50	
Thallium	ug/L	ND	20.0	03/12/14 13:50	
Zinc	ug/L	ND	50.0	03/12/14 17:26	

LABORATORY CONTROL SAMPLE: 1341980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10500	105	85-115	
Antimony	ug/L	1000	976	98	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	1040	104	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	972	97	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1060	106	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	984	98	85-115	
Silver	ug/L	500	496	99	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341981 1341982

Parameter	Units	60164533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	91.8	10000	10000	10900	10800	108	107	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341981 1341982

Parameter	Units	60164533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1060	1040	106	104	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	1050	1030	105	103	70-130	2	10	
Chromium	ug/L	ND	1000	1000	1100	1080	110	108	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	6	
Copper	ug/L	ND	1000	1000	1040	1020	103	101	70-130	2	11	
Iron	ug/L	314	10000	10000	10500	10300	102	100	70-130	2	10	
Lead	ug/L	ND	1000	1000	1030	1010	103	101	70-130	2	10	
Nickel	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	10	
Selenium	ug/L	ND	1000	1000	1060	1040	106	104	70-130	2	10	
Silver	ug/L	ND	500	500	537	525	107	105	70-130	2	10	
Thallium	ug/L	ND	1000	1000	962	946	96	95	70-130	2	6	
Zinc	ug/L	ND	1000	1000	974	965	97	96	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: MPRP/26429
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164430001

METHOD BLANK: 1342671
Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/13/14 10:20	
Antimony, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Arsenic, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Beryllium, Dissolved	ug/L	ND	1.0	03/13/14 10:20	
Cadmium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Chromium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Cobalt, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Copper, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Iron, Dissolved	ug/L	ND	50.0	03/13/14 10:20	
Lead, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Nickel, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Selenium, Dissolved	ug/L	ND	15.0	03/13/14 10:20	
Silver, Dissolved	ug/L	ND	7.0	03/13/14 10:20	
Thallium, Dissolved	ug/L	ND	20.0	03/13/14 10:20	
Zinc, Dissolved	ug/L	ND	50.0	03/13/14 10:20	

LABORATORY CONTROL SAMPLE: 1342672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	997	100	85-115	
Beryllium, Dissolved	ug/L	1000	991	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	952	95	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	982	98	85-115	
Iron, Dissolved	ug/L	10000	10100	101	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	475	95	85-115	
Thallium, Dissolved	ug/L	1000	1080	108	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: MSV/59952 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164430002

METHOD BLANK: 1341992 | Matrix: Water
Associated Lab Samples: 60164430002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/11/14 17:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,2-Dichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/11/14 17:04	
2-Butanone (MEK)	ug/L	ND	10.0	03/11/14 17:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/11/14 17:04	N2
Acetone	ug/L	ND	10.0	03/11/14 17:04	N2
Benzene	ug/L	ND	1.0	03/11/14 17:04	
Bromodichloromethane	ug/L	ND	1.0	03/11/14 17:04	
Bromoform	ug/L	ND	1.0	03/11/14 17:04	
Bromomethane	ug/L	ND	5.0	03/11/14 17:04	
Carbon tetrachloride	ug/L	ND	1.0	03/11/14 17:04	
Chloroethane	ug/L	ND	1.0	03/11/14 17:04	
Chloroform	ug/L	ND	1.0	03/11/14 17:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/11/14 17:04	N2
Ethylbenzene	ug/L	ND	1.0	03/11/14 17:04	
Methylene chloride	ug/L	ND	1.0	03/11/14 17:04	
Tetrachloroethene	ug/L	ND	1.0	03/11/14 17:04	
Toluene	ug/L	ND	1.0	03/11/14 17:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/11/14 17:04	
Trichloroethene	ug/L	ND	1.0	03/11/14 17:04	
Vinyl chloride	ug/L	ND	1.0	03/11/14 17:04	
Xylene (Total)	ug/L	ND	3.0	03/11/14 17:04	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/11/14 17:04	
4-Bromofluorobenzene (S)	%	98	80-120	03/11/14 17:04	
Toluene-d8 (S)	%	98	80-120	03/11/14 17:04	

LABORATORY CONTROL SAMPLE: 1341993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.5	108	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	102	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.6	98	67-124	
1,2-Dichloroethane	ug/L	20	21.7	109	70-126	
1,4-Dichlorobenzene	ug/L	20	20.4	102	74-120	
2-Butanone (MEK)	ug/L	100	124	124	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	165	165	38-134	L0,N2
Benzene	ug/L	20	21.7	108	75-120	
Bromodichloromethane	ug/L	20	20.9	104	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

LABORATORY CONTROL SAMPLE: 1341993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	18.3	91	13-157	
Carbon tetrachloride	ug/L	20	20.2	101	70-131	
Chloroethane	ug/L	20	20.7	103	47-133	
Chloroform	ug/L	20	20.9	104	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.4	112	68-127	N2
Ethylbenzene	ug/L	20	20.4	102	74-122	
Methylene chloride	ug/L	20	19.5	98	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	21.4	107	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	21.0	105	43-129	
Xylene (Total)	ug/L	60	56.8	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1341994

Parameter	Units	60164431001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3900	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3710	93	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3780	94	49-144	
1,4-Dichlorobenzene	ug/L	789	4000	4230	86	33-140	
2-Butanone (MEK)	ug/L	96400	20000	96800	2	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	3010	20000	20400	87	40-160	N2
Acetone	ug/L	171000	20000	162000	-49	10-160	M0,N2
Benzene	ug/L	ND	4000	3800	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3690	92	35-142	
Bromoform	ug/L	ND	4000	3270	82	45-142	
Bromomethane	ug/L	ND	4000	3380	84	10-158	
Carbon tetrachloride	ug/L	ND	4000	4320	108	70-140	
Chloroethane	ug/L	ND	4000	3700	92	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3890	97	34-147	N2
Ethylbenzene	ug/L	ND	4000	3470	86	40-142	
Methylene chloride	ug/L	ND	4000	3770	94	31-144	
Tetrachloroethene	ug/L	ND	4000	3430	86	64-148	
Toluene	ug/L	ND	4000	3840	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3780	95	54-151	
Trichloroethene	ug/L	ND	4000	4040	101	71-149	
Vinyl chloride	ug/L	ND	4000	4150	104	22-146	
Xylene (Total)	ug/L	ND	12000	9820	82	37-144	N2
1,2-Dichloroethane-d4 (S)	%				114	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

MATRIX SPIKE SAMPLE: 1341994

Parameter	Units	60164431001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				106	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: MSV/60031 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164430001

METHOD BLANK: 1343482 | Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/13/14 15:44	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/13/14 15:44	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/13/14 15:44	
1,2-Dichloroethane	ug/L	ND	1.0	03/13/14 15:44	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/13/14 15:44	
2-Butanone (MEK)	ug/L	ND	10.0	03/13/14 15:44	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/13/14 15:44	N2
Acetone	ug/L	ND	10.0	03/13/14 15:44	N2
Benzene	ug/L	ND	1.0	03/13/14 15:44	
Bromodichloromethane	ug/L	ND	1.0	03/13/14 15:44	
Bromoform	ug/L	ND	1.0	03/13/14 15:44	
Bromomethane	ug/L	ND	5.0	03/13/14 15:44	
Carbon tetrachloride	ug/L	ND	1.0	03/13/14 15:44	
Chloroethane	ug/L	ND	1.0	03/13/14 15:44	
Chloroform	ug/L	ND	1.0	03/13/14 15:44	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/13/14 15:44	N2
Ethylbenzene	ug/L	ND	1.0	03/13/14 15:44	
Methylene chloride	ug/L	ND	1.0	03/13/14 15:44	
Tetrachloroethene	ug/L	ND	1.0	03/13/14 15:44	
Toluene	ug/L	ND	1.0	03/13/14 15:44	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/13/14 15:44	
Trichloroethene	ug/L	ND	1.0	03/13/14 15:44	
Vinyl chloride	ug/L	ND	1.0	03/13/14 15:44	
Xylene (Total)	ug/L	ND	3.0	03/13/14 15:44	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	03/13/14 15:44	
4-Bromofluorobenzene (S)	%	102	80-120	03/13/14 15:44	
Toluene-d8 (S)	%	98	80-120	03/13/14 15:44	

LABORATORY CONTROL SAMPLE: 1343483

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.8	84	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	17.5	87	67-127	N2
1,1,2-Trichloroethane	ug/L	20	17.3	86	67-124	
1,2-Dichloroethane	ug/L	20	16.4	82	70-126	
1,4-Dichlorobenzene	ug/L	20	17.4	87	74-120	
2-Butanone (MEK)	ug/L	100	91.6	92	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	82.1	82	59-131	N2
Acetone	ug/L	100	140	140	38-134	L0,N2
Benzene	ug/L	20	15.9	79	75-120	
Bromodichloromethane	ug/L	20	16.1	81	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

LABORATORY CONTROL SAMPLE: 1343483

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	16.3	82	65-127	
Bromomethane	ug/L	20	17.1	86	13-157	
Carbon tetrachloride	ug/L	20	16.3	82	70-131	
Chloroethane	ug/L	20	16.2	81	47-133	
Chloroform	ug/L	20	16.4	82	65-127	
cis-1,2-Dichloroethene	ug/L	20	16.6	83	68-127	N2
Ethylbenzene	ug/L	20	17.6	88	74-122	
Methylene chloride	ug/L	20	15.8	79	64-129	
Tetrachloroethene	ug/L	20	17.6	88	73-125	
Toluene	ug/L	20	16.2	81	69-126	
trans-1,2-Dichloroethene	ug/L	20	15.8	79	66-129	
Trichloroethene	ug/L	20	16.6	83	71-123	
Vinyl chloride	ug/L	20	19.6	98	43-129	
Xylene (Total)	ug/L	60	52.8	88	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: OEXT/43074 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164430001

METHOD BLANK: 1341714 | Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/12/14 18:03	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/12/14 18:03	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/12/14 18:03	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/12/14 18:03	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachloroethane	ug/L	ND	5.0	03/12/14 18:03	
Naphthalene	ug/L	ND	5.0	03/12/14 18:03	
Nitrobenzene	ug/L	ND	5.0	03/12/14 18:03	
Pentachlorophenol	ug/L	ND	5.0	03/12/14 18:03	
Phenol	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Tribromophenol (S)	%	81	39-120	03/12/14 18:03	
2-Fluorobiphenyl (S)	%	71	39-120	03/12/14 18:03	
2-Fluorophenol (S)	%	42	17-120	03/12/14 18:03	
Nitrobenzene-d5 (S)	%	74	33-120	03/12/14 18:03	
Phenol-d6 (S)	%	30	11-120	03/12/14 18:03	
Terphenyl-d14 (S)	%	82	45-120	03/12/14 18:03	

LABORATORY CONTROL SAMPLE: 1341715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	35.1	70	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.9	72	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	29.2	58		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.8	54		N2
4,6-Dinitro-2-methylphenol	ug/L	50	27.7	55	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.1	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	53.9	54	24-120	
Hexachloroethane	ug/L	50	31.3	63	43-113	
Naphthalene	ug/L	50	36.4	73	48-120	
Nitrobenzene	ug/L	50	36.5	73	48-120	
Pentachlorophenol	ug/L	50	36.2	72	47-120	
Phenol	ug/L	50	14.9	30	16-112	
2,4,6-Tribromophenol (S)	%			84	39-120	
2-Fluorobiphenyl (S)	%			74	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			29	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

MATRIX SPIKE SAMPLE: 1341716

Parameter	Units	60164304001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3430	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4020	80	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75		N2
3&4-Methylphenol(m&p Cresol)	ug/L	7750	5000	11700	79		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	2650J	53	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5630	56	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	1370	5000	5170	76	45-120	
Nitrobenzene	ug/L	ND	5000	7190	144	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4230	85	43-135	
Phenol	ug/L	10600	5000	13800	63	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				152	33-120	S0
Phenol-d6 (S)	%				48	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: WET/46591
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164430001

METHOD BLANK: 1341608
Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/10/14 14:51	

LABORATORY CONTROL SAMPLE: 1341609

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.7	102	78-114	

MATRIX SPIKE SAMPLE: 1341610

Parameter	Units	60164390001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	98.9	43	134	83	78-114	

SAMPLE DUPLICATE: 1341611

Parameter	Units	60163128001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	149	160	8	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: WET/46670
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164430001

METHOD BLANK: 1343866
Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/14/14 11:36	

LABORATORY CONTROL SAMPLE: 1343867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.4	92	64-132	

MATRIX SPIKE SAMPLE: 1343868

Parameter	Units	60164508001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.9	81.3	29.7	24	64-132	M1

SAMPLE DUPLICATE: 1343869

Parameter	Units	60164509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: WET/46608
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164430001

METHOD BLANK: 1342305
Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/12/14 07:02	

SAMPLE DUPLICATE: 1342306

Parameter	Units	60164533001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1342307

Parameter	Units	60164333001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	7.0	13	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: WET/46585
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164430001

SAMPLE DUPLICATE: 1341497

Parameter	Units	60164286002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: WET/46560 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164430001

METHOD BLANK: 1340707 | Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/13/14 11:58	

LABORATORY CONTROL SAMPLE: 1340708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	222	112	85-115	

SAMPLE DUPLICATE: 1340709

Parameter	Units	60164427001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	95.1	99.3	4	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: WETA/28541
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164430001

METHOD BLANK: 1341807
Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/11/14 14:17	

LABORATORY CONTROL SAMPLE: 1341808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	102	90-110	

MATRIX SPIKE SAMPLE: 1341809

Parameter	Units	60164479001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.6	80	90-110	M1

SAMPLE DUPLICATE: 1341810

Parameter	Units	60164479002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	77.2	76.9	0	18	

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

QC Batch: WETA/28561 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164430001

METHOD BLANK: 1342314 | Matrix: Water
Associated Lab Samples: 60164430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/13/14 08:06	

LABORATORY CONTROL SAMPLE: 1342315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	47.2	94	90-110	

MATRIX SPIKE SAMPLE: 1342316

Parameter	Units	60163963001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	160	200	345	92	90-110	

MATRIX SPIKE SAMPLE: 1342318

Parameter	Units	60164430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4520	2500	6790	91	90-110	

SAMPLE DUPLICATE: 1342317

Parameter	Units	60164060002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		25	

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QUALIFIERS

Project: BRIDGETON LF OB-322-MSD
Pace Project No.: 60164430

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/60031

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

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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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 OB-322-MSD
Pace Project No.: 60164430

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164430001	**OB-322-MSD**	EPA 200.7	MPRP/26404	EPA 200.7	ICP/20136
60164430001	**OB-322-MSD**	EPA 200.7	MPRP/26429	EPA 200.7	ICP/20145
60164430001	**OB-322-MSD**	EPA 245.1	MERP/8211	EPA 245.1	MERC/8166
60164430001	**OB-322-MSD**	EPA 245.1	MERP/8225	EPA 245.1	MERC/8180
60164430001	**OB-322-MSD**	EPA 625	OEXT/43074	EPA 625	MSSV/13725
60164430001	**OB-322-MSD**	EPA 624 Low	MSV/60031		
60164430002	**TRIP BLANK**	EPA 624 Low	MSV/59952		
60164430001	**OB-322-MSD**	EPA 1664A	WET/46591		
60164430001	**OB-322-MSD**	EPA 1664A	WET/46670		
60164430001	**OB-322-MSD**	SM 2540D	WET/46608		
60164430001	**OB-322-MSD**	SM 4500-H+B	WET/46585		
60164430001	**OB-322-MSD**	SM 5210B	WET/46560	SM 5210B	WET/46655
60164430001	**OB-322-MSD**	EPA 350.1	WETA/28541		
60164430001	**OB-322-MSD**	EPA 410.4	WETA/28561		

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60164430

60164430

Client Name: Barr Eng

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ xroad pu 3/8/14

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 ☑ zplc

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

Cooler Temperature: 4.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: N 3/8/14

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: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	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: Pace Trip Blank lot # (if purchased): 012014-3	☑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: _____

Project Manager Review: _____ Date: 3/10/14

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.	PO 3727110	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 #:	6787 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)	60164430
1	OB-322-MSD 2AG4U 1BP3U 3AG3S	OT	G	03/07/14	1130	—	—		14	10	4	1	0	1BP3S	1-5				X	X	X	X	X	X	X	X	X	X	X	1BP3N	1-5 ~~2AG~~ 2BP2U 5DG9U	01
2	TRIP BLANK								2	2																X						PU 3/8/14 2DG9U	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	Julie Cloak/ FEI	3/7/14	1435	Kenyette Garith	3/7/14	1435				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	3/8/14	0045	4.4	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: John Powell					
SIGNATURE of SAMPLER: [signature]	DATE Signed: 03-07-14				

Pace Analytical Services, Inc.
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March 17, 2014

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

RE: Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 08, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

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 316-237
Pace Project No.: 60164431

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164431001	**316-237**	Water	03/07/14 09:37	03/08/14 00:45
60164431002	**TRIP BLANK**	Water	03/07/14 09:37	03/08/14 00:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164431001	**316-237**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	TJT	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164431002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

Sample: 316-237 **Lab ID: 60164431001** Collected: 03/07/14 09:37 Received: 03/08/14 00:45 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	**8670**	ug/L	750	2	03/10/14 10:00	03/10/14 17:01	7429-90-5	
Antimony	**54.5**	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:58	7440-36-0	
Arsenic	**1080**	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:58	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/10/14 10:00	03/10/14 16:58	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:58	7440-43-9	
Chromium	**274**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:58	7440-47-3	
Cobalt	**36.2**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:58	7440-48-4	
Copper	ND	ug/L	50.0	1	03/10/14 10:00	03/10/14 16:58	7440-50-8	
Iron	**799000**	ug/L	250	1	03/10/14 10:00	03/10/14 16:58	7439-89-6	
Lead	**116**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:58	7439-92-1	
Nickel	**121**	ug/L	25.0	1	03/10/14 10:00	03/10/14 16:58	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/10/14 10:00	03/10/14 16:58	7782-49-2	
Silver	ND	ug/L	35.0	1	03/10/14 10:00	03/10/14 16:58	7440-22-4	
Thallium	ND	ug/L	100	1	03/10/14 10:00	03/10/14 16:58	7440-28-0	
Zinc	**6140**	ug/L	500	2	03/10/14 10:00	03/10/14 17:01	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1950**	ug/L	750	2	03/12/14 14:00	03/13/14 11:06	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:26	7440-36-0	
Arsenic, Dissolved	**826**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:26	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:26	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:26	7440-43-9	
Chromium, Dissolved	**154**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:26	7440-47-3	
Cobalt, Dissolved	**25.9**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:26	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:26	7440-50-8	
Iron, Dissolved	**536000**	ug/L	250	1	03/12/14 14:00	03/13/14 10:26	7439-89-6	
Lead, Dissolved	**56.6**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:26	7439-92-1	
Nickel, Dissolved	**70.4**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:26	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/12/14 14:00	03/13/14 10:26	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/12/14 14:00	03/13/14 10:26	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/12/14 14:00	03/13/14 10:26	7440-28-0	
Zinc, Dissolved	**4740**	ug/L	500	2	03/12/14 14:00	03/13/14 11:06	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**25.7**	ug/L	6.0	1	03/10/14 11:15	03/11/14 10:24	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	03/14/14 10:30	03/14/14 14:24	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	2	03/11/14 00:00	03/12/14 19:48	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	77-47-4	
Hexachloroethane	ND	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	20.0	2	03/11/14 00:00	03/12/14 19:48	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**118**	ug/L	40.0	2	03/11/14 00:00	03/12/14 19:48		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

Sample: 316-237 **Lab ID: 60164431001** Collected: 03/07/14 09:37 Received: 03/08/14 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**15.4**	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	91-20-3	
Nitrobenzene	ND	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	98-95-3	
Pentachlorophenol	ND	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	87-86-5	
Phenol	**185**	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	10.0	2	03/11/14 00:00	03/12/14 19:48	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	160	%	33-120	2	03/11/14 00:00	03/12/14 19:48	4165-60-0	S0
2-Fluorobiphenyl (S)	78	%	39-120	2	03/11/14 00:00	03/12/14 19:48	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	2	03/11/14 00:00	03/12/14 19:48	1718-51-0	
Phenol-d6 (S)	58	%	11-120	2	03/11/14 00:00	03/12/14 19:48	13127-88-3	
2-Fluorophenol (S)	50	%	17-120	2	03/11/14 00:00	03/12/14 19:48	367-12-4	
2,4,6-Tribromophenol (S)	91	%	39-120	2	03/11/14 00:00	03/12/14 19:48	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**171000**	ug/L	2000	200		03/11/14 21:12	67-64-1	L1,M0, N2
Benzene	ND	ug/L	200	200		03/11/14 21:12	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/11/14 21:12	75-27-4	
Bromoform	ND	ug/L	200	200		03/11/14 21:12	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/11/14 21:12	74-83-9	
2-Butanone (MEK)	**96400**	ug/L	2000	200		03/11/14 21:12	78-93-3	M1,N2
Carbon tetrachloride	ND	ug/L	200	200		03/11/14 21:12	56-23-5	
Chloroethane	ND	ug/L	200	200		03/11/14 21:12	75-00-3	
Chloroform	ND	ug/L	200	200		03/11/14 21:12	67-66-3	
1,4-Dichlorobenzene	**789**	ug/L	200	200		03/11/14 21:12	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/11/14 21:12	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/11/14 21:12	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/11/14 21:12	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/11/14 21:12	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/11/14 21:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3010**	ug/L	2000	200		03/11/14 21:12	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/11/14 21:12	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/11/14 21:12	127-18-4	
Toluene	ND	ug/L	200	200		03/11/14 21:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/11/14 21:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/11/14 21:12	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/11/14 21:12	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/11/14 21:12	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/11/14 21:12	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	200		03/11/14 21:12	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		03/11/14 21:12	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		03/11/14 21:12	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/11/14 21:12		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

Sample: 316-237 **Lab ID: 60164431001** Collected: 03/07/14 09:37 Received: 03/08/14 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**49.6**	mg/L	5.0	1		03/10/14 14:53		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.6**	mg/L	5.0	1		03/14/14 11:36		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1420**	mg/L	5.0	1		03/12/14 07:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/11/14 09:47		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**24100**	mg/L	2.0	1	03/08/14 11:25	03/13/14 12:22		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**609**	mg/L	20.0	200		03/11/14 14:20	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**48800**	mg/L	5000	500		03/13/14 08:24		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

Sample: TRIP BLANK **Lab ID: 60164431002** Collected: 03/07/14 09:37 Received: 03/08/14 00:45 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		03/11/14 20:10	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/11/14 20:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/11/14 20:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/11/14 20:10	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/11/14 20:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/11/14 20:10	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/11/14 20:10	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/11/14 20:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/11/14 20:10	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/11/14 20:10	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/11/14 20:10	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/11/14 20:10	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/11/14 20:10	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/11/14 20:10	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/11/14 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/11/14 20:10	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/11/14 20:10	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/11/14 20:10	127-18-4	
Toluene	ND	ug/L	1.0	1		03/11/14 20:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/11/14 20:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/11/14 20:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/11/14 20:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/11/14 20:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/11/14 20:10	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		03/11/14 20:10	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		03/11/14 20:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		03/11/14 20:10	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/11/14 20:10		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: MERP/8211 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164431001

METHOD BLANK: 1341405 | Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/11/14 09:55	

LABORATORY CONTROL SAMPLE: 1341406

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341407 1341408

Parameter	Units	60164169001 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	5.8	4.9	116	98	70-130	17	20	

MATRIX SPIKE SAMPLE: 1341409

Parameter	Units	60164285001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.5	108	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: MERP/8225
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164431001

METHOD BLANK: 1343846
Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/14/14 14:13	

LABORATORY CONTROL SAMPLE: 1343847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343848 1343849

Parameter	Units	60164431001 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	132	121	88	80	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: MPRP/26370
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164431001

METHOD BLANK: 1341271
Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/10/14 16:06	
Antimony	ug/L	ND	10.0	03/10/14 16:06	
Arsenic	ug/L	ND	10.0	03/10/14 16:06	
Beryllium	ug/L	ND	1.0	03/10/14 16:06	
Cadmium	ug/L	ND	5.0	03/10/14 16:06	
Chromium	ug/L	ND	5.0	03/10/14 16:06	
Cobalt	ug/L	ND	5.0	03/10/14 16:06	
Copper	ug/L	ND	10.0	03/10/14 16:06	
Iron	ug/L	ND	50.0	03/10/14 16:06	
Lead	ug/L	ND	5.0	03/10/14 16:06	
Nickel	ug/L	ND	5.0	03/10/14 16:06	
Selenium	ug/L	ND	15.0	03/10/14 16:06	
Silver	ug/L	ND	7.0	03/10/14 16:06	
Thallium	ug/L	ND	20.0	03/10/14 16:06	
Zinc	ug/L	ND	50.0	03/10/14 16:06	

LABORATORY CONTROL SAMPLE: 1341272

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9940	99	85-115	
Antimony	ug/L	1000	981	98	85-115	
Arsenic	ug/L	1000	986	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	1060	106	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	994	99	85-115	
Silver	ug/L	500	468	94	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	1030	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341273 1341274

Parameter	Units	60163846002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10100	10000	101	100	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341273 1341274

Parameter	Units	60163846002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1020	1020	102	102	70-130	0	7	
Arsenic	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1030	1030	103	103	70-130	0	10	
Chromium	ug/L	ND	1000	1000	1070	1080	107	107	70-130	0	10	
Cobalt	ug/L	ND	1000	1000	1030	1020	103	102	70-130	0	6	
Copper	ug/L	ND	1000	1000	1060	1060	106	105	70-130	0	11	
Iron	ug/L	69.5	10000	10000	10300	10300	102	102	70-130	0	10	
Lead	ug/L	ND	1000	1000	1010	1010	100	100	70-130	0	10	
Nickel	ug/L	ND	1000	1000	1050	1050	105	105	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	10	
Silver	ug/L	ND	500	500	484	487	97	97	70-130	0	10	
Thallium	ug/L	ND	1000	1000	965	963	96	96	70-130	0	6	
Zinc	ug/L	ND	1000	1000	1040	1040	103	103	70-130	0	11	

MATRIX SPIKE SAMPLE: 1341275

Parameter	Units	60164341001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9910	99	70-130	
Antimony	ug/L	ND	1000	988	99	70-130	
Arsenic	ug/L	3.9J	1000	1000	100	70-130	
Beryllium	ug/L	ND	1000	1010	101	70-130	
Cadmium	ug/L	0.61J	1000	1000	100	70-130	
Chromium	ug/L	ND	1000	1060	106	70-130	
Cobalt	ug/L	ND	1000	998	100	70-130	
Copper	ug/L	3.1J	1000	1020	102	70-130	
Iron	ug/L	37.8J	10000	10000	100	70-130	
Lead	ug/L	2.5J	1000	994	99	70-130	
Nickel	ug/L	1.1J	1000	1020	102	70-130	
Selenium	ug/L	ND	1000	986	99	70-130	
Silver	ug/L	ND	500	477	95	70-130	
Thallium	ug/L	ND	1000	970	97	70-130	
Zinc	ug/L	29.6J	1000	1030	100	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: MPRP/26429
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164431001

METHOD BLANK: 1342671
Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/13/14 10:20	
Antimony, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Arsenic, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Beryllium, Dissolved	ug/L	ND	1.0	03/13/14 10:20	
Cadmium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Chromium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Cobalt, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Copper, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Iron, Dissolved	ug/L	ND	50.0	03/13/14 10:20	
Lead, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Nickel, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Selenium, Dissolved	ug/L	ND	15.0	03/13/14 10:20	
Silver, Dissolved	ug/L	ND	7.0	03/13/14 10:20	
Thallium, Dissolved	ug/L	ND	20.0	03/13/14 10:20	
Zinc, Dissolved	ug/L	ND	50.0	03/13/14 10:20	

LABORATORY CONTROL SAMPLE: 1342672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	997	100	85-115	
Beryllium, Dissolved	ug/L	1000	991	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	952	95	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	982	98	85-115	
Iron, Dissolved	ug/L	10000	10100	101	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	475	95	85-115	
Thallium, Dissolved	ug/L	1000	1080	108	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 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	ND	10000	10000	10000	10000	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1070	1060	107	106	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1060	1050	105	104	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	996	997	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1060	1050	105	105	70-130	0	10	
Chromium, Dissolved	ug/L	ND	1000	1000	944	943	94	94	70-130	0	10	
Cobalt, Dissolved	ug/L	3.7J	1000	1000	1010	1010	101	101	70-130	0	6	
Copper, Dissolved	ug/L	2.9J	1000	1000	1030	1020	102	101	70-130	1	11	
Iron, Dissolved	ug/L	39.7J	10000	10000	10100	10200	101	101	70-130	0	10	
Lead, Dissolved	ug/L	2.7J	1000	1000	1020	1020	102	102	70-130	0	10	
Nickel, Dissolved	ug/L	45.6	1000	1000	1070	1070	103	103	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1070	1050	107	105	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	488	484	98	97	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	1060	1060	105	106	70-130	0	6	
Zinc, Dissolved	ug/L	125	1000	1000	1120	1120	99	100	70-130	1	11	

SAMPLE DUPLICATE: 1344334

Parameter	Units	60164626003 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	ND	ND		20	
Antimony, Dissolved	ug/L	ND	ND		20	
Arsenic, Dissolved	ug/L	ND	ND		20	
Beryllium, Dissolved	ug/L	ND	ND		20	
Cadmium, Dissolved	ug/L	0.68J	ND		20	
Chromium, Dissolved	ug/L	ND	ND		20	
Cobalt, Dissolved	ug/L	ND	ND		20	
Copper, Dissolved	ug/L	1.5J	1.8J		20	
Iron, Dissolved	ug/L	ND	ND		20	
Lead, Dissolved	ug/L	ND	ND		20	
Nickel, Dissolved	ug/L	ND	ND		20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	ND		20	
Thallium, Dissolved	ug/L	ND	3.3J		20	
Zinc, Dissolved	ug/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: MSV/59952 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164431001, 60164431002

METHOD BLANK: 1341992 | Matrix: Water
Associated Lab Samples: 60164431001, 60164431002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/11/14 17:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,2-Dichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/11/14 17:04	
2-Butanone (MEK)	ug/L	ND	10.0	03/11/14 17:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/11/14 17:04	N2
Acetone	ug/L	ND	10.0	03/11/14 17:04	N2
Benzene	ug/L	ND	1.0	03/11/14 17:04	
Bromodichloromethane	ug/L	ND	1.0	03/11/14 17:04	
Bromoform	ug/L	ND	1.0	03/11/14 17:04	
Bromomethane	ug/L	ND	5.0	03/11/14 17:04	
Carbon tetrachloride	ug/L	ND	1.0	03/11/14 17:04	
Chloroethane	ug/L	ND	1.0	03/11/14 17:04	
Chloroform	ug/L	ND	1.0	03/11/14 17:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/11/14 17:04	N2
Ethylbenzene	ug/L	ND	1.0	03/11/14 17:04	
Methylene chloride	ug/L	ND	1.0	03/11/14 17:04	
Tetrachloroethene	ug/L	ND	1.0	03/11/14 17:04	
Toluene	ug/L	ND	1.0	03/11/14 17:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/11/14 17:04	
Trichloroethene	ug/L	ND	1.0	03/11/14 17:04	
Vinyl chloride	ug/L	ND	1.0	03/11/14 17:04	
Xylene (Total)	ug/L	ND	3.0	03/11/14 17:04	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/11/14 17:04	
4-Bromofluorobenzene (S)	%	98	80-120	03/11/14 17:04	
Toluene-d8 (S)	%	98	80-120	03/11/14 17:04	

LABORATORY CONTROL SAMPLE: 1341993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.5	108	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	102	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.6	98	67-124	
1,2-Dichloroethane	ug/L	20	21.7	109	70-126	
1,4-Dichlorobenzene	ug/L	20	20.4	102	74-120	
2-Butanone (MEK)	ug/L	100	124	124	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	165	165	38-134	L0,N2
Benzene	ug/L	20	21.7	108	75-120	
Bromodichloromethane	ug/L	20	20.9	104	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

LABORATORY CONTROL SAMPLE: 1341993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	18.3	91	13-157	
Carbon tetrachloride	ug/L	20	20.2	101	70-131	
Chloroethane	ug/L	20	20.7	103	47-133	
Chloroform	ug/L	20	20.9	104	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.4	112	68-127	N2
Ethylbenzene	ug/L	20	20.4	102	74-122	
Methylene chloride	ug/L	20	19.5	98	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	21.4	107	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	21.0	105	43-129	
Xylene (Total)	ug/L	60	56.8	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1341994

Parameter	Units	60164431001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3900	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3710	93	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3780	94	49-144	
1,4-Dichlorobenzene	ug/L	789	4000	4230	86	33-140	
2-Butanone (MEK)	ug/L	96400	20000	96800	2	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	3010	20000	20400	87	40-160	N2
Acetone	ug/L	171000	20000	162000	-49	10-160	M0,N2
Benzene	ug/L	ND	4000	3800	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3690	92	35-142	
Bromoform	ug/L	ND	4000	3270	82	45-142	
Bromomethane	ug/L	ND	4000	3380	84	10-158	
Carbon tetrachloride	ug/L	ND	4000	4320	108	70-140	
Chloroethane	ug/L	ND	4000	3700	92	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3890	97	34-147	N2
Ethylbenzene	ug/L	ND	4000	3470	86	40-142	
Methylene chloride	ug/L	ND	4000	3770	94	31-144	
Tetrachloroethene	ug/L	ND	4000	3430	86	64-148	
Toluene	ug/L	ND	4000	3840	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3780	95	54-151	
Trichloroethene	ug/L	ND	4000	4040	101	71-149	
Vinyl chloride	ug/L	ND	4000	4150	104	22-146	
Xylene (Total)	ug/L	ND	12000	9820	82	37-144	N2
1,2-Dichloroethane-d4 (S)	%				114	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

MATRIX SPIKE SAMPLE: 1341994

Parameter	Units	60164431001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				106	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: OEXT/43074 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164431001

METHOD BLANK: 1341714 | Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/12/14 18:03	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/12/14 18:03	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/12/14 18:03	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/12/14 18:03	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachloroethane	ug/L	ND	5.0	03/12/14 18:03	
Naphthalene	ug/L	ND	5.0	03/12/14 18:03	
Nitrobenzene	ug/L	ND	5.0	03/12/14 18:03	
Pentachlorophenol	ug/L	ND	5.0	03/12/14 18:03	
Phenol	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Tribromophenol (S)	%	81	39-120	03/12/14 18:03	
2-Fluorobiphenyl (S)	%	71	39-120	03/12/14 18:03	
2-Fluorophenol (S)	%	42	17-120	03/12/14 18:03	
Nitrobenzene-d5 (S)	%	74	33-120	03/12/14 18:03	
Phenol-d6 (S)	%	30	11-120	03/12/14 18:03	
Terphenyl-d14 (S)	%	82	45-120	03/12/14 18:03	

LABORATORY CONTROL SAMPLE: 1341715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	35.1	70	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.9	72	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	29.2	58		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.8	54		N2
4,6-Dinitro-2-methylphenol	ug/L	50	27.7	55	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.1	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	53.9	54	24-120	
Hexachloroethane	ug/L	50	31.3	63	43-113	
Naphthalene	ug/L	50	36.4	73	48-120	
Nitrobenzene	ug/L	50	36.5	73	48-120	
Pentachlorophenol	ug/L	50	36.2	72	47-120	
Phenol	ug/L	50	14.9	30	16-112	
2,4,6-Tribromophenol (S)	%			84	39-120	
2-Fluorobiphenyl (S)	%			74	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			29	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

MATRIX SPIKE SAMPLE: 1341716

Parameter	Units	60164304001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3430	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4020	80	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75		N2
3&4-Methylphenol(m&p Cresol)	ug/L	7750	5000	11700	79		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	2650J	53	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5630	56	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	1370	5000	5170	76	45-120	
Nitrobenzene	ug/L	ND	5000	7190	144	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4230	85	43-135	
Phenol	ug/L	10600	5000	13800	63	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				152	33-120	S0
Phenol-d6 (S)	%				48	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: WET/46591 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164431001

METHOD BLANK: 1341608 | Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/10/14 14:51	

LABORATORY CONTROL SAMPLE: 1341609

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.7	102	78-114	

MATRIX SPIKE SAMPLE: 1341610

Parameter	Units	60164390001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	98.9	43	134	83	78-114	

SAMPLE DUPLICATE: 1341611

Parameter	Units	60163128001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	149	160	8	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: WET/46670 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164431001

METHOD BLANK: 1343866 | Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/14/14 11:36	

LABORATORY CONTROL SAMPLE: 1343867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.4	92	64-132	

MATRIX SPIKE SAMPLE: 1343868

Parameter	Units	60164508001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.9	81.3	29.7	24	64-132	M1

SAMPLE DUPLICATE: 1343869

Parameter	Units	60164509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: WET/46608 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164431001

METHOD BLANK: 1342305 | Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/12/14 07:02	

SAMPLE DUPLICATE: 1342306

Parameter	Units	60164533001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1342307

Parameter	Units	60164333001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	7.0	13	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: WET/46585
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164431001

SAMPLE DUPLICATE: 1341497

Parameter	Units	60164286002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.0	8.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: WET/46560 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164431001

METHOD BLANK: 1340707 | Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/13/14 11:58	

LABORATORY CONTROL SAMPLE: 1340708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	222	112	85-115	

SAMPLE DUPLICATE: 1340709

Parameter	Units	60164427001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	95.1	99.3	4	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: WETA/28541
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164431001

METHOD BLANK: 1341807
Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/11/14 14:17	

LABORATORY CONTROL SAMPLE: 1341808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	102	90-110	

MATRIX SPIKE SAMPLE: 1341809

Parameter	Units	60164479001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.6	80	90-110	M1

SAMPLE DUPLICATE: 1341810

Parameter	Units	60164479002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	77.2	76.9	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

QC Batch: WETA/28561 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164431001

METHOD BLANK: 1342314 | Matrix: Water
Associated Lab Samples: 60164431001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/13/14 08:06	

LABORATORY CONTROL SAMPLE: 1342315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	47.2	94	90-110	

MATRIX SPIKE SAMPLE: 1342316

Parameter	Units	60163963001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	160	200	345	92	90-110	

MATRIX SPIKE SAMPLE: 1342318

Parameter	Units	60164430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4520	2500	6790	91	90-110	

SAMPLE DUPLICATE: 1342317

Parameter	Units	60164060002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		25	

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QUALIFIERS

Project: BRIDGETON LF 316-237
Pace Project No.: 60164431

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.

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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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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 316-237
Pace Project No.: 60164431

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164431001	**316-237**	EPA 200.7	MPRP/26370	EPA 200.7	ICP/20115
60164431001	**316-237**	EPA 200.7	MPRP/26429	EPA 200.7	ICP/20145
60164431001	**316-237**	EPA 245.1	MERP/8211	EPA 245.1	MERC/8166
60164431001	**316-237**	EPA 245.1	MERP/8225	EPA 245.1	MERC/8180
60164431001	**316-237**	EPA 625	OEXT/43074	EPA 625	MSSV/13725
60164431001	**316-237**	EPA 624 Low	MSV/59952		
60164431002	**TRIP BLANK**	EPA 624 Low	MSV/59952		
60164431001	**316-237**	EPA 1664A	WET/46591		
60164431001	**316-237**	EPA 1664A	WET/46670		
60164431001	**316-237**	SM 2540D	WET/46608		
60164431001	**316-237**	SM 4500-H+B	WET/46585		
60164431001	**316-237**	SM 5210B	WET/46560	SM 5210B	WET/46655
60164431001	**316-237**	EPA 350.1	WETA/28541		
60164431001	**316-237**	EPA 410.4	WETA/28561		

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WO# : 60164431

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Sample Condition Upon Receipt

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 ☒ 2 P/C

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

Cooler Temperature: 4.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pw 3/8/14

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: Includes date/time/ID/analyses Matrix:	☒Yes ☐No ☐N/A 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: Pace Trip Blank lot # (if purchased): 012014-3	☒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: NW	

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: 3/10/14

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.	PO 3727110	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 #:	6787 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)	60164431
1	316-237 2AG4G 1B3P3G 3AG3S	OT	G	3/7/14	937		1BP3S 5		14	10	4	1	0	1B	P3	N1	5		X	X	X	X	X	X	X	X	X	X	X			2BP2U 5DG9U 01
2	TRIP BLANK								2	2																X						2DG9U 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]	3-7-14	1010	Julie Croak / FEI	3/7/14	1010				
SITE ADDRESS: BRIDGETON LF	Julie Croak / FEI	3-7-14	1435	[signature] - Martin	3/7/14	1435				
13570 ST. CHARLES ROCK RD				[signature] PASI	3/8/14	0045	4-2	Y	Y	Y
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: CRAIG HEGNA

SIGNATURE of SAMPLER: [signature]

DATE Signed: 3-7-14

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

March 17, 2014

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

RE: Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 08, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

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.: 60164474

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164474001	**TCLP 03-06**	Water	03/06/14 15:05	03/08/14 00:45
60164474002	**TRIP BLANK**	Water	03/06/14 08:00	03/08/14 00:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164474001	**TCLP 03-06**	EPA 8260	JKL	13
		EPA 5030B/8260	PRG	28
		EPA 1664A	DJR	1
		SM 2540B	JMC1	1
60164474002	**TRIP BLANK**	EPA 5030B/8260	PRG	28

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

Sample: TCLP 03-06 **Lab ID: 60164474001** Collected: 03/06/14 15:05 Received: 03/08/14 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/11/14 00:00								
Benzene	**1140**	ug/L	250	500	5		03/11/14 15:22	71-43-2	
2-Butanone (MEK)	**113000**	ug/L	50000	200000	50		03/11/14 15:38	78-93-3	
Carbon tetrachloride	ND	ug/L	250	500	5		03/11/14 15:22	56-23-5	
Chlorobenzene	ND	ug/L	250	100000	5		03/11/14 15:22	108-90-7	
Chloroform	ND	ug/L	1000	6000	5		03/11/14 15:22	67-66-3	
1,2-Dichloroethane	ND	ug/L	250	500	5		03/11/14 15:22	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	700	5		03/11/14 15:22	75-35-4	
Tetrachloroethene	ND	ug/L	250	700	5		03/11/14 15:22	127-18-4	
Trichloroethene	ND	ug/L	250	500	5		03/11/14 15:22	79-01-6	
Vinyl chloride	ND	ug/L	100	200	5		03/11/14 15:22	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%	80-120		5		03/11/14 15:22	17060-07-0	
Toluene-d8 (S)	99	%	80-120		5		03/11/14 15:22	2037-26-5	
4-Bromofluorobenzene (S)	101	%	80-120		5		03/11/14 15:22	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260								
Acetone	**193000**	ug/L	2000		200		03/10/14 22:05	67-64-1	SS
Benzene	**1720**	ug/L	200		200		03/10/14 22:05	71-43-2	
Bromodichloromethane	ND	ug/L	200		200		03/10/14 22:05	75-27-4	
Bromoform	ND	ug/L	200		200		03/10/14 22:05	75-25-2	
Bromomethane	ND	ug/L	1000		200		03/10/14 22:05	74-83-9	
2-Butanone (MEK)	**101000**	ug/L	2000		200		03/10/14 22:05	78-93-3	
Carbon tetrachloride	ND	ug/L	200		200		03/10/14 22:05	56-23-5	
Chloroethane	ND	ug/L	200		200		03/10/14 22:05	75-00-3	
Chloroform	ND	ug/L	200		200		03/10/14 22:05	67-66-3	
1,4-Dichlorobenzene	**835**	ug/L	200		200		03/10/14 22:05	106-46-7	
1,2-Dichloroethane	ND	ug/L	200		200		03/10/14 22:05	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200		200		03/10/14 22:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200		200		03/10/14 22:05	156-60-5	
Ethylbenzene	**369**	ug/L	200		200		03/10/14 22:05	100-41-4	
Methylene chloride	ND	ug/L	200		200		03/10/14 22:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3020**	ug/L	2000		200		03/10/14 22:05	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	200		200		03/10/14 22:05	79-34-5	
Tetrachloroethene	ND	ug/L	200		200		03/10/14 22:05	127-18-4	
Toluene	**485**	ug/L	200		200		03/10/14 22:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200		200		03/10/14 22:05	71-55-6	
1,1,2-Trichloroethane	**487**	ug/L	200		200		03/10/14 22:05	79-00-5	
Trichloroethene	ND	ug/L	200		200		03/10/14 22:05	79-01-6	
Vinyl chloride	ND	ug/L	200		200		03/10/14 22:05	75-01-4	
Xylene (Total)	**1400**	ug/L	600		200		03/10/14 22:05	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		200		03/10/14 22:05	460-00-4	HS
1,2-Dichloroethane-d4 (S)	110	%	80-120		200		03/10/14 22:05	17060-07-0	
Toluene-d8 (S)	96	%	80-120		200		03/10/14 22:05	2037-26-5	
Preservation pH	**1.0**		0.10		200		03/10/14 22:05		

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

Sample: TCLP 03-06 **Lab ID: 60164474001** Collected: 03/06/14 15:05 Received: 03/08/14 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
HEM, Oil and Grease	Analytical Method: EPA 1664A								
Oil and Grease	**106**	mg/L	5.0		1		03/10/14 14:53		
2540B Total Solids	Analytical Method: SM 2540B								
Total Solids	**63000**	mg/L	5.0		1		03/13/14 15:07		

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

Sample: TRIP BLANK **Lab ID: 60164474002** Collected: 03/06/14 08:00 Received: 03/08/14 00:45 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		03/17/14 12:38	67-64-1	L1
Benzene	ND	ug/L	1.0		1		03/17/14 12:38	71-43-2	
Bromodichloromethane	ND	ug/L	1.0		1		03/17/14 12:38	75-27-4	
Bromoform	ND	ug/L	1.0		1		03/17/14 12:38	75-25-2	
Bromomethane	ND	ug/L	5.0		1		03/17/14 12:38	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0		1		03/17/14 12:38	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0		1		03/17/14 12:38	56-23-5	
Chloroethane	ND	ug/L	1.0		1		03/17/14 12:38	75-00-3	
Chloroform	ND	ug/L	1.0		1		03/17/14 12:38	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0		1		03/17/14 12:38	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0		1		03/17/14 12:38	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0		1		03/17/14 12:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0		1		03/17/14 12:38	156-60-5	
Ethylbenzene	ND	ug/L	1.0		1		03/17/14 12:38	100-41-4	
Methylene chloride	ND	ug/L	1.0		1		03/17/14 12:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0		1		03/17/14 12:38	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1		03/17/14 12:38	79-34-5	
Tetrachloroethene	ND	ug/L	1.0		1		03/17/14 12:38	127-18-4	
Toluene	ND	ug/L	1.0		1		03/17/14 12:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0		1		03/17/14 12:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0		1		03/17/14 12:38	79-00-5	
Trichloroethene	ND	ug/L	1.0		1		03/17/14 12:38	79-01-6	
Vinyl chloride	ND	ug/L	1.0		1		03/17/14 12:38	75-01-4	
Xylene (Total)	ND	ug/L	3.0		1		03/17/14 12:38	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	103	%	80-120		1		03/17/14 12:38	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	80-120		1		03/17/14 12:38	17060-07-0	
Toluene-d8 (S)	98	%	80-120		1		03/17/14 12:38	2037-26-5	
Preservation pH	**1.0**		0.10		1		03/17/14 12:38		

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

QC Batch: MSV/59957 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60164474001

METHOD BLANK: 1342137 | Matrix: Water
Associated Lab Samples: 60164474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	03/11/14 14:06	
1,2-Dichloroethane	ug/L	ND	50.0	03/11/14 14:06	
2-Butanone (MEK)	ug/L	ND	1000	03/11/14 14:06	
Benzene	ug/L	ND	50.0	03/11/14 14:06	
Carbon tetrachloride	ug/L	ND	50.0	03/11/14 14:06	
Chlorobenzene	ug/L	ND	50.0	03/11/14 14:06	
Chloroform	ug/L	ND	200	03/11/14 14:06	
Tetrachloroethene	ug/L	ND	50.0	03/11/14 14:06	
Trichloroethene	ug/L	ND	50.0	03/11/14 14:06	
Vinyl chloride	ug/L	ND	20.0	03/11/14 14:06	
1,2-Dichloroethane-d4 (S)	%	98	80-120	03/11/14 14:06	
4-Bromofluorobenzene (S)	%	95	80-120	03/11/14 14:06	
Toluene-d8 (S)	%	97	80-120	03/11/14 14:06	

LABORATORY CONTROL SAMPLE: 1342138

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	1150	115	78-126	
1,2-Dichloroethane	ug/L	1000	1100	110	77-123	
2-Butanone (MEK)	ug/L	5000	6950	139	52-145	
Benzene	ug/L	1000	1030	103	80-120	
Carbon tetrachloride	ug/L	1000	1110	111	78-128	
Chlorobenzene	ug/L	1000	1040	104	80-120	
Chloroform	ug/L	1000	1000	100	79-120	
Tetrachloroethene	ug/L	1000	1070	107	80-121	
Trichloroethene	ug/L	1000	1060	106	80-120	
Vinyl chloride	ug/L	1000	1200	120	59-120	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1342139

Parameter	Units	60164376001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	1130	113	60-144	
1,2-Dichloroethane	ug/L	ND	1000	1000	100	49-148	
2-Butanone (MEK)	ug/L	ND	5000	4660	93	36-145	
Benzene	ug/L	ND	1000	995	99	37-157	
Carbon tetrachloride	ug/L	ND	1000	1110	111	68-142	
Chlorobenzene	ug/L	ND	1000	1020	102	66-133	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

MATRIX SPIKE SAMPLE: 1342139

Parameter	Units	60164376001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	1000	944	94	66-127	
Tetrachloroethene	ug/L	ND	1000	1080	108	69-133	
Trichloroethene	ug/L	ND	1000	1050	105	61-135	
Vinyl chloride	ug/L	ND	1000	1170	117	44-128	
1,2-Dichloroethane-d4 (S)	%				96	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				100	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

QC Batch: MSV/59913 | Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 | Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60164474001

METHOD BLANK: 1341456 | Matrix: Water
Associated Lab Samples: 60164474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/10/14 21:22	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/10/14 21:22	
1,1,2-Trichloroethane	ug/L	ND	1.0	03/10/14 21:22	
1,2-Dichloroethane	ug/L	ND	1.0	03/10/14 21:22	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/10/14 21:22	
2-Butanone (MEK)	ug/L	ND	10.0	03/10/14 21:22	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/10/14 21:22	
Acetone	ug/L	ND	10.0	03/10/14 21:22	
Benzene	ug/L	ND	1.0	03/10/14 21:22	
Bromodichloromethane	ug/L	ND	1.0	03/10/14 21:22	
Bromoform	ug/L	ND	1.0	03/10/14 21:22	
Bromomethane	ug/L	ND	5.0	03/10/14 21:22	
Carbon tetrachloride	ug/L	ND	1.0	03/10/14 21:22	
Chloroethane	ug/L	ND	1.0	03/10/14 21:22	
Chloroform	ug/L	ND	1.0	03/10/14 21:22	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/10/14 21:22	
Ethylbenzene	ug/L	ND	1.0	03/10/14 21:22	
Methylene chloride	ug/L	ND	1.0	03/10/14 21:22	
Tetrachloroethene	ug/L	ND	1.0	03/10/14 21:22	
Toluene	ug/L	ND	1.0	03/10/14 21:22	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/10/14 21:22	
Trichloroethene	ug/L	ND	1.0	03/10/14 21:22	
Vinyl chloride	ug/L	ND	1.0	03/10/14 21:22	
Xylene (Total)	ug/L	ND	3.0	03/10/14 21:22	
1,2-Dichloroethane-d4 (S)	%	109	80-120	03/10/14 21:22	
4-Bromofluorobenzene (S)	%	102	80-120	03/10/14 21:22	
Toluene-d8 (S)	%	95	80-120	03/10/14 21:22	

LABORATORY CONTROL SAMPLE: 1341457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.4	107	80-121	
1,1,2,2-Tetrachloroethane	ug/L	20	19.4	97	73-124	
1,1,2-Trichloroethane	ug/L	20	19.4	97	80-120	
1,2-Dichloroethane	ug/L	20	21.6	108	77-123	
1,4-Dichlorobenzene	ug/L	20	18.9	95	80-120	
2-Butanone (MEK)	ug/L	100	115	115	52-145	
4-Methyl-2-pentanone (MIBK)	ug/L	100	105	105	71-131	
Acetone	ug/L	100	133	133	32-155	
Benzene	ug/L	20	21.2	106	80-120	
Bromodichloromethane	ug/L	20	21.0	105	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

LABORATORY CONTROL SAMPLE: 1341457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	18.5	93	73-124	
Bromomethane	ug/L	20	16.1	81	31-144	
Carbon tetrachloride	ug/L	20	20.6	103	78-128	
Chloroethane	ug/L	20	21.9	110	55-137	
Chloroform	ug/L	20	19.7	99	79-120	
cis-1,2-Dichloroethene	ug/L	20	22.4	112	80-120	
Ethylbenzene	ug/L	20	20.0	100	80-121	
Methylene chloride	ug/L	20	21.6	108	73-126	
Tetrachloroethene	ug/L	20	19.3	96	80-121	
Toluene	ug/L	20	21.1	105	80-122	
trans-1,2-Dichloroethene	ug/L	20	20.6	103	79-121	
Trichloroethene	ug/L	20	19.5	98	80-120	
Vinyl chloride	ug/L	20	20.1	100	59-120	
Xylene (Total)	ug/L	60	61.1	102	80-121	
1,2-Dichloroethane-d4 (S)	%			106	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

QC Batch: MSV/60081 | Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 | Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60164474002

METHOD BLANK: 1345089 | Matrix: Water
Associated Lab Samples: 60164474002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/17/14 11:54	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/17/14 11:54	
1,1,2-Trichloroethane	ug/L	ND	1.0	03/17/14 11:54	
1,2-Dichloroethane	ug/L	ND	1.0	03/17/14 11:54	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/17/14 11:54	
2-Butanone (MEK)	ug/L	ND	10.0	03/17/14 11:54	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/17/14 11:54	
Acetone	ug/L	ND	10.0	03/17/14 11:54	
Benzene	ug/L	ND	1.0	03/17/14 11:54	
Bromodichloromethane	ug/L	ND	1.0	03/17/14 11:54	
Bromoform	ug/L	ND	1.0	03/17/14 11:54	
Bromomethane	ug/L	ND	5.0	03/17/14 11:54	
Carbon tetrachloride	ug/L	ND	1.0	03/17/14 11:54	
Chloroethane	ug/L	ND	1.0	03/17/14 11:54	
Chloroform	ug/L	ND	1.0	03/17/14 11:54	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 11:54	
Ethylbenzene	ug/L	ND	1.0	03/17/14 11:54	
Methylene chloride	ug/L	ND	1.0	03/17/14 11:54	
Tetrachloroethene	ug/L	ND	1.0	03/17/14 11:54	
Toluene	ug/L	ND	1.0	03/17/14 11:54	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 11:54	
Trichloroethene	ug/L	ND	1.0	03/17/14 11:54	
Vinyl chloride	ug/L	ND	1.0	03/17/14 11:54	
Xylene (Total)	ug/L	ND	3.0	03/17/14 11:54	
1,2-Dichloroethane-d4 (S)	%	99	80-120	03/17/14 11:54	
4-Bromofluorobenzene (S)	%	101	80-120	03/17/14 11:54	
Toluene-d8 (S)	%	101	80-120	03/17/14 11:54	

LABORATORY CONTROL SAMPLE: 1345090

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	21.2	106	73-124	
1,1,2-Trichloroethane	ug/L	20	19.7	98	80-120	
1,2-Dichloroethane	ug/L	20	20.6	103	77-123	
1,4-Dichlorobenzene	ug/L	20	20.9	104	80-120	
2-Butanone (MEK)	ug/L	100	129	129	52-145	
4-Methyl-2-pentanone (MIBK)	ug/L	100	108	108	71-131	
Acetone	ug/L	100	207	207	32-155	L0
Benzene	ug/L	20	20.8	104	80-120	
Bromodichloromethane	ug/L	20	20.8	104	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

LABORATORY CONTROL SAMPLE: 1345090

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.7	98	73-124	
Bromomethane	ug/L	20	21.7	108	31-144	
Carbon tetrachloride	ug/L	20	21.5	108	78-128	
Chloroethane	ug/L	20	19.8	99	55-137	
Chloroform	ug/L	20	21.1	105	79-120	
cis-1,2-Dichloroethene	ug/L	20	21.8	109	80-120	
Ethylbenzene	ug/L	20	20.3	102	80-121	
Methylene chloride	ug/L	20	21.6	108	73-126	
Tetrachloroethene	ug/L	20	19.7	99	80-121	
Toluene	ug/L	20	20.5	103	80-122	
trans-1,2-Dichloroethene	ug/L	20	22.4	112	79-121	
Trichloroethene	ug/L	20	20.5	103	80-120	
Vinyl chloride	ug/L	20	21.3	106	59-120	
Xylene (Total)	ug/L	60	62.8	105	80-121	
1,2-Dichloroethane-d4 (S)	%			91	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

QC Batch: WET/46591 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164474001

METHOD BLANK: 1341608 | Matrix: Water
Associated Lab Samples: 60164474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/10/14 14:51	

LABORATORY CONTROL SAMPLE: 1341609

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.7	102	78-114	

MATRIX SPIKE SAMPLE: 1341610

Parameter	Units	60164390001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	98.9	43	134	83	78-114	

SAMPLE DUPLICATE: 1341611

Parameter	Units	60163128001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	149	160	8	18	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

QC Batch: WET/46646 | Analysis Method: SM 2540B
QC Batch Method: SM 2540B | Analysis Description: 2540B Total Solids
Associated Lab Samples: 60164474001

METHOD BLANK: 1342890 | Matrix: Water
Associated Lab Samples: 60164474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	03/13/14 15:06	

LABORATORY CONTROL SAMPLE: 1342891

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	1030	103	80-120	

SAMPLE DUPLICATE: 1342892

Parameter	Units	60164593001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	20100	20100	0	10	

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QUALIFIERS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

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/59913

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

Batch: MSV/60081

[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).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164474001	**TCLP 03-06**	EPA 8260	MSV/59957		
60164474001	**TCLP 03-06**	EPA 5030B/8260	MSV/59913		
60164474002	**TRIP BLANK**	EPA 5030B/8260	MSV/60081		
60164474001	**TCLP 03-06**	EPA 1664A	WET/46591		
60164474001	**TCLP 03-06**	SM 2540B	WET/46646		

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Sample Condition Upon Receipt

WO#: 60164474

60164474

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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 ☑ ZPK

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

Cooler Temperature: 8.9

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. All the ice in the cooler
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5. are melted.
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. 1505
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	
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: Pace Trip Blank lot # (if purchased): 020314-7	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	3 of 3 DIGH 16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☐N/A	17. List State: AKO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: FOOTNOTE TEMP PER HISTORICAL INSTRUCTIONS

Project Manager Review: _____ Date: 3/10/14

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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: of

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.: PO 3727110	Pace Quote Reference:
Phone: Fax:	Project Name: BRIDGETON UNTREATED COMMINGLED	Pace Project Manager: Angie Brown 913-563-1402
Requested Due Date/TAT:	Project Number:	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)

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	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)	Pace Project No./ Lab I.D. 60164474
1	TCLP 03-06	OT	G	03/06/14		—	—			3	D	29	H						X	X	X	X	1B	P3U	2A	G3S	2	A-G1	U		** total VOCs Bridgeton List 001
2																															* footnote %dry solids TCLP
3																															2D69HTB 002
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			
	Julie Crook / FEI	3/7/14	1435	Margaret Marsh	3/7/14	1435				
				[signature] PAGE	3/8/14	0045	8.8	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: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 03-06-14

*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.

F-ALL-Q-020rev.08, 12-Oct-2007

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TCLP/SPLP Determination of Percent Solids

(Only if sample is liquid or semi-liquid. Skip if sample is obviously 100% solid.)

Date: 3/10/14 Batch: .

Analyst: CEM Balance ID: 6000XT 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)
60164272001	121.5	254.4	277.9	1.2	122.2	405.6	3.6	127.7	132.2	3.4%	1.3	1.3	0.08%	Yes / No / NA
60164147001	108.6	250.7	279.1	1.3	109.6	~~415~~ 415.8 dry 3/10	3.1	136.7	141.1	3.1%	1.6	1.5	0.14%	Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
						CEM 3/10/14								Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														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 = $\frac{\text{mL of leachate required}}{20 \times \text{Percent solids}} \times 100$

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March 17, 2014

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

RE: Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 10, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

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 316-239
Pace Project No.: 60164508

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164508001	**316-239**	Water	03/09/14 10:30	03/10/14 13:40
60164508002	**TRIP BLANK**	Water	03/09/14 10:30	03/10/14 13:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164508001	**316-239**	EPA 200.7	SMW, TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164508002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

Sample: 316-239 **Lab ID: 60164508001** Collected: 03/09/14 10:30 Received: 03/10/14 13:40 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	**3830**	ug/L	750	2	03/11/14 13:30	03/12/14 14:04	7429-90-5	
Antimony	ND	ug/L	100	2	03/11/14 13:30	03/12/14 14:04	7440-36-0	D3
Arsenic	**1060**	ug/L	50.0	1	03/11/14 13:30	03/12/14 14:00	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/11/14 13:30	03/12/14 14:00	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:00	7440-43-9	
Chromium	**268**	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:00	7440-47-3	
Cobalt	**39.5**	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:00	7440-48-4	
Copper	ND	ug/L	50.0	1	03/11/14 13:30	03/12/14 14:00	7440-50-8	
Iron	**790000**	ug/L	250	1	03/11/14 13:30	03/12/14 14:00	7439-89-6	
Lead	**126**	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:00	7439-92-1	
Nickel	**109**	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:00	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/11/14 13:30	03/12/14 14:00	7782-49-2	
Silver	ND	ug/L	35.0	1	03/11/14 13:30	03/12/14 14:00	7440-22-4	
Thallium	ND	ug/L	100	1	03/11/14 13:30	03/12/14 14:00	7440-28-0	
Zinc	**6510**	ug/L	500	2	03/11/14 13:30	03/12/14 17:31	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2200**	ug/L	750	2	03/12/14 14:00	03/13/14 11:08	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:29	7440-36-0	
Arsenic, Dissolved	**918**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:29	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:29	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:29	7440-43-9	
Chromium, Dissolved	**182**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:29	7440-47-3	
Cobalt, Dissolved	**27.2**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:29	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:29	7440-50-8	
Iron, Dissolved	**644000**	ug/L	250	1	03/12/14 14:00	03/13/14 10:29	7439-89-6	
Lead, Dissolved	**58.0**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:29	7439-92-1	
Nickel, Dissolved	**75.3**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:29	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/12/14 14:00	03/13/14 10:29	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/12/14 14:00	03/13/14 10:29	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/12/14 14:00	03/13/14 10:29	7440-28-0	
Zinc, Dissolved	**5510**	ug/L	500	2	03/12/14 14:00	03/13/14 11:08	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**20.4**	ug/L	6.0	1	03/14/14 10:30	03/14/14 14:49	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	03/14/14 10:30	03/14/14 14:27	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/11/14 00:00	03/12/14 20:09	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/11/14 00:00	03/12/14 20:09	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**10800**	ug/L	4000	2	03/11/14 00:00	03/12/14 20:09		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

Sample: 316-239 **Lab ID: 60164508001** Collected: 03/09/14 10:30 Received: 03/10/14 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**2110**	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	87-86-5	
Phenol	**16400**	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:09	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	169	%	33-120	2	03/11/14 00:00	03/12/14 20:09	4165-60-0	S0
2-Fluorobiphenyl (S)	78	%	39-120	2	03/11/14 00:00	03/12/14 20:09	321-60-8	
Terphenyl-d14 (S)	83	%	45-120	2	03/11/14 00:00	03/12/14 20:09	1718-51-0	
Phenol-d6 (S)	57	%	11-120	2	03/11/14 00:00	03/12/14 20:09	13127-88-3	
2-Fluorophenol (S)	50	%	17-120	2	03/11/14 00:00	03/12/14 20:09	367-12-4	
2,4,6-Tribromophenol (S)	93	%	39-120	2	03/11/14 00:00	03/12/14 20:09	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**168000**	ug/L	2000	200		03/11/14 21:43	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/11/14 21:43	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/11/14 21:43	75-27-4	
Bromoform	ND	ug/L	200	200		03/11/14 21:43	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/11/14 21:43	74-83-9	
2-Butanone (MEK)	**89500**	ug/L	2000	200		03/11/14 21:43	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/11/14 21:43	56-23-5	
Chloroethane	ND	ug/L	200	200		03/11/14 21:43	75-00-3	
Chloroform	ND	ug/L	200	200		03/11/14 21:43	67-66-3	
1,4-Dichlorobenzene	**1250**	ug/L	200	200		03/11/14 21:43	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/11/14 21:43	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/11/14 21:43	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/11/14 21:43	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/11/14 21:43	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/11/14 21:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3060**	ug/L	2000	200		03/11/14 21:43	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/11/14 21:43	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/11/14 21:43	127-18-4	
Toluene	ND	ug/L	200	200		03/11/14 21:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/11/14 21:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/11/14 21:43	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/11/14 21:43	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/11/14 21:43	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/11/14 21:43	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		03/11/14 21:43	460-00-4	HS
Toluene-d8 (S)	102	%	80-120	200		03/11/14 21:43	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	80-120	200		03/11/14 21:43	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/11/14 21:43		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**693**	mg/L	5.0	1		03/14/14 11:32		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

Sample: 316-239 **Lab ID: 60164508001** Collected: 03/09/14 10:30 Received: 03/10/14 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.9**	mg/L	5.0	1		03/14/14 11:36		M1
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2000**	mg/L	5.0	1		03/12/14 13:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		03/12/14 14:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**33500**	mg/L	2.0	1	03/10/14 15:34	03/15/14 09:39		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**650**	mg/L	20.0	200		03/11/14 14:32	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55200**	mg/L	5000	500		03/13/14 08:24		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

Sample: TRIP BLANK **Lab ID: 60164508002** Collected: 03/09/14 10:30 Received: 03/10/14 13:40 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		03/11/14 20:26	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/11/14 20:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/11/14 20:26	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/11/14 20:26	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/11/14 20:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/11/14 20:26	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/11/14 20:26	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/11/14 20:26	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/11/14 20:26	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/11/14 20:26	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/11/14 20:26	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/11/14 20:26	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/11/14 20:26	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/11/14 20:26	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/11/14 20:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/11/14 20:26	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/11/14 20:26	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/11/14 20:26	127-18-4	
Toluene	ND	ug/L	1.0	1		03/11/14 20:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/11/14 20:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/11/14 20:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/11/14 20:26	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/11/14 20:26	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/11/14 20:26	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		03/11/14 20:26	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		03/11/14 20:26	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		03/11/14 20:26	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/11/14 20:26		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: MERP/8226 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164508001

METHOD BLANK: 1343851 | Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/14/14 14:44	

LABORATORY CONTROL SAMPLE: 1343852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343853 1343854

Parameter	Units	60164408001 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	3.0	3.2	61	64	70-130	5	20	M1

MATRIX SPIKE SAMPLE: 1343855

Parameter	Units	60164538002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: MERP/8225
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164508001

METHOD BLANK: 1343846
Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/14/14 14:13	

LABORATORY CONTROL SAMPLE: 1343847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343848 1343849

Parameter	Units	60164431001 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	132	121	88	80	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: MPRP/26404
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164508001

METHOD BLANK: 1341979
Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/12/14 13:50	
Antimony	ug/L	ND	10.0	03/12/14 13:50	
Arsenic	ug/L	ND	10.0	03/12/14 13:50	
Beryllium	ug/L	ND	1.0	03/12/14 13:50	
Cadmium	ug/L	ND	5.0	03/12/14 13:50	
Chromium	ug/L	ND	5.0	03/12/14 13:50	
Cobalt	ug/L	ND	5.0	03/12/14 13:50	
Copper	ug/L	ND	10.0	03/12/14 13:50	
Iron	ug/L	ND	50.0	03/12/14 13:50	
Lead	ug/L	ND	5.0	03/12/14 13:50	
Nickel	ug/L	ND	5.0	03/12/14 13:50	
Selenium	ug/L	ND	15.0	03/12/14 13:50	
Silver	ug/L	ND	7.0	03/12/14 13:50	
Thallium	ug/L	ND	20.0	03/12/14 13:50	
Zinc	ug/L	ND	50.0	03/12/14 17:26	

LABORATORY CONTROL SAMPLE: 1341980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10500	105	85-115	
Antimony	ug/L	1000	976	98	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	1040	104	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	972	97	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1060	106	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	984	98	85-115	
Silver	ug/L	500	496	99	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341981 1341982

Parameter	Units	60164533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	91.8	10000	10000	10900	10800	108	107	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341981 1341982

Parameter	Units	60164533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1060	1040	106	104	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	1050	1030	105	103	70-130	2	10	
Chromium	ug/L	ND	1000	1000	1100	1080	110	108	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	6	
Copper	ug/L	ND	1000	1000	1040	1020	103	101	70-130	2	11	
Iron	ug/L	314	10000	10000	10500	10300	102	100	70-130	2	10	
Lead	ug/L	ND	1000	1000	1030	1010	103	101	70-130	2	10	
Nickel	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	10	
Selenium	ug/L	ND	1000	1000	1060	1040	106	104	70-130	2	10	
Silver	ug/L	ND	500	500	537	525	107	105	70-130	2	10	
Thallium	ug/L	ND	1000	1000	962	946	96	95	70-130	2	6	
Zinc	ug/L	ND	1000	1000	974	965	97	96	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: MPRP/26429
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164508001

METHOD BLANK: 1342671
Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/13/14 10:20	
Antimony, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Arsenic, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Beryllium, Dissolved	ug/L	ND	1.0	03/13/14 10:20	
Cadmium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Chromium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Cobalt, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Copper, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Iron, Dissolved	ug/L	ND	50.0	03/13/14 10:20	
Lead, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Nickel, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Selenium, Dissolved	ug/L	ND	15.0	03/13/14 10:20	
Silver, Dissolved	ug/L	ND	7.0	03/13/14 10:20	
Thallium, Dissolved	ug/L	ND	20.0	03/13/14 10:20	
Zinc, Dissolved	ug/L	ND	50.0	03/13/14 10:20	

LABORATORY CONTROL SAMPLE: 1342672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	997	100	85-115	
Beryllium, Dissolved	ug/L	1000	991	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	952	95	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	982	98	85-115	
Iron, Dissolved	ug/L	10000	10100	101	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	475	95	85-115	
Thallium, Dissolved	ug/L	1000	1080	108	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 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	ND	10000	10000	10000	10000	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1070	1060	107	106	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1060	1050	105	104	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	996	997	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1060	1050	105	105	70-130	0	10	
Chromium, Dissolved	ug/L	ND	1000	1000	944	943	94	94	70-130	0	10	
Cobalt, Dissolved	ug/L	3.7J	1000	1000	1010	1010	101	101	70-130	0	6	
Copper, Dissolved	ug/L	2.9J	1000	1000	1030	1020	102	101	70-130	1	11	
Iron, Dissolved	ug/L	39.7J	10000	10000	10100	10200	101	101	70-130	0	10	
Lead, Dissolved	ug/L	2.7J	1000	1000	1020	1020	102	102	70-130	0	10	
Nickel, Dissolved	ug/L	45.6	1000	1000	1070	1070	103	103	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1070	1050	107	105	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	488	484	98	97	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	1060	1060	105	106	70-130	0	6	
Zinc, Dissolved	ug/L	125	1000	1000	1120	1120	99	100	70-130	1	11	

SAMPLE DUPLICATE: 1344334

Parameter	Units	60164626003 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	ND	ND		20	
Antimony, Dissolved	ug/L	ND	ND		20	
Arsenic, Dissolved	ug/L	ND	ND		20	
Beryllium, Dissolved	ug/L	ND	ND		20	
Cadmium, Dissolved	ug/L	0.68J	ND		20	
Chromium, Dissolved	ug/L	ND	ND		20	
Cobalt, Dissolved	ug/L	ND	ND		20	
Copper, Dissolved	ug/L	1.5J	1.8J		20	
Iron, Dissolved	ug/L	ND	ND		20	
Lead, Dissolved	ug/L	ND	ND		20	
Nickel, Dissolved	ug/L	ND	ND		20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	ND		20	
Thallium, Dissolved	ug/L	ND	3.3J		20	
Zinc, Dissolved	ug/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: MSV/59952 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164508001, 60164508002

METHOD BLANK: 1341992 | Matrix: Water
Associated Lab Samples: 60164508001, 60164508002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/11/14 17:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,2-Dichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/11/14 17:04	
2-Butanone (MEK)	ug/L	ND	10.0	03/11/14 17:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/11/14 17:04	N2
Acetone	ug/L	ND	10.0	03/11/14 17:04	N2
Benzene	ug/L	ND	1.0	03/11/14 17:04	
Bromodichloromethane	ug/L	ND	1.0	03/11/14 17:04	
Bromoform	ug/L	ND	1.0	03/11/14 17:04	
Bromomethane	ug/L	ND	5.0	03/11/14 17:04	
Carbon tetrachloride	ug/L	ND	1.0	03/11/14 17:04	
Chloroethane	ug/L	ND	1.0	03/11/14 17:04	
Chloroform	ug/L	ND	1.0	03/11/14 17:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/11/14 17:04	N2
Ethylbenzene	ug/L	ND	1.0	03/11/14 17:04	
Methylene chloride	ug/L	ND	1.0	03/11/14 17:04	
Tetrachloroethene	ug/L	ND	1.0	03/11/14 17:04	
Toluene	ug/L	ND	1.0	03/11/14 17:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/11/14 17:04	
Trichloroethene	ug/L	ND	1.0	03/11/14 17:04	
Vinyl chloride	ug/L	ND	1.0	03/11/14 17:04	
Xylene (Total)	ug/L	ND	3.0	03/11/14 17:04	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/11/14 17:04	
4-Bromofluorobenzene (S)	%	98	80-120	03/11/14 17:04	
Toluene-d8 (S)	%	98	80-120	03/11/14 17:04	

LABORATORY CONTROL SAMPLE: 1341993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.5	108	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	102	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.6	98	67-124	
1,2-Dichloroethane	ug/L	20	21.7	109	70-126	
1,4-Dichlorobenzene	ug/L	20	20.4	102	74-120	
2-Butanone (MEK)	ug/L	100	124	124	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	165	165	38-134	L0,N2
Benzene	ug/L	20	21.7	108	75-120	
Bromodichloromethane	ug/L	20	20.9	104	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

LABORATORY CONTROL SAMPLE: 1341993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	18.3	91	13-157	
Carbon tetrachloride	ug/L	20	20.2	101	70-131	
Chloroethane	ug/L	20	20.7	103	47-133	
Chloroform	ug/L	20	20.9	104	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.4	112	68-127	N2
Ethylbenzene	ug/L	20	20.4	102	74-122	
Methylene chloride	ug/L	20	19.5	98	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	21.4	107	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	21.0	105	43-129	
Xylene (Total)	ug/L	60	56.8	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1341994

Parameter	Units	60164431001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3900	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3710	93	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3780	94	49-144	
1,4-Dichlorobenzene	ug/L	789	4000	4230	86	33-140	
2-Butanone (MEK)	ug/L	96400	20000	96800	2	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	3010	20000	20400	87	40-160	N2
Acetone	ug/L	171000	20000	162000	-49	10-160	M0,N2
Benzene	ug/L	ND	4000	3800	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3690	92	35-142	
Bromoform	ug/L	ND	4000	3270	82	45-142	
Bromomethane	ug/L	ND	4000	3380	84	10-158	
Carbon tetrachloride	ug/L	ND	4000	4320	108	70-140	
Chloroethane	ug/L	ND	4000	3700	92	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3890	97	34-147	N2
Ethylbenzene	ug/L	ND	4000	3470	86	40-142	
Methylene chloride	ug/L	ND	4000	3770	94	31-144	
Tetrachloroethene	ug/L	ND	4000	3430	86	64-148	
Toluene	ug/L	ND	4000	3840	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3780	95	54-151	
Trichloroethene	ug/L	ND	4000	4040	101	71-149	
Vinyl chloride	ug/L	ND	4000	4150	104	22-146	
Xylene (Total)	ug/L	ND	12000	9820	82	37-144	N2
1,2-Dichloroethane-d4 (S)	%				114	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

MATRIX SPIKE SAMPLE: 1341994

Parameter	Units	60164431001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				106	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: OEXT/43074 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164508001

METHOD BLANK: 1341714 | Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/12/14 18:03	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/12/14 18:03	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/12/14 18:03	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/12/14 18:03	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachloroethane	ug/L	ND	5.0	03/12/14 18:03	
Naphthalene	ug/L	ND	5.0	03/12/14 18:03	
Nitrobenzene	ug/L	ND	5.0	03/12/14 18:03	
Pentachlorophenol	ug/L	ND	5.0	03/12/14 18:03	
Phenol	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Tribromophenol (S)	%	81	39-120	03/12/14 18:03	
2-Fluorobiphenyl (S)	%	71	39-120	03/12/14 18:03	
2-Fluorophenol (S)	%	42	17-120	03/12/14 18:03	
Nitrobenzene-d5 (S)	%	74	33-120	03/12/14 18:03	
Phenol-d6 (S)	%	30	11-120	03/12/14 18:03	
Terphenyl-d14 (S)	%	82	45-120	03/12/14 18:03	

LABORATORY CONTROL SAMPLE: 1341715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	35.1	70	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.9	72	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	29.2	58		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.8	54		N2
4,6-Dinitro-2-methylphenol	ug/L	50	27.7	55	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.1	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	53.9	54	24-120	
Hexachloroethane	ug/L	50	31.3	63	43-113	
Naphthalene	ug/L	50	36.4	73	48-120	
Nitrobenzene	ug/L	50	36.5	73	48-120	
Pentachlorophenol	ug/L	50	36.2	72	47-120	
Phenol	ug/L	50	14.9	30	16-112	
2,4,6-Tribromophenol (S)	%			84	39-120	
2-Fluorobiphenyl (S)	%			74	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			29	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

MATRIX SPIKE SAMPLE: 1341716

Parameter	Units	60164304001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3430	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4020	80	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75		N2
3&4-Methylphenol(m&p Cresol)	ug/L	7750	5000	11700	79		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	2650J	53	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5630	56	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	1370	5000	5170	76	45-120	
Nitrobenzene	ug/L	ND	5000	7190	144	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4230	85	43-135	
Phenol	ug/L	10600	5000	13800	63	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				152	33-120	S0
Phenol-d6 (S)	%				48	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: WET/46669 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164508001

METHOD BLANK: 1343862 | Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/14/14 11:31	

LABORATORY CONTROL SAMPLE: 1343863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.9	95	78-114	

MATRIX SPIKE SAMPLE: 1343864

Parameter	Units	60164508001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	693	163	893	123	78-114	M1

SAMPLE DUPLICATE: 1343865

Parameter	Units	60164509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	594	595	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: WET/46670 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164508001

METHOD BLANK: 1343866 | Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/14/14 11:36	

LABORATORY CONTROL SAMPLE: 1343867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.4	92	64-132	

MATRIX SPIKE SAMPLE: 1343868

Parameter	Units	60164508001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.9	81.3	29.7	24	64-132	M1

SAMPLE DUPLICATE: 1343869

Parameter	Units	60164509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: WET/46610 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164508001

METHOD BLANK: 1342311 | Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/12/14 13:16	

SAMPLE DUPLICATE: 1342312

Parameter	Units	60164508001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2000	2080	4	10	

SAMPLE DUPLICATE: 1342313

Parameter	Units	60164426001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1540	1350	13	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: WET/46631
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164508001

SAMPLE DUPLICATE: 1342648

Parameter	Units	60164650001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: WET/46588 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164508001

METHOD BLANK: 1341581 | Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/15/14 07:47	

LABORATORY CONTROL SAMPLE: 1341582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	186	94	85-115	

SAMPLE DUPLICATE: 1341584

Parameter	Units	60164502002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	520	506	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: WETA/28541 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164508001

METHOD BLANK: 1341807 | Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/11/14 14:17	

LABORATORY CONTROL SAMPLE: 1341808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	102	90-110	

MATRIX SPIKE SAMPLE: 1341809

Parameter	Units	60164479001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.6	80	90-110	M1

SAMPLE DUPLICATE: 1341810

Parameter	Units	60164479002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	77.2	76.9	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

QC Batch: WETA/28561 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164508001

METHOD BLANK: 1342314 | Matrix: Water
Associated Lab Samples: 60164508001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/13/14 08:06	

LABORATORY CONTROL SAMPLE: 1342315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	47.2	94	90-110	

MATRIX SPIKE SAMPLE: 1342316

Parameter	Units	60163963001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	160	200	345	92	90-110	

MATRIX SPIKE SAMPLE: 1342318

Parameter	Units	60164430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4520	2500	6790	91	90-110	

SAMPLE DUPLICATE: 1342317

Parameter	Units	60164060002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		25	

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QUALIFIERS

Project: BRIDGETON LF 316-239
Pace Project No.: 60164508

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.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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 316-239
Pace Project No.: 60164508

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164508001	**316-239**	EPA 200.7	MPRP/26404	EPA 200.7	ICP/20136
60164508001	**316-239**	EPA 200.7	MPRP/26429	EPA 200.7	ICP/20145
60164508001	**316-239**	EPA 245.1	MERP/8226	EPA 245.1	MERC/8181
60164508001	**316-239**	EPA 245.1	MERP/8225	EPA 245.1	MERC/8180
60164508001	**316-239**	EPA 625	OEXT/43074	EPA 625	MSSV/13725
60164508001	**316-239**	EPA 624 Low	MSV/59952		
60164508002	**TRIP BLANK**	EPA 624 Low	MSV/59952		
60164508001	**316-239**	EPA 1664A	WET/46669		
60164508001	**316-239**	EPA 1664A	WET/46670		
60164508001	**316-239**	SM 2540D	WET/46610		
60164508001	**316-239**	SM 4500-H+B	WET/46631		
60164508001	**316-239**	SM 5210B	WET/46588	SM 5210B	WET/46707
60164508001	**316-239**	EPA 350.1	WETA/28541		
60164508001	**316-239**	EPA 410.4	WETA/28561		

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Sample Condition Upon Receipt

WO#: 60164508

60164508

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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: 4.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/10/14

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: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.	
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	14.	HNO_3 initial pH ~6.0; added 2.5mL HNO_3; final ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A		H_2SO_4 initial pH ~6.0; added 2mL H_2SO_4; final ~3.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed:	Lot # of added preservative: 12513
Trip Blank present: Pace Trip Blank lot # (if purchased): _____	☑Yes ☐No ☐N/A	15.	
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16.	1 of 5 sample vials have hs.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:	AL

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 3/11/14

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. PO 3727110	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 #: 6787 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 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)	60164506 2(BP2U) 3(AG3S) BP3U 2(AG4U) BP3S 3-0 BP3N 4-0
1	316-239	OT	G	03/09/14	1030	—	—		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) W1
2	TRIP BLANK								2	2																X						2(DG9U) W2
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]	3/10/14		Bill Stone 412						
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	3/10/14	1340	4.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Rowell

SIGNATURE of SAMPLER: [signature] DATE Signed: 03-09-14

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March 17, 2014

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

RE: Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 10, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

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 316-238
Pace Project No.: 60164509

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164509001	**316-238**	Water	03/09/14 10:00	03/10/14 13:40
60164509002	**TRIP BLANK**	Water	03/09/14 10:00	03/10/14 13:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164509001	**316-238**	EPA 200.7	SMW, TDS	15
		EPA 200.7	SMW, TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164509002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

Sample: 316-238 **Lab ID: 60164509001** Collected: 03/09/14 10:00 Received: 03/10/14 13:40 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	**3700**	ug/L	750	2	03/11/14 13:30	03/12/14 14:11	7429-90-5	
Antimony	ND	ug/L	100	2	03/11/14 13:30	03/12/14 14:11	7440-36-0	D3
Arsenic	**1200**	ug/L	50.0	1	03/11/14 13:30	03/12/14 14:07	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/11/14 13:30	03/12/14 14:07	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:07	7440-43-9	
Chromium	**284**	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:07	7440-47-3	
Cobalt	**44.7**	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:07	7440-48-4	
Copper	ND	ug/L	50.0	1	03/11/14 13:30	03/12/14 14:07	7440-50-8	
Iron	**820000**	ug/L	250	1	03/11/14 13:30	03/12/14 14:07	7439-89-6	
Lead	**129**	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:07	7439-92-1	
Nickel	**116**	ug/L	25.0	1	03/11/14 13:30	03/12/14 14:07	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/11/14 13:30	03/12/14 14:07	7782-49-2	
Silver	ND	ug/L	35.0	1	03/11/14 13:30	03/12/14 14:07	7440-22-4	
Thallium	ND	ug/L	100	1	03/11/14 13:30	03/12/14 14:07	7440-28-0	
Zinc	**6860**	ug/L	500	2	03/11/14 13:30	03/12/14 17:33	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	03/12/14 14:00	03/13/14 11:15	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	03/12/14 14:00	03/14/14 16:45	7440-36-0	
Arsenic, Dissolved	**892**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:32	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:32	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:32	7440-43-9	
Chromium, Dissolved	**166**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:32	7440-47-3	
Cobalt, Dissolved	**29.1**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:32	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:32	7440-50-8	
Iron, Dissolved	**571000**	ug/L	250	1	03/12/14 14:00	03/13/14 10:32	7439-89-6	
Lead, Dissolved	**56.0**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:32	7439-92-1	
Nickel, Dissolved	**74.6**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:32	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/12/14 14:00	03/13/14 10:32	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/12/14 14:00	03/13/14 10:32	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/12/14 14:00	03/13/14 10:32	7440-28-0	
Zinc, Dissolved	**4960**	ug/L	500	2	03/12/14 14:00	03/13/14 11:15	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**11.3**	ug/L	6.0	1	03/14/14 10:30	03/14/14 14:51	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	03/14/14 10:30	03/14/14 14:29	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/11/14 00:00	03/12/14 20:31	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/11/14 00:00	03/12/14 20:31	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**11400**	ug/L	4000	2	03/11/14 00:00	03/12/14 20:31		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

Sample: 316-238 **Lab ID: 60164509001** Collected: 03/09/14 10:00 Received: 03/10/14 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**1520**	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	87-86-5	
Phenol	**16700**	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/11/14 00:00	03/12/14 20:31	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	110	%	33-120	2	03/11/14 00:00	03/12/14 20:31	4165-60-0	
2-Fluorobiphenyl (S)	79	%	39-120	2	03/11/14 00:00	03/12/14 20:31	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	03/11/14 00:00	03/12/14 20:31	1718-51-0	
Phenol-d6 (S)	54	%	11-120	2	03/11/14 00:00	03/12/14 20:31	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	03/11/14 00:00	03/12/14 20:31	367-12-4	
2,4,6-Tribromophenol (S)	93	%	39-120	2	03/11/14 00:00	03/12/14 20:31	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**175000**	ug/L	2000	200		03/11/14 21:58	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/11/14 21:58	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/11/14 21:58	75-27-4	
Bromoform	ND	ug/L	200	200		03/11/14 21:58	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/11/14 21:58	74-83-9	
2-Butanone (MEK)	**95000**	ug/L	2000	200		03/11/14 21:58	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/11/14 21:58	56-23-5	
Chloroethane	ND	ug/L	200	200		03/11/14 21:58	75-00-3	
Chloroform	ND	ug/L	200	200		03/11/14 21:58	67-66-3	
1,4-Dichlorobenzene	**1100**	ug/L	200	200		03/11/14 21:58	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/11/14 21:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/11/14 21:58	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/11/14 21:58	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/11/14 21:58	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/11/14 21:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3120**	ug/L	2000	200		03/11/14 21:58	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/11/14 21:58	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/11/14 21:58	127-18-4	
Toluene	ND	ug/L	200	200		03/11/14 21:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/11/14 21:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/11/14 21:58	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/11/14 21:58	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/11/14 21:58	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/11/14 21:58	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	200		03/11/14 21:58	460-00-4	HS
Toluene-d8 (S)	101	%	80-120	200		03/11/14 21:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		03/11/14 21:58	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/11/14 21:58		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**594**	mg/L	5.0	1		03/14/14 11:32		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

Sample: 316-238 **Lab ID: 60164509001** Collected: 03/09/14 10:00 Received: 03/10/14 13:40 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		03/14/14 11:37		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1460**	mg/L	5.0	1		03/12/14 13:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/12/14 14:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**32500**	mg/L	2.0	1	03/10/14 15:40	03/15/14 09:46		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**621**	mg/L	20.0	200		03/11/14 14:33	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**51700**	mg/L	5000	500		03/13/14 08:25		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

Sample: TRIP BLANK **Lab ID: 60164509002** Collected: 03/09/14 10:00 Received: 03/10/14 13:40 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		03/11/14 20:41	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/11/14 20:41	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/11/14 20:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/11/14 20:41	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/11/14 20:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/11/14 20:41	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/11/14 20:41	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/11/14 20:41	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/11/14 20:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/11/14 20:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/11/14 20:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/11/14 20:41	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/11/14 20:41	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/11/14 20:41	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/11/14 20:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/11/14 20:41	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/11/14 20:41	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/11/14 20:41	127-18-4	
Toluene	ND	ug/L	1.0	1		03/11/14 20:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/11/14 20:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/11/14 20:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/11/14 20:41	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/11/14 20:41	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/11/14 20:41	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		03/11/14 20:41	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/11/14 20:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		03/11/14 20:41	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/11/14 20:41		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: MERP/8226 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164509001

METHOD BLANK: 1343851 | Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/14/14 14:44	

LABORATORY CONTROL SAMPLE: 1343852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343853 1343854

Parameter	Units	60164408001 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	3.0	3.2	61	64	70-130	5	20	M1

MATRIX SPIKE SAMPLE: 1343855

Parameter	Units	60164538002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: MERP/8225
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164509001

METHOD BLANK: 1343846
Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/14/14 14:13	

LABORATORY CONTROL SAMPLE: 1343847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343848 1343849

Parameter	Units	60164431001 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	132	121	88	80	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: MPRP/26404
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164509001

METHOD BLANK: 1341979
Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/12/14 13:50	
Antimony	ug/L	ND	10.0	03/12/14 13:50	
Arsenic	ug/L	ND	10.0	03/12/14 13:50	
Beryllium	ug/L	ND	1.0	03/12/14 13:50	
Cadmium	ug/L	ND	5.0	03/12/14 13:50	
Chromium	ug/L	ND	5.0	03/12/14 13:50	
Cobalt	ug/L	ND	5.0	03/12/14 13:50	
Copper	ug/L	ND	10.0	03/12/14 13:50	
Iron	ug/L	ND	50.0	03/12/14 13:50	
Lead	ug/L	ND	5.0	03/12/14 13:50	
Nickel	ug/L	ND	5.0	03/12/14 13:50	
Selenium	ug/L	ND	15.0	03/12/14 13:50	
Silver	ug/L	ND	7.0	03/12/14 13:50	
Thallium	ug/L	ND	20.0	03/12/14 13:50	
Zinc	ug/L	ND	50.0	03/12/14 17:26	

LABORATORY CONTROL SAMPLE: 1341980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10500	105	85-115	
Antimony	ug/L	1000	976	98	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	1040	104	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	972	97	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1060	106	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	984	98	85-115	
Silver	ug/L	500	496	99	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341981 1341982

Parameter	Units	60164533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	91.8	10000	10000	10900	10800	108	107	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1341981 1341982

Parameter	Units	60164533001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1060	1040	106	104	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	1050	1030	105	103	70-130	2	10	
Chromium	ug/L	ND	1000	1000	1100	1080	110	108	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	6	
Copper	ug/L	ND	1000	1000	1040	1020	103	101	70-130	2	11	
Iron	ug/L	314	10000	10000	10500	10300	102	100	70-130	2	10	
Lead	ug/L	ND	1000	1000	1030	1010	103	101	70-130	2	10	
Nickel	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	10	
Selenium	ug/L	ND	1000	1000	1060	1040	106	104	70-130	2	10	
Silver	ug/L	ND	500	500	537	525	107	105	70-130	2	10	
Thallium	ug/L	ND	1000	1000	962	946	96	95	70-130	2	6	
Zinc	ug/L	ND	1000	1000	974	965	97	96	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: MPRP/26429
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164509001

METHOD BLANK: 1342671
Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/13/14 10:20	
Antimony, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Arsenic, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Beryllium, Dissolved	ug/L	ND	1.0	03/13/14 10:20	
Cadmium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Chromium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Cobalt, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Copper, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Iron, Dissolved	ug/L	ND	50.0	03/13/14 10:20	
Lead, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Nickel, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Selenium, Dissolved	ug/L	ND	15.0	03/13/14 10:20	
Silver, Dissolved	ug/L	ND	7.0	03/13/14 10:20	
Thallium, Dissolved	ug/L	ND	20.0	03/13/14 10:20	
Zinc, Dissolved	ug/L	ND	50.0	03/13/14 10:20	

LABORATORY CONTROL SAMPLE: 1342672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	997	100	85-115	
Beryllium, Dissolved	ug/L	1000	991	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	952	95	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	982	98	85-115	
Iron, Dissolved	ug/L	10000	10100	101	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	475	95	85-115	
Thallium, Dissolved	ug/L	1000	1080	108	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 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	ND	10000	10000	10000	10000	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1070	1060	107	106	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1060	1050	105	104	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	996	997	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1060	1050	105	105	70-130	0	10	
Chromium, Dissolved	ug/L	ND	1000	1000	944	943	94	94	70-130	0	10	
Cobalt, Dissolved	ug/L	3.7J	1000	1000	1010	1010	101	101	70-130	0	6	
Copper, Dissolved	ug/L	2.9J	1000	1000	1030	1020	102	101	70-130	1	11	
Iron, Dissolved	ug/L	39.7J	10000	10000	10100	10200	101	101	70-130	0	10	
Lead, Dissolved	ug/L	2.7J	1000	1000	1020	1020	102	102	70-130	0	10	
Nickel, Dissolved	ug/L	45.6	1000	1000	1070	1070	103	103	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1070	1050	107	105	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	488	484	98	97	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	1060	1060	105	106	70-130	0	6	
Zinc, Dissolved	ug/L	125	1000	1000	1120	1120	99	100	70-130	1	11	

SAMPLE DUPLICATE: 1344334

Parameter	Units	60164626003 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	ND	ND		20	
Antimony, Dissolved	ug/L	ND	ND		20	
Arsenic, Dissolved	ug/L	ND	ND		20	
Beryllium, Dissolved	ug/L	ND	ND		20	
Cadmium, Dissolved	ug/L	0.68J	ND		20	
Chromium, Dissolved	ug/L	ND	ND		20	
Cobalt, Dissolved	ug/L	ND	ND		20	
Copper, Dissolved	ug/L	1.5J	1.8J		20	
Iron, Dissolved	ug/L	ND	ND		20	
Lead, Dissolved	ug/L	ND	ND		20	
Nickel, Dissolved	ug/L	ND	ND		20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	ND		20	
Thallium, Dissolved	ug/L	ND	3.3J		20	
Zinc, Dissolved	ug/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: MSV/59952 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164509001, 60164509002

METHOD BLANK: 1341992 | Matrix: Water
Associated Lab Samples: 60164509001, 60164509002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/11/14 17:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,2-Dichloroethane	ug/L	ND	1.0	03/11/14 17:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/11/14 17:04	
2-Butanone (MEK)	ug/L	ND	10.0	03/11/14 17:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/11/14 17:04	N2
Acetone	ug/L	ND	10.0	03/11/14 17:04	N2
Benzene	ug/L	ND	1.0	03/11/14 17:04	
Bromodichloromethane	ug/L	ND	1.0	03/11/14 17:04	
Bromoform	ug/L	ND	1.0	03/11/14 17:04	
Bromomethane	ug/L	ND	5.0	03/11/14 17:04	
Carbon tetrachloride	ug/L	ND	1.0	03/11/14 17:04	
Chloroethane	ug/L	ND	1.0	03/11/14 17:04	
Chloroform	ug/L	ND	1.0	03/11/14 17:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/11/14 17:04	N2
Ethylbenzene	ug/L	ND	1.0	03/11/14 17:04	
Methylene chloride	ug/L	ND	1.0	03/11/14 17:04	
Tetrachloroethene	ug/L	ND	1.0	03/11/14 17:04	
Toluene	ug/L	ND	1.0	03/11/14 17:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/11/14 17:04	
Trichloroethene	ug/L	ND	1.0	03/11/14 17:04	
Vinyl chloride	ug/L	ND	1.0	03/11/14 17:04	
Xylene (Total)	ug/L	ND	3.0	03/11/14 17:04	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/11/14 17:04	
4-Bromofluorobenzene (S)	%	98	80-120	03/11/14 17:04	
Toluene-d8 (S)	%	98	80-120	03/11/14 17:04	

LABORATORY CONTROL SAMPLE: 1341993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.5	108	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	102	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.6	98	67-124	
1,2-Dichloroethane	ug/L	20	21.7	109	70-126	
1,4-Dichlorobenzene	ug/L	20	20.4	102	74-120	
2-Butanone (MEK)	ug/L	100	124	124	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	165	165	38-134	L0,N2
Benzene	ug/L	20	21.7	108	75-120	
Bromodichloromethane	ug/L	20	20.9	104	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

LABORATORY CONTROL SAMPLE: 1341993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	18.3	91	13-157	
Carbon tetrachloride	ug/L	20	20.2	101	70-131	
Chloroethane	ug/L	20	20.7	103	47-133	
Chloroform	ug/L	20	20.9	104	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.4	112	68-127	N2
Ethylbenzene	ug/L	20	20.4	102	74-122	
Methylene chloride	ug/L	20	19.5	98	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	21.4	107	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	66-129	
Trichloroethene	ug/L	20	21.8	109	71-123	
Vinyl chloride	ug/L	20	21.0	105	43-129	
Xylene (Total)	ug/L	60	56.8	95	75-121	N2
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1341994

Parameter	Units	60164431001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3900	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3710	93	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3780	94	49-144	
1,4-Dichlorobenzene	ug/L	789	4000	4230	86	33-140	
2-Butanone (MEK)	ug/L	96400	20000	96800	2	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	3010	20000	20400	87	40-160	N2
Acetone	ug/L	171000	20000	162000	-49	10-160	M0,N2
Benzene	ug/L	ND	4000	3800	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3690	92	35-142	
Bromoform	ug/L	ND	4000	3270	82	45-142	
Bromomethane	ug/L	ND	4000	3380	84	10-158	
Carbon tetrachloride	ug/L	ND	4000	4320	108	70-140	
Chloroethane	ug/L	ND	4000	3700	92	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3890	97	34-147	N2
Ethylbenzene	ug/L	ND	4000	3470	86	40-142	
Methylene chloride	ug/L	ND	4000	3770	94	31-144	
Tetrachloroethene	ug/L	ND	4000	3430	86	64-148	
Toluene	ug/L	ND	4000	3840	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3780	95	54-151	
Trichloroethene	ug/L	ND	4000	4040	101	71-149	
Vinyl chloride	ug/L	ND	4000	4150	104	22-146	
Xylene (Total)	ug/L	ND	12000	9820	82	37-144	N2
1,2-Dichloroethane-d4 (S)	%				114	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

MATRIX SPIKE SAMPLE: 1341994

Parameter	Units	60164431001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				106	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: OEXT/43074 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164509001

METHOD BLANK: 1341714 | Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/12/14 18:03	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/12/14 18:03	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/12/14 18:03	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/12/14 18:03	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/12/14 18:03	
Hexachloroethane	ug/L	ND	5.0	03/12/14 18:03	
Naphthalene	ug/L	ND	5.0	03/12/14 18:03	
Nitrobenzene	ug/L	ND	5.0	03/12/14 18:03	
Pentachlorophenol	ug/L	ND	5.0	03/12/14 18:03	
Phenol	ug/L	ND	5.0	03/12/14 18:03	
2,4,6-Tribromophenol (S)	%	81	39-120	03/12/14 18:03	
2-Fluorobiphenyl (S)	%	71	39-120	03/12/14 18:03	
2-Fluorophenol (S)	%	42	17-120	03/12/14 18:03	
Nitrobenzene-d5 (S)	%	74	33-120	03/12/14 18:03	
Phenol-d6 (S)	%	30	11-120	03/12/14 18:03	
Terphenyl-d14 (S)	%	82	45-120	03/12/14 18:03	

LABORATORY CONTROL SAMPLE: 1341715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	35.1	70	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.9	72	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	29.2	58		N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.8	54		N2
4,6-Dinitro-2-methylphenol	ug/L	50	27.7	55	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.1	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	53.9	54	24-120	
Hexachloroethane	ug/L	50	31.3	63	43-113	
Naphthalene	ug/L	50	36.4	73	48-120	
Nitrobenzene	ug/L	50	36.5	73	48-120	
Pentachlorophenol	ug/L	50	36.2	72	47-120	
Phenol	ug/L	50	14.9	30	16-112	
2,4,6-Tribromophenol (S)	%			84	39-120	
2-Fluorobiphenyl (S)	%			74	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			29	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

MATRIX SPIKE SAMPLE: 1341716

Parameter	Units	60164304001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3430	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4020	80	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75		N2
3&4-Methylphenol(m&p Cresol)	ug/L	7750	5000	11700	79		N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	2650J	53	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5630	56	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	1370	5000	5170	76	45-120	
Nitrobenzene	ug/L	ND	5000	7190	144	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4230	85	43-135	
Phenol	ug/L	10600	5000	13800	63	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				152	33-120	S0
Phenol-d6 (S)	%				48	11-120	
Terphenyl-d14 (S)	%				76	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: WET/46669 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164509001

METHOD BLANK: 1343862 | Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/14/14 11:31	

LABORATORY CONTROL SAMPLE: 1343863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.9	95	78-114	

MATRIX SPIKE SAMPLE: 1343864

Parameter	Units	60164508001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	693	163	893	123	78-114	M1

SAMPLE DUPLICATE: 1343865

Parameter	Units	60164509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	594	595	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: WET/46670 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164509001

METHOD BLANK: 1343866 | Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/14/14 11:36	

LABORATORY CONTROL SAMPLE: 1343867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.4	92	64-132	

MATRIX SPIKE SAMPLE: 1343868

Parameter	Units	60164508001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.9	81.3	29.7	24	64-132	M1

SAMPLE DUPLICATE: 1343869

Parameter	Units	60164509001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	4.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: WET/46610 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164509001

METHOD BLANK: 1342311 | Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/12/14 13:16	

SAMPLE DUPLICATE: 1342312

Parameter	Units	60164508001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2000	2080	4	10	

SAMPLE DUPLICATE: 1342313

Parameter	Units	60164426001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1540	1350	13	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: WET/46631
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164509001

SAMPLE DUPLICATE: 1342648

Parameter	Units	60164650001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: WET/46588 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164509001

METHOD BLANK: 1341581 | Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/15/14 07:47	

LABORATORY CONTROL SAMPLE: 1341582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	186	94	85-115	

SAMPLE DUPLICATE: 1341584

Parameter	Units	60164502002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	520	506	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: WETA/28541
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164509001

METHOD BLANK: 1341807
Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/11/14 14:17	

LABORATORY CONTROL SAMPLE: 1341808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	102	90-110	

MATRIX SPIKE SAMPLE: 1341809

Parameter	Units	60164479001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.6	80	90-110	M1

SAMPLE DUPLICATE: 1341810

Parameter	Units	60164479002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	77.2	76.9	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

QC Batch: WETA/28561 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164509001

METHOD BLANK: 1342314 | Matrix: Water
Associated Lab Samples: 60164509001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/13/14 08:06	

LABORATORY CONTROL SAMPLE: 1342315

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	47.2	94	90-110	

MATRIX SPIKE SAMPLE: 1342316

Parameter	Units	60163963001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	160	200	345	92	90-110	

MATRIX SPIKE SAMPLE: 1342318

Parameter	Units	60164430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4520	2500	6790	91	90-110	

SAMPLE DUPLICATE: 1342317

Parameter	Units	60164060002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		25	

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QUALIFIERS

Project: BRIDGETON LF 316-238
Pace Project No.: 60164509

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.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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 316-238
Pace Project No.: 60164509

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164509001	**316-238**	EPA 200.7	MPRP/26404	EPA 200.7	ICP/20136
60164509001	**316-238**	EPA 200.7	MPRP/26429	EPA 200.7	ICP/20145
60164509001	**316-238**	EPA 245.1	MERP/8226	EPA 245.1	MERC/8181
60164509001	**316-238**	EPA 245.1	MERP/8225	EPA 245.1	MERC/8180
60164509001	**316-238**	EPA 625	OEXT/43074	EPA 625	MSSV/13725
60164509001	**316-238**	EPA 624 Low	MSV/59952		
60164509002	**TRIP BLANK**	EPA 624 Low	MSV/59952		
60164509001	**316-238**	EPA 1664A	WET/46669		
60164509001	**316-238**	EPA 1664A	WET/46670		
60164509001	**316-238**	SM 2540D	WET/46610		
60164509001	**316-238**	SM 4500-H+B	WET/46631		
60164509001	**316-238**	SM 5210B	WET/46588	SM 5210B	WET/46707
60164509001	**316-238**	EPA 350.1	WETA/28541		
60164509001	**316-238**	EPA 410.4	WETA/28561		

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Sample Condition Upon Receipt

WO#: 60164509

60164509

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/10/14

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. Bas 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	HNO_3 initial pH ~6.0; added 2.5mL HNO_3; final ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H_2SO_4 initial pH ~6.0; added 2mL H_2SO_4; final ~3.0 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: hm Lot # of added preservative: 12513
Trip Blank present: Pace Trip Blank lot # (if purchased): _____	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 of 5 sample vials have h.s. 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: HS FOOTNOTED PER HISTORICAL INSTRUCTIONS ON LEACHATE SAMPLE

Project Manager Review: _____ Date: 03/11/14

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:

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.	PO 3727110
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 #:	6787 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

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	Analysis 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)	60164509
1	316-238	OT	G	03/10/14	1000				14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X	
2	TRIP BLANK								2	2																X				
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	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299		3/10/14								
SITE ADDRESS: BRIDGETON LF				PASS	3/10/14	1340	4.0	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: John Powell					
SIGNATURE of SAMPLER:	DATE Signed: 03-09-14				

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March 19, 2014

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

RE: Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

Dear Ed Galbraith:

Enclosed are the analytical results for sample(s) received by the laboratory on March 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,

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

Enclosures

cc: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

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 316-240
Pace Project No.: 60164604

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164604001	**316-240**	Water	03/10/14 10:30	03/12/14 02:30
60164604002	**TRIP BLANK**	Water	03/10/14 10:30	03/12/14 02:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164604001	**316-240**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164604002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

Sample: 316-240 **Lab ID: 60164604001** Collected: 03/10/14 10:30 Received: 03/12/14 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	**6450**	ug/L	750	2	03/13/14 09:00	03/13/14 16:26	7429-90-5	
Antimony	**76.6**	ug/L	50.0	1	03/13/14 09:00	03/13/14 16:24	7440-36-0	
Arsenic	**1160**	ug/L	50.0	1	03/13/14 09:00	03/13/14 16:24	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/13/14 09:00	03/13/14 16:24	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:24	7440-43-9	
Chromium	**269**	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:24	7440-47-3	
Cobalt	**38.3**	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:24	7440-48-4	
Copper	ND	ug/L	50.0	1	03/13/14 09:00	03/13/14 16:24	7440-50-8	
Iron	**887000**	ug/L	250	1	03/13/14 09:00	03/13/14 16:24	7439-89-6	
Lead	**138**	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:24	7439-92-1	
Nickel	**112**	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:24	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/13/14 09:00	03/13/14 16:24	7782-49-2	
Silver	ND	ug/L	35.0	1	03/13/14 09:00	03/13/14 16:24	7440-22-4	
Thallium	ND	ug/L	100	1	03/13/14 09:00	03/13/14 16:24	7440-28-0	
Zinc	**8020**	ug/L	500	2	03/13/14 09:00	03/13/14 16:26	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1960**	ug/L	750	2	03/12/14 14:00	03/13/14 11:18	7429-90-5	
Antimony, Dissolved	**53.1**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:34	7440-36-0	
Arsenic, Dissolved	**738**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:34	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:34	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:34	7440-43-9	
Chromium, Dissolved	**149**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:34	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:34	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:34	7440-50-8	
Iron, Dissolved	**532000**	ug/L	250	1	03/12/14 14:00	03/13/14 10:34	7439-89-6	
Lead, Dissolved	**54.8**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:34	7439-92-1	
Nickel, Dissolved	**64.8**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:34	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/12/14 14:00	03/13/14 10:34	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/12/14 14:00	03/13/14 10:34	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/12/14 14:00	03/13/14 10:34	7440-28-0	
Zinc, Dissolved	**5180**	ug/L	500	2	03/12/14 14:00	03/13/14 11:18	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**25.8**	ug/L	6.0	1	03/14/14 10:30	03/14/14 15:00	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	03/14/14 10:30	03/14/14 14:31	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/13/14 00:00	03/14/14 20:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/13/14 00:00	03/14/14 20:22	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**11100**	ug/L	4000	2	03/13/14 00:00	03/14/14 20:22		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

Sample: 316-240 **Lab ID: 60164604001** Collected: 03/10/14 10:30 Received: 03/12/14 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	**1930**	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	87-86-5	
Phenol	**16700**	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	167	%	33-120	2	03/13/14 00:00	03/14/14 20:22	4165-60-0	S0
2-Fluorobiphenyl (S)	77	%	39-120	2	03/13/14 00:00	03/14/14 20:22	321-60-8	
Terphenyl-d14 (S)	84	%	45-120	2	03/13/14 00:00	03/14/14 20:22	1718-51-0	
Phenol-d6 (S)	52	%	11-120	2	03/13/14 00:00	03/14/14 20:22	13127-88-3	
2-Fluorophenol (S)	50	%	17-120	2	03/13/14 00:00	03/14/14 20:22	367-12-4	
2,4,6-Tribromophenol (S)	84	%	39-120	2	03/13/14 00:00	03/14/14 20:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**234000**	ug/L	2500	250		03/17/14 16:57	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/17/14 16:11	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/17/14 16:11	75-27-4	
Bromoform	ND	ug/L	200	200		03/17/14 16:11	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/17/14 16:11	74-83-9	
2-Butanone (MEK)	**89900**	ug/L	2000	200		03/17/14 16:11	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/17/14 16:11	56-23-5	
Chloroethane	ND	ug/L	200	200		03/17/14 16:11	75-00-3	
Chloroform	ND	ug/L	200	200		03/17/14 16:11	67-66-3	
1,4-Dichlorobenzene	**767**	ug/L	200	200		03/17/14 16:11	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/17/14 16:11	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/17/14 16:11	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/17/14 16:11	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/17/14 16:11	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/17/14 16:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3060**	ug/L	2000	200		03/17/14 16:11	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/17/14 16:11	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/17/14 16:11	127-18-4	
Toluene	ND	ug/L	200	200		03/17/14 16:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/17/14 16:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/17/14 16:11	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/17/14 16:11	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/17/14 16:11	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/17/14 16:11	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		03/17/14 16:11	460-00-4	
Toluene-d8 (S)	108	%	80-120	200		03/17/14 16:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	200		03/17/14 16:11	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/17/14 16:11		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1710**	mg/L	5.0	1		03/14/14 15:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

Sample: 316-240 **Lab ID: 60164604001** Collected: 03/10/14 10:30 Received: 03/12/14 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	**7.0**	mg/L	5.0	1		03/18/14 15:52		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4040**	mg/L	5.0	1		03/13/14 07:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		03/12/14 14:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34300**	mg/L	2.0	1	03/12/14 08:32	03/17/14 13:16		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**796**	mg/L	20.0	200		03/12/14 09:44	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**66600**	mg/L	5000	500		03/18/14 07:57		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

Sample: TRIP BLANK **Lab ID: 60164604002** Collected: 03/10/14 10:30 Received: 03/12/14 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		03/17/14 12:50	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/17/14 12:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/17/14 12:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/17/14 12:50	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/17/14 12:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/17/14 12:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/17/14 12:50	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/17/14 12:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/17/14 12:50	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/17/14 12:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/17/14 12:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 12:50	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 12:50	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/17/14 12:50	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/17/14 12:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/17/14 12:50	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/17/14 12:50	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/17/14 12:50	127-18-4	
Toluene	ND	ug/L	1.0	1		03/17/14 12:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/17/14 12:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/17/14 12:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/17/14 12:50	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/17/14 12:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/17/14 12:50	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	1		03/17/14 12:50	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		03/17/14 12:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		03/17/14 12:50	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/17/14 12:50		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: MERP/8226 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164604001

METHOD BLANK: 1343851 | Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/14/14 14:44	

LABORATORY CONTROL SAMPLE: 1343852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343853 1343854

Parameter	Units	60164408001 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	3.0	3.2	61	64	70-130	5	20	M1

MATRIX SPIKE SAMPLE: 1343855

Parameter	Units	60164538002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: MERP/8225
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164604001

METHOD BLANK: 1343846
Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/14/14 14:13	

LABORATORY CONTROL SAMPLE: 1343847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343848 1343849

Parameter	Units	60164431001 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	132	121	88	80	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: MPRP/26438
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164604001

METHOD BLANK: 1342989
Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/13/14 16:15	
Antimony	ug/L	ND	10.0	03/13/14 16:15	
Arsenic	ug/L	ND	10.0	03/13/14 16:15	
Beryllium	ug/L	ND	1.0	03/13/14 16:15	
Cadmium	ug/L	ND	5.0	03/13/14 16:15	
Chromium	ug/L	ND	5.0	03/13/14 16:15	
Cobalt	ug/L	ND	5.0	03/13/14 16:15	
Copper	ug/L	ND	10.0	03/13/14 16:15	
Iron	ug/L	ND	50.0	03/13/14 16:15	
Lead	ug/L	ND	5.0	03/13/14 16:15	
Nickel	ug/L	ND	5.0	03/13/14 16:15	
Selenium	ug/L	ND	15.0	03/13/14 16:15	
Silver	ug/L	ND	7.0	03/13/14 16:15	
Thallium	ug/L	ND	20.0	03/13/14 16:15	
Zinc	ug/L	ND	50.0	03/13/14 16:15	

LABORATORY CONTROL SAMPLE: 1342990

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	995	100	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1040	104	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	9940	99	85-115	
Lead	ug/L	1000	1050	105	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	504	101	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342991 1342992

Parameter	Units	60164518001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	344000	10000	10000	360000	368000	162	247	70-130	2	8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342991 1342992

Parameter	Units	60164518001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1020	998	101	100	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	101	100	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1040	1030	104	103	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1000	102	100	70-130	2	10	
Chromium	ug/L	108	1000	1000	1150	1020	104	91	70-130	12	10	R1
Cobalt	ug/L	ND	1000	1000	951	936	95	94	70-130	2	6	
Copper	ug/L	583	1000	1000	1680	1710	110	112	70-130	1	11	
Iron	ug/L	1090	10000	10000	10700	10500	96	94	70-130	1	10	
Lead	ug/L	ND	1000	1000	932	916	93	92	70-130	2	10	
Nickel	ug/L	10.7	1000	1000	974	963	96	95	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1060	1050	106	105	70-130	2	10	
Silver	ug/L	ND	500	500	550	550	110	110	70-130	0	10	
Thallium	ug/L	ND	1000	1000	829	811	82	80	70-130	2	6	
Zinc	ug/L	ND	1000	1000	984	972	96	95	70-130	1	11	

MATRIX SPIKE SAMPLE: 1342993

Parameter	Units	4093031002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10100	101	70-130	
Antimony	ug/L	ND	1000	1070	106	70-130	
Arsenic	ug/L	ND	1000	1090	108	70-130	
Beryllium	ug/L	ND	1000	1000	100	70-130	
Cadmium	ug/L	ND	1000	1080	107	70-130	
Chromium	ug/L	ND	1000	945	94	70-130	
Cobalt	ug/L	9.0	1000	992	98	70-130	
Copper	ug/L	ND	1000	977	97	70-130	
Iron	ug/L	5180	10000	15400	103	70-130	
Lead	ug/L	ND	1000	987	99	70-130	
Nickel	ug/L	30.8	1000	1040	101	70-130	
Selenium	ug/L	ND	1000	1050	105	70-130	
Silver	ug/L	ND	500	480	96	70-130	
Thallium	ug/L	ND	1000	1020	102	70-130	
Zinc	ug/L	ND	1000	994	99	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: MPRP/26429
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164604001

METHOD BLANK: 1342671
Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/13/14 10:20	
Antimony, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Arsenic, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Beryllium, Dissolved	ug/L	ND	1.0	03/13/14 10:20	
Cadmium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Chromium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Cobalt, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Copper, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Iron, Dissolved	ug/L	ND	50.0	03/13/14 10:20	
Lead, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Nickel, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Selenium, Dissolved	ug/L	ND	15.0	03/13/14 10:20	
Silver, Dissolved	ug/L	ND	7.0	03/13/14 10:20	
Thallium, Dissolved	ug/L	ND	20.0	03/13/14 10:20	
Zinc, Dissolved	ug/L	ND	50.0	03/13/14 10:20	

LABORATORY CONTROL SAMPLE: 1342672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	997	100	85-115	
Beryllium, Dissolved	ug/L	1000	991	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	952	95	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	982	98	85-115	
Iron, Dissolved	ug/L	10000	10100	101	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	475	95	85-115	
Thallium, Dissolved	ug/L	1000	1080	108	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 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	ND	10000	10000	10000	10000	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1070	1060	107	106	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1060	1050	105	104	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	996	997	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1060	1050	105	105	70-130	0	10	
Chromium, Dissolved	ug/L	ND	1000	1000	944	943	94	94	70-130	0	10	
Cobalt, Dissolved	ug/L	3.7J	1000	1000	1010	1010	101	101	70-130	0	6	
Copper, Dissolved	ug/L	2.9J	1000	1000	1030	1020	102	101	70-130	1	11	
Iron, Dissolved	ug/L	39.7J	10000	10000	10100	10200	101	101	70-130	0	10	
Lead, Dissolved	ug/L	2.7J	1000	1000	1020	1020	102	102	70-130	0	10	
Nickel, Dissolved	ug/L	45.6	1000	1000	1070	1070	103	103	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1070	1050	107	105	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	488	484	98	97	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	1060	1060	105	106	70-130	0	6	
Zinc, Dissolved	ug/L	125	1000	1000	1120	1120	99	100	70-130	1	11	

SAMPLE DUPLICATE: 1344334

Parameter	Units	60164626003 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	ND	ND		20	
Antimony, Dissolved	ug/L	ND	ND		20	
Arsenic, Dissolved	ug/L	ND	ND		20	
Beryllium, Dissolved	ug/L	ND	ND		20	
Cadmium, Dissolved	ug/L	0.68J	ND		20	
Chromium, Dissolved	ug/L	ND	ND		20	
Cobalt, Dissolved	ug/L	ND	ND		20	
Copper, Dissolved	ug/L	1.5J	1.8J		20	
Iron, Dissolved	ug/L	ND	ND		20	
Lead, Dissolved	ug/L	ND	ND		20	
Nickel, Dissolved	ug/L	ND	ND		20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	ND		20	
Thallium, Dissolved	ug/L	ND	3.3J		20	
Zinc, Dissolved	ug/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: MSV/60083 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164604001, 60164604002

METHOD BLANK: 1345097 | Matrix: Water
Associated Lab Samples: 60164604001, 60164604002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/17/14 12:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,2-Dichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/17/14 12:03	
2-Butanone (MEK)	ug/L	ND	10.0	03/17/14 12:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/17/14 12:03	N2
Acetone	ug/L	ND	10.0	03/17/14 12:03	N2
Benzene	ug/L	ND	1.0	03/17/14 12:03	
Bromodichloromethane	ug/L	ND	1.0	03/17/14 12:03	
Bromoform	ug/L	ND	1.0	03/17/14 12:03	
Bromomethane	ug/L	ND	5.0	03/17/14 12:03	
Carbon tetrachloride	ug/L	ND	1.0	03/17/14 12:03	
Chloroethane	ug/L	ND	1.0	03/17/14 12:03	
Chloroform	ug/L	ND	1.0	03/17/14 12:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	N2
Ethylbenzene	ug/L	ND	1.0	03/17/14 12:03	
Methylene chloride	ug/L	ND	1.0	03/17/14 12:03	
Tetrachloroethene	ug/L	ND	1.0	03/17/14 12:03	
Toluene	ug/L	ND	1.0	03/17/14 12:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Trichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Vinyl chloride	ug/L	ND	1.0	03/17/14 12:03	
Xylene (Total)	ug/L	ND	3.0	03/17/14 12:03	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/17/14 12:03	
4-Bromofluorobenzene (S)	%	99	80-120	03/17/14 12:03	
Toluene-d8 (S)	%	100	80-120	03/17/14 12:03	

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	21.4	107	70-126	
1,4-Dichlorobenzene	ug/L	20	19.2	96	74-120	
2-Butanone (MEK)	ug/L	100	150	150	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	59-131	N2
Acetone	ug/L	100	209	209	38-134	L0,N2
Benzene	ug/L	20	21.4	107	75-120	
Bromodichloromethane	ug/L	20	21.7	109	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.9	99	65-127	
Bromomethane	ug/L	20	20.5	103	13-157	
Carbon tetrachloride	ug/L	20	21.5	108	70-131	
Chloroethane	ug/L	20	20.3	101	47-133	
Chloroform	ug/L	20	21.5	108	65-127	
cis-1,2-Dichloroethene	ug/L	20	23.1	115	68-127	N2
Ethylbenzene	ug/L	20	21.6	108	74-122	
Methylene chloride	ug/L	20	21.9	110	64-129	
Tetrachloroethene	ug/L	20	20.8	104	73-125	
Toluene	ug/L	20	21.5	108	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	66-129	
Trichloroethene	ug/L	20	21.6	108	71-123	
Vinyl chloride	ug/L	20	20.4	102	43-129	
Xylene (Total)	ug/L	60	65.1	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4170	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3530	88	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3730	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3950	99	49-144	
1,4-Dichlorobenzene	ug/L	767	4000	4190	86	33-140	
2-Butanone (MEK)	ug/L	89900	20000	107000	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	3060	20000	24100	105	40-160	N2
Acetone	ug/L	234000	20000	224000	94	10-160	N2
Benzene	ug/L	ND	4000	3920	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4090	102	35-142	
Bromoform	ug/L	ND	4000	3710	93	45-142	
Bromomethane	ug/L	ND	4000	3770	94	10-158	
Carbon tetrachloride	ug/L	ND	4000	4410	110	70-140	
Chloroethane	ug/L	ND	4000	3980	99	19-152	
Chloroform	ug/L	ND	4000	3840	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4180	105	34-147	N2
Ethylbenzene	ug/L	ND	4000	4140	101	40-142	
Methylene chloride	ug/L	ND	4000	3810	95	31-144	
Tetrachloroethene	ug/L	ND	4000	3920	98	64-148	
Toluene	ug/L	ND	4000	4090	102	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4130	103	54-151	
Trichloroethene	ug/L	ND	4000	4260	107	71-149	
Vinyl chloride	ug/L	ND	4000	4370	109	22-146	
Xylene (Total)	ug/L	ND	12000	12400	103	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				102	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: OEXT/43127 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164604001

METHOD BLANK: 1342917 | Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/14/14 14:21	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/14/14 14:21	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/14/14 14:21	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/14/14 14:21	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/14/14 14:21	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/14/14 14:21	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/14/14 14:21	
Hexachloroethane	ug/L	ND	5.0	03/14/14 14:21	
Naphthalene	ug/L	ND	5.0	03/14/14 14:21	
Nitrobenzene	ug/L	ND	5.0	03/14/14 14:21	
Pentachlorophenol	ug/L	ND	5.0	03/14/14 14:21	
Phenol	ug/L	ND	5.0	03/14/14 14:21	
2,4,6-Tribromophenol (S)	%	80	39-120	03/14/14 14:21	
2-Fluorobiphenyl (S)	%	75	39-120	03/14/14 14:21	
2-Fluorophenol (S)	%	47	17-120	03/14/14 14:21	
Nitrobenzene-d5 (S)	%	70	33-120	03/14/14 14:21	
Phenol-d6 (S)	%	31	11-120	03/14/14 14:21	
Terphenyl-d14 (S)	%	79	45-120	03/14/14 14:21	

LABORATORY CONTROL SAMPLE: 1342918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	33.3	67	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.2	70	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	31.6	63	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	28.7	57	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	40.6	81	40-133	
Hexachloro-1,3-butadiene	ug/L	50	33.3	67	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.7	58	24-120	
Hexachloroethane	ug/L	50	32.5	65	43-113	
Naphthalene	ug/L	50	35.1	70	48-120	
Nitrobenzene	ug/L	50	34.7	69	48-120	
Pentachlorophenol	ug/L	50	33.6	67	47-120	
Phenol	ug/L	50	15.3	31	16-112	
2,4,6-Tribromophenol (S)	%			79	39-120	
2-Fluorobiphenyl (S)	%			71	39-120	
2-Fluorophenol (S)	%			43	17-120	
Nitrobenzene-d5 (S)	%			69	33-120	
Phenol-d6 (S)	%			31	11-120	
Terphenyl-d14 (S)	%			78	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

MATRIX SPIKE SAMPLE: 1342919

Parameter	Units	60164620001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	29.0	58	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.2	72	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	29.9	60	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	35.8	59	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	37.6	75	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	27.7	55	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	58.8	59	11-120	
Hexachloroethane	ug/L	ND	50	31.3	63	40-113	
Naphthalene	ug/L	ND	50	30.4	61	45-120	
Nitrobenzene	ug/L	ND	50	30.9	62	38-120	
Pentachlorophenol	ug/L	ND	50	38.4	77	43-135	
Phenol	ug/L	ND	50	16.8	34	13-112	
2,4,6-Tribromophenol (S)	%				80	39-120	
2-Fluorobiphenyl (S)	%				69	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				57	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				74	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: WET/46677 — Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A — Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164604001

METHOD BLANK: 1344300 — Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/14/14 15:26	

LABORATORY CONTROL SAMPLE: 1344301

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.3	101	78-114	

MATRIX SPIKE SAMPLE: 1344302

Parameter	Units	60164286002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	41.0	102	78-114	

SAMPLE DUPLICATE: 1344303

Parameter	Units	60164336004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: WET/46737 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164604001

METHOD BLANK: 1345896 | Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/18/14 15:51	

LABORATORY CONTROL SAMPLE: 1345897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.9	100	64-132	

MATRIX SPIKE SAMPLE: 1345899

Parameter	Units	60164735001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.6	17.2	84	64-132	

SAMPLE DUPLICATE: 1345898

Parameter	Units	60164725001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.4	15.2	5	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: WET/46644 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164604001

METHOD BLANK: 1342880 | Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/13/14 07:36	

SAMPLE DUPLICATE: 1342881

Parameter	Units	60164548003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1342882

Parameter	Units	60164626004 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 316-240
Pace Project No.: 60164604

QC Batch: WET/46631
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164604001

SAMPLE DUPLICATE: 1342648

Parameter	Units	60164650001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: WET/46614 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164604001

METHOD BLANK: 1342332 | Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/17/14 10:58	

LABORATORY CONTROL SAMPLE: 1342333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	90	85-115	

SAMPLE DUPLICATE: 1342334

Parameter	Units	60164529001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	33.8	34.4	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: WETA/28568
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164604001

METHOD BLANK: 1342389
Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/12/14 09:30	

LABORATORY CONTROL SAMPLE: 1342390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	109	90-110	

MATRIX SPIKE SAMPLE: 1342391

Parameter	Units	60164530001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.8	2	4.5	84	90-110	M1

SAMPLE DUPLICATE: 1342392

Parameter	Units	60164595001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	370	362	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

QC Batch: WETA/28621 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164604001

METHOD BLANK: 1344992 | Matrix: Water
Associated Lab Samples: 60164604001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/18/14 07:49	

LABORATORY CONTROL SAMPLE: 1344993

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: 1344996

Parameter	Units	60164528004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3080	1500	4090	67	90-110	M1

SAMPLE DUPLICATE: 1344995

Parameter	Units	60164426004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2850	3060	7	25	

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QUALIFIERS

Project: BRIDGETON LF 316-240
Pace Project No.: 60164604

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

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
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 316-240
Pace Project No.: 60164604

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164604001	**316-240**	EPA 200.7	MPRP/26438	EPA 200.7	ICP/20149
60164604001	**316-240**	EPA 200.7	MPRP/26429	EPA 200.7	ICP/20145
60164604001	**316-240**	EPA 245.1	MERP/8226	EPA 245.1	MERC/8181
60164604001	**316-240**	EPA 245.1	MERP/8225	EPA 245.1	MERC/8180
60164604001	**316-240**	EPA 625	OEXT/43127	EPA 625	MSSV/13745
60164604001	**316-240**	EPA 624 Low	MSV/60083		
60164604002	**TRIP BLANK**	EPA 624 Low	MSV/60083		
60164604001	**316-240**	EPA 1664A	WET/46677		
60164604001	**316-240**	EPA 1664A	WET/46737		
60164604001	**316-240**	SM 2540D	WET/46644		
60164604001	**316-240**	SM 4500-H+B	WET/46631		
60164604001	**316-240**	SM 5210B	WET/46614	SM 5210B	WET/46706
60164604001	**316-240**	EPA 350.1	WETA/28568		
60164604001	**316-240**	EPA 410.4	WETA/28621		

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Sample Condition Upon Receipt

WO#: 60164604

60164604

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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 ☒ 2PK

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

Cooler Temperature: 11.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 3/12/14

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2. Ice in cooler melted during shipping
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3. sample received warm
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 + OBP3N. pH 6.0/4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	Added 2.0 mL of H2SO4 + OBP3S. pH 6.0/3.0 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed PV — Lot # of added preservative 12514 12513
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 0/2014-3		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: [signature] Date: 3/13/14

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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.	PO 3727110	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 #:	6787 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	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)	6016460
1	3/6-210 2AG4U 1BP3U 3AG35 1BP3S3-0	OT	G	3/10/14	1030				14	10	4	1	0	1BP3N	4-0				X	X	X	X	X	X	X	X	X	X	X		2BP2U 5DG4U
2	TRIP BLANK								2	2																X					2DG4U
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
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Cleak / FEI	3/11/14	1425	[illegible]	3/11/14	1425
SITE ADDRESS: BRIDGETON LF				[illegible] PASZ	3/12/14	0230
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)
11.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Krumer

SIGNATURE of SAMPLER: [signature] DATE Signed: 3-10-14

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

March 19, 2014

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

RE: Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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,

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

Enclosures

cc: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

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 316-241
Pace Project No.: 60164611

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164611001	**316-241**	Water	03/11/14 08:40	03/12/14 02:30
60164611002	**TRIP BLANK**	Water	03/11/14 00:00	03/12/14 02:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164611001	**316-241**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164611002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

Sample: 316-241 **Lab ID: 60164611001** Collected: 03/11/14 08:40 Received: 03/12/14 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	**5370**	ug/L	750	2	03/13/14 09:00	03/13/14 16:31	7429-90-5	
Antimony	**61.0**	ug/L	50.0	1	03/13/14 09:00	03/13/14 16:29	7440-36-0	
Arsenic	**960**	ug/L	50.0	1	03/13/14 09:00	03/13/14 16:29	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/13/14 09:00	03/13/14 16:29	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:29	7440-43-9	
Chromium	**232**	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:29	7440-47-3	
Cobalt	**29.9**	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:29	7440-48-4	
Copper	ND	ug/L	50.0	1	03/13/14 09:00	03/13/14 16:29	7440-50-8	
Iron	**730000**	ug/L	250	1	03/13/14 09:00	03/13/14 16:29	7439-89-6	
Lead	**104**	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:29	7439-92-1	
Nickel	**95.3**	ug/L	25.0	1	03/13/14 09:00	03/13/14 16:29	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/13/14 09:00	03/13/14 16:29	7782-49-2	
Silver	ND	ug/L	35.0	1	03/13/14 09:00	03/13/14 16:29	7440-22-4	
Thallium	ND	ug/L	100	1	03/13/14 09:00	03/13/14 16:29	7440-28-0	
Zinc	**7120**	ug/L	500	2	03/13/14 09:00	03/13/14 16:31	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2210**	ug/L	750	2	03/12/14 14:00	03/13/14 11:20	7429-90-5	
Antimony, Dissolved	**55.6**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:37	7440-36-0	
Arsenic, Dissolved	**838**	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:37	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/12/14 14:00	03/13/14 10:37	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:37	7440-43-9	
Chromium, Dissolved	**159**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:37	7440-47-3	
Cobalt, Dissolved	**27.3**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:37	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/12/14 14:00	03/13/14 10:37	7440-50-8	
Iron, Dissolved	**600000**	ug/L	250	1	03/12/14 14:00	03/13/14 10:37	7439-89-6	
Lead, Dissolved	**63.5**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:37	7439-92-1	
Nickel, Dissolved	**79.0**	ug/L	25.0	1	03/12/14 14:00	03/13/14 10:37	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/12/14 14:00	03/13/14 10:37	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/12/14 14:00	03/13/14 10:37	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/12/14 14:00	03/13/14 10:37	7440-28-0	
Zinc, Dissolved	**5830**	ug/L	500	2	03/12/14 14:00	03/13/14 11:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**19.0**	ug/L	6.0	1	03/14/14 10:30	03/14/14 15:07	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	03/14/14 10:30	03/14/14 14:33	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/13/14 00:00	03/14/14 20:44	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/13/14 00:00	03/14/14 20:44	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**9880**	ug/L	4000	2	03/13/14 00:00	03/14/14 20:44		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

Sample: 316-241 **Lab ID: 60164611001** Collected: 03/11/14 08:40 Received: 03/12/14 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	**1850**	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	87-86-5	
Phenol	**14400**	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/13/14 00:00	03/14/14 20:44	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	164	%	33-120	2	03/13/14 00:00	03/14/14 20:44	4165-60-0	S0
2-Fluorobiphenyl (S)	79	%	39-120	2	03/13/14 00:00	03/14/14 20:44	321-60-8	
Terphenyl-d14 (S)	87	%	45-120	2	03/13/14 00:00	03/14/14 20:44	1718-51-0	
Phenol-d6 (S)	54	%	11-120	2	03/13/14 00:00	03/14/14 20:44	13127-88-3	
2-Fluorophenol (S)	52	%	17-120	2	03/13/14 00:00	03/14/14 20:44	367-12-4	
2,4,6-Tribromophenol (S)	87	%	39-120	2	03/13/14 00:00	03/14/14 20:44	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**169000**	ug/L	2000	200		03/17/14 16:42	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/17/14 16:42	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/17/14 16:42	75-27-4	
Bromoform	ND	ug/L	200	200		03/17/14 16:42	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/17/14 16:42	74-83-9	
2-Butanone (MEK)	**73100**	ug/L	2000	200		03/17/14 16:42	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/17/14 16:42	56-23-5	
Chloroethane	ND	ug/L	200	200		03/17/14 16:42	75-00-3	
Chloroform	ND	ug/L	200	200		03/17/14 16:42	67-66-3	
1,4-Dichlorobenzene	**627**	ug/L	200	200		03/17/14 16:42	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/17/14 16:42	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/17/14 16:42	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/17/14 16:42	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/17/14 16:42	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/17/14 16:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2440**	ug/L	2000	200		03/17/14 16:42	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/17/14 16:42	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/17/14 16:42	127-18-4	
Toluene	ND	ug/L	200	200		03/17/14 16:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/17/14 16:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/17/14 16:42	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/17/14 16:42	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/17/14 16:42	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/17/14 16:42	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		03/17/14 16:42	460-00-4	
Toluene-d8 (S)	102	%	80-120	200		03/17/14 16:42	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		03/17/14 16:42	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/17/14 16:42		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1320**	mg/L	5.0	1		03/14/14 15:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

Sample: 316-241 **Lab ID: 60164611001** Collected: 03/11/14 08:40 Received: 03/12/14 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	**13.6**	mg/L	5.0	1		03/18/14 15:52		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4540**	mg/L	5.0	1		03/13/14 07:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		03/12/14 14:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**19900**	mg/L	2.0	1	03/12/14 09:10	03/17/14 13:25		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**695**	mg/L	20.0	200		03/18/14 11:16	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**62500**	mg/L	5000	500		03/18/14 07:58		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

Sample: TRIP BLANK **Lab ID: 60164611002** Collected: 03/11/14 00:00 Received: 03/12/14 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		03/17/14 13:05	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/17/14 13:05	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/17/14 13:05	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/17/14 13:05	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/17/14 13:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/17/14 13:05	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/17/14 13:05	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/17/14 13:05	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/17/14 13:05	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/17/14 13:05	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/17/14 13:05	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 13:05	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 13:05	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/17/14 13:05	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/17/14 13:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/17/14 13:05	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/17/14 13:05	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/17/14 13:05	127-18-4	
Toluene	ND	ug/L	1.0	1		03/17/14 13:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/17/14 13:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/17/14 13:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/17/14 13:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/17/14 13:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/17/14 13:05	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		03/17/14 13:05	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		03/17/14 13:05	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		03/17/14 13:05	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/17/14 13:05		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: MERP/8226 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164611001

METHOD BLANK: 1343851 | Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/14/14 14:44	

LABORATORY CONTROL SAMPLE: 1343852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343853 1343854

Parameter	Units	60164408001 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	3.0	3.2	61	64	70-130	5	20	M1

MATRIX SPIKE SAMPLE: 1343855

Parameter	Units	60164538002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: MERP/8225
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164611001

METHOD BLANK: 1343846
Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/14/14 14:13	

LABORATORY CONTROL SAMPLE: 1343847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343848 1343849

Parameter	Units	60164431001 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	132	121	88	80	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: MPRP/26438
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164611001

METHOD BLANK: 1342989
Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/13/14 16:15	
Antimony	ug/L	ND	10.0	03/13/14 16:15	
Arsenic	ug/L	ND	10.0	03/13/14 16:15	
Beryllium	ug/L	ND	1.0	03/13/14 16:15	
Cadmium	ug/L	ND	5.0	03/13/14 16:15	
Chromium	ug/L	ND	5.0	03/13/14 16:15	
Cobalt	ug/L	ND	5.0	03/13/14 16:15	
Copper	ug/L	ND	10.0	03/13/14 16:15	
Iron	ug/L	ND	50.0	03/13/14 16:15	
Lead	ug/L	ND	5.0	03/13/14 16:15	
Nickel	ug/L	ND	5.0	03/13/14 16:15	
Selenium	ug/L	ND	15.0	03/13/14 16:15	
Silver	ug/L	ND	7.0	03/13/14 16:15	
Thallium	ug/L	ND	20.0	03/13/14 16:15	
Zinc	ug/L	ND	50.0	03/13/14 16:15	

LABORATORY CONTROL SAMPLE: 1342990

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	995	100	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1040	104	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	9940	99	85-115	
Lead	ug/L	1000	1050	105	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	504	101	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342991 1342992

Parameter	Units	60164518001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	344000	10000	10000	360000	368000	162	247	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342991 1342992

Parameter	Units	60164518001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1020	998	101	100	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	101	100	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1040	1030	104	103	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1000	102	100	70-130	2	10	
Chromium	ug/L	108	1000	1000	1150	1020	104	91	70-130	12	10	R1
Cobalt	ug/L	ND	1000	1000	951	936	95	94	70-130	2	6	
Copper	ug/L	583	1000	1000	1680	1710	110	112	70-130	1	11	
Iron	ug/L	1090	10000	10000	10700	10500	96	94	70-130	1	10	
Lead	ug/L	ND	1000	1000	932	916	93	92	70-130	2	10	
Nickel	ug/L	10.7	1000	1000	974	963	96	95	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1060	1050	106	105	70-130	2	10	
Silver	ug/L	ND	500	500	550	550	110	110	70-130	0	10	
Thallium	ug/L	ND	1000	1000	829	811	82	80	70-130	2	6	
Zinc	ug/L	ND	1000	1000	984	972	96	95	70-130	1	11	

MATRIX SPIKE SAMPLE: 1342993

Parameter	Units	4093031002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10100	101	70-130	
Antimony	ug/L	ND	1000	1070	106	70-130	
Arsenic	ug/L	ND	1000	1090	108	70-130	
Beryllium	ug/L	ND	1000	1000	100	70-130	
Cadmium	ug/L	ND	1000	1080	107	70-130	
Chromium	ug/L	ND	1000	945	94	70-130	
Cobalt	ug/L	9.0	1000	992	98	70-130	
Copper	ug/L	ND	1000	977	97	70-130	
Iron	ug/L	5180	10000	15400	103	70-130	
Lead	ug/L	ND	1000	987	99	70-130	
Nickel	ug/L	30.8	1000	1040	101	70-130	
Selenium	ug/L	ND	1000	1050	105	70-130	
Silver	ug/L	ND	500	480	96	70-130	
Thallium	ug/L	ND	1000	1020	102	70-130	
Zinc	ug/L	ND	1000	994	99	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: MPRP/26429
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164611001

METHOD BLANK: 1342671
Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/13/14 10:20	
Antimony, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Arsenic, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Beryllium, Dissolved	ug/L	ND	1.0	03/13/14 10:20	
Cadmium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Chromium, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Cobalt, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Copper, Dissolved	ug/L	ND	10.0	03/13/14 10:20	
Iron, Dissolved	ug/L	ND	50.0	03/13/14 10:20	
Lead, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Nickel, Dissolved	ug/L	ND	5.0	03/13/14 10:20	
Selenium, Dissolved	ug/L	ND	15.0	03/13/14 10:20	
Silver, Dissolved	ug/L	ND	7.0	03/13/14 10:20	
Thallium, Dissolved	ug/L	ND	20.0	03/13/14 10:20	
Zinc, Dissolved	ug/L	ND	50.0	03/13/14 10:20	

LABORATORY CONTROL SAMPLE: 1342672

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	997	100	85-115	
Beryllium, Dissolved	ug/L	1000	991	99	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	952	95	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	982	98	85-115	
Iron, Dissolved	ug/L	10000	10100	101	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	475	95	85-115	
Thallium, Dissolved	ug/L	1000	1080	108	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 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	ND	10000	10000	10000	10000	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1342673 1342674

Parameter	Units	60164625001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1070	1060	107	106	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1060	1050	105	104	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	996	997	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1060	1050	105	105	70-130	0	10	
Chromium, Dissolved	ug/L	ND	1000	1000	944	943	94	94	70-130	0	10	
Cobalt, Dissolved	ug/L	3.7J	1000	1000	1010	1010	101	101	70-130	0	6	
Copper, Dissolved	ug/L	2.9J	1000	1000	1030	1020	102	101	70-130	1	11	
Iron, Dissolved	ug/L	39.7J	10000	10000	10100	10200	101	101	70-130	0	10	
Lead, Dissolved	ug/L	2.7J	1000	1000	1020	1020	102	102	70-130	0	10	
Nickel, Dissolved	ug/L	45.6	1000	1000	1070	1070	103	103	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1070	1050	107	105	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	488	484	98	97	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	1060	1060	105	106	70-130	0	6	
Zinc, Dissolved	ug/L	125	1000	1000	1120	1120	99	100	70-130	1	11	

SAMPLE DUPLICATE: 1344334

Parameter	Units	60164626003 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	ND	ND		20	
Antimony, Dissolved	ug/L	ND	ND		20	
Arsenic, Dissolved	ug/L	ND	ND		20	
Beryllium, Dissolved	ug/L	ND	ND		20	
Cadmium, Dissolved	ug/L	0.68J	ND		20	
Chromium, Dissolved	ug/L	ND	ND		20	
Cobalt, Dissolved	ug/L	ND	ND		20	
Copper, Dissolved	ug/L	1.5J	1.8J		20	
Iron, Dissolved	ug/L	ND	ND		20	
Lead, Dissolved	ug/L	ND	ND		20	
Nickel, Dissolved	ug/L	ND	ND		20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	ND		20	
Thallium, Dissolved	ug/L	ND	3.3J		20	
Zinc, Dissolved	ug/L	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: MSV/60083 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164611001, 60164611002

METHOD BLANK: 1345097 | Matrix: Water
Associated Lab Samples: 60164611001, 60164611002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/17/14 12:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,2-Dichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/17/14 12:03	
2-Butanone (MEK)	ug/L	ND	10.0	03/17/14 12:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/17/14 12:03	N2
Acetone	ug/L	ND	10.0	03/17/14 12:03	N2
Benzene	ug/L	ND	1.0	03/17/14 12:03	
Bromodichloromethane	ug/L	ND	1.0	03/17/14 12:03	
Bromoform	ug/L	ND	1.0	03/17/14 12:03	
Bromomethane	ug/L	ND	5.0	03/17/14 12:03	
Carbon tetrachloride	ug/L	ND	1.0	03/17/14 12:03	
Chloroethane	ug/L	ND	1.0	03/17/14 12:03	
Chloroform	ug/L	ND	1.0	03/17/14 12:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	N2
Ethylbenzene	ug/L	ND	1.0	03/17/14 12:03	
Methylene chloride	ug/L	ND	1.0	03/17/14 12:03	
Tetrachloroethene	ug/L	ND	1.0	03/17/14 12:03	
Toluene	ug/L	ND	1.0	03/17/14 12:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Trichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Vinyl chloride	ug/L	ND	1.0	03/17/14 12:03	
Xylene (Total)	ug/L	ND	3.0	03/17/14 12:03	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/17/14 12:03	
4-Bromofluorobenzene (S)	%	99	80-120	03/17/14 12:03	
Toluene-d8 (S)	%	100	80-120	03/17/14 12:03	

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	21.4	107	70-126	
1,4-Dichlorobenzene	ug/L	20	19.2	96	74-120	
2-Butanone (MEK)	ug/L	100	150	150	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	59-131	N2
Acetone	ug/L	100	209	209	38-134	L0,N2
Benzene	ug/L	20	21.4	107	75-120	
Bromodichloromethane	ug/L	20	21.7	109	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.9	99	65-127	
Bromomethane	ug/L	20	20.5	103	13-157	
Carbon tetrachloride	ug/L	20	21.5	108	70-131	
Chloroethane	ug/L	20	20.3	101	47-133	
Chloroform	ug/L	20	21.5	108	65-127	
cis-1,2-Dichloroethene	ug/L	20	23.1	115	68-127	N2
Ethylbenzene	ug/L	20	21.6	108	74-122	
Methylene chloride	ug/L	20	21.9	110	64-129	
Tetrachloroethene	ug/L	20	20.8	104	73-125	
Toluene	ug/L	20	21.5	108	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	66-129	
Trichloroethene	ug/L	20	21.6	108	71-123	
Vinyl chloride	ug/L	20	20.4	102	43-129	
Xylene (Total)	ug/L	60	65.1	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4170	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3530	88	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3730	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3950	99	49-144	
1,4-Dichlorobenzene	ug/L	767	4000	4190	86	33-140	
2-Butanone (MEK)	ug/L	89900	20000	107000	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	3060	20000	24100	105	40-160	N2
Acetone	ug/L	234000	20000	224000	94	10-160	N2
Benzene	ug/L	ND	4000	3920	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4090	102	35-142	
Bromoform	ug/L	ND	4000	3710	93	45-142	
Bromomethane	ug/L	ND	4000	3770	94	10-158	
Carbon tetrachloride	ug/L	ND	4000	4410	110	70-140	
Chloroethane	ug/L	ND	4000	3980	99	19-152	
Chloroform	ug/L	ND	4000	3840	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4180	105	34-147	N2
Ethylbenzene	ug/L	ND	4000	4140	101	40-142	
Methylene chloride	ug/L	ND	4000	3810	95	31-144	
Tetrachloroethene	ug/L	ND	4000	3920	98	64-148	
Toluene	ug/L	ND	4000	4090	102	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4130	103	54-151	
Trichloroethene	ug/L	ND	4000	4260	107	71-149	
Vinyl chloride	ug/L	ND	4000	4370	109	22-146	
Xylene (Total)	ug/L	ND	12000	12400	103	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				102	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: OEXT/43127 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164611001

METHOD BLANK: 1342917 | Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/14/14 14:21	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/14/14 14:21	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/14/14 14:21	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/14/14 14:21	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/14/14 14:21	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/14/14 14:21	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/14/14 14:21	
Hexachloroethane	ug/L	ND	5.0	03/14/14 14:21	
Naphthalene	ug/L	ND	5.0	03/14/14 14:21	
Nitrobenzene	ug/L	ND	5.0	03/14/14 14:21	
Pentachlorophenol	ug/L	ND	5.0	03/14/14 14:21	
Phenol	ug/L	ND	5.0	03/14/14 14:21	
2,4,6-Tribromophenol (S)	%	80	39-120	03/14/14 14:21	
2-Fluorobiphenyl (S)	%	75	39-120	03/14/14 14:21	
2-Fluorophenol (S)	%	47	17-120	03/14/14 14:21	
Nitrobenzene-d5 (S)	%	70	33-120	03/14/14 14:21	
Phenol-d6 (S)	%	31	11-120	03/14/14 14:21	
Terphenyl-d14 (S)	%	79	45-120	03/14/14 14:21	

LABORATORY CONTROL SAMPLE: 1342918

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	33.3	67	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.2	70	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	31.6	63	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	28.7	57	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	40.6	81	40-133	
Hexachloro-1,3-butadiene	ug/L	50	33.3	67	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.7	58	24-120	
Hexachloroethane	ug/L	50	32.5	65	43-113	
Naphthalene	ug/L	50	35.1	70	48-120	
Nitrobenzene	ug/L	50	34.7	69	48-120	
Pentachlorophenol	ug/L	50	33.6	67	47-120	
Phenol	ug/L	50	15.3	31	16-112	
2,4,6-Tribromophenol (S)	%			79	39-120	
2-Fluorobiphenyl (S)	%			71	39-120	
2-Fluorophenol (S)	%			43	17-120	
Nitrobenzene-d5 (S)	%			69	33-120	
Phenol-d6 (S)	%			31	11-120	
Terphenyl-d14 (S)	%			78	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

MATRIX SPIKE SAMPLE: 1342919

Parameter	Units	60164620001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	29.0	58	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.2	72	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	29.9	60	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	35.8	59	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	37.6	75	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	27.7	55	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	58.8	59	11-120	
Hexachloroethane	ug/L	ND	50	31.3	63	40-113	
Naphthalene	ug/L	ND	50	30.4	61	45-120	
Nitrobenzene	ug/L	ND	50	30.9	62	38-120	
Pentachlorophenol	ug/L	ND	50	38.4	77	43-135	
Phenol	ug/L	ND	50	16.8	34	13-112	
2,4,6-Tribromophenol (S)	%				80	39-120	
2-Fluorobiphenyl (S)	%				69	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				57	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				74	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: WET/46677
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164611001

METHOD BLANK: 1344300
Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/14/14 15:26	

LABORATORY CONTROL SAMPLE: 1344301

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.3	101	78-114	

MATRIX SPIKE SAMPLE: 1344302

Parameter	Units	60164286002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	41.0	102	78-114	

SAMPLE DUPLICATE: 1344303

Parameter	Units	60164336004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: WET/46737 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164611001

METHOD BLANK: 1345896 | Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/18/14 15:51	

LABORATORY CONTROL SAMPLE: 1345897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.9	100	64-132	

MATRIX SPIKE SAMPLE: 1345899

Parameter	Units	60164735001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.6	17.2	84	64-132	

SAMPLE DUPLICATE: 1345898

Parameter	Units	60164725001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.4	15.2	5	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: WET/46644 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164611001

METHOD BLANK: 1342880 | Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/13/14 07:36	

SAMPLE DUPLICATE: 1342881

Parameter	Units	60164548003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1342882

Parameter	Units	60164626004 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 316-241
Pace Project No.: 60164611

QC Batch: WET/46631
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164611001

SAMPLE DUPLICATE: 1342648

Parameter	Units	60164650001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: WET/46614 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164611001

METHOD BLANK: 1342332 | Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/17/14 10:58	

LABORATORY CONTROL SAMPLE: 1342333

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	90	85-115	

SAMPLE DUPLICATE: 1342334

Parameter	Units	60164529001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	33.8	34.4	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: WETA/28631
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164611001

METHOD BLANK: 1345514
Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/18/14 11:14	

LABORATORY CONTROL SAMPLE: 1345515

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

MATRIX SPIKE SAMPLE: 1345516

Parameter	Units	60164653001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	2	2.9	71	90-110	M1

MATRIX SPIKE SAMPLE: 1345517

Parameter	Units	60164733001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.1	2	4.9	90	90-110	

SAMPLE DUPLICATE: 1345518

Parameter	Units	60164802001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.72	0.71	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

QC Batch: WETA/28621 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164611001

METHOD BLANK: 1344992 | Matrix: Water
Associated Lab Samples: 60164611001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/18/14 07:49	

LABORATORY CONTROL SAMPLE: 1344993

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: 1344996

Parameter	Units	60164528004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3080	1500	4090	67	90-110	M1

SAMPLE DUPLICATE: 1344995

Parameter	Units	60164426004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2850	3060	7	25	

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QUALIFIERS

Project: BRIDGETON LF 316-241
Pace Project No.: 60164611

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

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
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 316-241
Pace Project No.: 60164611

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164611001	**316-241**	EPA 200.7	MPRP/26438	EPA 200.7	ICP/20149
60164611001	**316-241**	EPA 200.7	MPRP/26429	EPA 200.7	ICP/20145
60164611001	**316-241**	EPA 245.1	MERP/8226	EPA 245.1	MERC/8181
60164611001	**316-241**	EPA 245.1	MERP/8225	EPA 245.1	MERC/8180
60164611001	**316-241**	EPA 625	OEXT/43127	EPA 625	MSSV/13745
60164611001	**316-241**	EPA 624 Low	MSV/60083		
60164611002	**TRIP BLANK**	EPA 624 Low	MSV/60083		
60164611001	**316-241**	EPA 1664A	WET/46677		
60164611001	**316-241**	EPA 1664A	WET/46737		
60164611001	**316-241**	SM 2540D	WET/46644		
60164611001	**316-241**	SM 4500-H+B	WET/46631		
60164611001	**316-241**	SM 5210B	WET/46614	SM 5210B	WET/46706
60164611001	**316-241**	EPA 350.1	WETA/28631		
60164611001	**316-241**	EPA 410.4	WETA/28621		

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WO#: 60164611

60164611

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Sample Condition Upon Receipt

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 4.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/12/14

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
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	Sample ID - 316-241, collected @
Includes date/time/ID/analyses Matrix: WT		13. 0840
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3N initial ph 4.5, added 2.5 mL HNO3 final ph 3.0.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14. BP3S initial ph 4.5, added 2.5mL H2SO4, Final 2.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: Lot # of added preservative: 12513-10-9
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 071513-3		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: 3/12/14

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.	PO 3727110	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 #:	6787 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	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)	6016461
1	2BP2U, BP3U, 5DG9U, 2AG4U, BP3S2-0	OT	G	BP3N	3-5	3AG3S			14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			a1
2	TRIP BLANK 2DG9U (TB)								2	2																X						a2
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	Julie Crook / FEI	3/11/14	1425	Marguerite Garrett	3/11/14	1425				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	3/12/14	0230	4.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed:

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March 20, 2014

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

RE: Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

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 316-242
Pace Project No.: 60164725

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164725001	**316-242**	Water	03/12/14 11:00	03/13/14 00:30
60164725002	**TRIP BLANK**	Water	03/12/14 11:00	03/13/14 00:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164725001	**316-242**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	DJR	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164725002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

Sample: 316-242 **Lab ID: 60164725001** Collected: 03/12/14 11:00 Received: 03/13/14 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	**4100**	ug/L	750	2	03/14/14 09:00	03/18/14 17:01	7429-90-5	
Antimony	ND	ug/L	100	2	03/14/14 09:00	03/18/14 17:01	7440-36-0	D3
Arsenic	**948**	ug/L	50.0	1	03/14/14 09:00	03/18/14 16:57	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/14/14 09:00	03/18/14 16:57	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/14/14 09:00	03/18/14 16:57	7440-43-9	
Chromium	**212**	ug/L	25.0	1	03/14/14 09:00	03/18/14 16:57	7440-47-3	
Cobalt	**43.0**	ug/L	25.0	1	03/14/14 09:00	03/18/14 16:57	7440-48-4	
Copper	**50.2**	ug/L	50.0	1	03/14/14 09:00	03/18/14 16:57	7440-50-8	
Iron	**670000**	ug/L	250	1	03/14/14 09:00	03/18/14 16:57	7439-89-6	
Lead	**122**	ug/L	25.0	1	03/14/14 09:00	03/18/14 16:57	7439-92-1	
Nickel	**108**	ug/L	25.0	1	03/14/14 09:00	03/18/14 16:57	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/14/14 09:00	03/18/14 16:57	7782-49-2	
Silver	ND	ug/L	35.0	1	03/14/14 09:00	03/18/14 16:57	7440-22-4	
Thallium	ND	ug/L	100	1	03/14/14 09:00	03/18/14 16:57	7440-28-0	
Zinc	**5530**	ug/L	500	2	03/14/14 09:00	03/18/14 17:01	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1390**	ug/L	750	2	03/14/14 15:45	03/18/14 10:24	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/14/14 15:45	03/18/14 10:24	7440-36-0	D3
Arsenic, Dissolved	**980**	ug/L	50.0	1	03/14/14 15:45	03/18/14 10:21	7440-38-2	D9
Beryllium, Dissolved	ND	ug/L	5.0	1	03/14/14 15:45	03/18/14 10:21	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/14/14 15:45	03/18/14 10:21	7440-43-9	
Chromium, Dissolved	**206**	ug/L	25.0	1	03/14/14 15:45	03/18/14 10:21	7440-47-3	
Cobalt, Dissolved	**42.1**	ug/L	25.0	1	03/14/14 15:45	03/18/14 10:21	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/14/14 15:45	03/18/14 10:21	7440-50-8	
Iron, Dissolved	**624000**	ug/L	250	1	03/14/14 15:45	03/18/14 10:21	7439-89-6	M1,R1
Lead, Dissolved	**90.6**	ug/L	25.0	1	03/14/14 15:45	03/18/14 10:21	7439-92-1	
Nickel, Dissolved	**109**	ug/L	25.0	1	03/14/14 15:45	03/18/14 10:21	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/14/14 15:45	03/18/14 10:21	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/14/14 15:45	03/18/14 10:21	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/14/14 15:45	03/18/14 10:21	7440-28-0	
Zinc, Dissolved	**5900**	ug/L	500	2	03/14/14 15:45	03/18/14 10:24	7440-66-6	D9
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**25.6**	ug/L	6.0	1	03/14/14 10:30	03/14/14 15:13	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	03/14/14 10:30	03/14/14 14:40	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/17/14 00:00	03/18/14 13:29	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/17/14 00:00	03/18/14 13:29	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6920**	ug/L	4000	2	03/17/14 00:00	03/18/14 13:29		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

Sample: 316-242 **Lab ID: 60164725001** Collected: 03/12/14 11:00 Received: 03/13/14 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	**2640**	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	98-95-3	M1
Pentachlorophenol	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	87-86-5	
Phenol	**9340**	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:29	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	133	%	33-120	2	03/17/14 00:00	03/18/14 13:29	4165-60-0	S0
2-Fluorobiphenyl (S)	69	%	39-120	2	03/17/14 00:00	03/18/14 13:29	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	2	03/17/14 00:00	03/18/14 13:29	1718-51-0	
Phenol-d6 (S)	39	%	11-120	2	03/17/14 00:00	03/18/14 13:29	13127-88-3	
2-Fluorophenol (S)	38	%	17-120	2	03/17/14 00:00	03/18/14 13:29	367-12-4	
2,4,6-Tribromophenol (S)	73	%	39-120	2	03/17/14 00:00	03/18/14 13:29	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**186000**	ug/L	2000	200		03/19/14 16:45	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/19/14 16:45	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/19/14 16:45	75-27-4	
Bromoform	ND	ug/L	200	200		03/19/14 16:45	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/19/14 16:45	74-83-9	
2-Butanone (MEK)	**85400**	ug/L	2000	200		03/19/14 16:45	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/19/14 16:45	56-23-5	
Chloroethane	ND	ug/L	200	200		03/19/14 16:45	75-00-3	
Chloroform	ND	ug/L	200	200		03/19/14 16:45	67-66-3	
1,4-Dichlorobenzene	**1600**	ug/L	200	200		03/19/14 16:45	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/19/14 16:45	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/19/14 16:45	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/19/14 16:45	156-60-5	
Ethylbenzene	**202**	ug/L	200	200		03/19/14 16:45	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/19/14 16:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3270**	ug/L	2000	200		03/19/14 16:45	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/19/14 16:45	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/19/14 16:45	127-18-4	
Toluene	ND	ug/L	200	200		03/19/14 16:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/19/14 16:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/19/14 16:45	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/19/14 16:45	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/19/14 16:45	75-01-4	
Xylene (Total)	**915**	ug/L	600	200		03/19/14 16:45	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	200		03/19/14 16:45	460-00-4	
Toluene-d8 (S)	93	%	80-120	200		03/19/14 16:45	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	200		03/19/14 16:45	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/19/14 16:45		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**678**	mg/L	5.0	1		03/17/14 15:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

Sample: 316-242 **Lab ID: 60164725001** Collected: 03/12/14 11:00 Received: 03/13/14 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	**14.4**	mg/L	5.0	1		03/18/14 15:54		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4580**	mg/L	5.0	1		03/17/14 12:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		03/15/14 10:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**19400**	mg/L	2.0	1	03/13/14 16:49	03/18/14 16:25		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**616**	mg/L	20.0	200		03/18/14 11:30	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**52900**	mg/L	5000	500		03/18/14 08:11		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

Sample: TRIP BLANK **Lab ID: 60164725002** Collected: 03/12/14 11:00 Received: 03/13/14 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		03/17/14 13:21	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/17/14 13:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/17/14 13:21	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/17/14 13:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/17/14 13:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/17/14 13:21	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/17/14 13:21	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/17/14 13:21	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/17/14 13:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/17/14 13:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/17/14 13:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 13:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 13:21	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/17/14 13:21	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/17/14 13:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/17/14 13:21	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/17/14 13:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/17/14 13:21	127-18-4	
Toluene	ND	ug/L	1.0	1		03/17/14 13:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/17/14 13:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/17/14 13:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/17/14 13:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/17/14 13:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/17/14 13:21	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		03/17/14 13:21	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		03/17/14 13:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		03/17/14 13:21	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/17/14 13:21		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: MERP/8226 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164725001

METHOD BLANK: 1343851 | Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/14/14 14:44	

LABORATORY CONTROL SAMPLE: 1343852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343853 1343854

Parameter	Units	60164408001 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	3.0	3.2	61	64	70-130	5	20	M1

MATRIX SPIKE SAMPLE: 1343855

Parameter	Units	60164538002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.4	88	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: MERP/8225
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164725001

METHOD BLANK: 1343846
Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/14/14 14:13	

LABORATORY CONTROL SAMPLE: 1343847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343848 1343849

Parameter	Units	60164431001 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	132	121	88	80	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: MPRP/26465
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164725001

METHOD BLANK: 1343812
Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/18/14 16:51	
Antimony	ug/L	ND	10.0	03/18/14 16:51	
Arsenic	ug/L	ND	10.0	03/18/14 16:51	
Beryllium	ug/L	ND	1.0	03/18/14 16:51	
Cadmium	ug/L	ND	5.0	03/18/14 16:51	
Chromium	ug/L	ND	5.0	03/18/14 16:51	
Cobalt	ug/L	ND	5.0	03/18/14 16:51	
Copper	ug/L	ND	10.0	03/18/14 16:51	
Iron	ug/L	ND	50.0	03/18/14 16:51	
Lead	ug/L	ND	5.0	03/18/14 16:51	
Nickel	ug/L	ND	5.0	03/18/14 16:51	
Selenium	ug/L	ND	15.0	03/18/14 16:51	
Silver	ug/L	ND	7.0	03/18/14 16:51	
Thallium	ug/L	ND	20.0	03/18/14 16:51	
Zinc	ug/L	ND	50.0	03/18/14 16:51	

LABORATORY CONTROL SAMPLE: 1343813

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	991	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1030	103	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	10200	102	85-115	
Lead	ug/L	1000	1050	105	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343814 1343815

Parameter	Units	60164735002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	113	10000	10000	10400	10600	103	105	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343814 1343815

Parameter	Units	60164735002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	999	1010	100	100	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	996	1000	99	100	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	1030	1040	103	104	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	1020	1020	101	102	70-130	1	10	
Chromium	ug/L	0.034 mg/L	1000	1000	1060	1080	103	104	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	6	
Copper	ug/L	0.081 mg/L	1000	1000	1100	1100	101	102	70-130	1	11	
Iron	ug/L	1550	10000	10000	11400	11600	98	100	70-130	2	10	
Lead	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Nickel	ug/L	0.011 mg/L	1000	1000	1010	1020	100	100	70-130	0	10	
Selenium	ug/L	ND	1000	1000	993	1000	99	100	70-130	1	10	
Silver	ug/L	ND	500	500	498	504	99	101	70-130	1	10	
Thallium	ug/L	ND	1000	1000	910	928	91	93	70-130	2	6	
Zinc	ug/L	0.16 mg/L	1000	1000	1130	1140	98	99	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: MPRP/26450
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164725001

METHOD BLANK: 1343218
Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/18/14 10:14	
Antimony, Dissolved	ug/L	ND	10.0	03/18/14 10:14	
Arsenic, Dissolved	ug/L	ND	10.0	03/18/14 10:14	
Beryllium, Dissolved	ug/L	ND	1.0	03/18/14 10:14	
Cadmium, Dissolved	ug/L	ND	5.0	03/18/14 10:14	
Chromium, Dissolved	ug/L	ND	5.0	03/18/14 10:14	
Cobalt, Dissolved	ug/L	ND	5.0	03/18/14 10:14	
Copper, Dissolved	ug/L	ND	10.0	03/18/14 10:14	
Iron, Dissolved	ug/L	ND	50.0	03/18/14 10:14	
Lead, Dissolved	ug/L	ND	5.0	03/18/14 10:14	
Nickel, Dissolved	ug/L	ND	5.0	03/18/14 10:14	
Selenium, Dissolved	ug/L	ND	15.0	03/18/14 10:14	
Silver, Dissolved	ug/L	ND	7.0	03/18/14 10:14	
Thallium, Dissolved	ug/L	ND	20.0	03/18/14 10:14	
Zinc, Dissolved	ug/L	ND	50.0	03/18/14 10:14	

LABORATORY CONTROL SAMPLE: 1343219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	1060	106	85-115	
Arsenic, Dissolved	ug/L	1000	1030	103	85-115	
Beryllium, Dissolved	ug/L	1000	1070	107	85-115	
Cadmium, Dissolved	ug/L	1000	1060	106	85-115	
Chromium, Dissolved	ug/L	1000	1060	106	85-115	
Cobalt, Dissolved	ug/L	1000	1080	108	85-115	
Copper, Dissolved	ug/L	1000	1050	105	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1090	109	85-115	
Nickel, Dissolved	ug/L	1000	1100	110	85-115	
Selenium, Dissolved	ug/L	1000	1070	107	85-115	
Silver, Dissolved	ug/L	500	512	102	85-115	
Thallium, Dissolved	ug/L	1000	1080	108	85-115	
Zinc, Dissolved	ug/L	1000	1070	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343220 1343221

Parameter	Units	60164725001 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	1390	50000	50000	53800	52700	105	103	70-130	2	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1343220 1343221

Parameter	Units	60164725001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5200	5260	102	103	70-130	1	7	
Arsenic, Dissolved	ug/L	980	5000	5000	6540	6550	111	111	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5010	4940	100	99	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5480	5400	109	108	70-130	2	10	
Chromium, Dissolved	ug/L	206	5000	5000	5240	5260	101	101	70-130	0	10	
Cobalt, Dissolved	ug/L	42.1	5000	5000	5090	4980	101	99	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5440	5420	108	108	70-130	0	11	
Iron, Dissolved	ug/L	624000	50000	50000	616000	692000	-16	137	70-130	12	10	M1,R1
Lead, Dissolved	ug/L	90.6	5000	5000	4910	4810	96	94	70-130	2	10	
Nickel, Dissolved	ug/L	109	5000	5000	5140	5020	101	98	70-130	2	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6280	6200	125	123	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2700	2700	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4500	4360	90	87	70-130	3	6	
Zinc, Dissolved	ug/L	5900	5000	5000	10100	11000	84	101	70-130	8	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: MSV/60083 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164725002

METHOD BLANK: 1345097 | Matrix: Water
Associated Lab Samples: 60164725002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/17/14 12:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,2-Dichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/17/14 12:03	
2-Butanone (MEK)	ug/L	ND	10.0	03/17/14 12:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/17/14 12:03	N2
Acetone	ug/L	ND	10.0	03/17/14 12:03	N2
Benzene	ug/L	ND	1.0	03/17/14 12:03	
Bromodichloromethane	ug/L	ND	1.0	03/17/14 12:03	
Bromoform	ug/L	ND	1.0	03/17/14 12:03	
Bromomethane	ug/L	ND	5.0	03/17/14 12:03	
Carbon tetrachloride	ug/L	ND	1.0	03/17/14 12:03	
Chloroethane	ug/L	ND	1.0	03/17/14 12:03	
Chloroform	ug/L	ND	1.0	03/17/14 12:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	N2
Ethylbenzene	ug/L	ND	1.0	03/17/14 12:03	
Methylene chloride	ug/L	ND	1.0	03/17/14 12:03	
Tetrachloroethene	ug/L	ND	1.0	03/17/14 12:03	
Toluene	ug/L	ND	1.0	03/17/14 12:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Trichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Vinyl chloride	ug/L	ND	1.0	03/17/14 12:03	
Xylene (Total)	ug/L	ND	3.0	03/17/14 12:03	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/17/14 12:03	
4-Bromofluorobenzene (S)	%	99	80-120	03/17/14 12:03	
Toluene-d8 (S)	%	100	80-120	03/17/14 12:03	

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	21.4	107	70-126	
1,4-Dichlorobenzene	ug/L	20	19.2	96	74-120	
2-Butanone (MEK)	ug/L	100	150	150	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	59-131	N2
Acetone	ug/L	100	209	209	38-134	L0,N2
Benzene	ug/L	20	21.4	107	75-120	
Bromodichloromethane	ug/L	20	21.7	109	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.9	99	65-127	
Bromomethane	ug/L	20	20.5	103	13-157	
Carbon tetrachloride	ug/L	20	21.5	108	70-131	
Chloroethane	ug/L	20	20.3	101	47-133	
Chloroform	ug/L	20	21.5	108	65-127	
cis-1,2-Dichloroethene	ug/L	20	23.1	115	68-127	N2
Ethylbenzene	ug/L	20	21.6	108	74-122	
Methylene chloride	ug/L	20	21.9	110	64-129	
Tetrachloroethene	ug/L	20	20.8	104	73-125	
Toluene	ug/L	20	21.5	108	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	66-129	
Trichloroethene	ug/L	20	21.6	108	71-123	
Vinyl chloride	ug/L	20	20.4	102	43-129	
Xylene (Total)	ug/L	60	65.1	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4170	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3530	88	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3730	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3950	99	49-144	
1,4-Dichlorobenzene	ug/L	767	4000	4190	86	33-140	
2-Butanone (MEK)	ug/L	89900	20000	107000	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	3060	20000	24100	105	40-160	N2
Acetone	ug/L	234000	20000	224000	94	10-160	N2
Benzene	ug/L	ND	4000	3920	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4090	102	35-142	
Bromoform	ug/L	ND	4000	3710	93	45-142	
Bromomethane	ug/L	ND	4000	3770	94	10-158	
Carbon tetrachloride	ug/L	ND	4000	4410	110	70-140	
Chloroethane	ug/L	ND	4000	3980	99	19-152	
Chloroform	ug/L	ND	4000	3840	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4180	105	34-147	N2
Ethylbenzene	ug/L	ND	4000	4140	101	40-142	
Methylene chloride	ug/L	ND	4000	3810	95	31-144	
Tetrachloroethene	ug/L	ND	4000	3920	98	64-148	
Toluene	ug/L	ND	4000	4090	102	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4130	103	54-151	
Trichloroethene	ug/L	ND	4000	4260	107	71-149	
Vinyl chloride	ug/L	ND	4000	4370	109	22-146	
Xylene (Total)	ug/L	ND	12000	12400	103	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				102	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: MSV/60172 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164725001

METHOD BLANK: 1346653 | Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/19/14 16:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/19/14 16:29	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/19/14 16:29	
1,2-Dichloroethane	ug/L	ND	1.0	03/19/14 16:29	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/19/14 16:29	
2-Butanone (MEK)	ug/L	ND	10.0	03/19/14 16:29	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/19/14 16:29	N2
Acetone	ug/L	ND	10.0	03/19/14 16:29	N2
Benzene	ug/L	ND	1.0	03/19/14 16:29	
Bromodichloromethane	ug/L	ND	1.0	03/19/14 16:29	
Bromoform	ug/L	ND	1.0	03/19/14 16:29	
Bromomethane	ug/L	ND	5.0	03/19/14 16:29	
Carbon tetrachloride	ug/L	ND	1.0	03/19/14 16:29	
Chloroethane	ug/L	ND	1.0	03/19/14 16:29	
Chloroform	ug/L	ND	1.0	03/19/14 16:29	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/19/14 16:29	N2
Ethylbenzene	ug/L	ND	1.0	03/19/14 16:29	
Methylene chloride	ug/L	ND	1.0	03/19/14 16:29	
Tetrachloroethene	ug/L	ND	1.0	03/19/14 16:29	
Toluene	ug/L	ND	1.0	03/19/14 16:29	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/19/14 16:29	
Trichloroethene	ug/L	ND	1.0	03/19/14 16:29	
Vinyl chloride	ug/L	ND	1.0	03/19/14 16:29	
Xylene (Total)	ug/L	ND	3.0	03/19/14 16:29	N2
1,2-Dichloroethane-d4 (S)	%	91	80-120	03/19/14 16:29	
4-Bromofluorobenzene (S)	%	101	80-120	03/19/14 16:29	
Toluene-d8 (S)	%	92	80-120	03/19/14 16:29	

LABORATORY CONTROL SAMPLE: 1346654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.0	90	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.1	100	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.2	106	67-124	
1,2-Dichloroethane	ug/L	20	18.0	90	70-126	
1,4-Dichlorobenzene	ug/L	20	21.2	106	74-120	
2-Butanone (MEK)	ug/L	100	107	107	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	86.6	87	59-131	N2
Acetone	ug/L	100	166	166	38-134	L0,N2
Benzene	ug/L	20	18.1	91	75-120	
Bromodichloromethane	ug/L	20	17.4	87	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

LABORATORY CONTROL SAMPLE: 1346654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	21.1	105	65-127	
Bromomethane	ug/L	20	19.1	95	13-157	
Carbon tetrachloride	ug/L	20	19.4	97	70-131	
Chloroethane	ug/L	20	19.5	97	47-133	
Chloroform	ug/L	20	18.5	92	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.1	95	68-127	N2
Ethylbenzene	ug/L	20	23.2	116	74-122	
Methylene chloride	ug/L	20	18.2	91	64-129	
Tetrachloroethene	ug/L	20	22.1	110	73-125	
Toluene	ug/L	20	18.2	91	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	66-129	
Trichloroethene	ug/L	20	19.3	97	71-123	
Vinyl chloride	ug/L	20	21.2	106	43-129	
Xylene (Total)	ug/L	60	72.3	121	75-121	LS,N2
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			93	80-120	

MATRIX SPIKE SAMPLE: 1346655

Parameter	Units	60164790004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	21.5	107	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	21.6	108	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	20	22.1	110	52-143	
1,2-Dichloroethane	ug/L	ND	20	19.3	97	49-144	
1,4-Dichlorobenzene	ug/L	ND	20	21.4	106	33-140	
2-Butanone (MEK)	ug/L	ND	100	134	132	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	104	104	40-160	N2
Acetone	ug/L	ND	100	202	202	10-160	M0,N2
Benzene	ug/L	ND	20	19.5	97	37-151	
Bromodichloromethane	ug/L	ND	20	19.3	97	35-142	
Bromoform	ug/L	ND	20	23.4	117	45-142	
Bromomethane	ug/L	ND	20	20.6	103	10-158	
Carbon tetrachloride	ug/L	ND	20	23.0	115	70-140	
Chloroethane	ug/L	ND	20	21.7	108	19-152	
Chloroform	ug/L	ND	20	20.2	101	51-138	
cis-1,2-Dichloroethene	ug/L	ND	20	20.8	104	34-147	N2
Ethylbenzene	ug/L	ND	20	24.7	123	40-142	
Methylene chloride	ug/L	ND	20	19.9	99	31-144	
Tetrachloroethene	ug/L	ND	20	24.8	123	64-148	
Toluene	ug/L	ND	20	20.9	104	47-150	
trans-1,2-Dichloroethene	ug/L	ND	20	20.6	103	54-151	
Trichloroethene	ug/L	ND	20	20.7	103	71-149	
Vinyl chloride	ug/L	ND	20	25.4	127	22-146	
Xylene (Total)	ug/L	ND	60	75.1	125	37-144	N2
1,2-Dichloroethane-d4 (S)	%				98	80-120	
4-Bromofluorobenzene (S)	%				96	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

MATRIX SPIKE SAMPLE: 1346655

Parameter	Units	60164790004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: OEXT/43183
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60164725001

METHOD BLANK: 1344903
Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/18/14 09:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/18/14 09:57	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/18/14 09:57	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/18/14 09:57	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/18/14 09:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/18/14 09:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/18/14 09:57	
Hexachloroethane	ug/L	ND	5.0	03/18/14 09:57	
Naphthalene	ug/L	ND	5.0	03/18/14 09:57	
Nitrobenzene	ug/L	ND	5.0	03/18/14 09:57	
Pentachlorophenol	ug/L	ND	5.0	03/18/14 09:57	
Phenol	ug/L	ND	5.0	03/18/14 09:57	
2,4,6-Tribromophenol (S)	%	86	39-120	03/18/14 09:57	
2-Fluorobiphenyl (S)	%	75	39-120	03/18/14 09:57	
2-Fluorophenol (S)	%	42	17-120	03/18/14 09:57	
Nitrobenzene-d5 (S)	%	67	33-120	03/18/14 09:57	
Phenol-d6 (S)	%	26	11-120	03/18/14 09:57	
Terphenyl-d14 (S)	%	80	45-120	03/18/14 09:57	

LABORATORY CONTROL SAMPLE: 1344904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.6	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.8	72	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.6	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.7	53	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	38.3	77	40-133	
Hexachloro-1,3-butadiene	ug/L	50	32.1	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	51.1	51	24-120	
Hexachloroethane	ug/L	50	29.1	58	43-113	
Naphthalene	ug/L	50	34.6	69	48-120	
Nitrobenzene	ug/L	50	32.5	65	48-120	
Pentachlorophenol	ug/L	50	34.9	70	47-120	
Phenol	ug/L	50	14.2	28	16-112	
2,4,6-Tribromophenol (S)	%			76	39-120	
2-Fluorobiphenyl (S)	%			70	39-120	
2-Fluorophenol (S)	%			38	17-120	
Nitrobenzene-d5 (S)	%			65	33-120	
Phenol-d6 (S)	%			25	11-120	
Terphenyl-d14 (S)	%			71	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

MATRIX SPIKE SAMPLE: 1344905

Parameter	Units	60164725001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3630	73	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4580	92	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4100	82	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6920	5000	11500	92	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	2380J	48	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3510	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	2230	22	11-120	
Hexachloroethane	ug/L	ND	5000	3520	70	40-113	
Naphthalene	ug/L	2640	5000	7350	94	45-120	
Nitrobenzene	ug/L	ND	5000	7590	152	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4730	95	43-135	
Phenol	ug/L	9340	5000	12600	66	13-112	
2,4,6-Tribromophenol (S)	%				95	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				51	17-120	
Nitrobenzene-d5 (S)	%				156	33-120	S0
Phenol-d6 (S)	%				45	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: WET/46711 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164725001

METHOD BLANK: 1345257 | Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/17/14 15:53	

LABORATORY CONTROL SAMPLE: 1345258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.9	95	78-114	

MATRIX SPIKE SAMPLE: 1345259

Parameter	Units	60164275002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	93.1	42.1	121	67	78-114	M1

SAMPLE DUPLICATE: 1345260

Parameter	Units	60164725001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	678	700	3	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: WET/46737 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164725001

METHOD BLANK: 1345896 | Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/18/14 15:51	

LABORATORY CONTROL SAMPLE: 1345897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.9	100	64-132	

MATRIX SPIKE SAMPLE: 1345899

Parameter	Units	60164735001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.6	17.2	84	64-132	

SAMPLE DUPLICATE: 1345898

Parameter	Units	60164725001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.4	15.2	5	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: WET/46694
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164725001

METHOD BLANK: 1344966
Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/17/14 12:06	

SAMPLE DUPLICATE: 1344967

Parameter	Units	60164743002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	9.0	10	11	10	D6

SAMPLE DUPLICATE: 1344968

Parameter	Units	60164736002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	19.0	19.0	0	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: WET/46683
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164725001

SAMPLE DUPLICATE: 1344607

Parameter	Units	60164653001 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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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: WET/46656 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164725001

METHOD BLANK: 1343497 | Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/18/14 14:36	

LABORATORY CONTROL SAMPLE: 1343498

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	184	93	85-115	

SAMPLE DUPLICATE: 1343499

Parameter	Units	60164723001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	166	161	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: WETA/28631 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164725001

METHOD BLANK: 1345514 | Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/18/14 11:14	

LABORATORY CONTROL SAMPLE: 1345515

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

MATRIX SPIKE SAMPLE: 1345516

Parameter	Units	60164653001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	2	2.9	71	90-110	M1

MATRIX SPIKE SAMPLE: 1345517

Parameter	Units	60164733001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.1	2	4.9	90	90-110	

SAMPLE DUPLICATE: 1345518

Parameter	Units	60164802001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.72	0.71	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

QC Batch: WETA/28621 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164725001

METHOD BLANK: 1344992 | Matrix: Water
Associated Lab Samples: 60164725001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/18/14 07:49	

LABORATORY CONTROL SAMPLE: 1344993

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: 1344996

Parameter	Units	60164528004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3080	1500	4090	67	90-110	M1

SAMPLE DUPLICATE: 1344995

Parameter	Units	60164426004 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2850	3060	7	25	

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QUALIFIERS

Project: BRIDGETON LF 316-242
Pace Project No.: 60164725

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.
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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
LS	Analyte recovery in the laboratory control sample (LCS) was outside QC limits for one or more of the constituent analytes used in the calculated result.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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 316-242
Pace Project No.: 60164725

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164725001	**316-242**	EPA 200.7	MPRP/26465	EPA 200.7	ICP/20161
60164725001	**316-242**	EPA 200.7	MPRP/26450	EPA 200.7	ICP/20152
60164725001	**316-242**	EPA 245.1	MERP/8226	EPA 245.1	MERC/8181
60164725001	**316-242**	EPA 245.1	MERP/8225	EPA 245.1	MERC/8180
60164725001	**316-242**	EPA 625	OEXT/43183	EPA 625	MSSV/13758
60164725001	**316-242**	EPA 624 Low	MSV/60172		
60164725002	**TRIP BLANK**	EPA 624 Low	MSV/60083		
60164725001	**316-242**	EPA 1664A	WET/46711		
60164725001	**316-242**	EPA 1664A	WET/46737		
60164725001	**316-242**	SM 2540D	WET/46694		
60164725001	**316-242**	SM 4500-H+B	WET/46683		
60164725001	**316-242**	SM 5210B	WET/46656	SM 5210B	WET/46741
60164725001	**316-242**	EPA 350.1	WETA/28631		
60164725001	**316-242**	EPA 410.4	WETA/28621		

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Sample Condition Upon Receipt

WO#: 60164725

60164725

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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 ☑ zplk

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

Cooler Temperature: 4.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 3/13/14

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: Includes date/time/ID/analyses Matrix: WT	☑Yes	☐No	☐N/A	13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	Added 25 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 12514
Trip Blank present: Pace Trip Blank lot # (if purchased): 071513-3	☑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: 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: 3/13/14

F-KS-C-003-Rev.7, 04December2012

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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.	PO 3727110	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 #:	6787 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 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)	60164725
1	316-242 2AG4U 1BP3U 3AG3S	OT	G	3-12-14	1045	3-12-14	1100	1BP3N	14 (4.0)	10	4	1	0	~~1BP3S~~	~~1BP3S~~	~~1BP3S~~	1BP3S	2.0 X	X	X	X	X	X	X	X	X	X	X	~~1BP3N~~	2BP2U 5DG4U 001
2	TRIP BLANK								2	2							PV 3/13/14									X			PV 3/13/14	2DG4U 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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Paul Liviscott/FEI	03/12/14	2:43pm	Benjamin Garth	03/12/14	2:43pm				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	3/13/14	0030	4.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: [signature] DATE Signed: 3-12-14

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March 21, 2014

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

RE: Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

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 316-243R1
Pace Project No.: 60164852

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164852001	**316-243R1**	Water	03/13/14 11:00	03/14/14 01:20
60164852002	**TRIP BLANK**	Water	03/13/14 11:00	03/14/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164852001	**316-243R1**	EPA 200.7	TDS	15
		EPA 200.7	SMW	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	DJR	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164852002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

Sample: 316-243R1 **Lab ID: 60164852001** Collected: 03/13/14 11:00 Received: 03/14/14 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	**8820**	ug/L	750	2	03/17/14 14:00	03/19/14 17:36	7429-90-5	
Antimony	ND	ug/L	50.0	1	03/17/14 14:00	03/19/14 16:48	7440-36-0	
Arsenic	**770**	ug/L	50.0	1	03/17/14 14:00	03/19/14 16:48	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/17/14 14:00	03/19/14 16:48	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/17/14 14:00	03/19/14 16:48	7440-43-9	
Chromium	**183**	ug/L	25.0	1	03/17/14 14:00	03/19/14 16:48	7440-47-3	
Cobalt	**30.0**	ug/L	25.0	1	03/17/14 14:00	03/19/14 16:48	7440-48-4	
Copper	ND	ug/L	50.0	1	03/17/14 14:00	03/19/14 16:48	7440-50-8	
Iron	**650000**	ug/L	250	1	03/17/14 14:00	03/19/14 16:48	7439-89-6	
Lead	**96.3**	ug/L	25.0	1	03/17/14 14:00	03/19/14 16:48	7439-92-1	
Nickel	**81.9**	ug/L	25.0	1	03/17/14 14:00	03/19/14 16:48	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/17/14 14:00	03/19/14 16:48	7782-49-2	
Silver	ND	ug/L	35.0	1	03/17/14 14:00	03/19/14 16:48	7440-22-4	
Thallium	ND	ug/L	100	1	03/17/14 14:00	03/19/14 16:48	7440-28-0	
Zinc	**3870**	ug/L	500	2	03/17/14 14:00	03/19/14 17:36	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**964**	ug/L	375	1	03/14/14 15:45	03/18/14 17:49	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	03/14/14 15:45	03/18/14 17:49	7440-36-0	
Arsenic, Dissolved	**585**	ug/L	50.0	1	03/14/14 15:45	03/18/14 17:49	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/14/14 15:45	03/18/14 17:49	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/14/14 15:45	03/18/14 17:49	7440-43-9	
Chromium, Dissolved	**125**	ug/L	25.0	1	03/14/14 15:45	03/18/14 17:49	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	03/14/14 15:45	03/18/14 17:49	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/14/14 15:45	03/18/14 17:49	7440-50-8	
Iron, Dissolved	**358000**	ug/L	250	1	03/14/14 15:45	03/18/14 17:49	7439-89-6	M1,R1
Lead, Dissolved	**60.0**	ug/L	25.0	1	03/14/14 15:45	03/18/14 17:49	7439-92-1	
Nickel, Dissolved	**58.2**	ug/L	25.0	1	03/14/14 15:45	03/18/14 17:49	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/14/14 15:45	03/18/14 17:49	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/14/14 15:45	03/18/14 17:49	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/14/14 15:45	03/18/14 17:49	7440-28-0	
Zinc, Dissolved	**2840**	ug/L	250	1	03/14/14 15:45	03/18/14 17:49	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**21.6**	ug/L	6.0	1	03/19/14 16:30	03/20/14 10:20	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	03/19/14 16:30	03/20/14 09:48	7439-97-6	M1,R1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/17/14 00:00	03/18/14 13:50	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/17/14 00:00	03/18/14 13:50	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**8690**	ug/L	4000	2	03/17/14 00:00	03/18/14 13:50		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

Sample: 316-243R1 **Lab ID: 60164852001** Collected: 03/13/14 11:00 Received: 03/14/14 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	**5950**	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	87-86-5	
Phenol	**10900**	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 13:50	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	138	%	33-120	2	03/17/14 00:00	03/18/14 13:50	4165-60-0	S0
2-Fluorobiphenyl (S)	71	%	39-120	2	03/17/14 00:00	03/18/14 13:50	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	2	03/17/14 00:00	03/18/14 13:50	1718-51-0	
Phenol-d6 (S)	38	%	11-120	2	03/17/14 00:00	03/18/14 13:50	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	03/17/14 00:00	03/18/14 13:50	367-12-4	
2,4,6-Tribromophenol (S)	77	%	39-120	2	03/17/14 00:00	03/18/14 13:50	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**172000**	ug/L	2000	200		03/17/14 17:28	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/17/14 17:28	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/17/14 17:28	75-27-4	
Bromoform	ND	ug/L	200	200		03/17/14 17:28	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/17/14 17:28	74-83-9	
2-Butanone (MEK)	**85900**	ug/L	2000	200		03/17/14 17:28	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/17/14 17:28	56-23-5	
Chloroethane	ND	ug/L	200	200		03/17/14 17:28	75-00-3	
Chloroform	ND	ug/L	200	200		03/17/14 17:28	67-66-3	
1,4-Dichlorobenzene	**1100**	ug/L	200	200		03/17/14 17:28	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/17/14 17:28	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/17/14 17:28	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/17/14 17:28	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/17/14 17:28	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/17/14 17:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2730**	ug/L	2000	200		03/17/14 17:28	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/17/14 17:28	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/17/14 17:28	127-18-4	
Toluene	ND	ug/L	200	200		03/17/14 17:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/17/14 17:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/17/14 17:28	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/17/14 17:28	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/17/14 17:28	75-01-4	
Xylene (Total)	**764**	ug/L	600	200		03/17/14 17:28	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	200		03/17/14 17:28	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		03/17/14 17:28	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	200		03/17/14 17:28	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/17/14 17:28		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**99.2**	mg/L	5.0	1		03/17/14 16:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

Sample: 316-243R1 **Lab ID: 60164852001** Collected: 03/13/14 11:00 Received: 03/14/14 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		03/18/14 15:55		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4000**	mg/L	5.0	1		03/19/14 14:00		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		03/15/14 10:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**18500**	mg/L	2.0	1	03/14/14 17:10	03/19/14 16:19		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**675**	mg/L	20.0	200		03/18/14 11:36	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**70500**	mg/L	5000	500		03/20/14 10:12		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

Sample: TRIP BLANK **Lab ID: 60164852002** Collected: 03/13/14 11:00 Received: 03/14/14 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		03/17/14 13:36	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/17/14 13:36	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/17/14 13:36	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/17/14 13:36	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/17/14 13:36	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/17/14 13:36	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/17/14 13:36	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/17/14 13:36	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/17/14 13:36	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/17/14 13:36	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/17/14 13:36	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 13:36	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 13:36	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/17/14 13:36	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/17/14 13:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/17/14 13:36	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/17/14 13:36	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/17/14 13:36	127-18-4	
Toluene	ND	ug/L	1.0	1		03/17/14 13:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/17/14 13:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/17/14 13:36	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/17/14 13:36	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/17/14 13:36	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/17/14 13:36	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		03/17/14 13:36	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		03/17/14 13:36	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		03/17/14 13:36	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/17/14 13:36		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: MERP/8239 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164852001

METHOD BLANK: 1346694 | Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/20/14 11:13	

LABORATORY CONTROL SAMPLE: 1346695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.3	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346698 1346699

Parameter	Units	60164790001 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	3.4	3.8	67	76	70-130	12	20	M1

MATRIX SPIKE SAMPLE: 1346700

Parameter	Units	60164854002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.2	84	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: MERP/8238
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164852001

METHOD BLANK: 1346679
Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/20/14 09:44	

LABORATORY CONTROL SAMPLE: 1346680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346681 1346682

Parameter	Units	60164852001 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	74.7	94.2	50	63	70-130	23	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: MPRP/26492 | Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 | Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164852001

METHOD BLANK: 1345139 | Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/19/14 16:37	
Antimony	ug/L	ND	10.0	03/19/14 16:37	
Arsenic	ug/L	ND	10.0	03/19/14 16:37	
Beryllium	ug/L	ND	1.0	03/19/14 16:37	
Cadmium	ug/L	ND	5.0	03/19/14 16:37	
Chromium	ug/L	ND	5.0	03/19/14 16:37	
Cobalt	ug/L	ND	5.0	03/19/14 16:37	
Copper	ug/L	ND	10.0	03/19/14 16:37	
Iron	ug/L	ND	50.0	03/19/14 16:37	
Lead	ug/L	ND	5.0	03/19/14 16:37	
Nickel	ug/L	ND	5.0	03/19/14 16:37	
Selenium	ug/L	ND	15.0	03/19/14 16:37	
Silver	ug/L	ND	7.0	03/19/14 16:37	
Thallium	ug/L	ND	20.0	03/19/14 16:37	
Zinc	ug/L	ND	50.0	03/19/14 16:37	

LABORATORY CONTROL SAMPLE: 1345140

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	988	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1000	100	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	999	100	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	1000	100	85-115	
Silver	ug/L	500	487	97	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345141 1345142

Parameter	Units	60164501002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	10100	100	101	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345141 1345142

Parameter	Units	60164501002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1010	1020	101	102	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	1000	1010	100	101	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	1020	1030	101	103	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1010	1020	101	102	70-130	1	10	
Chromium	ug/L	ND	1000	1000	1000	1020	100	102	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	1000	1020	100	101	70-130	1	6	
Copper	ug/L	ND	1000	1000	1010	1020	100	102	70-130	1	11	
Iron	ug/L	70.6	10000	10000	10100	10200	100	101	70-130	1	10	
Lead	ug/L	ND	1000	1000	1010	1020	100	101	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1010	1020	101	102	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Silver	ug/L	ND	500	500	490	499	98	100	70-130	2	10	
Thallium	ug/L	ND	1000	1000	981	975	98	97	70-130	1	6	
Zinc	ug/L	92.1	1000	1000	1100	1110	101	102	70-130	0	11	

MATRIX SPIKE SAMPLE: 1345143

Parameter	Units	60164855002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	235	10000	10300	101	70-130	
Antimony	ug/L	ND	1000	1000	100	70-130	
Arsenic	ug/L	ND	1000	1000	100	70-130	
Beryllium	ug/L	ND	1000	1020	102	70-130	
Cadmium	ug/L	ND	1000	1020	102	70-130	
Chromium	ug/L	ND	1000	1010	101	70-130	
Cobalt	ug/L	ND	1000	1020	102	70-130	
Copper	ug/L	0.10 mg/L	1000	1130	103	70-130	
Iron	ug/L	838	10000	10200	94	70-130	
Lead	ug/L	0.0078 mg/L	1000	1020	101	70-130	
Nickel	ug/L	0.021 mg/L	1000	1040	102	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	494	99	70-130	
Thallium	ug/L	ND	1000	987	99	70-130	
Zinc	ug/L	0.22 mg/L	1000	1220	101	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: MPRP/26482
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164852001

METHOD BLANK: 1344173
Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/18/14 17:46	
Antimony, Dissolved	ug/L	ND	10.0	03/18/14 17:46	
Arsenic, Dissolved	ug/L	ND	10.0	03/18/14 17:46	
Beryllium, Dissolved	ug/L	ND	1.0	03/18/14 17:46	
Cadmium, Dissolved	ug/L	ND	5.0	03/18/14 17:46	
Chromium, Dissolved	ug/L	ND	5.0	03/18/14 17:46	
Cobalt, Dissolved	ug/L	ND	5.0	03/18/14 17:46	
Copper, Dissolved	ug/L	ND	10.0	03/18/14 17:46	
Iron, Dissolved	ug/L	ND	50.0	03/18/14 17:46	
Lead, Dissolved	ug/L	ND	5.0	03/18/14 17:46	
Nickel, Dissolved	ug/L	ND	5.0	03/18/14 17:46	
Selenium, Dissolved	ug/L	ND	15.0	03/18/14 17:46	
Silver, Dissolved	ug/L	ND	7.0	03/18/14 17:46	
Thallium, Dissolved	ug/L	ND	20.0	03/18/14 17:46	
Zinc, Dissolved	ug/L	ND	50.0	03/18/14 17:46	

LABORATORY CONTROL SAMPLE: 1344174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	995	99	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1050	105	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	10300	103	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	507	101	85-115	
Thallium, Dissolved	ug/L	1000	1060	106	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1344175 1344176

Parameter	Units	60164852001 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	964	50000	50000	53800	53000	106	104	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1344175 1344176

Parameter	Units	60164852001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5260	5180	105	103	70-130	2	7	
Arsenic, Dissolved	ug/L	585	5000	5000	5760	5860	104	105	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5000	4900	100	98	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5200	104	104	70-130	0	10	
Chromium, Dissolved	ug/L	125	5000	5000	5240	5150	102	100	70-130	2	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4990	4920	99	98	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5360	5300	107	106	70-130	1	11	
Iron, Dissolved	ug/L	358000	50000	50000	298000	357000	-118	-2	70-130	18	10	M1,R1
Lead, Dissolved	ug/L	60.0	5000	5000	4880	4800	96	95	70-130	2	10	
Nickel, Dissolved	ug/L	58.2	5000	5000	4910	4890	97	97	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5650	5680	113	113	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2620	2610	105	104	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4620	4490	92	90	70-130	3	6	
Zinc, Dissolved	ug/L	2840	5000	5000	6750	7240	78	88	70-130	7	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: MSV/60083 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164852001, 60164852002

METHOD BLANK: 1345097 | Matrix: Water
Associated Lab Samples: 60164852001, 60164852002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/17/14 12:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,2-Dichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/17/14 12:03	
2-Butanone (MEK)	ug/L	ND	10.0	03/17/14 12:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/17/14 12:03	N2
Acetone	ug/L	ND	10.0	03/17/14 12:03	N2
Benzene	ug/L	ND	1.0	03/17/14 12:03	
Bromodichloromethane	ug/L	ND	1.0	03/17/14 12:03	
Bromoform	ug/L	ND	1.0	03/17/14 12:03	
Bromomethane	ug/L	ND	5.0	03/17/14 12:03	
Carbon tetrachloride	ug/L	ND	1.0	03/17/14 12:03	
Chloroethane	ug/L	ND	1.0	03/17/14 12:03	
Chloroform	ug/L	ND	1.0	03/17/14 12:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	N2
Ethylbenzene	ug/L	ND	1.0	03/17/14 12:03	
Methylene chloride	ug/L	ND	1.0	03/17/14 12:03	
Tetrachloroethene	ug/L	ND	1.0	03/17/14 12:03	
Toluene	ug/L	ND	1.0	03/17/14 12:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Trichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Vinyl chloride	ug/L	ND	1.0	03/17/14 12:03	
Xylene (Total)	ug/L	ND	3.0	03/17/14 12:03	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/17/14 12:03	
4-Bromofluorobenzene (S)	%	99	80-120	03/17/14 12:03	
Toluene-d8 (S)	%	100	80-120	03/17/14 12:03	

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	21.4	107	70-126	
1,4-Dichlorobenzene	ug/L	20	19.2	96	74-120	
2-Butanone (MEK)	ug/L	100	150	150	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	59-131	N2
Acetone	ug/L	100	209	209	38-134	L0,N2
Benzene	ug/L	20	21.4	107	75-120	
Bromodichloromethane	ug/L	20	21.7	109	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.9	99	65-127	
Bromomethane	ug/L	20	20.5	103	13-157	
Carbon tetrachloride	ug/L	20	21.5	108	70-131	
Chloroethane	ug/L	20	20.3	101	47-133	
Chloroform	ug/L	20	21.5	108	65-127	
cis-1,2-Dichloroethene	ug/L	20	23.1	115	68-127	N2
Ethylbenzene	ug/L	20	21.6	108	74-122	
Methylene chloride	ug/L	20	21.9	110	64-129	
Tetrachloroethene	ug/L	20	20.8	104	73-125	
Toluene	ug/L	20	21.5	108	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	66-129	
Trichloroethene	ug/L	20	21.6	108	71-123	
Vinyl chloride	ug/L	20	20.4	102	43-129	
Xylene (Total)	ug/L	60	65.1	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4170	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3530	88	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3730	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3950	99	49-144	
1,4-Dichlorobenzene	ug/L	767	4000	4190	86	33-140	
2-Butanone (MEK)	ug/L	89900	20000	107000	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	3060	20000	24100	105	40-160	N2
Acetone	ug/L	234000	20000	224000	94	10-160	N2
Benzene	ug/L	ND	4000	3920	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4090	102	35-142	
Bromoform	ug/L	ND	4000	3710	93	45-142	
Bromomethane	ug/L	ND	4000	3770	94	10-158	
Carbon tetrachloride	ug/L	ND	4000	4410	110	70-140	
Chloroethane	ug/L	ND	4000	3980	99	19-152	
Chloroform	ug/L	ND	4000	3840	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4180	105	34-147	N2
Ethylbenzene	ug/L	ND	4000	4140	101	40-142	
Methylene chloride	ug/L	ND	4000	3810	95	31-144	
Tetrachloroethene	ug/L	ND	4000	3920	98	64-148	
Toluene	ug/L	ND	4000	4090	102	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4130	103	54-151	
Trichloroethene	ug/L	ND	4000	4260	107	71-149	
Vinyl chloride	ug/L	ND	4000	4370	109	22-146	
Xylene (Total)	ug/L	ND	12000	12400	103	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				102	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: OEXT/43183
Analysis Method: EPA 625
QC Batch Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60164852001

METHOD BLANK: 1344903
Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/18/14 09:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/18/14 09:57	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/18/14 09:57	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/18/14 09:57	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/18/14 09:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/18/14 09:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/18/14 09:57	
Hexachloroethane	ug/L	ND	5.0	03/18/14 09:57	
Naphthalene	ug/L	ND	5.0	03/18/14 09:57	
Nitrobenzene	ug/L	ND	5.0	03/18/14 09:57	
Pentachlorophenol	ug/L	ND	5.0	03/18/14 09:57	
Phenol	ug/L	ND	5.0	03/18/14 09:57	
2,4,6-Tribromophenol (S)	%	86	39-120	03/18/14 09:57	
2-Fluorobiphenyl (S)	%	75	39-120	03/18/14 09:57	
2-Fluorophenol (S)	%	42	17-120	03/18/14 09:57	
Nitrobenzene-d5 (S)	%	67	33-120	03/18/14 09:57	
Phenol-d6 (S)	%	26	11-120	03/18/14 09:57	
Terphenyl-d14 (S)	%	80	45-120	03/18/14 09:57	

LABORATORY CONTROL SAMPLE: 1344904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.6	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.8	72	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.6	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.7	53	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	38.3	77	40-133	
Hexachloro-1,3-butadiene	ug/L	50	32.1	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	51.1	51	24-120	
Hexachloroethane	ug/L	50	29.1	58	43-113	
Naphthalene	ug/L	50	34.6	69	48-120	
Nitrobenzene	ug/L	50	32.5	65	48-120	
Pentachlorophenol	ug/L	50	34.9	70	47-120	
Phenol	ug/L	50	14.2	28	16-112	
2,4,6-Tribromophenol (S)	%			76	39-120	
2-Fluorobiphenyl (S)	%			70	39-120	
2-Fluorophenol (S)	%			38	17-120	
Nitrobenzene-d5 (S)	%			65	33-120	
Phenol-d6 (S)	%			25	11-120	
Terphenyl-d14 (S)	%			71	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

MATRIX SPIKE SAMPLE: 1344905

Parameter	Units	60164725001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3630	73	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4580	92	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4100	82	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6920	5000	11500	92	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	2380J	48	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3510	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	2230	22	11-120	
Hexachloroethane	ug/L	ND	5000	3520	70	40-113	
Naphthalene	ug/L	2640	5000	7350	94	45-120	
Nitrobenzene	ug/L	ND	5000	7590	152	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4730	95	43-135	
Phenol	ug/L	9340	5000	12600	66	13-112	
2,4,6-Tribromophenol (S)	%				95	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				51	17-120	
Nitrobenzene-d5 (S)	%				156	33-120	S0
Phenol-d6 (S)	%				45	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: WET/46712 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164852001

METHOD BLANK: 1345261 | Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/17/14 15:58	

LABORATORY CONTROL SAMPLE: 1345262

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.7	99	78-114	

MATRIX SPIKE SAMPLE: 1345263

Parameter	Units	60164735001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	51.5	41.2	89.5	92	78-114	

SAMPLE DUPLICATE: 1345264

Parameter	Units	60164736001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	14.5	11.9	20	18	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: WET/46737 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164852001

METHOD BLANK: 1345896 | Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/18/14 15:51	

LABORATORY CONTROL SAMPLE: 1345897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.9	100	64-132	

MATRIX SPIKE SAMPLE: 1345899

Parameter	Units	60164735001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.6	17.2	84	64-132	

SAMPLE DUPLICATE: 1345898

Parameter	Units	60164725001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.4	15.2	5	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: WET/46717
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164852001

METHOD BLANK: 1345450
Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/19/14 14:00	

SAMPLE DUPLICATE: 1345451

Parameter	Units	60164852001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4000	3800	5	10	

SAMPLE DUPLICATE: 1345452

Parameter	Units	60164840002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	11.0	12.0	9	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: WET/46685
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164852001

SAMPLE DUPLICATE: 1344626

Parameter	Units	60164700001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: WET/46679 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164852001

METHOD BLANK: 1344343 | Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/19/14 15:47	

LABORATORY CONTROL SAMPLE: 1344344

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	172	87	85-115	

SAMPLE DUPLICATE: 1344345

Parameter	Units	60164914002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	93.4	92.6	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: WETA/28631 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164852001

METHOD BLANK: 1345514 | Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/18/14 11:14	

LABORATORY CONTROL SAMPLE: 1345515

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

MATRIX SPIKE SAMPLE: 1345516

Parameter	Units	60164653001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	2	2.9	71	90-110	M1

MATRIX SPIKE SAMPLE: 1345517

Parameter	Units	60164733001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.1	2	4.9	90	90-110	

SAMPLE DUPLICATE: 1345518

Parameter	Units	60164802001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.72	0.71	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

QC Batch: WETA/28656 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164852001

METHOD BLANK: 1346082 | Matrix: Water
Associated Lab Samples: 60164852001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/20/14 09:49	

LABORATORY CONTROL SAMPLE: 1346083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.4	93	90-110	

MATRIX SPIKE SAMPLE: 1346084

Parameter	Units	60164735002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	315	250	525	84	90-110	M1

MATRIX SPIKE SAMPLE: 1346086

Parameter	Units	60164775001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	470	500	969	100	90-110	

SAMPLE DUPLICATE: 1346085

Parameter	Units	60164415001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	258	278	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-243R1
Pace Project No.: 60164852

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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
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 316-243R1
Pace Project No.: 60164852

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164852001	**316-243R1**	EPA 200.7	MPRP/26492	EPA 200.7	ICP/20175
60164852001	**316-243R1**	EPA 200.7	MPRP/26482	EPA 200.7	ICP/20169
60164852001	**316-243R1**	EPA 245.1	MERP/8239	EPA 245.1	MERC/8194
60164852001	**316-243R1**	EPA 245.1	MERP/8238	EPA 245.1	MERC/8193
60164852001	**316-243R1**	EPA 625	OEXT/43183	EPA 625	MSSV/13758
60164852001	**316-243R1**	EPA 624 Low	MSV/60083		
60164852002	**TRIP BLANK**	EPA 624 Low	MSV/60083		
60164852001	**316-243R1**	EPA 1664A	WET/46712		
60164852001	**316-243R1**	EPA 1664A	WET/46737		
60164852001	**316-243R1**	SM 2540D	WET/46717		
60164852001	**316-243R1**	SM 4500-H+B	WET/46685		
60164852001	**316-243R1**	SM 5210B	WET/46679	SM 5210B	WET/46782
60164852001	**316-243R1**	EPA 350.1	WETA/28631		
60164852001	**316-243R1**	EPA 410.4	WETA/28656		

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Sample Condition Upon Receipt

WO#: 60164852

60164852

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 (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: PV 3/14/14

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: 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 4.0/5.0
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	PV 3/14/14	Initial when completed PV Lot # of added preservative 12513 12522
Trip Blank present: Pace Trip Blank lot # (if purchased): 071513-3	☑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: 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: 3/14/14

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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:

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.	PO 3727110
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 #:	6787 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

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)	60164852
1	316 ~~[illegible]~~ 243 R1 2A6446 1B836 3A6635	OT	G	3-13-14	1045	3-13-14	1100		14	10	4	1	0	1B835		8.0			X	X	X	X	X	X	X	X	X	X	1B835	4.0	2B826 5D646
2	TRIP BLANK								2	2																X					2D694
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

Residual Chlorine (Y/N): 60164852

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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Paul Linstedt/FEI	03-13-14	2:23pm	[illegible]	03-13-14	2:23pm				
SITE ADDRESS: BRIDGETON LF				[illegible]	3/14/14	0120	2.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Kyle Kramer

SIGNATURE of SAMPLER: Kyle Kramer

DATE Signed: 3-13-14

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March 21, 2014

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

RE: Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

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.: 60164883

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164883001	**TCLP 03-13**	Water	03/13/14 11:00	03/14/14 01:20
60164883002	**TRIP BLANK**	Water	03/13/14 11:00	03/14/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164883001	**TCLP 03-13**	EPA 8260	RAB	13
		EPA 5030B/8260	PRG	28
		EPA 1664A	DJR	1
		SM 2540B	JMC1	1
60164883002	**TRIP BLANK**	EPA 5030B/8260	PRG	28

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

Sample: TCLP 03-13 **Lab ID: 60164883001** Collected: 03/13/14 11:00 Received: 03/14/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/19/14 00:00								
Benzene	**3650**	ug/L	500	500	10		03/19/14 17:08	71-43-2	
2-Butanone (MEK)	**92400**	ug/L	10000	200000	10		03/19/14 17:08	78-93-3	
Carbon tetrachloride	ND	ug/L	500	500	10		03/19/14 17:08	56-23-5	
Chlorobenzene	ND	ug/L	500	100000	10		03/19/14 17:08	108-90-7	
Chloroform	ND	ug/L	2000	6000	10		03/19/14 17:08	67-66-3	
1,2-Dichloroethane	ND	ug/L	500	500	10		03/19/14 17:08	107-06-2	
1,1-Dichloroethene	ND	ug/L	500	700	10		03/19/14 17:08	75-35-4	
Tetrachloroethene	ND	ug/L	500	700	10		03/19/14 17:08	127-18-4	
Trichloroethene	ND	ug/L	500	500	10		03/19/14 17:08	79-01-6	
Vinyl chloride	ND	ug/L	200	200	10		03/19/14 17:08	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	80-120		10		03/19/14 17:08	17060-07-0	
Toluene-d8 (S)	104	%	80-120		10		03/19/14 17:08	2037-26-5	
4-Bromofluorobenzene (S)	102	%	80-120		10		03/19/14 17:08	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260								
Acetone	**184000**	ug/L	2500		250		03/18/14 13:04	67-64-1	L1
Benzene	**6500**	ug/L	250		250		03/18/14 13:04	71-43-2	
Bromodichloromethane	ND	ug/L	250		250		03/18/14 13:04	75-27-4	
Bromoform	ND	ug/L	250		250		03/18/14 13:04	75-25-2	
Bromomethane	ND	ug/L	1250		250		03/18/14 13:04	74-83-9	
2-Butanone (MEK)	**79700**	ug/L	2500		250		03/19/14 16:08	78-93-3	
Carbon tetrachloride	ND	ug/L	250		250		03/18/14 13:04	56-23-5	
Chloroethane	ND	ug/L	250		250		03/18/14 13:04	75-00-3	
Chloroform	ND	ug/L	250		250		03/18/14 13:04	67-66-3	
1,4-Dichlorobenzene	**4620**	ug/L	250		250		03/18/14 13:04	106-46-7	
1,2-Dichloroethane	ND	ug/L	250		250		03/18/14 13:04	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250		250		03/19/14 16:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	250		250		03/18/14 13:04	156-60-5	
Ethylbenzene	**2570**	ug/L	250		250		03/18/14 13:04	100-41-4	
Methylene chloride	ND	ug/L	250		250		03/18/14 13:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	**7670**	ug/L	2500		250		03/18/14 13:04	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	250		250		03/18/14 13:04	79-34-5	
Tetrachloroethene	ND	ug/L	250		250		03/18/14 13:04	127-18-4	
Toluene	**2380**	ug/L	250		250		03/18/14 13:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250		250		03/18/14 13:04	71-55-6	
1,1,2-Trichloroethane	**1620**	ug/L	250		250		03/18/14 13:04	79-00-5	
Trichloroethene	ND	ug/L	250		250		03/19/14 16:08	79-01-6	
Vinyl chloride	ND	ug/L	250		250		03/18/14 13:04	75-01-4	
Xylene (Total)	**7990**	ug/L	750		250		03/18/14 13:04	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	98	%	80-120		250		03/18/14 13:04	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	80-120		250		03/18/14 13:04	17060-07-0	
Toluene-d8 (S)	97	%	80-120		250		03/18/14 13:04	2037-26-5	
Preservation pH	**6.0**		0.10		250		03/18/14 13:04		pH

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

Sample: TCLP 03-13 **Lab ID: 60164883001** Collected: 03/13/14 11:00 Received: 03/14/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
HEM, Oil and Grease	Analytical Method: EPA 1664A								
Oil and Grease	**2780**	mg/L	5.0		1		03/20/14 11:01		
2540B Total Solids	Analytical Method: SM 2540B								
Total Solids	**56000**	mg/L	5.0		1		03/20/14 16:11		

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

Sample: TRIP BLANK **Lab ID: 60164883002** Collected: 03/13/14 11:00 Received: 03/14/14 01:20 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		03/18/14 10:27	67-64-1	L1
Benzene	ND	ug/L	1.0		1		03/18/14 10:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0		1		03/18/14 10:27	75-27-4	
Bromoform	ND	ug/L	1.0		1		03/18/14 10:27	75-25-2	
Bromomethane	ND	ug/L	5.0		1		03/18/14 10:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0		1		03/18/14 10:27	78-93-3	L3
Carbon tetrachloride	ND	ug/L	1.0		1		03/18/14 10:27	56-23-5	
Chloroethane	ND	ug/L	1.0		1		03/18/14 10:27	75-00-3	
Chloroform	ND	ug/L	1.0		1		03/18/14 10:27	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0		1		03/18/14 10:27	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0		1		03/18/14 10:27	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0		1		03/18/14 10:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0		1		03/18/14 10:27	156-60-5	
Ethylbenzene	ND	ug/L	1.0		1		03/18/14 10:27	100-41-4	
Methylene chloride	ND	ug/L	1.0		1		03/18/14 10:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0		1		03/18/14 10:27	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1		03/18/14 10:27	79-34-5	
Tetrachloroethene	ND	ug/L	1.0		1		03/18/14 10:27	127-18-4	
Toluene	ND	ug/L	1.0		1		03/18/14 10:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0		1		03/18/14 10:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0		1		03/18/14 10:27	79-00-5	
Trichloroethene	ND	ug/L	1.0		1		03/18/14 10:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0		1		03/18/14 10:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0		1		03/18/14 10:27	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	104	%	80-120		1		03/18/14 10:27	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	80-120		1		03/18/14 10:27	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		03/18/14 10:27	2037-26-5	
Preservation pH	**1.0**		0.10		1		03/18/14 10:27		

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

QC Batch: MSV/60153 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60164883001

METHOD BLANK: 1346453 | Matrix: Water
Associated Lab Samples: 60164883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	03/19/14 16:06	
1,2-Dichloroethane	ug/L	ND	50.0	03/19/14 16:06	
2-Butanone (MEK)	ug/L	ND	1000	03/19/14 16:06	
Benzene	ug/L	ND	50.0	03/19/14 16:06	
Carbon tetrachloride	ug/L	ND	50.0	03/19/14 16:06	
Chlorobenzene	ug/L	ND	50.0	03/19/14 16:06	
Chloroform	ug/L	ND	200	03/19/14 16:06	
Tetrachloroethene	ug/L	ND	50.0	03/19/14 16:06	
Trichloroethene	ug/L	ND	50.0	03/19/14 16:06	
Vinyl chloride	ug/L	ND	20.0	03/19/14 16:06	
1,2-Dichloroethane-d4 (S)	%	98	80-120	03/19/14 16:06	
4-Bromofluorobenzene (S)	%	99	80-120	03/19/14 16:06	
Toluene-d8 (S)	%	99	80-120	03/19/14 16:06	

LABORATORY CONTROL SAMPLE: 1346454

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	992	99	78-126	
1,2-Dichloroethane	ug/L	1000	1050	105	77-123	
2-Butanone (MEK)	ug/L	5000	6320	126	52-145	
Benzene	ug/L	1000	985	98	80-120	
Carbon tetrachloride	ug/L	1000	1010	101	78-128	
Chlorobenzene	ug/L	1000	1020	102	80-120	
Chloroform	ug/L	1000	1030	103	79-120	
Tetrachloroethene	ug/L	1000	976	98	80-121	
Trichloroethene	ug/L	1000	991	99	80-120	
Vinyl chloride	ug/L	1000	1140	114	59-120	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1346455

Parameter	Units	60164444009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	1040	104	60-144	
1,2-Dichloroethane	ug/L	ND	1000	1110	111	49-148	
2-Butanone (MEK)	ug/L	ND	5000	5420	107	36-145	
Benzene	ug/L	ND	1000	984	98	37-157	
Carbon tetrachloride	ug/L	ND	1000	1060	106	68-142	
Chlorobenzene	ug/L	ND	1000	1010	101	66-133	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

MATRIX SPIKE SAMPLE: 1346455

Parameter	Units	60164444009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	1000	1070	107	66-127	
Tetrachloroethene	ug/L	ND	1000	942	94	69-133	
Trichloroethene	ug/L	ND	1000	1050	105	61-135	
Vinyl chloride	ug/L	ND	1000	1140	114	44-128	
1,2-Dichloroethane-d4 (S)	%				104	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	
Toluene-d8 (S)	%				111	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

QC Batch: MSV/60108 | Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 | Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60164883001, 60164883002

METHOD BLANK: 1345614 | Matrix: Water
Associated Lab Samples: 60164883001, 60164883002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/18/14 10:12	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/18/14 10:12	
1,1,2-Trichloroethane	ug/L	ND	1.0	03/18/14 10:12	
1,2-Dichloroethane	ug/L	ND	1.0	03/18/14 10:12	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/18/14 10:12	
2-Butanone (MEK)	ug/L	ND	10.0	03/18/14 10:12	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/18/14 10:12	
Acetone	ug/L	ND	10.0	03/18/14 10:12	
Benzene	ug/L	ND	1.0	03/18/14 10:12	
Bromodichloromethane	ug/L	ND	1.0	03/18/14 10:12	
Bromoform	ug/L	ND	1.0	03/18/14 10:12	
Bromomethane	ug/L	ND	5.0	03/18/14 10:12	
Carbon tetrachloride	ug/L	ND	1.0	03/18/14 10:12	
Chloroethane	ug/L	ND	1.0	03/18/14 10:12	
Chloroform	ug/L	ND	1.0	03/18/14 10:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/18/14 10:12	
Ethylbenzene	ug/L	ND	1.0	03/18/14 10:12	
Methylene chloride	ug/L	ND	1.0	03/18/14 10:12	
Tetrachloroethene	ug/L	ND	1.0	03/18/14 10:12	
Toluene	ug/L	ND	1.0	03/18/14 10:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/18/14 10:12	
Trichloroethene	ug/L	ND	1.0	03/18/14 10:12	
Vinyl chloride	ug/L	ND	1.0	03/18/14 10:12	
Xylene (Total)	ug/L	ND	3.0	03/18/14 10:12	
1,2-Dichloroethane-d4 (S)	%	102	80-120	03/18/14 10:12	
4-Bromofluorobenzene (S)	%	103	80-120	03/18/14 10:12	
Toluene-d8 (S)	%	100	80-120	03/18/14 10:12	

LABORATORY CONTROL SAMPLE: 1345615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	80-121	
1,1,2,2-Tetrachloroethane	ug/L	20	20.5	102	73-124	
1,1,2-Trichloroethane	ug/L	20	21.0	105	80-120	
1,2-Dichloroethane	ug/L	20	20.5	103	77-123	
1,4-Dichlorobenzene	ug/L	20	18.5	92	80-120	
2-Butanone (MEK)	ug/L	100	149	149	52-145	L0
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	71-131	
Acetone	ug/L	100	221	221	32-155	L0,SS
Benzene	ug/L	20	20.3	102	80-120	
Bromodichloromethane	ug/L	20	19.8	99	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

LABORATORY CONTROL SAMPLE: 1345615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.2	96	73-124	
Bromomethane	ug/L	20	19.3	97	31-144	
Carbon tetrachloride	ug/L	20	20.3	101	78-128	
Chloroethane	ug/L	20	18.3	92	55-137	
Chloroform	ug/L	20	20.3	102	79-120	
cis-1,2-Dichloroethene	ug/L	20	20.9	104	80-120	
Ethylbenzene	ug/L	20	19.6	98	80-121	
Methylene chloride	ug/L	20	21.7	108	73-126	
Tetrachloroethene	ug/L	20	19.6	98	80-121	
Toluene	ug/L	20	19.7	98	80-122	
trans-1,2-Dichloroethene	ug/L	20	20.0	100	79-121	
Trichloroethene	ug/L	20	20.0	100	80-120	
Vinyl chloride	ug/L	20	16.6	83	59-120	
Xylene (Total)	ug/L	60	60.8	101	80-121	
1,2-Dichloroethane-d4 (S)	%			107	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			96	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

QC Batch: MSV/60146
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60164883001

METHOD BLANK: 1346388
Matrix: Water
Associated Lab Samples: 60164883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Butanone (MEK)	ug/L	ND	10.0	03/19/14 15:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/19/14 15:40	
Trichloroethene	ug/L	ND	1.0	03/19/14 15:40	
1,2-Dichloroethane-d4 (S)	%	101	80-120	03/19/14 15:40	
4-Bromofluorobenzene (S)	%	101	80-120	03/19/14 15:40	
Toluene-d8 (S)	%	98	80-120	03/19/14 15:40	

LABORATORY CONTROL SAMPLE: 1346389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Butanone (MEK)	ug/L	100	138	138	52-145	
cis-1,2-Dichloroethene	ug/L	20	21.9	110	80-120	
Trichloroethene	ug/L	20	20.2	101	80-120	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			102	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

QC Batch: WET/46775 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164883001

METHOD BLANK: 1347009 | Matrix: Water
Associated Lab Samples: 60164883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/20/14 11:01	

LABORATORY CONTROL SAMPLE: 1347010

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.8	94	78-114	

MATRIX SPIKE SAMPLE: 1347011

Parameter	Units	60164855001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	27.7	41.7	67.9	97	78-114	

SAMPLE DUPLICATE: 1348070

Parameter	Units	60164771001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	25.4	18.8	30	18	D6

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

QC Batch: WET/46772 | Analysis Method: SM 2540B
QC Batch Method: SM 2540B | Analysis Description: 2540B Total Solids
Associated Lab Samples: 60164883001

METHOD BLANK: 1346982 | Matrix: Water
Associated Lab Samples: 60164883001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	03/20/14 16:10	

LABORATORY CONTROL SAMPLE: 1346983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	966	97	80-120	

SAMPLE DUPLICATE: 1346984

Parameter	Units	60165077001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	24100	23700	2	10	

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QUALIFIERS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

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.

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TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/60108

[BF] Batch extracted by separatory funnel extraction.

Batch: MSV/60146

[BF] Batch extracted by separatory funnel extraction.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60164883

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164883001	**TCLP 03-13**	EPA 8260	MSV/60153		
60164883001	**TCLP 03-13**	EPA 5030B/8260	MSV/60108		
60164883001	**TCLP 03-13**	EPA 5030B/8260	MSV/60146		
60164883002	**TRIP BLANK**	EPA 5030B/8260	MSV/60108		
60164883001	**TCLP 03-13**	EPA 1664A	WET/46775		
60164883001	**TCLP 03-13**	SM 2540B	WET/46772		

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TCLP/SPLP Determination of Percent Solids

(Only if sample is liquid or semi-liquid. Skip if sample is obviously 100% solid.)

Date: 3/19/14 Batch: 6211

Analyst: CEM Balance ID: 6000XT3 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)
6016485300 1	102.7	237.2	277.7	1.2	103.2	406.0	3.5	128.3	134.0	4.3%	1.5	1.5	0.15%	Yes / No / NA
6016509000 1	107.8	237.2	277.9	1.2	109.1	399.7	4.6	121.8	128.1	4.9%	1.8	1.8	0.47%	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

CEM 3/19/14

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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Sample Condition Upon Receipt

WO#: 60164883

60164883

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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: 4.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/14/14

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.
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	
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: Pace Trip Blank lot # (if purchased): 020314-38PO	☑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: 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: 3/14/14

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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: of

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.:	PO 3727110	Pace Quote Reference:	
Phone:	Fax:	Project Name:	BRIDGETON UNTREATED COMMINGLED	Pace Project Manager:	Angie Brown 913-563-1402
Requested Due Date/TAT:		Project Number:		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)

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 03-13		G	03/13/14	1100														2	AG1U,	2	AG3S,	BP3U,	3	DA9H						** total VOCs Bridgeton List
2	TRIP BLANK																		✓						2	DA9H	(TB)				* footnote %dry solids TCLP
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

60164883

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)
	Paul LMscott / FEI	03-13-14	2:21 PM	Kenyett Garth	03-13-14	2:21 PM				
				E Brackett / Pace	3/14/14	0120	4.4	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 03-13-14

*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.

F-ALL-Q-020rev.08, 12-Oct-2007

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

March 24, 2014

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

RE: Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 15, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

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 316-244
Pace Project No.: 60164939

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60164939001	**316-244**	Water	03/14/14 10:45	03/15/14 00:45
60164939002	**TRIP BLANK**	Water	03/14/14 08:00	03/15/14 00:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60164939001	**316-244**	EPA 200.7	TDS	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	DJR	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60164939002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

Sample: 316-244 **Lab ID: 60164939001** Collected: 03/14/14 10:45 Received: 03/15/14 00:45 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	**6240**	ug/L	750	2	03/17/14 14:00	03/19/14 17:38	7429-90-5	
Antimony	**58.5**	ug/L	50.0	1	03/17/14 14:00	03/19/14 17:06	7440-36-0	
Arsenic	**1180**	ug/L	50.0	1	03/17/14 14:00	03/19/14 17:06	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/17/14 14:00	03/19/14 17:06	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/17/14 14:00	03/19/14 17:06	7440-43-9	
Chromium	**232**	ug/L	25.0	1	03/17/14 14:00	03/19/14 17:06	7440-47-3	
Cobalt	**39.4**	ug/L	25.0	1	03/17/14 14:00	03/19/14 17:06	7440-48-4	
Copper	ND	ug/L	50.0	1	03/17/14 14:00	03/19/14 17:06	7440-50-8	
Iron	**724000**	ug/L	250	1	03/17/14 14:00	03/19/14 17:06	7439-89-6	
Lead	**86.1**	ug/L	25.0	1	03/17/14 14:00	03/19/14 17:06	7439-92-1	
Nickel	**106**	ug/L	25.0	1	03/17/14 14:00	03/19/14 17:06	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/17/14 14:00	03/19/14 17:06	7782-49-2	
Silver	ND	ug/L	35.0	1	03/17/14 14:00	03/19/14 17:06	7440-22-4	
Thallium	ND	ug/L	100	1	03/17/14 14:00	03/19/14 17:06	7440-28-0	
Zinc	**4610**	ug/L	500	2	03/17/14 14:00	03/19/14 17:38	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1240**	ug/L	750	2	03/18/14 09:45	03/20/14 16:56	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/18/14 09:45	03/20/14 16:56	7440-36-0	D3
Arsenic, Dissolved	**671**	ug/L	50.0	1	03/18/14 09:45	03/20/14 16:53	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/18/14 09:45	03/20/14 16:53	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/18/14 09:45	03/20/14 16:53	7440-43-9	
Chromium, Dissolved	**132**	ug/L	25.0	1	03/18/14 09:45	03/20/14 16:53	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	03/18/14 09:45	03/20/14 16:53	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/18/14 09:45	03/20/14 16:53	7440-50-8	
Iron, Dissolved	**393000**	ug/L	250	1	03/18/14 09:45	03/20/14 16:53	7439-89-6	M1
Lead, Dissolved	**63.2**	ug/L	25.0	1	03/18/14 09:45	03/20/14 16:53	7439-92-1	
Nickel, Dissolved	**68.8**	ug/L	25.0	1	03/18/14 09:45	03/20/14 16:53	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/18/14 09:45	03/20/14 16:53	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/18/14 09:45	03/20/14 16:53	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/18/14 09:45	03/20/14 16:53	7440-28-0	
Zinc, Dissolved	**2880**	ug/L	500	2	03/18/14 09:45	03/20/14 16:56	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/19/14 16:30	03/20/14 10:25	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	03/19/14 16:30	03/20/14 09:58	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/17/14 00:00	03/18/14 14:12	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/17/14 00:00	03/18/14 14:12	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6390**	ug/L	4000	2	03/17/14 00:00	03/18/14 14:12		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

Sample: 316-244 **Lab ID: 60164939001** Collected: 03/14/14 10:45 Received: 03/15/14 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**2720**	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	87-86-5	
Phenol	**8390**	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/17/14 00:00	03/18/14 14:12	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	132	%	33-120	2	03/17/14 00:00	03/18/14 14:12	4165-60-0	S0
2-Fluorobiphenyl (S)	75	%	39-120	2	03/17/14 00:00	03/18/14 14:12	321-60-8	
Terphenyl-d14 (S)	81	%	45-120	2	03/17/14 00:00	03/18/14 14:12	1718-51-0	
Phenol-d6 (S)	39	%	11-120	2	03/17/14 00:00	03/18/14 14:12	13127-88-3	
2-Fluorophenol (S)	39	%	17-120	2	03/17/14 00:00	03/18/14 14:12	367-12-4	
2,4,6-Tribromophenol (S)	85	%	39-120	2	03/17/14 00:00	03/18/14 14:12	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**157000**	ug/L	2000	200		03/17/14 17:13	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/17/14 17:13	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/17/14 17:13	75-27-4	
Bromoform	ND	ug/L	200	200		03/17/14 17:13	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/17/14 17:13	74-83-9	
2-Butanone (MEK)	**78200**	ug/L	2000	200		03/17/14 17:13	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/17/14 17:13	56-23-5	
Chloroethane	ND	ug/L	200	200		03/17/14 17:13	75-00-3	
Chloroform	ND	ug/L	200	200		03/17/14 17:13	67-66-3	
1,4-Dichlorobenzene	**1420**	ug/L	200	200		03/17/14 17:13	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/17/14 17:13	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/17/14 17:13	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/17/14 17:13	156-60-5	
Ethylbenzene	**233**	ug/L	200	200		03/17/14 17:13	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/17/14 17:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2770**	ug/L	2000	200		03/17/14 17:13	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/17/14 17:13	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/17/14 17:13	127-18-4	
Toluene	ND	ug/L	200	200		03/17/14 17:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/17/14 17:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/17/14 17:13	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/17/14 17:13	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/17/14 17:13	75-01-4	
Xylene (Total)	**976**	ug/L	600	200		03/17/14 17:13	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		03/17/14 17:13	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		03/17/14 17:13	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		03/17/14 17:13	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/17/14 17:13		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1700**	mg/L	5.0	1		03/21/14 10:47		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

Sample: 316-244 **Lab ID: 60164939001** Collected: 03/14/14 10:45 Received: 03/15/14 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**14.3**	mg/L	5.0	1		03/24/14 08:30		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3760**	mg/L	5.0	1		03/20/14 08:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/15/14 10:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**37700**	mg/L	2.0	1	03/15/14 11:26	03/20/14 12:00		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**679**	mg/L	20.0	200		03/19/14 10:52	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**58800**	mg/L	5000	500		03/20/14 10:19		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

Sample: TRIP BLANK **Lab ID: 60164939002** Collected: 03/14/14 08:00 Received: 03/15/14 00:45 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		03/17/14 13:52	67-64-1	L1,N2
Benzene	ND	ug/L	1.0	1		03/17/14 13:52	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/17/14 13:52	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/17/14 13:52	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/17/14 13:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/17/14 13:52	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/17/14 13:52	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/17/14 13:52	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/17/14 13:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/17/14 13:52	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/17/14 13:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 13:52	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/17/14 13:52	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/17/14 13:52	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/17/14 13:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/17/14 13:52	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/17/14 13:52	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/17/14 13:52	127-18-4	
Toluene	ND	ug/L	1.0	1		03/17/14 13:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/17/14 13:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/17/14 13:52	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/17/14 13:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/17/14 13:52	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/17/14 13:52	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		03/17/14 13:52	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		03/17/14 13:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		03/17/14 13:52	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/17/14 13:52		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: MERP/8239
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60164939001

METHOD BLANK: 1346694
Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/20/14 11:13	

LABORATORY CONTROL SAMPLE: 1346695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.3	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346698 1346699

Parameter	Units	60164790001 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	3.4	3.8	67	76	70-130	12	20	M1

MATRIX SPIKE SAMPLE: 1346700

Parameter	Units	60164854002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.2	84	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: MERP/8238
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60164939001

METHOD BLANK: 1346679
Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/20/14 09:44	

LABORATORY CONTROL SAMPLE: 1346680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346681 1346682

Parameter	Units	60164852001 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	74.7	94.2	50	63	70-130	23	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: MPRP/26492
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60164939001

METHOD BLANK: 1345139
Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/19/14 16:37	
Antimony	ug/L	ND	10.0	03/19/14 16:37	
Arsenic	ug/L	ND	10.0	03/19/14 16:37	
Beryllium	ug/L	ND	1.0	03/19/14 16:37	
Cadmium	ug/L	ND	5.0	03/19/14 16:37	
Chromium	ug/L	ND	5.0	03/19/14 16:37	
Cobalt	ug/L	ND	5.0	03/19/14 16:37	
Copper	ug/L	ND	10.0	03/19/14 16:37	
Iron	ug/L	ND	50.0	03/19/14 16:37	
Lead	ug/L	ND	5.0	03/19/14 16:37	
Nickel	ug/L	ND	5.0	03/19/14 16:37	
Selenium	ug/L	ND	15.0	03/19/14 16:37	
Silver	ug/L	ND	7.0	03/19/14 16:37	
Thallium	ug/L	ND	20.0	03/19/14 16:37	
Zinc	ug/L	ND	50.0	03/19/14 16:37	

LABORATORY CONTROL SAMPLE: 1345140

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	988	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1000	100	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	999	100	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	1000	100	85-115	
Silver	ug/L	500	487	97	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345141 1345142

Parameter	Units	60164501002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	10100	100	101	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345141 1345142

Parameter	Units	60164501002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1010	1020	101	102	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	1000	1010	100	101	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	1020	1030	101	103	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1010	1020	101	102	70-130	1	10	
Chromium	ug/L	ND	1000	1000	1000	1020	100	102	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	1000	1020	100	101	70-130	1	6	
Copper	ug/L	ND	1000	1000	1010	1020	100	102	70-130	1	11	
Iron	ug/L	70.6	10000	10000	10100	10200	100	101	70-130	1	10	
Lead	ug/L	ND	1000	1000	1010	1020	100	101	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1010	1020	101	102	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Silver	ug/L	ND	500	500	490	499	98	100	70-130	2	10	
Thallium	ug/L	ND	1000	1000	981	975	98	97	70-130	1	6	
Zinc	ug/L	92.1	1000	1000	1100	1110	101	102	70-130	0	11	

MATRIX SPIKE SAMPLE: 1345143

Parameter	Units	60164855002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	235	10000	10300	101	70-130	
Antimony	ug/L	ND	1000	1000	100	70-130	
Arsenic	ug/L	ND	1000	1000	100	70-130	
Beryllium	ug/L	ND	1000	1020	102	70-130	
Cadmium	ug/L	ND	1000	1020	102	70-130	
Chromium	ug/L	ND	1000	1010	101	70-130	
Cobalt	ug/L	ND	1000	1020	102	70-130	
Copper	ug/L	0.10 mg/L	1000	1130	103	70-130	
Iron	ug/L	838	10000	10200	94	70-130	
Lead	ug/L	0.0078 mg/L	1000	1020	101	70-130	
Nickel	ug/L	0.021 mg/L	1000	1040	102	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	494	99	70-130	
Thallium	ug/L	ND	1000	987	99	70-130	
Zinc	ug/L	0.22 mg/L	1000	1220	101	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: MPRP/26507
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60164939001

METHOD BLANK: 1345575
Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/20/14 16:46	
Antimony, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Arsenic, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Beryllium, Dissolved	ug/L	ND	1.0	03/20/14 16:46	
Cadmium, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Chromium, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Cobalt, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Copper, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Iron, Dissolved	ug/L	ND	50.0	03/20/14 16:46	
Lead, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Nickel, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Selenium, Dissolved	ug/L	ND	15.0	03/20/14 16:46	
Silver, Dissolved	ug/L	ND	7.0	03/20/14 16:46	
Thallium, Dissolved	ug/L	ND	20.0	03/20/14 16:46	
Zinc, Dissolved	ug/L	ND	50.0	03/20/14 16:46	

LABORATORY CONTROL SAMPLE: 1345576

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1050	105	85-115	
Arsenic, Dissolved	ug/L	1000	954	95	85-115	
Beryllium, Dissolved	ug/L	1000	961	96	85-115	
Cadmium, Dissolved	ug/L	1000	972	97	85-115	
Chromium, Dissolved	ug/L	1000	968	97	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	998	100	85-115	
Iron, Dissolved	ug/L	10000	9850	99	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	1030	103	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	955	96	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345577 1345578

Parameter	Units	60164939001 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	1240	50000	50000	54600	55000	107	107	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345577 1345578

Parameter	Units	60164939001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5410	5470	107	108	70-130	1	7	
Arsenic, Dissolved	ug/L	671	5000	5000	5830	5760	103	102	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4710	4650	94	93	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5040	4980	101	99	70-130	1	10	
Chromium, Dissolved	ug/L	132	5000	5000	5000	4950	97	96	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5080	5060	101	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5200	5180	104	104	70-130	0	11	
Iron, Dissolved	ug/L	393000	50000	50000	452000	468000	119	149	70-130	3	10	M1
Lead, Dissolved	ug/L	63.2	5000	5000	4940	4920	98	97	70-130	0	10	
Nickel, Dissolved	ug/L	68.8	5000	5000	4920	4880	97	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5740	5730	114	114	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2620	2610	105	104	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4410	4320	88	86	70-130	2	6	
Zinc, Dissolved	ug/L	2880	5000	5000	8070	8230	104	107	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: MSV/60083 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60164939001, 60164939002

METHOD BLANK: 1345097 | Matrix: Water
Associated Lab Samples: 60164939001, 60164939002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/17/14 12:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,2-Dichloroethane	ug/L	ND	1.0	03/17/14 12:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/17/14 12:03	
2-Butanone (MEK)	ug/L	ND	10.0	03/17/14 12:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/17/14 12:03	N2
Acetone	ug/L	ND	10.0	03/17/14 12:03	N2
Benzene	ug/L	ND	1.0	03/17/14 12:03	
Bromodichloromethane	ug/L	ND	1.0	03/17/14 12:03	
Bromoform	ug/L	ND	1.0	03/17/14 12:03	
Bromomethane	ug/L	ND	5.0	03/17/14 12:03	
Carbon tetrachloride	ug/L	ND	1.0	03/17/14 12:03	
Chloroethane	ug/L	ND	1.0	03/17/14 12:03	
Chloroform	ug/L	ND	1.0	03/17/14 12:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	N2
Ethylbenzene	ug/L	ND	1.0	03/17/14 12:03	
Methylene chloride	ug/L	ND	1.0	03/17/14 12:03	
Tetrachloroethene	ug/L	ND	1.0	03/17/14 12:03	
Toluene	ug/L	ND	1.0	03/17/14 12:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Trichloroethene	ug/L	ND	1.0	03/17/14 12:03	
Vinyl chloride	ug/L	ND	1.0	03/17/14 12:03	
Xylene (Total)	ug/L	ND	3.0	03/17/14 12:03	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/17/14 12:03	
4-Bromofluorobenzene (S)	%	99	80-120	03/17/14 12:03	
Toluene-d8 (S)	%	100	80-120	03/17/14 12:03	

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	21.4	107	70-126	
1,4-Dichlorobenzene	ug/L	20	19.2	96	74-120	
2-Butanone (MEK)	ug/L	100	150	150	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	114	114	59-131	N2
Acetone	ug/L	100	209	209	38-134	L0,N2
Benzene	ug/L	20	21.4	107	75-120	
Bromodichloromethane	ug/L	20	21.7	109	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

LABORATORY CONTROL SAMPLE: 1345098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.9	99	65-127	
Bromomethane	ug/L	20	20.5	103	13-157	
Carbon tetrachloride	ug/L	20	21.5	108	70-131	
Chloroethane	ug/L	20	20.3	101	47-133	
Chloroform	ug/L	20	21.5	108	65-127	
cis-1,2-Dichloroethene	ug/L	20	23.1	115	68-127	N2
Ethylbenzene	ug/L	20	21.6	108	74-122	
Methylene chloride	ug/L	20	21.9	110	64-129	
Tetrachloroethene	ug/L	20	20.8	104	73-125	
Toluene	ug/L	20	21.5	108	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	66-129	
Trichloroethene	ug/L	20	21.6	108	71-123	
Vinyl chloride	ug/L	20	20.4	102	43-129	
Xylene (Total)	ug/L	60	65.1	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4170	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3530	88	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3730	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3950	99	49-144	
1,4-Dichlorobenzene	ug/L	767	4000	4190	86	33-140	
2-Butanone (MEK)	ug/L	89900	20000	107000	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	3060	20000	24100	105	40-160	N2
Acetone	ug/L	234000	20000	224000	94	10-160	N2
Benzene	ug/L	ND	4000	3920	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4090	102	35-142	
Bromoform	ug/L	ND	4000	3710	93	45-142	
Bromomethane	ug/L	ND	4000	3770	94	10-158	
Carbon tetrachloride	ug/L	ND	4000	4410	110	70-140	
Chloroethane	ug/L	ND	4000	3980	99	19-152	
Chloroform	ug/L	ND	4000	3840	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4180	105	34-147	N2
Ethylbenzene	ug/L	ND	4000	4140	101	40-142	
Methylene chloride	ug/L	ND	4000	3810	95	31-144	
Tetrachloroethene	ug/L	ND	4000	3920	98	64-148	
Toluene	ug/L	ND	4000	4090	102	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4130	103	54-151	
Trichloroethene	ug/L	ND	4000	4260	107	71-149	
Vinyl chloride	ug/L	ND	4000	4370	109	22-146	
Xylene (Total)	ug/L	ND	12000	12400	103	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

MATRIX SPIKE SAMPLE: 1345099

Parameter	Units	60164604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				102	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: OEXT/43183 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60164939001

METHOD BLANK: 1344903 | Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/18/14 09:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/18/14 09:57	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/18/14 09:57	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/18/14 09:57	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/18/14 09:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/18/14 09:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/18/14 09:57	
Hexachloroethane	ug/L	ND	5.0	03/18/14 09:57	
Naphthalene	ug/L	ND	5.0	03/18/14 09:57	
Nitrobenzene	ug/L	ND	5.0	03/18/14 09:57	
Pentachlorophenol	ug/L	ND	5.0	03/18/14 09:57	
Phenol	ug/L	ND	5.0	03/18/14 09:57	
2,4,6-Tribromophenol (S)	%	86	39-120	03/18/14 09:57	
2-Fluorobiphenyl (S)	%	75	39-120	03/18/14 09:57	
2-Fluorophenol (S)	%	42	17-120	03/18/14 09:57	
Nitrobenzene-d5 (S)	%	67	33-120	03/18/14 09:57	
Phenol-d6 (S)	%	26	11-120	03/18/14 09:57	
Terphenyl-d14 (S)	%	80	45-120	03/18/14 09:57	

LABORATORY CONTROL SAMPLE: 1344904

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.6	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.8	72	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.6	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.7	53	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	38.3	77	40-133	
Hexachloro-1,3-butadiene	ug/L	50	32.1	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	51.1	51	24-120	
Hexachloroethane	ug/L	50	29.1	58	43-113	
Naphthalene	ug/L	50	34.6	69	48-120	
Nitrobenzene	ug/L	50	32.5	65	48-120	
Pentachlorophenol	ug/L	50	34.9	70	47-120	
Phenol	ug/L	50	14.2	28	16-112	
2,4,6-Tribromophenol (S)	%			76	39-120	
2-Fluorobiphenyl (S)	%			70	39-120	
2-Fluorophenol (S)	%			38	17-120	
Nitrobenzene-d5 (S)	%			65	33-120	
Phenol-d6 (S)	%			25	11-120	
Terphenyl-d14 (S)	%			71	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

MATRIX SPIKE SAMPLE: 1344905

Parameter	Units	60164725001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3630	73	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4580	92	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4100	82	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6920	5000	11500	92	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	2380J	48	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3510	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	2230	22	11-120	
Hexachloroethane	ug/L	ND	5000	3520	70	40-113	
Naphthalene	ug/L	2640	5000	7350	94	45-120	
Nitrobenzene	ug/L	ND	5000	7590	152	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4730	95	43-135	
Phenol	ug/L	9340	5000	12600	66	13-112	
2,4,6-Tribromophenol (S)	%				95	39-120	
2-Fluorobiphenyl (S)	%				83	39-120	
2-Fluorophenol (S)	%				51	17-120	
Nitrobenzene-d5 (S)	%				156	33-120	S0
Phenol-d6 (S)	%				45	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: WET/46789 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60164939001

METHOD BLANK: 1347459 | Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/21/14 10:44	

LABORATORY CONTROL SAMPLE: 1347460

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.0	100	78-114	

MATRIX SPIKE SAMPLE: 1347461

Parameter	Units	60164813001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	3.0J	44.4	44.1	93	78-114	

SAMPLE DUPLICATE: 1347462

Parameter	Units	60164825001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	31.9	28.6	11	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: WET/46822 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60164939001

METHOD BLANK: 1348445 | Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/24/14 08:28	

LABORATORY CONTROL SAMPLE: 1348446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.2	96	64-132	

MATRIX SPIKE SAMPLE: 1348447

Parameter	Units	60164813001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.2	18.3	78	64-132	

SAMPLE DUPLICATE: 1348448

Parameter	Units	60164825001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	16.6	15.3	8	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: WET/46743 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60164939001

METHOD BLANK: 1346114 | Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/20/14 08:20	

SAMPLE DUPLICATE: 1346115

Parameter	Units	60164911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	422	388	8	10	

SAMPLE DUPLICATE: 1346116

Parameter	Units	60165018002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	260	236	10	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: WET/46685
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60164939001

SAMPLE DUPLICATE: 1344626

Parameter	Units	60164700001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: WET/46680 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60164939001

METHOD BLANK: 1344465 | Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/20/14 11:28	

LABORATORY CONTROL SAMPLE: 1344466

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	184	93	85-115	

SAMPLE DUPLICATE: 1344467

Parameter	Units	60164920002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	381	396	4	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: WETA/28650 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60164939001

METHOD BLANK: 1346052 | Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/19/14 16:32	

LABORATORY CONTROL SAMPLE: 1346053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1346054

Parameter	Units	60164845001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	17.9	10	26.6	87	90-110	M1

MATRIX SPIKE SAMPLE: 1346055

Parameter	Units	60164941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	97	90-110	

SAMPLE DUPLICATE: 1346056

Parameter	Units	60164984002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

QC Batch: WETA/28656 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60164939001

METHOD BLANK: 1346082 | Matrix: Water
Associated Lab Samples: 60164939001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/20/14 09:49	

LABORATORY CONTROL SAMPLE: 1346083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.4	93	90-110	

MATRIX SPIKE SAMPLE: 1346084

Parameter	Units	60164735002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	315	250	525	84	90-110	M1

MATRIX SPIKE SAMPLE: 1346086

Parameter	Units	60164775001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	470	500	969	100	90-110	

SAMPLE DUPLICATE: 1346085

Parameter	Units	60164415001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	258	278	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-244
Pace Project No.: 60164939

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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
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 316-244
Pace Project No.: 60164939

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60164939001	**316-244**	EPA 200.7	MPRP/26492	EPA 200.7	ICP/20175
60164939001	**316-244**	EPA 200.7	MPRP/26507	EPA 200.7	ICP/20182
60164939001	**316-244**	EPA 245.1	MERP/8239	EPA 245.1	MERC/8194
60164939001	**316-244**	EPA 245.1	MERP/8238	EPA 245.1	MERC/8193
60164939001	**316-244**	EPA 625	OEXT/43183	EPA 625	MSSV/13758
60164939001	**316-244**	EPA 624 Low	MSV/60083		
60164939002	**TRIP BLANK**	EPA 624 Low	MSV/60083		
60164939001	**316-244**	EPA 1664A	WET/46789		
60164939001	**316-244**	EPA 1664A	WET/46822		
60164939001	**316-244**	SM 2540D	WET/46743		
60164939001	**316-244**	SM 4500-H+B	WET/46685		
60164939001	**316-244**	SM 5210B	WET/46680	SM 5210B	WET/46821
60164939001	**316-244**	EPA 350.1	WETA/28650		
60164939001	**316-244**	EPA 410.4	WETA/28656		

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WO#: 60164939

60164939

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Sample Condition Upon Receipt

Optional
Proj Due Date:
Proj Name:

Client Name: Barr Engineering

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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 4.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/15/14

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	13.	initial ph Both BP3N, BP3S 4.5, added 2.5 mL final both 3.0
Includes date/time/ID/analyses Matrix: WT			
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 12513-10-9 - HNO3 12522-2-7 - H2SO4
Trip Blank present:	☑Yes ☐No ☐N/A		
Pace Trip Blank lot # (if purchased): 071513-3		15.	
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.	
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: WO	

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: 3/17/14

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:

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.	PO 3727110
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 #:	6787 LINE 2

Regulatory Agency	
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	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)	60164939
1	316-244 3AG35, 2BP24, BP3U	OT	G	3-14-14	1030	3-14-14	1045		14	10	4	1	0	5	DI H2O				X	X	X	X	X	X	X	X	X	X	X	2AG4U, BP3N 3.6, BP3S 3.6		001
2	TRIP BLANK								2	2			2	DI H2O												X						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	Paul Linscott / FEI	03-14-14	2:56pm	Margaretta Gloeth	03-14-14	2:56pm				
SITE ADDRESS: BRIDGETON LF				EBrockett / Pace	3/15/15	0045	4.6	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:	Kyle Kramer					
SIGNATURE of SAMPLER:	Kyle Kramer	DATE Signed: 3-14-14				

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April 02, 2014

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

RE: Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 17, 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 040214 to correct qualifier applied to Xylene in error.

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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

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 316-245
Pace Project No.: 60165004

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165004001	**316-245**	Water	03/16/14 09:30	03/17/14 13:10
60165004002	**TRIP BLANK**	Water	03/16/14 08:00	03/17/14 13:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165004001	**316-245**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165004002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

Sample: 316-245 **Lab ID: 60165004001** Collected: 03/16/14 09:30 Received: 03/17/14 13:10 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	**3560**	ug/L	750	2	03/18/14 09:45	03/20/14 15:23	7429-90-5	
Antimony	ND	ug/L	100	2	03/18/14 09:45	03/20/14 15:23	7440-36-0	D3
Arsenic	**917**	ug/L	50.0	1	03/18/14 09:45	03/20/14 15:13	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/18/14 09:45	03/20/14 15:13	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:13	7440-43-9	
Chromium	**195**	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:13	7440-47-3	
Cobalt	**31.5**	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:13	7440-48-4	
Copper	ND	ug/L	50.0	1	03/18/14 09:45	03/20/14 15:13	7440-50-8	
Iron	**620000**	ug/L	250	1	03/18/14 09:45	03/20/14 15:13	7439-89-6	M1,R1
Lead	**90.8**	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:13	7439-92-1	
Nickel	**92.4**	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:13	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/18/14 09:45	03/20/14 15:13	7782-49-2	
Silver	ND	ug/L	35.0	1	03/18/14 09:45	03/20/14 15:13	7440-22-4	
Thallium	ND	ug/L	100	1	03/18/14 09:45	03/20/14 15:13	7440-28-0	
Zinc	**3700**	ug/L	500	2	03/18/14 09:45	03/20/14 15:23	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1020**	ug/L	375	1	03/18/14 09:45	03/20/14 17:13	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	03/18/14 09:45	03/20/14 17:13	7440-36-0	
Arsenic, Dissolved	**586**	ug/L	50.0	1	03/18/14 09:45	03/20/14 17:13	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/18/14 09:45	03/20/14 17:13	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:13	7440-43-9	
Chromium, Dissolved	**119**	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:13	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:13	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/18/14 09:45	03/20/14 17:13	7440-50-8	
Iron, Dissolved	**354000**	ug/L	250	1	03/18/14 09:45	03/20/14 17:13	7439-89-6	
Lead, Dissolved	**52.5**	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:13	7439-92-1	
Nickel, Dissolved	**58.5**	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:13	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/18/14 09:45	03/20/14 17:13	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/18/14 09:45	03/20/14 17:13	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/18/14 09:45	03/20/14 17:13	7440-28-0	
Zinc, Dissolved	**2440**	ug/L	250	1	03/18/14 09:45	03/20/14 17:13	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**6.2**	ug/L	6.0	1	03/19/14 16:30	03/20/14 10:53	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	03/19/14 16:30	03/20/14 10:00	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/19/14 00:00	03/21/14 14:52	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/19/14 00:00	03/21/14 14:52	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7490**	ug/L	4000	2	03/19/14 00:00	03/21/14 14:52		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

Sample: 316-245 **Lab ID: 60165004001** Collected: 03/16/14 09:30 Received: 03/17/14 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**2450**	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	98-95-3	M1
Pentachlorophenol	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	87-86-5	
Phenol	**10400**	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 14:52	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	162	%	33-120	2	03/19/14 00:00	03/21/14 14:52	4165-60-0	S0
2-Fluorobiphenyl (S)	94	%	39-120	2	03/19/14 00:00	03/21/14 14:52	321-60-8	
Terphenyl-d14 (S)	95	%	45-120	2	03/19/14 00:00	03/21/14 14:52	1718-51-0	
Phenol-d6 (S)	43	%	11-120	2	03/19/14 00:00	03/21/14 14:52	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	03/19/14 00:00	03/21/14 14:52	367-12-4	
2,4,6-Tribromophenol (S)	101	%	39-120	2	03/19/14 00:00	03/21/14 14:52	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**126000**	ug/L	2000	200		03/20/14 18:56	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/20/14 18:56	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/20/14 18:56	75-27-4	
Bromoform	ND	ug/L	200	200		03/20/14 18:56	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/20/14 18:56	74-83-9	
2-Butanone (MEK)	**58100**	ug/L	2000	200		03/20/14 18:56	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/20/14 18:56	56-23-5	
Chloroethane	ND	ug/L	200	200		03/20/14 18:56	75-00-3	
Chloroform	ND	ug/L	200	200		03/20/14 18:56	67-66-3	
1,4-Dichlorobenzene	**784**	ug/L	200	200		03/20/14 18:56	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/20/14 18:56	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 18:56	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 18:56	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/20/14 18:56	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/20/14 18:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		03/20/14 18:56	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/20/14 18:56	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/20/14 18:56	127-18-4	
Toluene	ND	ug/L	200	200		03/20/14 18:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/20/14 18:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/20/14 18:56	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/20/14 18:56	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/20/14 18:56	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/20/14 18:56	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		03/20/14 18:56	460-00-4	
Toluene-d8 (S)	99	%	80-120	200		03/20/14 18:56	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		03/20/14 18:56	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/20/14 18:56		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1240**	mg/L	5.0	1		03/21/14 10:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

Sample: 316-245 **Lab ID: 60165004001** Collected: 03/16/14 09:30 Received: 03/17/14 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**12.0**	mg/L	5.0	1		03/24/14 08:30		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4040**	mg/L	5.0	1		03/20/14 08:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/18/14 12:41		H3,H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**18800**	mg/L	2.0	1	03/17/14 15:50	03/22/14 14:48		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**677**	mg/L	20.0	200		03/19/14 11:00	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**57600**	mg/L	5000	500		03/20/14 10:32		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

Sample: TRIP BLANK **Lab ID: 60165004002** Collected: 03/16/14 08:00 Received: 03/17/14 13:10 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		03/20/14 15:52	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/20/14 15:52	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/20/14 15:52	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/20/14 15:52	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/20/14 15:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/20/14 15:52	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/20/14 15:52	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/20/14 15:52	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/20/14 15:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/20/14 15:52	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/20/14 15:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 15:52	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 15:52	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/20/14 15:52	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/20/14 15:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/20/14 15:52	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/20/14 15:52	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/20/14 15:52	127-18-4	
Toluene	ND	ug/L	1.0	1		03/20/14 15:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/20/14 15:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/20/14 15:52	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/20/14 15:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/20/14 15:52	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/20/14 15:52	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	1		03/20/14 15:52	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		03/20/14 15:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		03/20/14 15:52	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/20/14 15:52		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: MERP/8239 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165004001

METHOD BLANK: 1346694 | Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/20/14 11:13	

LABORATORY CONTROL SAMPLE: 1346695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.3	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346698 1346699

Parameter	Units	60164790001 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	3.4	3.8	67	76	70-130	12	20	M1

MATRIX SPIKE SAMPLE: 1346700

Parameter	Units	60164854002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.2	84	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: MERP/8238
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165004001

METHOD BLANK: 1346679
Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/20/14 09:44	

LABORATORY CONTROL SAMPLE: 1346680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346681 1346682

Parameter	Units	60164852001 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	74.7	94.2	50	63	70-130	23	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: MPRP/26508
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165004001

METHOD BLANK: 1345581
Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/20/14 15:07	
Antimony	ug/L	ND	10.0	03/20/14 15:07	
Arsenic	ug/L	ND	10.0	03/20/14 15:07	
Beryllium	ug/L	ND	1.0	03/20/14 15:07	
Cadmium	ug/L	ND	5.0	03/20/14 15:07	
Chromium	ug/L	ND	5.0	03/20/14 15:07	
Cobalt	ug/L	ND	5.0	03/20/14 15:07	
Copper	ug/L	ND	10.0	03/20/14 15:07	
Iron	ug/L	ND	50.0	03/20/14 15:07	
Lead	ug/L	ND	5.0	03/20/14 15:07	
Nickel	ug/L	ND	5.0	03/20/14 15:07	
Selenium	ug/L	ND	15.0	03/20/14 15:07	
Silver	ug/L	ND	7.0	03/20/14 15:07	
Thallium	ug/L	ND	20.0	03/20/14 15:07	
Zinc	ug/L	ND	50.0	03/20/14 15:07	

LABORATORY CONTROL SAMPLE: 1345582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	1100	110	85-115	
Arsenic	ug/L	1000	1020	102	85-115	
Beryllium	ug/L	1000	972	97	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	956	96	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9900	99	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	1110	111	85-115	
Silver	ug/L	500	497	99	85-115	
Thallium	ug/L	1000	992	99	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345583 1345584

Parameter	Units	60165004001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	3560	50000	50000	58300	60500	109	114	70-130	4	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345583 1345584

Parameter	Units	60165004001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5270	5280	104	104	70-130	0	7	
Arsenic	ug/L	917	5000	5000	6000	6320	102	108	70-130	5	10	
Beryllium	ug/L	ND	5000	5000	4710	4700	94	94	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5020	5040	100	101	70-130	1	10	
Chromium	ug/L	195	5000	5000	5110	5110	98	98	70-130	0	10	
Cobalt	ug/L	31.5	5000	5000	4980	5020	99	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5160	5300	102	105	70-130	2	11	
Iron	ug/L	620000	50000	50000	638000	795000	36	351	70-130	22	10	M1,R1
Lead	ug/L	90.8	5000	5000	4900	4910	96	96	70-130	0	10	
Nickel	ug/L	92.4	5000	5000	4890	4890	96	96	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5700	5880	114	117	70-130	3	10	
Silver	ug/L	ND	2500	2500	2610	2670	104	107	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4300	4230	86	85	70-130	2	6	
Zinc	ug/L	3700	5000	5000	8670	9530	99	117	70-130	9	11	

MATRIX SPIKE SAMPLE: 1345585

Parameter	Units	60164943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	248	10000	11100	108	70-130	
Antimony	ug/L	ND	1000	1060	106	70-130	
Arsenic	ug/L	ND	1000	990	99	70-130	
Beryllium	ug/L	ND	1000	982	98	70-130	
Cadmium	ug/L	ND	1000	989	99	70-130	
Chromium	ug/L	ND	1000	986	98	70-130	
Cobalt	ug/L	ND	1000	1030	103	70-130	
Copper	ug/L	ND	1000	1010	101	70-130	
Iron	ug/L	372	10000	10400	100	70-130	
Lead	ug/L	ND	1000	1020	102	70-130	
Nickel	ug/L	ND	1000	999	100	70-130	
Selenium	ug/L	ND	1000	1040	104	70-130	
Silver	ug/L	ND	500	505	101	70-130	
Thallium	ug/L	ND	1000	936	94	70-130	
Zinc	ug/L	ND	1000	1060	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: MPRP/26507
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165004001

METHOD BLANK: 1345575
Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/20/14 16:46	
Antimony, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Arsenic, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Beryllium, Dissolved	ug/L	ND	1.0	03/20/14 16:46	
Cadmium, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Chromium, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Cobalt, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Copper, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Iron, Dissolved	ug/L	ND	50.0	03/20/14 16:46	
Lead, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Nickel, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Selenium, Dissolved	ug/L	ND	15.0	03/20/14 16:46	
Silver, Dissolved	ug/L	ND	7.0	03/20/14 16:46	
Thallium, Dissolved	ug/L	ND	20.0	03/20/14 16:46	
Zinc, Dissolved	ug/L	ND	50.0	03/20/14 16:46	

LABORATORY CONTROL SAMPLE: 1345576

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1050	105	85-115	
Arsenic, Dissolved	ug/L	1000	954	95	85-115	
Beryllium, Dissolved	ug/L	1000	961	96	85-115	
Cadmium, Dissolved	ug/L	1000	972	97	85-115	
Chromium, Dissolved	ug/L	1000	968	97	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	998	100	85-115	
Iron, Dissolved	ug/L	10000	9850	99	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	1030	103	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	955	96	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345577 1345578

Parameter	Units	60164939001 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	1240	50000	50000	54600	55000	107	107	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345577 1345578

Parameter	Units	60164939001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5410	5470	107	108	70-130	1	7	
Arsenic, Dissolved	ug/L	671	5000	5000	5830	5760	103	102	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4710	4650	94	93	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5040	4980	101	99	70-130	1	10	
Chromium, Dissolved	ug/L	132	5000	5000	5000	4950	97	96	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5080	5060	101	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5200	5180	104	104	70-130	0	11	
Iron, Dissolved	ug/L	393000	50000	50000	452000	468000	119	149	70-130	3	10	M1
Lead, Dissolved	ug/L	63.2	5000	5000	4940	4920	98	97	70-130	0	10	
Nickel, Dissolved	ug/L	68.8	5000	5000	4920	4880	97	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5740	5730	114	114	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2620	2610	105	104	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4410	4320	88	86	70-130	2	6	
Zinc, Dissolved	ug/L	2880	5000	5000	8070	8230	104	107	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: MSV/60208 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165004001, 60165004002

METHOD BLANK: 1347486 | Matrix: Water
Associated Lab Samples: 60165004001, 60165004002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/20/14 14:12	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,2-Dichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/20/14 14:12	
2-Butanone (MEK)	ug/L	ND	10.0	03/20/14 14:12	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/20/14 14:12	N2
Acetone	ug/L	ND	10.0	03/20/14 14:12	N2
Benzene	ug/L	ND	1.0	03/20/14 14:12	
Bromodichloromethane	ug/L	ND	1.0	03/20/14 14:12	
Bromoform	ug/L	ND	1.0	03/20/14 14:12	
Bromomethane	ug/L	ND	5.0	03/20/14 14:12	
Carbon tetrachloride	ug/L	ND	1.0	03/20/14 14:12	
Chloroethane	ug/L	ND	1.0	03/20/14 14:12	
Chloroform	ug/L	ND	1.0	03/20/14 14:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	N2
Ethylbenzene	ug/L	ND	1.0	03/20/14 14:12	
Methylene chloride	ug/L	ND	1.0	03/20/14 14:12	
Tetrachloroethene	ug/L	ND	1.0	03/20/14 14:12	
Toluene	ug/L	ND	1.0	03/20/14 14:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Trichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Vinyl chloride	ug/L	ND	1.0	03/20/14 14:12	
Xylene (Total)	ug/L	ND	3.0	03/20/14 14:12	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/20/14 14:12	
4-Bromofluorobenzene (S)	%	109	80-120	03/20/14 14:12	
Toluene-d8 (S)	%	98	80-120	03/20/14 14:12	

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.3	96	70-126	
1,4-Dichlorobenzene	ug/L	20	20.7	104	74-120	
2-Butanone (MEK)	ug/L	100	145	145	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	59-131	N2
Acetone	ug/L	100	200	200	38-134	L0,N2
Benzene	ug/L	20	18.9	95	75-120	
Bromodichloromethane	ug/L	20	20.0	100	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	18.4	92	13-157	
Carbon tetrachloride	ug/L	20	19.6	98	70-131	
Chloroethane	ug/L	20	19.7	98	47-133	
Chloroform	ug/L	20	19.6	98	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	20.7	103	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	19.7	99	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	66-129	
Trichloroethene	ug/L	20	20.9	104	71-123	
Vinyl chloride	ug/L	20	20.6	103	43-129	
Xylene (Total)	ug/L	60	64.8	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4120	103	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4040	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4050	101	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3840	96	49-144	
1,4-Dichlorobenzene	ug/L	784	4000	4720	98	33-140	
2-Butanone (MEK)	ug/L	58100	20000	85900	139	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21800	100	40-160	N2
Acetone	ug/L	126000	20000	142000	76	10-160	N2
Benzene	ug/L	ND	4000	3910	98	37-151	
Bromodichloromethane	ug/L	ND	4000	3850	96	35-142	
Bromoform	ug/L	ND	4000	3840	96	45-142	
Bromomethane	ug/L	ND	4000	3590	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4470	112	70-140	
Chloroethane	ug/L	ND	4000	3920	98	19-152	
Chloroform	ug/L	ND	4000	3750	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3920	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	4070	100	40-142	
Methylene chloride	ug/L	ND	4000	3860	96	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3910	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4120	103	54-151	
Trichloroethene	ug/L	ND	4000	4140	104	71-149	
Vinyl chloride	ug/L	ND	4000	4550	114	22-146	
Xylene (Total)	ug/L	ND	12000	13000	109	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: OEXT/43219 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165004001

METHOD BLANK: 1346097 | Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/21/14 13:48	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/21/14 13:48	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/21/14 13:48	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/21/14 13:48	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/21/14 13:48	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/21/14 13:48	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/21/14 13:48	
Hexachloroethane	ug/L	ND	5.0	03/21/14 13:48	
Naphthalene	ug/L	ND	5.0	03/21/14 13:48	
Nitrobenzene	ug/L	ND	5.0	03/21/14 13:48	
Pentachlorophenol	ug/L	ND	5.0	03/21/14 13:48	
Phenol	ug/L	ND	5.0	03/21/14 13:48	
2,4,6-Tribromophenol (S)	%	97	39-120	03/21/14 13:48	
2-Fluorobiphenyl (S)	%	95	39-120	03/21/14 13:48	
2-Fluorophenol (S)	%	44	17-120	03/21/14 13:48	
Nitrobenzene-d5 (S)	%	89	33-120	03/21/14 13:48	
Phenol-d6 (S)	%	27	11-120	03/21/14 13:48	
Terphenyl-d14 (S)	%	95	45-120	03/21/14 13:48	

LABORATORY CONTROL SAMPLE: 1346098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.5	85	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.8	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.6	65	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	30.2	60	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.1	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	43.4	87	44-116	
Hexachlorocyclopentadiene	ug/L	100	85.6	86	24-120	
Hexachloroethane	ug/L	50	43.6	87	43-113	
Naphthalene	ug/L	50	42.8	86	48-120	
Nitrobenzene	ug/L	50	43.6	87	48-120	
Pentachlorophenol	ug/L	50	43.9	88	47-120	
Phenol	ug/L	50	14.6	29	16-112	
2,4,6-Tribromophenol (S)	%			98	39-120	
2-Fluorobiphenyl (S)	%			95	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			90	33-120	
Phenol-d6 (S)	%			26	11-120	
Terphenyl-d14 (S)	%			96	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

MATRIX SPIKE SAMPLE: 1346099

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4070	81	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4690	94	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3490	70	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7490	5000	9930	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4750J	95	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	4140	83	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8230	82	11-120	
Hexachloroethane	ug/L	ND	5000	4030	81	40-113	
Naphthalene	ug/L	2450	5000	5630	64	45-120	
Nitrobenzene	ug/L	ND	5000	6690	134	38-120	M1
Pentachlorophenol	ug/L	ND	5000	5320	106	43-135	
Phenol	ug/L	10400	5000	11100	14	13-112	
2,4,6-Tribromophenol (S)	%				96	39-120	
2-Fluorobiphenyl (S)	%				86	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				154	33-120	S0
Phenol-d6 (S)	%				38	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: WET/46789 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165004001

METHOD BLANK: 1347459 | Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/21/14 10:44	

LABORATORY CONTROL SAMPLE: 1347460

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.0	100	78-114	

MATRIX SPIKE SAMPLE: 1347461

Parameter	Units	60164813001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	3.0J	44.4	44.1	93	78-114	

SAMPLE DUPLICATE: 1347462

Parameter	Units	60164825001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	31.9	28.6	11	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: WET/46822 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165004001

METHOD BLANK: 1348445 | Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/24/14 08:28	

LABORATORY CONTROL SAMPLE: 1348446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.2	96	64-132	

MATRIX SPIKE SAMPLE: 1348447

Parameter	Units	60164813001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.2	18.3	78	64-132	

SAMPLE DUPLICATE: 1348448

Parameter	Units	60164825001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	16.6	15.3	8	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: WET/46743 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165004001

METHOD BLANK: 1346114 | Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/20/14 08:20	

SAMPLE DUPLICATE: 1346115

Parameter	Units	60164911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	422	388	8	10	

SAMPLE DUPLICATE: 1346116

Parameter	Units	60165018002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	260	236	10	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: WET/46727
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165004001

SAMPLE DUPLICATE: 1345755

Parameter	Units	60165030002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: WET/46709 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165004001

METHOD BLANK: 1345230 | Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/22/14 14:28	

LABORATORY CONTROL SAMPLE: 1345231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	90	85-115	

SAMPLE DUPLICATE: 1345246

Parameter	Units	60164993002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	89.3	91.9	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: WETA/28650 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165004001

METHOD BLANK: 1346052 | Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/19/14 16:32	

LABORATORY CONTROL SAMPLE: 1346053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1346054

Parameter	Units	60164845001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	17.9	10	26.6	87	90-110	M1

MATRIX SPIKE SAMPLE: 1346055

Parameter	Units	60164941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	97	90-110	

SAMPLE DUPLICATE: 1346056

Parameter	Units	60164984002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

QC Batch: WETA/28656 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165004001

METHOD BLANK: 1346082 | Matrix: Water
Associated Lab Samples: 60165004001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/20/14 09:49	

LABORATORY CONTROL SAMPLE: 1346083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.4	93	90-110	

MATRIX SPIKE SAMPLE: 1346084

Parameter	Units	60164735002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	315	250	525	84	90-110	M1

MATRIX SPIKE SAMPLE: 1346086

Parameter	Units	60164775001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	470	500	969	100	90-110	

SAMPLE DUPLICATE: 1346085

Parameter	Units	60164415001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	258	278	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-245
Pace Project No.: 60165004

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.
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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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 316-245
Pace Project No.: 60165004

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165004001	**316-245**	EPA 200.7	MPRP/26508	EPA 200.7	ICP/20181
60165004001	**316-245**	EPA 200.7	MPRP/26507	EPA 200.7	ICP/20182
60165004001	**316-245**	EPA 245.1	MERP/8239	EPA 245.1	MERC/8194
60165004001	**316-245**	EPA 245.1	MERP/8238	EPA 245.1	MERC/8193
60165004001	**316-245**	EPA 625	OEXT/43219	EPA 625	MSSV/13782
60165004001	**316-245**	EPA 624 Low	MSV/60208		
60165004002	**TRIP BLANK**	EPA 624 Low	MSV/60208		
60165004001	**316-245**	EPA 1664A	WET/46789		
60165004001	**316-245**	EPA 1664A	WET/46822		
60165004001	**316-245**	SM 2540D	WET/46743		
60165004001	**316-245**	SM 4500-H+B	WET/46727		
60165004001	**316-245**	SM 5210B	WET/46709	SM 5210B	WET/46844
60165004001	**316-245**	EPA 350.1	WETA/28650		
60165004001	**316-245**	EPA 410.4	WETA/28656		

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Sample Condition Upon Receipt

WO#: 60165004

60165004

Optional
Proj Due Date:
Proj Name:

Client Name: Barr Eng.

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

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: 3.

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JAS 3/17/14 1345

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		BB3N + BB3S unable to be preserved
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.	pH > 7
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): 012014-3		15.	
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.	
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: NW	

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: 3/18/14

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:

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.	PO 3727110
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 #:	6787 LINE 2

Regulatory Agency

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)	6016 5004
																														3(A235) 1(BP3N) 1(BP3S) 2(BP2N) 1(BP3N) 2(BP4N) 5(AG9N)
1	316-245	OT	G	03/16/14	0930	—	—		14	10	4	1	0					X	X	X	X	X	X	X	X	X	X	X		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																														

Matrix codes: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sam Bircher / Feezor	3-17-14	0850	[illegible] 4/12						
SITE ADDRESS: BRIDGETON LF				[illegible] / Pace	3/17/14	1310	3.8	Y	N	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: John Powell

SIGNATURE of SAMPLER: [signature]

DATE Signed: 03-16-14

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March 24, 2014

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

RE: Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 17, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project:	BRIDGETON LF 316-246
Pace Project No.:	60165005

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 316-246
Pace Project No.: 60165005

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165005001	**316-246**	Water	03/16/14 10:00	03/17/14 13:10
60165005002	**TRIP BLANK**	Water	03/16/14 08:00	03/17/14 13:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165005001	**316-246**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165005002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

Sample: 316-246 **Lab ID: 60165005001** Collected: 03/16/14 10:00 Received: 03/17/14 13:10 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	**3720**	ug/L	750	2	03/18/14 09:45	03/20/14 15:44	7429-90-5	
Antimony	ND	ug/L	100	2	03/18/14 09:45	03/20/14 15:44	7440-36-0	D3
Arsenic	**830**	ug/L	50.0	1	03/18/14 09:45	03/20/14 15:41	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/18/14 09:45	03/20/14 15:41	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:41	7440-43-9	
Chromium	**174**	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:41	7440-47-3	
Cobalt	**32.5**	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:41	7440-48-4	
Copper	ND	ug/L	50.0	1	03/18/14 09:45	03/20/14 15:41	7440-50-8	
Iron	**588000**	ug/L	250	1	03/18/14 09:45	03/20/14 15:41	7439-89-6	
Lead	**88.3**	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:41	7439-92-1	
Nickel	**82.9**	ug/L	25.0	1	03/18/14 09:45	03/20/14 15:41	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/18/14 09:45	03/20/14 15:41	7782-49-2	
Silver	ND	ug/L	35.0	1	03/18/14 09:45	03/20/14 15:41	7440-22-4	
Thallium	ND	ug/L	100	1	03/18/14 09:45	03/20/14 15:41	7440-28-0	
Zinc	**3520**	ug/L	500	2	03/18/14 09:45	03/20/14 15:44	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1080**	ug/L	750	2	03/18/14 09:45	03/20/14 17:30	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/18/14 09:45	03/20/14 17:30	7440-36-0	D3
Arsenic, Dissolved	**704**	ug/L	50.0	1	03/18/14 09:45	03/20/14 17:26	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/18/14 09:45	03/20/14 17:26	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:26	7440-43-9	
Chromium, Dissolved	**134**	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:26	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:26	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/18/14 09:45	03/20/14 17:26	7440-50-8	
Iron, Dissolved	**436000**	ug/L	250	1	03/18/14 09:45	03/20/14 17:26	7439-89-6	
Lead, Dissolved	**64.0**	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:26	7439-92-1	
Nickel, Dissolved	**66.3**	ug/L	25.0	1	03/18/14 09:45	03/20/14 17:26	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/18/14 09:45	03/20/14 17:26	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/18/14 09:45	03/20/14 17:26	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/18/14 09:45	03/20/14 17:26	7440-28-0	
Zinc, Dissolved	**2970**	ug/L	500	2	03/18/14 09:45	03/20/14 17:30	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/19/14 16:30	03/20/14 10:55	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	03/19/14 16:30	03/20/14 10:03	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/19/14 00:00	03/21/14 15:13	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/19/14 00:00	03/21/14 15:13	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7000**	ug/L	4000	2	03/19/14 00:00	03/21/14 15:13		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

Sample: 316-246 **Lab ID: 60165005001** Collected: 03/16/14 10:00 Received: 03/17/14 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	87-86-5	
Phenol	**9980**	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/19/14 00:00	03/21/14 15:13	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	147	%	33-120	2	03/19/14 00:00	03/21/14 15:13	4165-60-0	S0
2-Fluorobiphenyl (S)	89	%	39-120	2	03/19/14 00:00	03/21/14 15:13	321-60-8	
Terphenyl-d14 (S)	95	%	45-120	2	03/19/14 00:00	03/21/14 15:13	1718-51-0	
Phenol-d6 (S)	38	%	11-120	2	03/19/14 00:00	03/21/14 15:13	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	03/19/14 00:00	03/21/14 15:13	367-12-4	
2,4,6-Tribromophenol (S)	96	%	39-120	2	03/19/14 00:00	03/21/14 15:13	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**168000**	ug/L	2000	200		03/20/14 19:29	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/20/14 19:29	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/20/14 19:29	75-27-4	
Bromoform	ND	ug/L	200	200		03/20/14 19:29	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/20/14 19:29	74-83-9	
2-Butanone (MEK)	**77000**	ug/L	2000	200		03/20/14 19:29	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/20/14 19:29	56-23-5	
Chloroethane	ND	ug/L	200	200		03/20/14 19:29	75-00-3	
Chloroform	ND	ug/L	200	200		03/20/14 19:29	67-66-3	
1,4-Dichlorobenzene	**403**	ug/L	200	200		03/20/14 19:29	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/20/14 19:29	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 19:29	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 19:29	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/20/14 19:29	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/20/14 19:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2120**	ug/L	2000	200		03/20/14 19:29	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/20/14 19:29	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/20/14 19:29	127-18-4	
Toluene	ND	ug/L	200	200		03/20/14 19:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/20/14 19:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/20/14 19:29	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/20/14 19:29	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/20/14 19:29	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/20/14 19:29	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	200		03/20/14 19:29	460-00-4	
Toluene-d8 (S)	98	%	80-120	200		03/20/14 19:29	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		03/20/14 19:29	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/20/14 19:29		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1480**	mg/L	5.0	1		03/21/14 10:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

Sample: 316-246 **Lab ID: 60165005001** Collected: 03/16/14 10:00 Received: 03/17/14 13:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**11.5**	mg/L	5.0	1		03/24/14 08:30		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5280**	mg/L	5.0	1		03/20/14 08:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		03/18/14 12:41		H3,H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**19200**	mg/L	2.0	1	03/17/14 15:51	03/22/14 14:51		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**676**	mg/L	20.0	200		03/19/14 11:01	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**70900**	mg/L	5000	500		03/20/14 10:34		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

Sample: TRIP BLANK **Lab ID: 60165005002** Collected: 03/16/14 08:00 Received: 03/17/14 13:10 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		03/20/14 16:08	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/20/14 16:08	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/20/14 16:08	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/20/14 16:08	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/20/14 16:08	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/20/14 16:08	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/20/14 16:08	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/20/14 16:08	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/20/14 16:08	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/20/14 16:08	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/20/14 16:08	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 16:08	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 16:08	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/20/14 16:08	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/20/14 16:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/20/14 16:08	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/20/14 16:08	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/20/14 16:08	127-18-4	
Toluene	ND	ug/L	1.0	1		03/20/14 16:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/20/14 16:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/20/14 16:08	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/20/14 16:08	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/20/14 16:08	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/20/14 16:08	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	1		03/20/14 16:08	460-00-4	
Toluene-d8 (S)	95	%	80-120	1		03/20/14 16:08	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		03/20/14 16:08	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/20/14 16:08		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: MERP/8239 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165005001

METHOD BLANK: 1346694 | Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/20/14 11:13	

LABORATORY CONTROL SAMPLE: 1346695

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.3	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346698 1346699

Parameter	Units	60164790001 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	3.4	3.8	67	76	70-130	12	20	M1

MATRIX SPIKE SAMPLE: 1346700

Parameter	Units	60164854002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.2	84	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: MERP/8238
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165005001

METHOD BLANK: 1346679
Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/20/14 09:44	

LABORATORY CONTROL SAMPLE: 1346680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346681 1346682

Parameter	Units	60164852001 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	74.7	94.2	50	63	70-130	23	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: MPRP/26508
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165005001

METHOD BLANK: 1345581
Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/20/14 15:07	
Antimony	ug/L	ND	10.0	03/20/14 15:07	
Arsenic	ug/L	ND	10.0	03/20/14 15:07	
Beryllium	ug/L	ND	1.0	03/20/14 15:07	
Cadmium	ug/L	ND	5.0	03/20/14 15:07	
Chromium	ug/L	ND	5.0	03/20/14 15:07	
Cobalt	ug/L	ND	5.0	03/20/14 15:07	
Copper	ug/L	ND	10.0	03/20/14 15:07	
Iron	ug/L	ND	50.0	03/20/14 15:07	
Lead	ug/L	ND	5.0	03/20/14 15:07	
Nickel	ug/L	ND	5.0	03/20/14 15:07	
Selenium	ug/L	ND	15.0	03/20/14 15:07	
Silver	ug/L	ND	7.0	03/20/14 15:07	
Thallium	ug/L	ND	20.0	03/20/14 15:07	
Zinc	ug/L	ND	50.0	03/20/14 15:07	

LABORATORY CONTROL SAMPLE: 1345582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	1100	110	85-115	
Arsenic	ug/L	1000	1020	102	85-115	
Beryllium	ug/L	1000	972	97	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	956	96	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9900	99	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	1110	111	85-115	
Silver	ug/L	500	497	99	85-115	
Thallium	ug/L	1000	992	99	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345583 1345584

Parameter	Units	60165004001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	3560	50000	50000	58300	60500	109	114	70-130	4	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345583 1345584

Parameter	Units	60165004001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5270	5280	104	104	70-130	0	7	
Arsenic	ug/L	917	5000	5000	6000	6320	102	108	70-130	5	10	
Beryllium	ug/L	ND	5000	5000	4710	4700	94	94	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5020	5040	100	101	70-130	1	10	
Chromium	ug/L	195	5000	5000	5110	5110	98	98	70-130	0	10	
Cobalt	ug/L	31.5	5000	5000	4980	5020	99	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5160	5300	102	105	70-130	2	11	
Iron	ug/L	620000	50000	50000	638000	795000	36	351	70-130	22	10	M1,R1
Lead	ug/L	90.8	5000	5000	4900	4910	96	96	70-130	0	10	
Nickel	ug/L	92.4	5000	5000	4890	4890	96	96	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5700	5880	114	117	70-130	3	10	
Silver	ug/L	ND	2500	2500	2610	2670	104	107	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4300	4230	86	85	70-130	2	6	
Zinc	ug/L	3700	5000	5000	8670	9530	99	117	70-130	9	11	

MATRIX SPIKE SAMPLE: 1345585

Parameter	Units	60164943001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	248	10000	11100	108	70-130	
Antimony	ug/L	ND	1000	1060	106	70-130	
Arsenic	ug/L	ND	1000	990	99	70-130	
Beryllium	ug/L	ND	1000	982	98	70-130	
Cadmium	ug/L	ND	1000	989	99	70-130	
Chromium	ug/L	ND	1000	986	98	70-130	
Cobalt	ug/L	ND	1000	1030	103	70-130	
Copper	ug/L	ND	1000	1010	101	70-130	
Iron	ug/L	372	10000	10400	100	70-130	
Lead	ug/L	ND	1000	1020	102	70-130	
Nickel	ug/L	ND	1000	999	100	70-130	
Selenium	ug/L	ND	1000	1040	104	70-130	
Silver	ug/L	ND	500	505	101	70-130	
Thallium	ug/L	ND	1000	936	94	70-130	
Zinc	ug/L	ND	1000	1060	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: MPRP/26507
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165005001

METHOD BLANK: 1345575
Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/20/14 16:46	
Antimony, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Arsenic, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Beryllium, Dissolved	ug/L	ND	1.0	03/20/14 16:46	
Cadmium, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Chromium, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Cobalt, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Copper, Dissolved	ug/L	ND	10.0	03/20/14 16:46	
Iron, Dissolved	ug/L	ND	50.0	03/20/14 16:46	
Lead, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Nickel, Dissolved	ug/L	ND	5.0	03/20/14 16:46	
Selenium, Dissolved	ug/L	ND	15.0	03/20/14 16:46	
Silver, Dissolved	ug/L	ND	7.0	03/20/14 16:46	
Thallium, Dissolved	ug/L	ND	20.0	03/20/14 16:46	
Zinc, Dissolved	ug/L	ND	50.0	03/20/14 16:46	

LABORATORY CONTROL SAMPLE: 1345576

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1050	105	85-115	
Arsenic, Dissolved	ug/L	1000	954	95	85-115	
Beryllium, Dissolved	ug/L	1000	961	96	85-115	
Cadmium, Dissolved	ug/L	1000	972	97	85-115	
Chromium, Dissolved	ug/L	1000	968	97	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	998	100	85-115	
Iron, Dissolved	ug/L	10000	9850	99	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	1030	103	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	955	96	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345577 1345578

Parameter	Units	60164939001 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	1240	50000	50000	54600	55000	107	107	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1345577 1345578

Parameter	Units	60164939001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5410	5470	107	108	70-130	1	7	
Arsenic, Dissolved	ug/L	671	5000	5000	5830	5760	103	102	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4710	4650	94	93	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5040	4980	101	99	70-130	1	10	
Chromium, Dissolved	ug/L	132	5000	5000	5000	4950	97	96	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5080	5060	101	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5200	5180	104	104	70-130	0	11	
Iron, Dissolved	ug/L	393000	50000	50000	452000	468000	119	149	70-130	3	10	M1
Lead, Dissolved	ug/L	63.2	5000	5000	4940	4920	98	97	70-130	0	10	
Nickel, Dissolved	ug/L	68.8	5000	5000	4920	4880	97	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5740	5730	114	114	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2620	2610	105	104	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4410	4320	88	86	70-130	2	6	
Zinc, Dissolved	ug/L	2880	5000	5000	8070	8230	104	107	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: MSV/60208 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165005001, 60165005002

METHOD BLANK: 1347486 | Matrix: Water
Associated Lab Samples: 60165005001, 60165005002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/20/14 14:12	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,2-Dichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/20/14 14:12	
2-Butanone (MEK)	ug/L	ND	10.0	03/20/14 14:12	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/20/14 14:12	N2
Acetone	ug/L	ND	10.0	03/20/14 14:12	N2
Benzene	ug/L	ND	1.0	03/20/14 14:12	
Bromodichloromethane	ug/L	ND	1.0	03/20/14 14:12	
Bromoform	ug/L	ND	1.0	03/20/14 14:12	
Bromomethane	ug/L	ND	5.0	03/20/14 14:12	
Carbon tetrachloride	ug/L	ND	1.0	03/20/14 14:12	
Chloroethane	ug/L	ND	1.0	03/20/14 14:12	
Chloroform	ug/L	ND	1.0	03/20/14 14:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	N2
Ethylbenzene	ug/L	ND	1.0	03/20/14 14:12	
Methylene chloride	ug/L	ND	1.0	03/20/14 14:12	
Tetrachloroethene	ug/L	ND	1.0	03/20/14 14:12	
Toluene	ug/L	ND	1.0	03/20/14 14:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Trichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Vinyl chloride	ug/L	ND	1.0	03/20/14 14:12	
Xylene (Total)	ug/L	ND	3.0	03/20/14 14:12	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/20/14 14:12	
4-Bromofluorobenzene (S)	%	109	80-120	03/20/14 14:12	
Toluene-d8 (S)	%	98	80-120	03/20/14 14:12	

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.3	96	70-126	
1,4-Dichlorobenzene	ug/L	20	20.7	104	74-120	
2-Butanone (MEK)	ug/L	100	145	145	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	59-131	N2
Acetone	ug/L	100	200	200	38-134	L0,N2
Benzene	ug/L	20	18.9	95	75-120	
Bromodichloromethane	ug/L	20	20.0	100	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	18.4	92	13-157	
Carbon tetrachloride	ug/L	20	19.6	98	70-131	
Chloroethane	ug/L	20	19.7	98	47-133	
Chloroform	ug/L	20	19.6	98	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	20.7	103	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	19.7	99	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	66-129	
Trichloroethene	ug/L	20	20.9	104	71-123	
Vinyl chloride	ug/L	20	20.6	103	43-129	
Xylene (Total)	ug/L	60	64.8	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4120	103	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4040	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4050	101	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3840	96	49-144	
1,4-Dichlorobenzene	ug/L	784	4000	4720	98	33-140	
2-Butanone (MEK)	ug/L	58100	20000	85900	139	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21800	100	40-160	N2
Acetone	ug/L	126000	20000	142000	76	10-160	N2
Benzene	ug/L	ND	4000	3910	98	37-151	
Bromodichloromethane	ug/L	ND	4000	3850	96	35-142	
Bromoform	ug/L	ND	4000	3840	96	45-142	
Bromomethane	ug/L	ND	4000	3590	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4470	112	70-140	
Chloroethane	ug/L	ND	4000	3920	98	19-152	
Chloroform	ug/L	ND	4000	3750	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3920	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	4070	100	40-142	
Methylene chloride	ug/L	ND	4000	3860	96	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3910	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4120	103	54-151	
Trichloroethene	ug/L	ND	4000	4140	104	71-149	
Vinyl chloride	ug/L	ND	4000	4550	114	22-146	
Xylene (Total)	ug/L	ND	12000	13000	109	37-144	M0,N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: OEXT/43219 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165005001

METHOD BLANK: 1346097 | Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/21/14 13:48	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/21/14 13:48	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/21/14 13:48	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/21/14 13:48	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/21/14 13:48	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/21/14 13:48	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/21/14 13:48	
Hexachloroethane	ug/L	ND	5.0	03/21/14 13:48	
Naphthalene	ug/L	ND	5.0	03/21/14 13:48	
Nitrobenzene	ug/L	ND	5.0	03/21/14 13:48	
Pentachlorophenol	ug/L	ND	5.0	03/21/14 13:48	
Phenol	ug/L	ND	5.0	03/21/14 13:48	
2,4,6-Tribromophenol (S)	%	97	39-120	03/21/14 13:48	
2-Fluorobiphenyl (S)	%	95	39-120	03/21/14 13:48	
2-Fluorophenol (S)	%	44	17-120	03/21/14 13:48	
Nitrobenzene-d5 (S)	%	89	33-120	03/21/14 13:48	
Phenol-d6 (S)	%	27	11-120	03/21/14 13:48	
Terphenyl-d14 (S)	%	95	45-120	03/21/14 13:48	

LABORATORY CONTROL SAMPLE: 1346098

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.5	85	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.8	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.6	65	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	30.2	60	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.1	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	43.4	87	44-116	
Hexachlorocyclopentadiene	ug/L	100	85.6	86	24-120	
Hexachloroethane	ug/L	50	43.6	87	43-113	
Naphthalene	ug/L	50	42.8	86	48-120	
Nitrobenzene	ug/L	50	43.6	87	48-120	
Pentachlorophenol	ug/L	50	43.9	88	47-120	
Phenol	ug/L	50	14.6	29	16-112	
2,4,6-Tribromophenol (S)	%			98	39-120	
2-Fluorobiphenyl (S)	%			95	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			90	33-120	
Phenol-d6 (S)	%			26	11-120	
Terphenyl-d14 (S)	%			96	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

MATRIX SPIKE SAMPLE: 1346099

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4070	81	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4690	94	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3490	70	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7490	5000	9930	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4750J	95	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	4140	83	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8230	82	11-120	
Hexachloroethane	ug/L	ND	5000	4030	81	40-113	
Naphthalene	ug/L	2450	5000	5630	64	45-120	
Nitrobenzene	ug/L	ND	5000	6690	134	38-120	M1
Pentachlorophenol	ug/L	ND	5000	5320	106	43-135	
Phenol	ug/L	10400	5000	11100	14	13-112	
2,4,6-Tribromophenol (S)	%				96	39-120	
2-Fluorobiphenyl (S)	%				86	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				154	33-120	S0
Phenol-d6 (S)	%				38	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: WET/46789 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165005001

METHOD BLANK: 1347459 | Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/21/14 10:44	

LABORATORY CONTROL SAMPLE: 1347460

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.0	100	78-114	

MATRIX SPIKE SAMPLE: 1347461

Parameter	Units	60164813001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	3.0J	44.4	44.1	93	78-114	

SAMPLE DUPLICATE: 1347462

Parameter	Units	60164825001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	31.9	28.6	11	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: WET/46822 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165005001

METHOD BLANK: 1348445 | Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/24/14 08:28	

LABORATORY CONTROL SAMPLE: 1348446

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.2	96	64-132	

MATRIX SPIKE SAMPLE: 1348447

Parameter	Units	60164813001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.2	18.3	78	64-132	

SAMPLE DUPLICATE: 1348448

Parameter	Units	60164825001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	16.6	15.3	8	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: WET/46743 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165005001

METHOD BLANK: 1346114 | Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/20/14 08:20	

SAMPLE DUPLICATE: 1346115

Parameter	Units	60164911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	422	388	8	10	

SAMPLE DUPLICATE: 1346116

Parameter	Units	60165018002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	260	236	10	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: WET/46727
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165005001

SAMPLE DUPLICATE: 1345755

Parameter	Units	60165030002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: WET/46709 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165005001

METHOD BLANK: 1345230 | Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/22/14 14:28	

LABORATORY CONTROL SAMPLE: 1345231

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	90	85-115	

SAMPLE DUPLICATE: 1345246

Parameter	Units	60164993002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	89.3	91.9	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: WETA/28650
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165005001

METHOD BLANK: 1346052
Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/19/14 16:32	

LABORATORY CONTROL SAMPLE: 1346053

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	108	90-110	

MATRIX SPIKE SAMPLE: 1346054

Parameter	Units	60164845001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	17.9	10	26.6	87	90-110	M1

MATRIX SPIKE SAMPLE: 1346055

Parameter	Units	60164941001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	97	90-110	

SAMPLE DUPLICATE: 1346056

Parameter	Units	60164984002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

QC Batch: WETA/28656
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60165005001

METHOD BLANK: 1346082
Matrix: Water
Associated Lab Samples: 60165005001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/20/14 09:49	

LABORATORY CONTROL SAMPLE: 1346083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.4	93	90-110	

MATRIX SPIKE SAMPLE: 1346084

Parameter	Units	60164735002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	315	250	525	84	90-110	M1

MATRIX SPIKE SAMPLE: 1346086

Parameter	Units	60164775001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	470	500	969	100	90-110	

SAMPLE DUPLICATE: 1346085

Parameter	Units	60164415001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	258	278	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-246
Pace Project No.: 60165005

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.
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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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 316-246
Pace Project No.: 60165005

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165005001	**316-246**	EPA 200.7	MPRP/26508	EPA 200.7	ICP/20181
60165005001	**316-246**	EPA 200.7	MPRP/26507	EPA 200.7	ICP/20182
60165005001	**316-246**	EPA 245.1	MERP/8239	EPA 245.1	MERC/8194
60165005001	**316-246**	EPA 245.1	MERP/8238	EPA 245.1	MERC/8193
60165005001	**316-246**	EPA 625	OEXT/43219	EPA 625	MSSV/13782
60165005001	**316-246**	EPA 624 Low	MSV/60208		
60165005002	**TRIP BLANK**	EPA 624 Low	MSV/60208		
60165005001	**316-246**	EPA 1664A	WET/46789		
60165005001	**316-246**	EPA 1664A	WET/46822		
60165005001	**316-246**	SM 2540D	WET/46743		
60165005001	**316-246**	SM 4500-H+B	WET/46727		
60165005001	**316-246**	SM 5210B	WET/46709	SM 5210B	WET/46844
60165005001	**316-246**	EPA 350.1	WETA/28650		
60165005001	**316-246**	EPA 410.4	WETA/28656		

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Sample Condition Upon Receipt

WO#: 60165005

60165005

Client Name: Barr Eng.

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: 3.

Date and initials of person examining contents: JTS 3/17/14 1345

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: water	☒Yes ☐No ☐N/A	13.	
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A		BOD TBBS unable to be preserved
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.	pH > 7
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed	Lot # of added preservative
Trip Blank present: Pace Trip Blank lot # (if purchased): 012014-3	☒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: _____

Project Manager Review: _____ Date: 3/18/14

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.	PO 3727110	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 #:	6787 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

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)	60165005
1	316-246	OT	G	03/16/14	1000	—	—		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		2(BP2N) 1(BP3N) 2(AG4N) 5(DG9N) 1(BP3N) 1(BP3S) 3(PE3S) 001
2	TRIP BLANK								2	2																X					2(DG9N) 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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sam Bircher/Feezor	3-17-14	0850	Bill Stone 462	3-17-14	9:00				
SITE ADDRESS: BRIDGETON LF				[signature]	3/17/14	1310	3.2	Y	N	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 03-16-14

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

March 27, 2014

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

RE: Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

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 316-247R
Pace Project No.: 60165109

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165109001	**316-247R3**	Water	03/18/14 11:00	03/19/14 02:05
60165109002	**TRIP BLANK**	Water	03/18/14 11:00	03/19/14 02:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165109001	**316-247R3**	EPA 200.7	TDS	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	TJT	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165109002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

Sample: 316-247R3 **Lab ID: 60165109001** Collected: 03/18/14 11:00 Received: 03/19/14 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	**18800**	ug/L	750	2	03/20/14 11:25	03/25/14 13:16	7429-90-5	
Antimony	ND	ug/L	50.0	1	03/20/14 11:25	03/25/14 13:13	7440-36-0	
Arsenic	**1170**	ug/L	50.0	1	03/20/14 11:25	03/25/14 13:13	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/20/14 11:25	03/25/14 13:13	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/20/14 11:25	03/25/14 13:13	7440-43-9	
Chromium	**283**	ug/L	25.0	1	03/20/14 11:25	03/25/14 13:13	7440-47-3	
Cobalt	**45.3**	ug/L	25.0	1	03/20/14 11:25	03/25/14 13:13	7440-48-4	
Copper	ND	ug/L	50.0	1	03/20/14 11:25	03/25/14 13:13	7440-50-8	
Iron	**1010000**	ug/L	250	1	03/20/14 11:25	03/25/14 13:13	7439-89-6	
Lead	**176**	ug/L	25.0	1	03/20/14 11:25	03/25/14 13:13	7439-92-1	
Nickel	**133**	ug/L	25.0	1	03/20/14 11:25	03/25/14 13:13	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/20/14 11:25	03/25/14 13:13	7782-49-2	
Silver	ND	ug/L	35.0	1	03/20/14 11:25	03/25/14 13:13	7440-22-4	
Thallium	ND	ug/L	100	1	03/20/14 11:25	03/25/14 13:13	7440-28-0	
Zinc	**4780**	ug/L	500	2	03/20/14 11:25	03/25/14 13:16	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1580**	ug/L	750	2	03/19/14 14:30	03/21/14 09:55	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	03/19/14 14:30	03/21/14 09:55	7440-36-0	D3
Arsenic, Dissolved	**1090**	ug/L	50.0	1	03/19/14 14:30	03/21/14 09:51	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/19/14 14:30	03/21/14 09:51	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/19/14 14:30	03/21/14 09:51	7440-43-9	
Chromium, Dissolved	**196**	ug/L	25.0	1	03/19/14 14:30	03/21/14 09:51	7440-47-3	
Cobalt, Dissolved	**36.1**	ug/L	25.0	1	03/19/14 14:30	03/21/14 09:51	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/19/14 14:30	03/21/14 09:51	7440-50-8	
Iron, Dissolved	**647000**	ug/L	250	1	03/19/14 14:30	03/21/14 09:51	7439-89-6	
Lead, Dissolved	**101**	ug/L	25.0	1	03/19/14 14:30	03/21/14 09:51	7439-92-1	
Nickel, Dissolved	**99.4**	ug/L	25.0	1	03/19/14 14:30	03/21/14 09:51	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/19/14 14:30	03/21/14 09:51	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/19/14 14:30	03/21/14 09:51	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/19/14 14:30	03/21/14 09:51	7440-28-0	
Zinc, Dissolved	**4110**	ug/L	500	2	03/19/14 14:30	03/21/14 09:55	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**62.7**	ug/L	6.0	1	03/26/14 11:30	03/26/14 15:35	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	03/19/14 16:30	03/20/14 10:05	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	12500	5	03/20/14 00:00	03/24/14 15:08	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	77-47-4	
Hexachloroethane	ND	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	67-72-1	M1
2-Methylphenol(o-Cresol)	ND	ug/L	5000	5	03/20/14 00:00	03/24/14 15:08	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**15000**	ug/L	10000	5	03/20/14 00:00	03/24/14 15:08		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

Sample: 316-247R3 **Lab ID: 60165109001** Collected: 03/18/14 11:00 Received: 03/19/14 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	**13500**	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	91-20-3	
Nitrobenzene	ND	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	98-95-3	M1
Pentachlorophenol	ND	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	87-86-5	
Phenol	**21600**	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	2500	5	03/20/14 00:00	03/24/14 15:08	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	136	%	33-120	5	03/20/14 00:00	03/24/14 15:08	4165-60-0	S0
2-Fluorobiphenyl (S)	77	%	39-120	5	03/20/14 00:00	03/24/14 15:08	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	5	03/20/14 00:00	03/24/14 15:08	1718-51-0	
Phenol-d6 (S)	59	%	11-120	5	03/20/14 00:00	03/24/14 15:08	13127-88-3	
2-Fluorophenol (S)	63	%	17-120	5	03/20/14 00:00	03/24/14 15:08	367-12-4	
2,4,6-Tribromophenol (S)	80	%	39-120	5	03/20/14 00:00	03/24/14 15:08	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**179000**	ug/L	2000	200		03/20/14 19:45	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/20/14 19:45	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/20/14 19:45	75-27-4	
Bromoform	ND	ug/L	200	200		03/20/14 19:45	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/20/14 19:45	74-83-9	
2-Butanone (MEK)	**92900**	ug/L	2000	200		03/20/14 19:45	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/20/14 19:45	56-23-5	
Chloroethane	ND	ug/L	200	200		03/20/14 19:45	75-00-3	
Chloroform	ND	ug/L	200	200		03/20/14 19:45	67-66-3	
1,4-Dichlorobenzene	**5630**	ug/L	200	200		03/20/14 19:45	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/20/14 19:45	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 19:45	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 19:45	156-60-5	
Ethylbenzene	**971**	ug/L	200	200		03/20/14 19:45	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/20/14 19:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3040**	ug/L	2000	200		03/20/14 19:45	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/20/14 19:45	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/20/14 19:45	127-18-4	
Toluene	ND	ug/L	200	200		03/20/14 19:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/20/14 19:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/20/14 19:45	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/20/14 19:45	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/20/14 19:45	75-01-4	
Xylene (Total)	**4080**	ug/L	600	200		03/20/14 19:45	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		03/20/14 19:45	460-00-4	HS
Toluene-d8 (S)	97	%	80-120	200		03/20/14 19:45	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		03/20/14 19:45	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/20/14 19:45		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**3430**	mg/L	5.0	1		03/25/14 07:27		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

Sample: 316-247R3 **Lab ID: 60165109001** Collected: 03/18/14 11:00 Received: 03/19/14 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	**51.6**	mg/L	5.0	1		03/26/14 07:10		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4200**	mg/L	5.0	1		03/22/14 07:55		D6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		03/24/14 13:43		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**35400**	mg/L	2.0	1	03/20/14 10:35	03/25/14 12:53		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**601**	mg/L	20.0	200		03/19/14 15:07	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**64100**	mg/L	5000	500		03/22/14 07:05		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

Sample: TRIP BLANK **Lab ID: 60165109002** Collected: 03/18/14 11:00 Received: 03/19/14 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		03/20/14 16:25	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/20/14 16:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/20/14 16:25	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/20/14 16:25	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/20/14 16:25	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/20/14 16:25	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/20/14 16:25	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/20/14 16:25	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/20/14 16:25	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/20/14 16:25	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/20/14 16:25	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 16:25	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 16:25	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/20/14 16:25	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/20/14 16:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/20/14 16:25	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/20/14 16:25	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/20/14 16:25	127-18-4	
Toluene	ND	ug/L	1.0	1		03/20/14 16:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/20/14 16:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/20/14 16:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/20/14 16:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/20/14 16:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/20/14 16:25	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		03/20/14 16:25	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/20/14 16:25	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		03/20/14 16:25	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/20/14 16:25		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: MERP/8249 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165109001

METHOD BLANK: 1350218 | Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/26/14 15:30	

LABORATORY CONTROL SAMPLE: 1350219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350220 1350221

Parameter	Units	60165109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	62.7	150	150	196	177	89	76	70-130	10	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: MERP/8238
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165109001

METHOD BLANK: 1346679
Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/20/14 09:44	

LABORATORY CONTROL SAMPLE: 1346680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346681 1346682

Parameter	Units	60164852001 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	74.7	94.2	50	63	70-130	23	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: MPRP/26547
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165109001

METHOD BLANK: 1347179
Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/24/14 16:38	
Antimony	ug/L	ND	10.0	03/24/14 16:38	
Arsenic	ug/L	ND	10.0	03/24/14 16:38	
Beryllium	ug/L	ND	1.0	03/24/14 16:38	
Cadmium	ug/L	ND	5.0	03/24/14 16:38	
Chromium	ug/L	ND	5.0	03/24/14 16:38	
Cobalt	ug/L	ND	5.0	03/24/14 16:38	
Copper	ug/L	ND	10.0	03/24/14 16:38	
Iron	ug/L	ND	50.0	03/24/14 16:38	
Lead	ug/L	ND	5.0	03/24/14 16:38	
Nickel	ug/L	ND	5.0	03/24/14 16:38	
Selenium	ug/L	ND	15.0	03/24/14 16:38	
Silver	ug/L	ND	7.0	03/24/14 16:38	
Thallium	ug/L	ND	20.0	03/24/14 16:38	
Zinc	ug/L	ND	50.0	03/24/14 16:38	

LABORATORY CONTROL SAMPLE: 1347180

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	993	99	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1030	103	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	1050	105	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	505	101	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347181 1347182

Parameter	Units	60165144002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10400	10200	103	102	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347181 1347182

Parameter	Units	60165144002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1020	104	102	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1020	1000	102	100	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1050	1030	105	103	70-130	2	7	
Cadmium	ug/L	0.023 mg/L	1000	1000	1060	1030	103	101	70-130	2	10	
Chromium	ug/L	0.69 mg/L	1000	1000	1730	1690	104	100	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	1040	1010	104	101	70-130	3	6	
Copper	ug/L	0.087 mg/L	1000	1000	1110	1090	103	100	70-130	2	11	
Iron	ug/L	179	10000	10000	10500	10200	103	101	70-130	2	10	
Lead	ug/L	0.0083 mg/L	1000	1000	1040	1020	103	101	70-130	2	10	
Nickel	ug/L	0.34 mg/L	1000	1000	1390	1360	105	102	70-130	2	10	
Selenium	ug/L	ND	1000	1000	1040	1010	103	100	70-130	3	10	
Silver	ug/L	ND	500	500	514	502	103	100	70-130	2	10	
Thallium	ug/L	ND	1000	1000	1030	998	103	100	70-130	3	6	
Zinc	ug/L	0.33 mg/L	1000	1000	1360	1330	103	100	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: MPRP/26536
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165109001

METHOD BLANK: 1346560
Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/21/14 08:53	
Antimony, Dissolved	ug/L	ND	10.0	03/21/14 08:53	
Arsenic, Dissolved	ug/L	ND	10.0	03/21/14 08:53	
Beryllium, Dissolved	ug/L	ND	1.0	03/21/14 08:53	
Cadmium, Dissolved	ug/L	ND	5.0	03/21/14 08:53	
Chromium, Dissolved	ug/L	ND	5.0	03/21/14 08:53	
Cobalt, Dissolved	ug/L	ND	5.0	03/21/14 08:53	
Copper, Dissolved	ug/L	ND	10.0	03/21/14 08:53	
Iron, Dissolved	ug/L	ND	50.0	03/21/14 08:53	
Lead, Dissolved	ug/L	ND	5.0	03/21/14 08:53	
Nickel, Dissolved	ug/L	ND	5.0	03/21/14 08:53	
Selenium, Dissolved	ug/L	ND	15.0	03/21/14 08:53	
Silver, Dissolved	ug/L	ND	7.0	03/21/14 08:53	
Thallium, Dissolved	ug/L	ND	20.0	03/21/14 08:53	
Zinc, Dissolved	ug/L	ND	50.0	03/21/14 08:53	

LABORATORY CONTROL SAMPLE: 1346561

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10000	100	85-115	
Antimony, Dissolved	ug/L	1000	1000	100	85-115	
Arsenic, Dissolved	ug/L	1000	972	97	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	981	98	85-115	
Chromium, Dissolved	ug/L	1000	995	100	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	990	99	85-115	
Iron, Dissolved	ug/L	10000	10100	101	85-115	
Lead, Dissolved	ug/L	1000	993	99	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	994	99	85-115	
Silver, Dissolved	ug/L	500	485	97	85-115	
Thallium, Dissolved	ug/L	1000	985	98	85-115	
Zinc, Dissolved	ug/L	1000	997	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346562 1346563

Parameter	Units	60165024001 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	ND	10000	10000	9990	9960	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1346562 1346563

Parameter	Units	60165024001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1000	998	100	100	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	974	975	97	98	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	7	
Cadmium, Dissolved	ug/L	0.91J	1000	1000	984	975	98	97	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	975	973	97	97	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	978	972	98	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	988	988	99	99	70-130	0	11	
Iron, Dissolved	ug/L	ND	10000	10000	10000	9970	100	100	70-130	0	10	
Lead, Dissolved	ug/L	3.2J	1000	1000	978	970	98	97	70-130	1	10	
Nickel, Dissolved	ug/L	1.4J	1000	1000	983	982	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	987	988	99	99	70-130	0	10	
Silver, Dissolved	ug/L	ND	500	500	483	482	97	96	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	976	972	97	97	70-130	0	6	
Zinc, Dissolved	ug/L	29.7J	1000	1000	988	986	96	96	70-130	0	11	

MATRIX SPIKE SAMPLE: 1346564

Parameter	Units	60165024002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	10100	101	70-130	
Antimony, Dissolved	ug/L	ND	1000	1010	101	70-130	
Arsenic, Dissolved	ug/L	ND	1000	985	98	70-130	
Beryllium, Dissolved	ug/L	ND	1000	1020	102	70-130	
Cadmium, Dissolved	ug/L	0.95J	1000	986	99	70-130	
Chromium, Dissolved	ug/L	1.1J	1000	984	98	70-130	
Cobalt, Dissolved	ug/L	ND	1000	987	99	70-130	
Copper, Dissolved	ug/L	ND	1000	1000	100	70-130	
Iron, Dissolved	ug/L	ND	10000	10100	101	70-130	
Lead, Dissolved	ug/L	3.6J	1000	982	98	70-130	
Nickel, Dissolved	ug/L	ND	1000	992	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	997	100	70-130	
Silver, Dissolved	ug/L	ND	500	486	97	70-130	
Thallium, Dissolved	ug/L	ND	1000	984	98	70-130	
Zinc, Dissolved	ug/L	20.7J	1000	987	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: MSV/60208 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165109001, 60165109002

METHOD BLANK: 1347486 | Matrix: Water
Associated Lab Samples: 60165109001, 60165109002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/20/14 14:12	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,2-Dichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/20/14 14:12	
2-Butanone (MEK)	ug/L	ND	10.0	03/20/14 14:12	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/20/14 14:12	N2
Acetone	ug/L	ND	10.0	03/20/14 14:12	N2
Benzene	ug/L	ND	1.0	03/20/14 14:12	
Bromodichloromethane	ug/L	ND	1.0	03/20/14 14:12	
Bromoform	ug/L	ND	1.0	03/20/14 14:12	
Bromomethane	ug/L	ND	5.0	03/20/14 14:12	
Carbon tetrachloride	ug/L	ND	1.0	03/20/14 14:12	
Chloroethane	ug/L	ND	1.0	03/20/14 14:12	
Chloroform	ug/L	ND	1.0	03/20/14 14:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	N2
Ethylbenzene	ug/L	ND	1.0	03/20/14 14:12	
Methylene chloride	ug/L	ND	1.0	03/20/14 14:12	
Tetrachloroethene	ug/L	ND	1.0	03/20/14 14:12	
Toluene	ug/L	ND	1.0	03/20/14 14:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Trichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Vinyl chloride	ug/L	ND	1.0	03/20/14 14:12	
Xylene (Total)	ug/L	ND	3.0	03/20/14 14:12	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/20/14 14:12	
4-Bromofluorobenzene (S)	%	109	80-120	03/20/14 14:12	
Toluene-d8 (S)	%	98	80-120	03/20/14 14:12	

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.3	96	70-126	
1,4-Dichlorobenzene	ug/L	20	20.7	104	74-120	
2-Butanone (MEK)	ug/L	100	145	145	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	59-131	N2
Acetone	ug/L	100	200	200	38-134	L0,N2
Benzene	ug/L	20	18.9	95	75-120	
Bromodichloromethane	ug/L	20	20.0	100	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	18.4	92	13-157	
Carbon tetrachloride	ug/L	20	19.6	98	70-131	
Chloroethane	ug/L	20	19.7	98	47-133	
Chloroform	ug/L	20	19.6	98	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	20.7	103	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	19.7	99	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	66-129	
Trichloroethene	ug/L	20	20.9	104	71-123	
Vinyl chloride	ug/L	20	20.6	103	43-129	
Xylene (Total)	ug/L	60	64.8	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4120	103	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4040	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4050	101	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3840	96	49-144	
1,4-Dichlorobenzene	ug/L	784	4000	4720	98	33-140	
2-Butanone (MEK)	ug/L	58100	20000	85900	139	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21800	100	40-160	N2
Acetone	ug/L	126000	20000	142000	76	10-160	N2
Benzene	ug/L	ND	4000	3910	98	37-151	
Bromodichloromethane	ug/L	ND	4000	3850	96	35-142	
Bromoform	ug/L	ND	4000	3840	96	45-142	
Bromomethane	ug/L	ND	4000	3590	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4470	112	70-140	
Chloroethane	ug/L	ND	4000	3920	98	19-152	
Chloroform	ug/L	ND	4000	3750	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3920	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	4070	100	40-142	
Methylene chloride	ug/L	ND	4000	3860	96	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3910	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4120	103	54-151	
Trichloroethene	ug/L	ND	4000	4140	104	71-149	
Vinyl chloride	ug/L	ND	4000	4550	114	22-146	
Xylene (Total)	ug/L	ND	12000	13000	109	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: OEXT/43252 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165109001

METHOD BLANK: 1346998 | Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/24/14 14:04	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/24/14 14:04	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/24/14 14:04	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/24/14 14:04	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/24/14 14:04	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/24/14 14:04	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/24/14 14:04	
Hexachloroethane	ug/L	ND	5.0	03/24/14 14:04	
Naphthalene	ug/L	ND	5.0	03/24/14 14:04	
Nitrobenzene	ug/L	ND	5.0	03/24/14 14:04	
Pentachlorophenol	ug/L	ND	5.0	03/24/14 14:04	
Phenol	ug/L	ND	5.0	03/24/14 14:04	
2,4,6-Tribromophenol (S)	%	78	39-120	03/24/14 14:04	
2-Fluorobiphenyl (S)	%	76	39-120	03/24/14 14:04	
2-Fluorophenol (S)	%	51	17-120	03/24/14 14:04	
Nitrobenzene-d5 (S)	%	70	33-120	03/24/14 14:04	
Phenol-d6 (S)	%	38	11-120	03/24/14 14:04	
Terphenyl-d14 (S)	%	78	45-120	03/24/14 14:04	

LABORATORY CONTROL SAMPLE: 1346999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.8	70	46-120	
2,4,6-Trichlorophenol	ug/L	50	34.9	70	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.4	65	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	38.9	78	40-133	
Hexachloro-1,3-butadiene	ug/L	50	34.3	69	44-116	
Hexachlorocyclopentadiene	ug/L	100	56.0	56	24-120	
Hexachloroethane	ug/L	50	34.7	69	43-113	
Naphthalene	ug/L	50	34.2	68	48-120	
Nitrobenzene	ug/L	50	33.9	68	48-120	
Pentachlorophenol	ug/L	50	36.4	73	47-120	
Phenol	ug/L	50	20.0	40	16-112	
2,4,6-Tribromophenol (S)	%			75	39-120	
2-Fluorobiphenyl (S)	%			77	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			70	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

MATRIX SPIKE SAMPLE: 1347000

Parameter	Units	60165109001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3750	75	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3710	74	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	5610	112	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	15000	5000	16700	34	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3170J	63	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3270	65	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4650	46	11-120	
Hexachloroethane	ug/L	ND	5000	5940	119	40-113	M1
Naphthalene	ug/L	13500	5000	18100	92	45-120	
Nitrobenzene	ug/L	ND	5000	15200	305	38-120	M1
Pentachlorophenol	ug/L	ND	5000	3890	78	43-135	
Phenol	ug/L	21600	5000	22600	18	13-112	
2,4,6-Tribromophenol (S)	%				74	39-120	
2-Fluorobiphenyl (S)	%				72	39-120	
2-Fluorophenol (S)	%				45	17-120	
Nitrobenzene-d5 (S)	%				204	33-120	S0
Phenol-d6 (S)	%				58	11-120	
Terphenyl-d14 (S)	%				72	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: WET/46861 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165109001

METHOD BLANK: 1349447 | Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/25/14 07:24	

LABORATORY CONTROL SAMPLE: 1349448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.8	95	78-114	

MATRIX SPIKE SAMPLE: 1349449

Parameter	Units	60164689002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	172	42.6	220	113	78-114	

SAMPLE DUPLICATE: 1349450

Parameter	Units	60165109001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	3430	3580	4	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: WET/46905 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165109001

METHOD BLANK: 1350044 | Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/26/14 07:09	

LABORATORY CONTROL SAMPLE: 1350045

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.4	102	64-132	

MATRIX SPIKE SAMPLE: 1350046

Parameter	Units	60164689002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	12.9	21.3	33.3	96	64-132	

SAMPLE DUPLICATE: 1350047

Parameter	Units	60165109001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	51.6	54.0	5	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: WET/46799 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165109001

METHOD BLANK: 1347773 | Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/22/14 07:55	

SAMPLE DUPLICATE: 1347774

Parameter	Units	60165109001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4200	5040	18	10	D6

SAMPLE DUPLICATE: 1347775

Parameter	Units	60165051001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	7.0	5.0	33	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: WET/46836
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165109001

SAMPLE DUPLICATE: 1349134

Parameter	Units	60165374001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: WET/46776 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165109001

METHOD BLANK: 1347043 | Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/25/14 12:42	

LABORATORY CONTROL SAMPLE: 1347044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	102	85-115	

SAMPLE DUPLICATE: 1347045

Parameter	Units	60165207003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	119	118	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: WETA/28652 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165109001

METHOD BLANK: 1346063 | Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/19/14 14:04	

LABORATORY CONTROL SAMPLE: 1346064

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1346065

Parameter	Units	60165063001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.5	75	90-110	M1

MATRIX SPIKE SAMPLE: 1346066

Parameter	Units	60165073001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.17	2	1.8	81	90-110	M1

SAMPLE DUPLICATE: 1346067

Parameter	Units	60165094002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	19.8	20.3	3	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

QC Batch: WETA/28674 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165109001

METHOD BLANK: 1346993 | Matrix: Water
Associated Lab Samples: 60165109001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/22/14 06:51	

LABORATORY CONTROL SAMPLE: 1346994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	47.6	95	90-110	

MATRIX SPIKE SAMPLE: 1346995

Parameter	Units	60164784001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	220	250	549	132	90-110	M1

MATRIX SPIKE SAMPLE: 1346997

Parameter	Units	60165160002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	16.6	50	58.4	84	90-110	M1

SAMPLE DUPLICATE: 1346996

Parameter	Units	60164688001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	1700	1670	2	25	

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QUALIFIERS

Project: BRIDGETON LF 316-247R
Pace Project No.: 60165109

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.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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 316-247R
Pace Project No.: 60165109

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165109001	**316-247R3**	EPA 200.7	MPRP/26547	EPA 200.7	ICP/20210
60165109001	**316-247R3**	EPA 200.7	MPRP/26536	EPA 200.7	ICP/20196
60165109001	**316-247R3**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165109001	**316-247R3**	EPA 245.1	MERP/8238	EPA 245.1	MERC/8193
60165109001	**316-247R3**	EPA 625	OEXT/43252	EPA 625	MSSV/13793
60165109001	**316-247R3**	EPA 624 Low	MSV/60208		
60165109002	**TRIP BLANK**	EPA 624 Low	MSV/60208		
60165109001	**316-247R3**	EPA 1664A	WET/46861		
60165109001	**316-247R3**	EPA 1664A	WET/46905		
60165109001	**316-247R3**	SM 2540D	WET/46799		
60165109001	**316-247R3**	SM 4500-H+B	WET/46836		
60165109001	**316-247R3**	SM 5210B	WET/46776	SM 5210B	WET/46893
60165109001	**316-247R3**	EPA 350.1	WETA/28652		
60165109001	**316-247R3**	EPA 410.4	WETA/28674		

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Sample Condition Upon Receipt

WO#: 60165109
60165109

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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 4.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/19/14

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: 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 for both BP3N & BP3S 4.5, added 25ml, final for both 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 ⊕ Lot # of added preservative HNO3-12513-10-9 H2SO4-12522-2-7
Trip Blank present: Pace Trip Blank lot # (if purchased): Covers 0	☑Yes	☐No	☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes	☐No	☐N/A	5 of 5 DHAU 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 HKB Date: 3/19/14

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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. PO 3727110	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 #: 6787 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)	60165104
1	B035 316-247R3 ~~2BP3U~~ 2BP2U	OT	G	3/18/14	1100				14	10	4	1	0	BP3U		5	DH9U		X	X	X	X	X	X	X	X	X	X	X	2AG4U, 3AG3S, BP3N 3.0	
2	TRIP BLANK								2	2				2	DH9U				(+B)							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	Julie Croak / FEI	3/18/14	1415	[signature]	3/18/14	1415				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	3/19/14	0205	4.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Sam Bircher		
SIGNATURE of SAMPLER:	[signature]	DATE Signed:	3-18-14

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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Lenexa, KS 66219
(913)599-5665

March 27, 2014

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

RE: Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

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 321-MSD
Pace Project No.: 60165249

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165249001	**321-MSD**	Water	03/19/14 11:00	03/20/14 00:45
60165249002	**TRIP BLANK**	Water	03/19/14 11:00	03/20/14 00:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165249001	**321-MSD**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165249002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

Sample: 321-MSD **Lab ID: 60165249001** Collected: 03/19/14 11:00 Received: 03/20/14 00:45 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	**4060**	ug/L	750	2	03/21/14 14:30	03/24/14 17:25	7429-90-5	
Antimony	**88.2**	ug/L	50.0	1	03/21/14 14:30	03/24/14 17:23	7440-36-0	
Arsenic	**843**	ug/L	50.0	1	03/21/14 14:30	03/24/14 17:23	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/21/14 14:30	03/24/14 17:23	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/21/14 14:30	03/24/14 17:23	7440-43-9	
Chromium	**256**	ug/L	25.0	1	03/21/14 14:30	03/24/14 17:23	7440-47-3	
Cobalt	**46.0**	ug/L	25.0	1	03/21/14 14:30	03/24/14 17:23	7440-48-4	
Copper	**101**	ug/L	50.0	1	03/21/14 14:30	03/24/14 17:23	7440-50-8	
Iron	**794000**	ug/L	250	1	03/21/14 14:30	03/24/14 17:23	7439-89-6	M1
Lead	**70.2**	ug/L	25.0	1	03/21/14 14:30	03/24/14 17:23	7439-92-1	
Nickel	**144**	ug/L	25.0	1	03/21/14 14:30	03/24/14 17:23	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/21/14 14:30	03/24/14 17:23	7782-49-2	
Silver	ND	ug/L	35.0	1	03/21/14 14:30	03/24/14 17:23	7440-22-4	
Thallium	ND	ug/L	100	1	03/21/14 14:30	03/24/14 17:23	7440-28-0	
Zinc	**6280**	ug/L	500	2	03/21/14 14:30	03/24/14 17:25	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**463**	ug/L	150	2	03/20/14 18:45	03/24/14 16:04	7429-90-5	
Antimony, Dissolved	**13.0**	ug/L	10.0	1	03/20/14 18:45	03/24/14 16:02	7440-36-0	
Arsenic, Dissolved	**142**	ug/L	10.0	1	03/20/14 18:45	03/24/14 16:02	7440-38-2	
Beryllium, Dissolved	ND	ug/L	1.0	1	03/20/14 18:45	03/24/14 16:02	7440-41-7	
Cadmium, Dissolved	ND	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:02	7440-43-9	
Chromium, Dissolved	**41.5**	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:02	7440-47-3	
Cobalt, Dissolved	**7.5**	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:02	7440-48-4	
Copper, Dissolved	**10.1**	ug/L	10.0	1	03/20/14 18:45	03/24/14 16:02	7440-50-8	
Iron, Dissolved	**126000**	ug/L	50.0	1	03/20/14 18:45	03/24/14 16:02	7439-89-6	
Lead, Dissolved	**8.2**	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:02	7439-92-1	
Nickel, Dissolved	**24.4**	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:02	7440-02-0	
Selenium, Dissolved	ND	ug/L	15.0	1	03/20/14 18:45	03/24/14 16:02	7782-49-2	
Silver, Dissolved	ND	ug/L	7.0	1	03/20/14 18:45	03/24/14 16:02	7440-22-4	
Thallium, Dissolved	ND	ug/L	20.0	1	03/20/14 18:45	03/24/14 16:02	7440-28-0	
Zinc, Dissolved	**1050**	ug/L	100	2	03/20/14 18:45	03/24/14 16:04	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/26/14 11:30	03/26/14 15:44	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	03/26/14 11:30	03/27/14 13:32	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/24/14 00:00	03/25/14 19:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:22	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/24/14 00:00	03/25/14 19:22	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6810**	ug/L	4000	2	03/24/14 00:00	03/25/14 19:22		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

Sample: 321-MSD **Lab ID: 60165249001** Collected: 03/19/14 11:00 Received: 03/20/14 00:45 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	03/24/14 00:00	03/25/14 19:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:22	98-95-3	M1
Pentachlorophenol	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:22	87-86-5	
Phenol	**9190**	ug/L	1000	2	03/24/14 00:00	03/25/14 19:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	134	%	33-120	2	03/24/14 00:00	03/25/14 19:22	4165-60-0	S0
2-Fluorobiphenyl (S)	84	%	39-120	2	03/24/14 00:00	03/25/14 19:22	321-60-8	
Terphenyl-d14 (S)	95	%	45-120	2	03/24/14 00:00	03/25/14 19:22	1718-51-0	
Phenol-d6 (S)	40	%	11-120	2	03/24/14 00:00	03/25/14 19:22	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	03/24/14 00:00	03/25/14 19:22	367-12-4	
2,4,6-Tribromophenol (S)	87	%	39-120	2	03/24/14 00:00	03/25/14 19:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**177000**	ug/L	2000	200		03/20/14 20:02	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/20/14 20:02	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/20/14 20:02	75-27-4	
Bromoform	ND	ug/L	200	200		03/20/14 20:02	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/20/14 20:02	74-83-9	
2-Butanone (MEK)	**98000**	ug/L	2000	200		03/20/14 20:02	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/20/14 20:02	56-23-5	
Chloroethane	ND	ug/L	200	200		03/20/14 20:02	75-00-3	
Chloroform	ND	ug/L	200	200		03/20/14 20:02	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		03/20/14 20:02	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/20/14 20:02	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 20:02	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 20:02	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/20/14 20:02	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/20/14 20:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2380**	ug/L	2000	200		03/20/14 20:02	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/20/14 20:02	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/20/14 20:02	127-18-4	
Toluene	ND	ug/L	200	200		03/20/14 20:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/20/14 20:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/20/14 20:02	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/20/14 20:02	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/20/14 20:02	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/20/14 20:02	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	200		03/20/14 20:02	460-00-4	
Toluene-d8 (S)	95	%	80-120	200		03/20/14 20:02	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		03/20/14 20:02	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/20/14 20:02		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**62.2**	mg/L	5.0	1		03/26/14 07:33		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

Sample: 321-MSD **Lab ID: 60165249001** Collected: 03/19/14 11:00 Received: 03/20/14 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**22.2**	mg/L	5.0	1		03/27/14 07:49		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1620**	mg/L	5.0	1		03/22/14 08:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		03/24/14 13:43		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**19400**	mg/L	2.0	1	03/21/14 08:33	03/26/14 13:45		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**596**	mg/L	20.0	200		03/25/14 14:48	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55100**	mg/L	5000	500		03/24/14 11:40		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

Sample: TRIP BLANK **Lab ID: 60165249002** Collected: 03/19/14 11:00 Received: 03/20/14 00:45 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		03/20/14 18:22	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/20/14 18:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/20/14 18:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/20/14 18:22	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/20/14 18:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/20/14 18:22	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/20/14 18:22	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/20/14 18:22	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/20/14 18:22	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/20/14 18:22	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/20/14 18:22	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 18:22	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 18:22	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/20/14 18:22	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/20/14 18:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/20/14 18:22	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/20/14 18:22	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/20/14 18:22	127-18-4	
Toluene	ND	ug/L	1.0	1		03/20/14 18:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/20/14 18:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/20/14 18:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/20/14 18:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/20/14 18:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/20/14 18:22	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		03/20/14 18:22	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/20/14 18:22	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		03/20/14 18:22	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/20/14 18:22		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: MERP/8249
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165249001

METHOD BLANK: 1350218
Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/26/14 15:30	

LABORATORY CONTROL SAMPLE: 1350219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350220 1350221

Parameter	Units	60165109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	62.7	150	150	196	177	89	76	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: MERP/8253 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165249001

METHOD BLANK: 1350234 | Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/27/14 13:27	

LABORATORY CONTROL SAMPLE: 1350235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350236 1350237

Parameter	Units	60165249001 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	160	146	107	97	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: MPRP/26563
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165249001

METHOD BLANK: 1348253
Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/24/14 17:18	
Antimony	ug/L	ND	10.0	03/24/14 17:18	
Arsenic	ug/L	ND	10.0	03/24/14 17:18	
Beryllium	ug/L	ND	1.0	03/24/14 17:18	
Cadmium	ug/L	ND	5.0	03/24/14 17:18	
Chromium	ug/L	ND	5.0	03/24/14 17:18	
Cobalt	ug/L	ND	5.0	03/24/14 17:18	
Copper	ug/L	ND	10.0	03/24/14 17:18	
Iron	ug/L	ND	50.0	03/24/14 17:18	
Lead	ug/L	ND	5.0	03/24/14 17:18	
Nickel	ug/L	ND	5.0	03/24/14 17:18	
Selenium	ug/L	ND	15.0	03/24/14 17:18	
Silver	ug/L	ND	7.0	03/24/14 17:18	
Thallium	ug/L	ND	20.0	03/24/14 17:18	
Zinc	ug/L	ND	50.0	03/24/14 17:18	

LABORATORY CONTROL SAMPLE: 1348254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9500	95	85-115	
Antimony	ug/L	1000	974	97	85-115	
Arsenic	ug/L	1000	935	94	85-115	
Beryllium	ug/L	1000	963	96	85-115	
Cadmium	ug/L	1000	960	96	85-115	
Chromium	ug/L	1000	964	96	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	988	99	85-115	
Iron	ug/L	10000	9670	97	85-115	
Lead	ug/L	1000	996	100	85-115	
Nickel	ug/L	1000	997	100	85-115	
Selenium	ug/L	1000	977	98	85-115	
Silver	ug/L	500	484	97	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1348255 1348256

Parameter	Units	60165249001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4060	50000	50000	58400	56700	109	105	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1348255 1348256

Parameter	Units	60165249001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	88.2	5000	5000	5440	5460	107	107	70-130	0	7	
Arsenic	ug/L	843	5000	5000	6300	6430	109	112	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4900	4930	98	99	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5300	5320	106	106	70-130	0	10	
Chromium	ug/L	256	5000	5000	5220	5240	99	100	70-130	0	10	
Cobalt	ug/L	46.0	5000	5000	5040	5050	100	100	70-130	0	6	
Copper	ug/L	101	5000	5000	5480	5520	107	108	70-130	1	11	
Iron	ug/L	794000	50000	50000	844000	902000	99	214	70-130	7	10	M1
Lead	ug/L	70.2	5000	5000	4780	4800	94	95	70-130	0	10	
Nickel	ug/L	144	5000	5000	5040	5060	98	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5930	5980	118	119	70-130	1	10	
Silver	ug/L	ND	2500	2500	2690	2710	108	108	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4380	4390	88	88	70-130	0	6	
Zinc	ug/L	6280	5000	5000	11800	11800	110	111	70-130	0	11	

MATRIX SPIKE SAMPLE: 1348257

Parameter	Units	60165233002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	0.22 mg/L	10000	10200	99	70-130	
Antimony	ug/L	ND	1000	1030	103	70-130	
Arsenic	ug/L	ND	1000	1020	102	70-130	
Beryllium	ug/L	ND	1000	1000	100	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	0.19 mg/L	1000	1200	101	70-130	
Cobalt	ug/L	ND	1000	1010	101	70-130	
Copper	ug/L	0.41 mg/L	1000	1520	112	70-130	
Iron	ug/L	0.84 mg/L	10000	10800	99	70-130	
Lead	ug/L	ND	1000	986	99	70-130	
Nickel	ug/L	0.085 mg/L	1000	1080	100	70-130	
Selenium	ug/L	ND	1000	1040	103	70-130	
Silver	ug/L	ND	500	519	103	70-130	
Thallium	ug/L	ND	1000	919	92	70-130	
Zinc	ug/L	0.084 mg/L	1000	1120	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: MPRP/26556
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165249001

METHOD BLANK: 1347642
Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/24/14 15:58	
Antimony, Dissolved	ug/L	ND	10.0	03/24/14 15:58	
Arsenic, Dissolved	ug/L	ND	10.0	03/24/14 15:58	
Beryllium, Dissolved	ug/L	ND	1.0	03/24/14 15:58	
Cadmium, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Chromium, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Cobalt, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Copper, Dissolved	ug/L	ND	10.0	03/24/14 15:58	
Iron, Dissolved	ug/L	ND	50.0	03/24/14 15:58	
Lead, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Nickel, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Selenium, Dissolved	ug/L	ND	15.0	03/24/14 15:58	
Silver, Dissolved	ug/L	ND	7.0	03/24/14 15:58	
Thallium, Dissolved	ug/L	ND	20.0	03/24/14 15:58	
Zinc, Dissolved	ug/L	ND	50.0	03/24/14 15:58	

LABORATORY CONTROL SAMPLE: 1347643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	988	99	85-115	
Arsenic, Dissolved	ug/L	1000	954	95	85-115	
Beryllium, Dissolved	ug/L	1000	997	100	85-115	
Cadmium, Dissolved	ug/L	1000	979	98	85-115	
Chromium, Dissolved	ug/L	1000	998	100	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	987	99	85-115	
Iron, Dissolved	ug/L	10000	9980	100	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	983	98	85-115	
Silver, Dissolved	ug/L	500	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347644 1347645

Parameter	Units	60165250001 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	469	10000	10000	10700	10300	103	98	70-130	4	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347644 1347645

Parameter	Units	60165250001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	11.5	1000	1000	1060	1060	105	104	70-130	1	7	
Arsenic, Dissolved	ug/L	105	1000	1000	1180	1160	107	105	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	976	970	98	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1040	1030	104	103	70-130	1	10	
Chromium, Dissolved	ug/L	32.7	1000	1000	1020	1020	99	98	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	990	987	99	98	70-130	0	6	
Copper, Dissolved	ug/L	ND	1000	1000	1060	1050	106	105	70-130	1	11	
Iron, Dissolved	ug/L	139000	10000	10000	155000	145000	158	61	70-130	6	10	M1
Lead, Dissolved	ug/L	14.8	1000	1000	957	952	94	94	70-130	0	10	
Nickel, Dissolved	ug/L	12.7	1000	1000	985	981	97	97	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1160	1140	116	114	70-130	2	10	
Silver, Dissolved	ug/L	ND	500	500	531	525	106	105	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	877	876	88	88	70-130	0	6	
Zinc, Dissolved	ug/L	1440	1000	1000	2520	2350	108	91	70-130	7	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: MSV/60208 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165249001, 60165249002

METHOD BLANK: 1347486 | Matrix: Water
Associated Lab Samples: 60165249001, 60165249002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/20/14 14:12	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,2-Dichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/20/14 14:12	
2-Butanone (MEK)	ug/L	ND	10.0	03/20/14 14:12	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/20/14 14:12	N2
Acetone	ug/L	ND	10.0	03/20/14 14:12	N2
Benzene	ug/L	ND	1.0	03/20/14 14:12	
Bromodichloromethane	ug/L	ND	1.0	03/20/14 14:12	
Bromoform	ug/L	ND	1.0	03/20/14 14:12	
Bromomethane	ug/L	ND	5.0	03/20/14 14:12	
Carbon tetrachloride	ug/L	ND	1.0	03/20/14 14:12	
Chloroethane	ug/L	ND	1.0	03/20/14 14:12	
Chloroform	ug/L	ND	1.0	03/20/14 14:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	N2
Ethylbenzene	ug/L	ND	1.0	03/20/14 14:12	
Methylene chloride	ug/L	ND	1.0	03/20/14 14:12	
Tetrachloroethene	ug/L	ND	1.0	03/20/14 14:12	
Toluene	ug/L	ND	1.0	03/20/14 14:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Trichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Vinyl chloride	ug/L	ND	1.0	03/20/14 14:12	
Xylene (Total)	ug/L	ND	3.0	03/20/14 14:12	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/20/14 14:12	
4-Bromofluorobenzene (S)	%	109	80-120	03/20/14 14:12	
Toluene-d8 (S)	%	98	80-120	03/20/14 14:12	

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.3	96	70-126	
1,4-Dichlorobenzene	ug/L	20	20.7	104	74-120	
2-Butanone (MEK)	ug/L	100	145	145	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	59-131	N2
Acetone	ug/L	100	200	200	38-134	L0,N2
Benzene	ug/L	20	18.9	95	75-120	
Bromodichloromethane	ug/L	20	20.0	100	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	18.4	92	13-157	
Carbon tetrachloride	ug/L	20	19.6	98	70-131	
Chloroethane	ug/L	20	19.7	98	47-133	
Chloroform	ug/L	20	19.6	98	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	20.7	103	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	19.7	99	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	66-129	
Trichloroethene	ug/L	20	20.9	104	71-123	
Vinyl chloride	ug/L	20	20.6	103	43-129	
Xylene (Total)	ug/L	60	64.8	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4120	103	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4040	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4050	101	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3840	96	49-144	
1,4-Dichlorobenzene	ug/L	784	4000	4720	98	33-140	
2-Butanone (MEK)	ug/L	58100	20000	85900	139	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21800	100	40-160	N2
Acetone	ug/L	126000	20000	142000	76	10-160	N2
Benzene	ug/L	ND	4000	3910	98	37-151	
Bromodichloromethane	ug/L	ND	4000	3850	96	35-142	
Bromoform	ug/L	ND	4000	3840	96	45-142	
Bromomethane	ug/L	ND	4000	3590	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4470	112	70-140	
Chloroethane	ug/L	ND	4000	3920	98	19-152	
Chloroform	ug/L	ND	4000	3750	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3920	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	4070	100	40-142	
Methylene chloride	ug/L	ND	4000	3860	96	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3910	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4120	103	54-151	
Trichloroethene	ug/L	ND	4000	4140	104	71-149	
Vinyl chloride	ug/L	ND	4000	4550	114	22-146	
Xylene (Total)	ug/L	ND	12000	13000	109	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: OEXT/43291 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165249001

METHOD BLANK: 1349080 | Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/25/14 18:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/25/14 18:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/25/14 18:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/25/14 18:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/25/14 18:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/25/14 18:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/25/14 18:18	
Hexachloroethane	ug/L	ND	5.0	03/25/14 18:18	
Naphthalene	ug/L	ND	5.0	03/25/14 18:18	
Nitrobenzene	ug/L	ND	5.0	03/25/14 18:18	
Pentachlorophenol	ug/L	ND	5.0	03/25/14 18:18	
Phenol	ug/L	ND	5.0	03/25/14 18:18	
2,4,6-Tribromophenol (S)	%	91	39-120	03/25/14 18:18	
2-Fluorobiphenyl (S)	%	88	39-120	03/25/14 18:18	
2-Fluorophenol (S)	%	50	17-120	03/25/14 18:18	
Nitrobenzene-d5 (S)	%	88	33-120	03/25/14 18:18	
Phenol-d6 (S)	%	30	11-120	03/25/14 18:18	
Terphenyl-d14 (S)	%	94	45-120	03/25/14 18:18	

LABORATORY CONTROL SAMPLE: 1349081

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.2	88	46-120	
2,4,6-Trichlorophenol	ug/L	50	47.9	96	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.8	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.7	65	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	54.2	108	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.8	86	44-116	
Hexachlorocyclopentadiene	ug/L	100	85.6	86	24-120	
Hexachloroethane	ug/L	50	40.3	81	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	45.7	91	48-120	
Pentachlorophenol	ug/L	50	47.7	95	47-120	
Phenol	ug/L	50	16.9	34	16-112	
2,4,6-Tribromophenol (S)	%			99	39-120	
2-Fluorobiphenyl (S)	%			97	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			94	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			105	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

MATRIX SPIKE SAMPLE: 1349083

Parameter	Units	60165249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3950	79	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4450	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3650	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6810	5000	11000	83	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4180J	84	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8060	81	11-120	
Hexachloroethane	ug/L	ND	5000	3850	77	40-113	
Naphthalene	ug/L	ND	5000	4200	84	45-120	
Nitrobenzene	ug/L	ND	5000	6490	130	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4700	94	43-135	
Phenol	ug/L	9190	5000	12200	61	13-112	
2,4,6-Tribromophenol (S)	%				90	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				143	33-120	S0
Phenol-d6 (S)	%				44	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: WET/46908 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165249001

METHOD BLANK: 1350078 | Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/26/14 07:32	

LABORATORY CONTROL SAMPLE: 1350079

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.4	94	78-114	

MATRIX SPIKE SAMPLE: 1350080

Parameter	Units	60165249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	62.2	160	222	100	78-114	

SAMPLE DUPLICATE: 1350081

Parameter	Units	60165250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	58.0	60.9	5	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: WET/46935
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165249001

METHOD BLANK: 1350653
Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/27/14 07:47	

LABORATORY CONTROL SAMPLE: 1350654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.5	92	64-132	

MATRIX SPIKE SAMPLE: 1350655

Parameter	Units	60164734001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	22.2	95	64-132	

SAMPLE DUPLICATE: 1350656

Parameter	Units	60165250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.8	17.0	14	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: WET/46825 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165249001

METHOD BLANK: 1348704 | Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/22/14 08:08	

SAMPLE DUPLICATE: 1348705

Parameter	Units	60165115003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	376	384	2	10	

SAMPLE DUPLICATE: 1348706

Parameter	Units	60165321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	136	133	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: WET/46838
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165249001

SAMPLE DUPLICATE: 1349137

Parameter	Units	60165262001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: WET/46803 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165249001

METHOD BLANK: 1347784 | Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/26/14 12:55	

LABORATORY CONTROL SAMPLE: 1347785

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	224	113	85-115	

SAMPLE DUPLICATE: 1347786

Parameter	Units	60165150001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	5.5	5.2	5	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: WETA/28744 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165249001

METHOD BLANK: 1349644 | Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/25/14 14:21	

LABORATORY CONTROL SAMPLE: 1349645

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

MATRIX SPIKE SAMPLE: 1349646

Parameter	Units	60165050005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	13.0	10	21.0	81	90-110	M1

MATRIX SPIKE SAMPLE: 1349647

Parameter	Units	60165088003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	96	90-110	

SAMPLE DUPLICATE: 1349648

Parameter	Units	60165110002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	29.3	28.6	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

QC Batch: WETA/28722 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165249001

METHOD BLANK: 1348699 | Matrix: Water
Associated Lab Samples: 60165249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/24/14 11:26	

LABORATORY CONTROL SAMPLE: 1348700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.6	99	90-110	

MATRIX SPIKE SAMPLE: 1348701

Parameter	Units	60165354001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	5.4J	50	62.2	114	90-110	M1

MATRIX SPIKE SAMPLE: 1348703

Parameter	Units	60164854002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	415	500	967	110	90-110	

SAMPLE DUPLICATE: 1348702

Parameter	Units	60165357003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	93.8	94.8	1	25	

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QUALIFIERS

Project: BRIDGETON LF 321-MSD
Pace Project No.: 60165249

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

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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 321-MSD
Pace Project No.: 60165249

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165249001	**321-MSD**	EPA 200.7	MPRP/26563	EPA 200.7	ICP/20213
60165249001	**321-MSD**	EPA 200.7	MPRP/26556	EPA 200.7	ICP/20207
60165249001	**321-MSD**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165249001	**321-MSD**	EPA 245.1	MERP/8253	EPA 245.1	MERC/8206
60165249001	**321-MSD**	EPA 625	OEXT/43291	EPA 625	MSSV/13805
60165249001	**321-MSD**	EPA 624 Low	MSV/60208		
60165249002	**TRIP BLANK**	EPA 624 Low	MSV/60208		
60165249001	**321-MSD**	EPA 1664A	WET/46908		
60165249001	**321-MSD**	EPA 1664A	WET/46935		
60165249001	**321-MSD**	SM 2540D	WET/46825		
60165249001	**321-MSD**	SM 4500-H+B	WET/46838		
60165249001	**321-MSD**	SM 5210B	WET/46803	SM 5210B	WET/46922
60165249001	**321-MSD**	EPA 350.1	WETA/28744		
60165249001	**321-MSD**	EPA 410.4	WETA/28722		

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Sample Condition Upon Receipt

WO# : 60165249

60165249

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 3.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 3/20/14

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: Includes date/time/ID/analyses	☑Yes ☐No ☐N/A	PV 3/20/14 Matrix: SL 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 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 12522/12513
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: 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: 3/20/14

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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. PO 3727110	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 #: 6787 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	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)	60165249
1	321-MSD 2AG4U 1BP3U 1AG3S	OT	G	3/19/14	1100				14	10	4	1	0	1B	P3S	2-0			X	X	X	X	X	X	X	X	X	X	X	1BP3U	4-0 2BP2U 5DG4U C1
2	TRIP BLANK								2	2																X						2DG4U C2
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	Paul Lavscott / FEI	03/19/14	3:10 pm	[signature]	03/19/14	3:10 pm				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	3/20/14	0045	3-6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sam Bircher

SIGNATURE of SAMPLER: [signature] DATE Signed: 3-19-14

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March 27, 2014

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

RE: Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

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 324-MSD
Pace Project No.: 60165250

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165250001	**324-MSD**	Water	03/19/14 13:30	03/20/14 00:45
60165250002	**TRIP BLANK**	Water	03/19/14 13:30	03/20/14 00:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165250001	**324-MSD**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165250002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

Sample: 324-MSD **Lab ID: 60165250001** Collected: 03/19/14 13:30 Received: 03/20/14 00:45 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	**970**	ug/L	150	2	03/21/14 14:30	03/24/14 17:44	7429-90-5	
Antimony	**16.5**	ug/L	10.0	1	03/21/14 14:30	03/24/14 17:41	7440-36-0	
Arsenic	**147**	ug/L	10.0	1	03/21/14 14:30	03/24/14 17:41	7440-38-2	
Beryllium	ND	ug/L	1.0	1	03/21/14 14:30	03/24/14 17:41	7440-41-7	
Cadmium	ND	ug/L	5.0	1	03/21/14 14:30	03/24/14 17:41	7440-43-9	
Chromium	**44.6**	ug/L	5.0	1	03/21/14 14:30	03/24/14 17:41	7440-47-3	
Cobalt	**6.8**	ug/L	5.0	1	03/21/14 14:30	03/24/14 17:41	7440-48-4	
Copper	**16.6**	ug/L	10.0	1	03/21/14 14:30	03/24/14 17:41	7440-50-8	
Iron	**196000**	ug/L	50.0	1	03/21/14 14:30	03/24/14 17:41	7439-89-6	
Lead	**28.0**	ug/L	5.0	1	03/21/14 14:30	03/24/14 17:41	7439-92-1	
Nickel	**16.8**	ug/L	5.0	1	03/21/14 14:30	03/24/14 17:41	7440-02-0	
Selenium	ND	ug/L	15.0	1	03/21/14 14:30	03/24/14 17:41	7782-49-2	
Silver	ND	ug/L	7.0	1	03/21/14 14:30	03/24/14 17:41	7440-22-4	
Thallium	ND	ug/L	20.0	1	03/21/14 14:30	03/24/14 17:41	7440-28-0	
Zinc	**1880**	ug/L	100	2	03/21/14 14:30	03/24/14 17:44	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**469**	ug/L	150	2	03/20/14 18:45	03/24/14 16:09	7429-90-5	
Antimony, Dissolved	**11.5**	ug/L	10.0	1	03/20/14 18:45	03/24/14 16:07	7440-36-0	
Arsenic, Dissolved	**105**	ug/L	10.0	1	03/20/14 18:45	03/24/14 16:07	7440-38-2	
Beryllium, Dissolved	ND	ug/L	1.0	1	03/20/14 18:45	03/24/14 16:07	7440-41-7	
Cadmium, Dissolved	ND	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:07	7440-43-9	
Chromium, Dissolved	**32.7**	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:07	7440-47-3	
Cobalt, Dissolved	ND	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:07	7440-48-4	
Copper, Dissolved	ND	ug/L	10.0	1	03/20/14 18:45	03/24/14 16:07	7440-50-8	
Iron, Dissolved	**139000**	ug/L	50.0	1	03/20/14 18:45	03/24/14 16:07	7439-89-6	M1
Lead, Dissolved	**14.8**	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:07	7439-92-1	
Nickel, Dissolved	**12.7**	ug/L	5.0	1	03/20/14 18:45	03/24/14 16:07	7440-02-0	
Selenium, Dissolved	ND	ug/L	15.0	1	03/20/14 18:45	03/24/14 16:07	7782-49-2	
Silver, Dissolved	ND	ug/L	7.0	1	03/20/14 18:45	03/24/14 16:07	7440-22-4	
Thallium, Dissolved	ND	ug/L	20.0	1	03/20/14 18:45	03/24/14 16:07	7440-28-0	
Zinc, Dissolved	**1440**	ug/L	100	2	03/20/14 18:45	03/24/14 16:09	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/26/14 11:30	03/26/14 15:46	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	03/26/14 11:30	03/27/14 13:38	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/24/14 00:00	03/25/14 19:43	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:43	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:43	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:43	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/24/14 00:00	03/25/14 19:43	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6040**	ug/L	4000	2	03/24/14 00:00	03/25/14 19:43		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

Sample: 324-MSD **Lab ID: 60165250001** Collected: 03/19/14 13:30 Received: 03/20/14 00:45 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	03/24/14 00:00	03/25/14 19:43	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:43	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:43	87-86-5	
Phenol	**11200**	ug/L	1000	2	03/24/14 00:00	03/25/14 19:43	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:43	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/24/14 00:00	03/25/14 19:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	175	%	33-120	2	03/24/14 00:00	03/25/14 19:43	4165-60-0	S0
2-Fluorobiphenyl (S)	88	%	39-120	2	03/24/14 00:00	03/25/14 19:43	321-60-8	
Terphenyl-d14 (S)	90	%	45-120	2	03/24/14 00:00	03/25/14 19:43	1718-51-0	
Phenol-d6 (S)	46	%	11-120	2	03/24/14 00:00	03/25/14 19:43	13127-88-3	
2-Fluorophenol (S)	60	%	17-120	2	03/24/14 00:00	03/25/14 19:43	367-12-4	
2,4,6-Tribromophenol (S)	98	%	39-120	2	03/24/14 00:00	03/25/14 19:43	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**462000**	ug/L	5000	500		03/25/14 15:43	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/20/14 20:19	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/20/14 20:19	75-27-4	
Bromoform	ND	ug/L	200	200		03/20/14 20:19	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/20/14 20:19	74-83-9	
2-Butanone (MEK)	**237000**	ug/L	2500	250		03/24/14 17:27	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/20/14 20:19	56-23-5	
Chloroethane	ND	ug/L	200	200		03/20/14 20:19	75-00-3	
Chloroform	ND	ug/L	200	200		03/20/14 20:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		03/20/14 20:19	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/20/14 20:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 20:19	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/20/14 20:19	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/20/14 20:19	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/20/14 20:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	**9950**	ug/L	2000	200		03/20/14 20:19	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/20/14 20:19	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/20/14 20:19	127-18-4	
Toluene	ND	ug/L	200	200		03/20/14 20:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/20/14 20:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/20/14 20:19	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/20/14 20:19	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/20/14 20:19	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/20/14 20:19	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	200		03/20/14 20:19	460-00-4	
Toluene-d8 (S)	95	%	80-120	200		03/20/14 20:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	200		03/20/14 20:19	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/20/14 20:19		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**58.0**	mg/L	5.0	1		03/26/14 07:34		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

Sample: 324-MSD **Lab ID: 60165250001** Collected: 03/19/14 13:30 Received: 03/20/14 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**14.8**	mg/L	5.0	1		03/27/14 07:49		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1460**	mg/L	5.0	1		03/22/14 08:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.1**	Std. Units	0.10	1		03/24/14 13:43		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31300**	mg/L	2.0	1	03/21/14 09:01	03/26/14 14:25		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**545**	mg/L	20.0	200		03/25/14 14:49	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**73000**	mg/L	5000	500		03/24/14 11:40		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

Sample: TRIP BLANK **Lab ID: 60165250002** Collected: 03/19/14 13:30 Received: 03/20/14 00:45 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		03/20/14 18:39	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/20/14 18:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/20/14 18:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/20/14 18:39	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/20/14 18:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/20/14 18:39	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/20/14 18:39	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/20/14 18:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/20/14 18:39	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/20/14 18:39	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/20/14 18:39	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 18:39	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/20/14 18:39	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/20/14 18:39	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/20/14 18:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/20/14 18:39	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/20/14 18:39	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/20/14 18:39	127-18-4	
Toluene	ND	ug/L	1.0	1		03/20/14 18:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/20/14 18:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/20/14 18:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/20/14 18:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/20/14 18:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/20/14 18:39	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		03/20/14 18:39	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/20/14 18:39	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		03/20/14 18:39	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/20/14 18:39		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: MERP/8249 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165250001

METHOD BLANK: 1350218 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/26/14 15:30	

LABORATORY CONTROL SAMPLE: 1350219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350220 1350221

Parameter	Units	60165109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	62.7	150	150	196	177	89	76	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: MERP/8253 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165250001

METHOD BLANK: 1350234 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/27/14 13:27	

LABORATORY CONTROL SAMPLE: 1350235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350236 1350237

Parameter	Units	60165249001 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	160	146	107	97	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: MPRP/26563
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165250001

METHOD BLANK: 1348253
Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/24/14 17:18	
Antimony	ug/L	ND	10.0	03/24/14 17:18	
Arsenic	ug/L	ND	10.0	03/24/14 17:18	
Beryllium	ug/L	ND	1.0	03/24/14 17:18	
Cadmium	ug/L	ND	5.0	03/24/14 17:18	
Chromium	ug/L	ND	5.0	03/24/14 17:18	
Cobalt	ug/L	ND	5.0	03/24/14 17:18	
Copper	ug/L	ND	10.0	03/24/14 17:18	
Iron	ug/L	ND	50.0	03/24/14 17:18	
Lead	ug/L	ND	5.0	03/24/14 17:18	
Nickel	ug/L	ND	5.0	03/24/14 17:18	
Selenium	ug/L	ND	15.0	03/24/14 17:18	
Silver	ug/L	ND	7.0	03/24/14 17:18	
Thallium	ug/L	ND	20.0	03/24/14 17:18	
Zinc	ug/L	ND	50.0	03/24/14 17:18	

LABORATORY CONTROL SAMPLE: 1348254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9500	95	85-115	
Antimony	ug/L	1000	974	97	85-115	
Arsenic	ug/L	1000	935	94	85-115	
Beryllium	ug/L	1000	963	96	85-115	
Cadmium	ug/L	1000	960	96	85-115	
Chromium	ug/L	1000	964	96	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	988	99	85-115	
Iron	ug/L	10000	9670	97	85-115	
Lead	ug/L	1000	996	100	85-115	
Nickel	ug/L	1000	997	100	85-115	
Selenium	ug/L	1000	977	98	85-115	
Silver	ug/L	500	484	97	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1348255 1348256

Parameter	Units	60165249001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4060	50000	50000	58400	56700	109	105	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1348255 1348256

Parameter	Units	60165249001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	88.2	5000	5000	5440	5460	107	107	70-130	0	7	
Arsenic	ug/L	843	5000	5000	6300	6430	109	112	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4900	4930	98	99	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5300	5320	106	106	70-130	0	10	
Chromium	ug/L	256	5000	5000	5220	5240	99	100	70-130	0	10	
Cobalt	ug/L	46.0	5000	5000	5040	5050	100	100	70-130	0	6	
Copper	ug/L	101	5000	5000	5480	5520	107	108	70-130	1	11	
Iron	ug/L	794000	50000	50000	844000	902000	99	214	70-130	7	10	M1
Lead	ug/L	70.2	5000	5000	4780	4800	94	95	70-130	0	10	
Nickel	ug/L	144	5000	5000	5040	5060	98	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5930	5980	118	119	70-130	1	10	
Silver	ug/L	ND	2500	2500	2690	2710	108	108	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4380	4390	88	88	70-130	0	6	
Zinc	ug/L	6280	5000	5000	11800	11800	110	111	70-130	0	11	

MATRIX SPIKE SAMPLE: 1348257

Parameter	Units	60165233002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	0.22 mg/L	10000	10200	99	70-130	
Antimony	ug/L	ND	1000	1030	103	70-130	
Arsenic	ug/L	ND	1000	1020	102	70-130	
Beryllium	ug/L	ND	1000	1000	100	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	0.19 mg/L	1000	1200	101	70-130	
Cobalt	ug/L	ND	1000	1010	101	70-130	
Copper	ug/L	0.41 mg/L	1000	1520	112	70-130	
Iron	ug/L	0.84 mg/L	10000	10800	99	70-130	
Lead	ug/L	ND	1000	986	99	70-130	
Nickel	ug/L	0.085 mg/L	1000	1080	100	70-130	
Selenium	ug/L	ND	1000	1040	103	70-130	
Silver	ug/L	ND	500	519	103	70-130	
Thallium	ug/L	ND	1000	919	92	70-130	
Zinc	ug/L	0.084 mg/L	1000	1120	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: MPRP/26556
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165250001

METHOD BLANK: 1347642
Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/24/14 15:58	
Antimony, Dissolved	ug/L	ND	10.0	03/24/14 15:58	
Arsenic, Dissolved	ug/L	ND	10.0	03/24/14 15:58	
Beryllium, Dissolved	ug/L	ND	1.0	03/24/14 15:58	
Cadmium, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Chromium, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Cobalt, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Copper, Dissolved	ug/L	ND	10.0	03/24/14 15:58	
Iron, Dissolved	ug/L	ND	50.0	03/24/14 15:58	
Lead, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Nickel, Dissolved	ug/L	ND	5.0	03/24/14 15:58	
Selenium, Dissolved	ug/L	ND	15.0	03/24/14 15:58	
Silver, Dissolved	ug/L	ND	7.0	03/24/14 15:58	
Thallium, Dissolved	ug/L	ND	20.0	03/24/14 15:58	
Zinc, Dissolved	ug/L	ND	50.0	03/24/14 15:58	

LABORATORY CONTROL SAMPLE: 1347643

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	988	99	85-115	
Arsenic, Dissolved	ug/L	1000	954	95	85-115	
Beryllium, Dissolved	ug/L	1000	997	100	85-115	
Cadmium, Dissolved	ug/L	1000	979	98	85-115	
Chromium, Dissolved	ug/L	1000	998	100	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	987	99	85-115	
Iron, Dissolved	ug/L	10000	9980	100	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	983	98	85-115	
Silver, Dissolved	ug/L	500	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347644 1347645

Parameter	Units	60165250001 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	469	10000	10000	10700	10300	103	98	70-130	4	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1347644 1347645

Parameter	Units	60165250001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	11.5	1000	1000	1060	1060	105	104	70-130	1	7	
Arsenic, Dissolved	ug/L	105	1000	1000	1180	1160	107	105	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	976	970	98	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1040	1030	104	103	70-130	1	10	
Chromium, Dissolved	ug/L	32.7	1000	1000	1020	1020	99	98	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	990	987	99	98	70-130	0	6	
Copper, Dissolved	ug/L	ND	1000	1000	1060	1050	106	105	70-130	1	11	
Iron, Dissolved	ug/L	139000	10000	10000	155000	145000	158	61	70-130	6	10	M1
Lead, Dissolved	ug/L	14.8	1000	1000	957	952	94	94	70-130	0	10	
Nickel, Dissolved	ug/L	12.7	1000	1000	985	981	97	97	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1160	1140	116	114	70-130	2	10	
Silver, Dissolved	ug/L	ND	500	500	531	525	106	105	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	877	876	88	88	70-130	0	6	
Zinc, Dissolved	ug/L	1440	1000	1000	2520	2350	108	91	70-130	7	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: MSV/60208 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165250001, 60165250002

METHOD BLANK: 1347486 | Matrix: Water
Associated Lab Samples: 60165250001, 60165250002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/20/14 14:12	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,2-Dichloroethane	ug/L	ND	1.0	03/20/14 14:12	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/20/14 14:12	
2-Butanone (MEK)	ug/L	ND	10.0	03/20/14 14:12	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/20/14 14:12	N2
Acetone	ug/L	ND	10.0	03/20/14 14:12	N2
Benzene	ug/L	ND	1.0	03/20/14 14:12	
Bromodichloromethane	ug/L	ND	1.0	03/20/14 14:12	
Bromoform	ug/L	ND	1.0	03/20/14 14:12	
Bromomethane	ug/L	ND	5.0	03/20/14 14:12	
Carbon tetrachloride	ug/L	ND	1.0	03/20/14 14:12	
Chloroethane	ug/L	ND	1.0	03/20/14 14:12	
Chloroform	ug/L	ND	1.0	03/20/14 14:12	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	N2
Ethylbenzene	ug/L	ND	1.0	03/20/14 14:12	
Methylene chloride	ug/L	ND	1.0	03/20/14 14:12	
Tetrachloroethene	ug/L	ND	1.0	03/20/14 14:12	
Toluene	ug/L	ND	1.0	03/20/14 14:12	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Trichloroethene	ug/L	ND	1.0	03/20/14 14:12	
Vinyl chloride	ug/L	ND	1.0	03/20/14 14:12	
Xylene (Total)	ug/L	ND	3.0	03/20/14 14:12	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/20/14 14:12	
4-Bromofluorobenzene (S)	%	109	80-120	03/20/14 14:12	
Toluene-d8 (S)	%	98	80-120	03/20/14 14:12	

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.0	105	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.3	96	70-126	
1,4-Dichlorobenzene	ug/L	20	20.7	104	74-120	
2-Butanone (MEK)	ug/L	100	145	145	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	106	106	59-131	N2
Acetone	ug/L	100	200	200	38-134	L0,N2
Benzene	ug/L	20	18.9	95	75-120	
Bromodichloromethane	ug/L	20	20.0	100	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

LABORATORY CONTROL SAMPLE: 1347487

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	18.4	92	13-157	
Carbon tetrachloride	ug/L	20	19.6	98	70-131	
Chloroethane	ug/L	20	19.7	98	47-133	
Chloroform	ug/L	20	19.6	98	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	68-127	N2
Ethylbenzene	ug/L	20	20.7	103	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	19.7	99	73-125	
Toluene	ug/L	20	19.6	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	100	66-129	
Trichloroethene	ug/L	20	20.9	104	71-123	
Vinyl chloride	ug/L	20	20.6	103	43-129	
Xylene (Total)	ug/L	60	64.8	108	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4120	103	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4040	99	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4050	101	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3840	96	49-144	
1,4-Dichlorobenzene	ug/L	784	4000	4720	98	33-140	
2-Butanone (MEK)	ug/L	58100	20000	85900	139	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21800	100	40-160	N2
Acetone	ug/L	126000	20000	142000	76	10-160	N2
Benzene	ug/L	ND	4000	3910	98	37-151	
Bromodichloromethane	ug/L	ND	4000	3850	96	35-142	
Bromoform	ug/L	ND	4000	3840	96	45-142	
Bromomethane	ug/L	ND	4000	3590	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4470	112	70-140	
Chloroethane	ug/L	ND	4000	3920	98	19-152	
Chloroform	ug/L	ND	4000	3750	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3920	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	4070	100	40-142	
Methylene chloride	ug/L	ND	4000	3860	96	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3910	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4120	103	54-151	
Trichloroethene	ug/L	ND	4000	4140	104	71-149	
Vinyl chloride	ug/L	ND	4000	4550	114	22-146	
Xylene (Total)	ug/L	ND	12000	13000	109	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

MATRIX SPIKE SAMPLE: 1347488

Parameter	Units	60165004001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: MSV/60278
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60165250001

METHOD BLANK: 1349295
Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Butanone (MEK)	ug/L	ND	10.0	03/24/14 12:37	N2
1,2-Dichloroethane-d4 (S)	%	103	80-120	03/24/14 12:37	
4-Bromofluorobenzene (S)	%	105	80-120	03/24/14 12:37	
Toluene-d8 (S)	%	101	80-120	03/24/14 12:37	

LABORATORY CONTROL SAMPLE: 1349296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Butanone (MEK)	ug/L	100	107	107	42-153	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: MSV/60314
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60165250001

METHOD BLANK: 1349892
Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acetone	ug/L	ND	10.0	03/25/14 14:03	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	03/25/14 14:03	
4-Bromofluorobenzene (S)	%	105	80-120	03/25/14 14:03	
Toluene-d8 (S)	%	104	80-120	03/25/14 14:03	

LABORATORY CONTROL SAMPLE: 1349893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	191	191	38-134	L0,N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: OEXT/43291 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165250001

METHOD BLANK: 1349080 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/25/14 18:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/25/14 18:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/25/14 18:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/25/14 18:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/25/14 18:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/25/14 18:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/25/14 18:18	
Hexachloroethane	ug/L	ND	5.0	03/25/14 18:18	
Naphthalene	ug/L	ND	5.0	03/25/14 18:18	
Nitrobenzene	ug/L	ND	5.0	03/25/14 18:18	
Pentachlorophenol	ug/L	ND	5.0	03/25/14 18:18	
Phenol	ug/L	ND	5.0	03/25/14 18:18	
2,4,6-Tribromophenol (S)	%	91	39-120	03/25/14 18:18	
2-Fluorobiphenyl (S)	%	88	39-120	03/25/14 18:18	
2-Fluorophenol (S)	%	50	17-120	03/25/14 18:18	
Nitrobenzene-d5 (S)	%	88	33-120	03/25/14 18:18	
Phenol-d6 (S)	%	30	11-120	03/25/14 18:18	
Terphenyl-d14 (S)	%	94	45-120	03/25/14 18:18	

LABORATORY CONTROL SAMPLE: 1349081

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.2	88	46-120	
2,4,6-Trichlorophenol	ug/L	50	47.9	96	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.8	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.7	65	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	54.2	108	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.8	86	44-116	
Hexachlorocyclopentadiene	ug/L	100	85.6	86	24-120	
Hexachloroethane	ug/L	50	40.3	81	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	45.7	91	48-120	
Pentachlorophenol	ug/L	50	47.7	95	47-120	
Phenol	ug/L	50	16.9	34	16-112	
2,4,6-Tribromophenol (S)	%			99	39-120	
2-Fluorobiphenyl (S)	%			97	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			94	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			105	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

MATRIX SPIKE SAMPLE: 1349083

Parameter	Units	60165249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3950	79	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4450	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3650	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6810	5000	11000	83	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4180J	84	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8060	81	11-120	
Hexachloroethane	ug/L	ND	5000	3850	77	40-113	
Naphthalene	ug/L	ND	5000	4200	84	45-120	
Nitrobenzene	ug/L	ND	5000	6490	130	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4700	94	43-135	
Phenol	ug/L	9190	5000	12200	61	13-112	
2,4,6-Tribromophenol (S)	%				90	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				143	33-120	S0
Phenol-d6 (S)	%				44	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: WET/46908 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165250001

METHOD BLANK: 1350078 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/26/14 07:32	

LABORATORY CONTROL SAMPLE: 1350079

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.4	94	78-114	

MATRIX SPIKE SAMPLE: 1350080

Parameter	Units	60165249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	62.2	160	222	100	78-114	

SAMPLE DUPLICATE: 1350081

Parameter	Units	60165250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	58.0	60.9	5	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: WET/46935 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165250001

METHOD BLANK: 1350653 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/27/14 07:47	

LABORATORY CONTROL SAMPLE: 1350654

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.5	92	64-132	

MATRIX SPIKE SAMPLE: 1350655

Parameter	Units	60164734001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	22.2	95	64-132	

SAMPLE DUPLICATE: 1350656

Parameter	Units	60165250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.8	17.0	14	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: WET/46825 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165250001

METHOD BLANK: 1348704 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/22/14 08:08	

SAMPLE DUPLICATE: 1348705

Parameter	Units	60165115003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	376	384	2	10	

SAMPLE DUPLICATE: 1348706

Parameter	Units	60165321002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	136	133	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: WET/46839
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165250001

SAMPLE DUPLICATE: 1349138

Parameter	Units	60165250001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.1	5.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: WET/46803 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165250001

METHOD BLANK: 1347784 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/26/14 12:55	

LABORATORY CONTROL SAMPLE: 1347785

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	224	113	85-115	

SAMPLE DUPLICATE: 1347786

Parameter	Units	60165150001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	5.5	5.2	5	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: WETA/28744 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165250001

METHOD BLANK: 1349644 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/25/14 14:21	

LABORATORY CONTROL SAMPLE: 1349645

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

MATRIX SPIKE SAMPLE: 1349646

Parameter	Units	60165050005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	13.0	10	21.0	81	90-110	M1

MATRIX SPIKE SAMPLE: 1349647

Parameter	Units	60165088003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	96	90-110	

SAMPLE DUPLICATE: 1349648

Parameter	Units	60165110002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	29.3	28.6	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

QC Batch: WETA/28722 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165250001

METHOD BLANK: 1348699 | Matrix: Water
Associated Lab Samples: 60165250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/24/14 11:26	

LABORATORY CONTROL SAMPLE: 1348700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.6	99	90-110	

MATRIX SPIKE SAMPLE: 1348701

Parameter	Units	60165354001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	5.4J	50	62.2	114	90-110	M1

MATRIX SPIKE SAMPLE: 1348703

Parameter	Units	60164854002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	415	500	967	110	90-110	

SAMPLE DUPLICATE: 1348702

Parameter	Units	60165357003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	93.8	94.8	1	25	

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QUALIFIERS

Project: BRIDGETON LF 324-MSD
Pace Project No.: 60165250

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/60278

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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 324-MSD
Pace Project No.: 60165250

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165250001	**324-MSD**	EPA 200.7	MPRP/26563	EPA 200.7	ICP/20213
60165250001	**324-MSD**	EPA 200.7	MPRP/26556	EPA 200.7	ICP/20207
60165250001	**324-MSD**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165250001	**324-MSD**	EPA 245.1	MERP/8253	EPA 245.1	MERC/8206
60165250001	**324-MSD**	EPA 625	OEXT/43291	EPA 625	MSSV/13805
60165250001	**324-MSD**	EPA 624 Low	MSV/60208		
60165250001	**324-MSD**	EPA 624 Low	MSV/60278		
60165250001	**324-MSD**	EPA 624 Low	MSV/60314		
60165250002	**TRIP BLANK**	EPA 624 Low	MSV/60208		
60165250001	**324-MSD**	EPA 1664A	WET/46908		
60165250001	**324-MSD**	EPA 1664A	WET/46935		
60165250001	**324-MSD**	SM 2540D	WET/46825		
60165250001	**324-MSD**	SM 4500-H+B	WET/46839		
60165250001	**324-MSD**	SM 5210B	WET/46803	SM 5210B	WET/46922
60165250001	**324-MSD**	EPA 350.1	WETA/28744		
60165250001	**324-MSD**	EPA 410.4	WETA/28722		

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Sample Condition Upon Receipt

WO#: 60165250

60165250

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 1-8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 3/20/14

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: Includes date/time/ID/analyses Matrix:	☑Yes ☐No ☐N/A WT	13.	
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	14.	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		
Exceptions: VOA coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed PV	Lot # of added preservative ~~12522~~ PV 3/20/14 12522/12573
Trip Blank present: Pace Trip Blank lot # (if purchased): 01 2014	☑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: 3/20/14

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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.	PO 3727110	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 #:	6787 LINE 2

Regulatory Agency	
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)	60165250
1	324-MSD 2AG4U 1BP3U 3AG3S	OT	G	03/19/14	1:30PM				14	10	4	1	0	1BO3S	1-5				X	X	X	X	X	X	X	X	X	X	1BP3N	4°C	2BP2U 5D/94U	COL
2	TRIP BLANK								2	2																X					2D/94U	FOR
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	Paul Lansatt / FEI	03/19/14	3:10pm	Bonnette Lewis	03/19/14	3:10pm				
SITE ADDRESS: BRIDGETON LF				PASI	3/20/14	0945	1.8	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 Lansatt					
SIGNATURE of SAMPLER: Paul Lansatt	DATE Signed: 03/19/14				

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April 07, 2014

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

RE: Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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.

Amended report revised 04/07/14 to correct for qualifier incorrectly applied to total As EPA 200.7 MS/MSD results.

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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

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 316-248R2
Pace Project No.: 60165366

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165366001	**316-248R2**	Water	03/20/14 11:00	03/21/14 01:20
60165366002	**TRIP BLANK**	Water	03/20/14 11:00	03/21/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165366001	**316-248R2**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	RAH	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165366002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

Sample: 316-248R2 **Lab ID: 60165366001** Collected: 03/20/14 11:00 Received: 03/21/14 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	**31100**	ug/L	750	2	03/24/14 12:15	03/25/14 14:38	7429-90-5	M1
Antimony	ND	ug/L	50.0	1	03/24/14 12:15	03/25/14 14:35	7440-36-0	
Arsenic	**1410**	ug/L	50.0	1	03/24/14 12:15	03/25/14 14:35	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/24/14 12:15	03/25/14 14:35	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:35	7440-43-9	
Chromium	**321**	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:35	7440-47-3	
Cobalt	**63.0**	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:35	7440-48-4	
Copper	**111**	ug/L	50.0	1	03/24/14 12:15	03/25/14 14:35	7440-50-8	
Iron	**1040000**	ug/L	250	1	03/24/14 12:15	03/25/14 14:35	7439-89-6	M1
Lead	**317**	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:35	7439-92-1	
Nickel	**195**	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:35	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/24/14 12:15	03/25/14 14:35	7782-49-2	
Silver	ND	ug/L	35.0	1	03/24/14 12:15	03/25/14 14:35	7440-22-4	
Thallium	ND	ug/L	100	1	03/24/14 12:15	03/25/14 14:35	7440-28-0	
Zinc	**6260**	ug/L	500	2	03/24/14 12:15	03/25/14 14:38	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2470**	ug/L	750	2	03/24/14 17:00	03/26/14 10:20	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:17	7440-36-0	
Arsenic, Dissolved	**1030**	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:17	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/24/14 17:00	03/26/14 10:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:17	7440-43-9	
Chromium, Dissolved	**175**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:17	7440-47-3	
Cobalt, Dissolved	**33.1**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:17	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:17	7440-50-8	
Iron, Dissolved	**586000**	ug/L	250	1	03/24/14 17:00	03/26/14 10:17	7439-89-6	
Lead, Dissolved	**107**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:17	7439-92-1	
Nickel, Dissolved	**110**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:17	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/24/14 17:00	03/26/14 10:17	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/24/14 17:00	03/26/14 10:17	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/24/14 17:00	03/26/14 10:17	7440-28-0	
Zinc, Dissolved	**3530**	ug/L	500	2	03/24/14 17:00	03/26/14 10:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/26/14 11:30	03/26/14 15:48	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	03/26/14 11:30	03/27/14 13:41	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	12500	5	03/24/14 00:00	03/25/14 20:05	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	77-47-4	
Hexachloroethane	ND	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	5000	5	03/24/14 00:00	03/25/14 20:05	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**14700**	ug/L	10000	5	03/24/14 00:00	03/25/14 20:05		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

Sample: 316-248R2 **Lab ID: 60165366001** Collected: 03/20/14 11:00 Received: 03/21/14 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	**22600**	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	91-20-3	
Nitrobenzene	ND	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	98-95-3	
Pentachlorophenol	ND	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	87-86-5	
Phenol	**17200**	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	2500	5	03/24/14 00:00	03/25/14 20:05	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	263	%	33-120	5	03/24/14 00:00	03/25/14 20:05	4165-60-0	S0
2-Fluorobiphenyl (S)	89	%	39-120	5	03/24/14 00:00	03/25/14 20:05	321-60-8	
Terphenyl-d14 (S)	89	%	45-120	5	03/24/14 00:00	03/25/14 20:05	1718-51-0	
Phenol-d6 (S)	44	%	11-120	5	03/24/14 00:00	03/25/14 20:05	13127-88-3	
2-Fluorophenol (S)	67	%	17-120	5	03/24/14 00:00	03/25/14 20:05	367-12-4	
2,4,6-Tribromophenol (S)	96	%	39-120	5	03/24/14 00:00	03/25/14 20:05	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**190000**	ug/L	5000	500		03/25/14 16:00	67-64-1	N2
Benzene	ND	ug/L	500	500		03/25/14 16:00	71-43-2	
Bromodichloromethane	ND	ug/L	500	500		03/25/14 16:00	75-27-4	
Bromoform	ND	ug/L	500	500		03/25/14 16:00	75-25-2	
Bromomethane	ND	ug/L	2500	500		03/25/14 16:00	74-83-9	
2-Butanone (MEK)	**100000**	ug/L	5000	500		03/25/14 16:00	78-93-3	N2
Carbon tetrachloride	ND	ug/L	500	500		03/25/14 16:00	56-23-5	
Chloroethane	ND	ug/L	500	500		03/25/14 16:00	75-00-3	
Chloroform	ND	ug/L	500	500		03/25/14 16:00	67-66-3	
1,4-Dichlorobenzene	**2560**	ug/L	500	500		03/25/14 16:00	106-46-7	
1,2-Dichloroethane	ND	ug/L	500	500		03/25/14 16:00	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	500	500		03/25/14 16:00	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	500	500		03/25/14 16:00	156-60-5	
Ethylbenzene	ND	ug/L	500	500		03/25/14 16:00	100-41-4	
Methylene chloride	ND	ug/L	500	500		03/25/14 16:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5000	500		03/25/14 16:00	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	500	500		03/25/14 16:00	79-34-5	N2
Tetrachloroethene	ND	ug/L	500	500		03/25/14 16:00	127-18-4	
Toluene	ND	ug/L	500	500		03/25/14 16:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	500	500		03/25/14 16:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	500	500		03/25/14 16:00	79-00-5	
Trichloroethene	ND	ug/L	500	500		03/25/14 16:00	79-01-6	
Vinyl chloride	ND	ug/L	500	500		03/25/14 16:00	75-01-4	
Xylene (Total)	**2050**	ug/L	1500	500		03/25/14 16:00	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	500		03/25/14 16:00	460-00-4	
Toluene-d8 (S)	97	%	80-120	500		03/25/14 16:00	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	500		03/25/14 16:00	17060-07-0	
Preservation pH	**6.0**		1.0	500		03/25/14 16:00		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**4090**	mg/L	5.0	1		03/28/14 07:56		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

Sample: 316-248R2 **Lab ID: 60165366001** Collected: 03/20/14 11:00 Received: 03/21/14 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	**102**	mg/L	5.0	1		03/28/14 07:57		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**9320**	mg/L	5.0	1		03/26/14 08:41		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		03/24/14 13:43		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**35000**	mg/L	2.0	1	03/21/14 14:58	03/26/14 17:49		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**679**	mg/L	20.0	200		03/25/14 14:53	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**86900**	mg/L	10000	1000		03/24/14 11:46		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

Sample: TRIP BLANK **Lab ID: 60165366002** Collected: 03/20/14 11:00 Received: 03/21/14 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		03/24/14 16:21	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/24/14 16:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/24/14 16:21	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/24/14 16:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/24/14 16:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/24/14 16:21	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/24/14 16:21	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/24/14 16:21	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/24/14 16:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/24/14 16:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/24/14 16:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/24/14 16:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/24/14 16:21	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/24/14 16:21	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/24/14 16:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/24/14 16:21	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/24/14 16:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/24/14 16:21	127-18-4	
Toluene	ND	ug/L	1.0	1		03/24/14 16:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/24/14 16:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/24/14 16:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/24/14 16:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/24/14 16:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/24/14 16:21	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		03/24/14 16:21	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/24/14 16:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		03/24/14 16:21	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/24/14 16:21		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: MERP/8249 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165366001

METHOD BLANK: 1350218 | Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/26/14 15:30	

LABORATORY CONTROL SAMPLE: 1350219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350220 1350221

Parameter	Units	60165109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	62.7	150	150	196	177	89	76	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: MERP/8253
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165366001

METHOD BLANK: 1350234
Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/27/14 13:27	

LABORATORY CONTROL SAMPLE: 1350235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350236 1350237

Parameter	Units	60165249001 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	160	146	107	97	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: MPRP/26580
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165366001

METHOD BLANK: 1349215
Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/25/14 14:20	
Antimony	ug/L	ND	10.0	03/25/14 14:20	
Arsenic	ug/L	ND	10.0	03/25/14 14:20	
Beryllium	ug/L	ND	1.0	03/25/14 14:20	
Cadmium	ug/L	ND	5.0	03/25/14 14:20	
Chromium	ug/L	ND	5.0	03/25/14 14:20	
Cobalt	ug/L	ND	5.0	03/25/14 14:20	
Copper	ug/L	ND	10.0	03/25/14 14:20	
Iron	ug/L	ND	50.0	03/25/14 14:20	
Lead	ug/L	ND	5.0	03/25/14 14:20	
Nickel	ug/L	ND	5.0	03/25/14 14:20	
Selenium	ug/L	ND	15.0	03/25/14 14:20	
Silver	ug/L	ND	7.0	03/25/14 14:20	
Thallium	ug/L	ND	20.0	03/25/14 14:20	
Zinc	ug/L	69.2	50.0	03/25/14 14:20	

LABORATORY CONTROL SAMPLE: 1349216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9720	97	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	972	97	85-115	
Beryllium	ug/L	1000	979	98	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	970	97	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	9870	99	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	990	99	85-115	
Silver	ug/L	500	493	99	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349217 1349218

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	497	10000	10000	10600	10500	101	100	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349217 1349218

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	0	7	
Arsenic	ug/L	ND	1000	1000	1000	989	100	99	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1000	993	100	99	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium	ug/L	ND	1000	1000	984	972	98	97	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	6	
Copper	ug/L	ND	1000	1000	1030	1010	102	101	70-130	1	11	
Iron	ug/L	367	10000	10000	10400	10300	100	99	70-130	1	10	
Lead	ug/L	ND	1000	1000	1020	1000	101	100	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Silver	ug/L	ND	500	500	502	499	100	100	70-130	1	10	
Thallium	ug/L	ND	1000	1000	1020	1010	102	101	70-130	0	6	
Zinc	ug/L	ND	1000	1000	1020	1020	101	101	70-130	1	11	

MATRIX SPIKE SAMPLE: 1349219

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	31100	50000	111000	161	70-130	M1
Antimony	ug/L	ND	5000	5420	108	70-130	
Arsenic	ug/L	1410	5000	6940	111	70-130	
Beryllium	ug/L	ND	5000	4940	99	70-130	
Cadmium	ug/L	ND	5000	5370	107	70-130	
Chromium	ug/L	321	5000	5040	94	70-130	
Cobalt	ug/L	63.0	5000	4940	98	70-130	
Copper	ug/L	111	5000	5600	110	70-130	
Iron	ug/L	1040000	50000	942000	-197	70-130	M1
Lead	ug/L	317	5000	4850	91	70-130	
Nickel	ug/L	195	5000	5020	97	70-130	
Selenium	ug/L	ND	5000	6320	126	70-130	
Silver	ug/L	ND	2500	2710	108	70-130	
Thallium	ug/L	ND	5000	4340	87	70-130	
Zinc	ug/L	6260	5000	10400	83	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: MPRP/26585
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165366001

METHOD BLANK: 1349390
Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/26/14 10:04	
Antimony, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Arsenic, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Beryllium, Dissolved	ug/L	ND	1.0	03/26/14 10:04	
Cadmium, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Chromium, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Cobalt, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Copper, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Iron, Dissolved	ug/L	ND	50.0	03/26/14 10:04	
Lead, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Nickel, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Selenium, Dissolved	ug/L	ND	15.0	03/26/14 10:04	
Silver, Dissolved	ug/L	ND	7.0	03/26/14 10:04	
Thallium, Dissolved	ug/L	ND	20.0	03/26/14 10:04	
Zinc, Dissolved	ug/L	ND	50.0	03/26/14 10:04	

LABORATORY CONTROL SAMPLE: 1349391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9730	97	85-115	
Antimony, Dissolved	ug/L	1000	1000	100	85-115	
Arsenic, Dissolved	ug/L	1000	968	97	85-115	
Beryllium, Dissolved	ug/L	1000	986	99	85-115	
Cadmium, Dissolved	ug/L	1000	998	100	85-115	
Chromium, Dissolved	ug/L	1000	972	97	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	9970	100	85-115	
Lead, Dissolved	ug/L	1000	1000	100	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	991	99	85-115	
Silver, Dissolved	ug/L	500	509	102	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	992	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349392 1349393

Parameter	Units	60165337001 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	ND	10000	10000	9840	9800	98	98	70-130	0	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349392 1349393

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1010	999	101	100	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	972	971	97	97	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	995	988	99	99	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	995	991	99	99	70-130	0	10	
Chromium, Dissolved	ug/L	ND	1000	1000	967	969	97	97	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1000	996	100	100	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	1000	100	100	70-130	0	11	
Iron, Dissolved	ug/L	79.2	10000	10000	10000	9940	100	99	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	997	991	100	99	70-130	1	10	
Nickel, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	988	984	99	98	70-130	0	10	
Silver, Dissolved	ug/L	ND	500	500	508	508	102	102	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	997	994	100	99	70-130	0	6	
Zinc, Dissolved	ug/L	ND	1000	1000	986	986	97	97	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: MSV/60278 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165366002

METHOD BLANK: 1349295 | Matrix: Water
Associated Lab Samples: 60165366002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/24/14 12:37	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,2-Dichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/24/14 12:37	
2-Butanone (MEK)	ug/L	ND	10.0	03/24/14 12:37	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/24/14 12:37	N2
Acetone	ug/L	ND	10.0	03/24/14 12:37	N2
Benzene	ug/L	ND	1.0	03/24/14 12:37	
Bromodichloromethane	ug/L	ND	1.0	03/24/14 12:37	
Bromoform	ug/L	ND	1.0	03/24/14 12:37	
Bromomethane	ug/L	ND	5.0	03/24/14 12:37	
Carbon tetrachloride	ug/L	ND	1.0	03/24/14 12:37	
Chloroethane	ug/L	ND	1.0	03/24/14 12:37	
Chloroform	ug/L	ND	1.0	03/24/14 12:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/24/14 12:37	N2
Ethylbenzene	ug/L	ND	1.0	03/24/14 12:37	
Methylene chloride	ug/L	ND	1.0	03/24/14 12:37	
Tetrachloroethene	ug/L	ND	1.0	03/24/14 12:37	
Toluene	ug/L	ND	1.0	03/24/14 12:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/24/14 12:37	
Trichloroethene	ug/L	ND	1.0	03/24/14 12:37	
Vinyl chloride	ug/L	ND	1.0	03/24/14 12:37	
Xylene (Total)	ug/L	ND	3.0	03/24/14 12:37	N2
1,2-Dichloroethane-d4 (S)	%	103	80-120	03/24/14 12:37	
4-Bromofluorobenzene (S)	%	105	80-120	03/24/14 12:37	
Toluene-d8 (S)	%	101	80-120	03/24/14 12:37	

LABORATORY CONTROL SAMPLE: 1349296

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	19.4	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.4	97	67-124	
1,2-Dichloroethane	ug/L	20	20.5	103	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	95	74-120	
2-Butanone (MEK)	ug/L	100	107	107	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	59-131	N2
Acetone	ug/L	100	144	144	38-134	L0,N2
Benzene	ug/L	20	20.7	103	75-120	
Bromodichloromethane	ug/L	20	20.1	101	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

LABORATORY CONTROL SAMPLE: 1349296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.1	96	65-127	
Bromomethane	ug/L	20	16.3	82	13-157	
Carbon tetrachloride	ug/L	20	20.7	103	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	20.3	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	68-127	N2
Ethylbenzene	ug/L	20	19.7	99	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	20.5	103	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	99	66-129	
Trichloroethene	ug/L	20	20.6	103	71-123	
Vinyl chloride	ug/L	20	18.2	91	43-129	
Xylene (Total)	ug/L	60	60.8	101	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: MSV/60314 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165366001

METHOD BLANK: 1349892 | Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/25/14 14:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,2-Dichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/25/14 14:03	
2-Butanone (MEK)	ug/L	ND	10.0	03/25/14 14:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/25/14 14:03	N2
Acetone	ug/L	ND	10.0	03/25/14 14:03	N2
Benzene	ug/L	ND	1.0	03/25/14 14:03	
Bromodichloromethane	ug/L	ND	1.0	03/25/14 14:03	
Bromoform	ug/L	ND	1.0	03/25/14 14:03	
Bromomethane	ug/L	ND	5.0	03/25/14 14:03	
Carbon tetrachloride	ug/L	ND	1.0	03/25/14 14:03	
Chloroethane	ug/L	ND	1.0	03/25/14 14:03	
Chloroform	ug/L	ND	1.0	03/25/14 14:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/25/14 14:03	N2
Ethylbenzene	ug/L	ND	1.0	03/25/14 14:03	
Methylene chloride	ug/L	2.2	1.0	03/25/14 14:03	
Tetrachloroethene	ug/L	ND	1.0	03/25/14 14:03	
Toluene	ug/L	ND	1.0	03/25/14 14:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/25/14 14:03	
Trichloroethene	ug/L	ND	1.0	03/25/14 14:03	
Vinyl chloride	ug/L	ND	1.0	03/25/14 14:03	
Xylene (Total)	ug/L	ND	3.0	03/25/14 14:03	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	03/25/14 14:03	
4-Bromofluorobenzene (S)	%	105	80-120	03/25/14 14:03	
Toluene-d8 (S)	%	104	80-120	03/25/14 14:03	

LABORATORY CONTROL SAMPLE: 1349893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.6	103	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.2	111	67-124	
1,2-Dichloroethane	ug/L	20	20.3	101	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	141	141	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	59-131	N2
Acetone	ug/L	100	191	191	38-134	L0,N2
Benzene	ug/L	20	20.3	102	75-120	
Bromodichloromethane	ug/L	20	20.3	102	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

LABORATORY CONTROL SAMPLE: 1349893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.4	102	65-127	
Bromomethane	ug/L	20	15.2	76	13-157	
Carbon tetrachloride	ug/L	20	19.8	99	70-131	
Chloroethane	ug/L	20	17.8	89	47-133	
Chloroform	ug/L	20	19.9	100	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	68-127	N2
Ethylbenzene	ug/L	20	21.1	105	74-122	
Methylene chloride	ug/L	20	22.5	113	64-129	
Tetrachloroethene	ug/L	20	20.5	103	73-125	
Toluene	ug/L	20	20.5	102	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.1	101	66-129	
Trichloroethene	ug/L	20	20.5	103	71-123	
Vinyl chloride	ug/L	20	17.7	88	43-129	
Xylene (Total)	ug/L	60	64.5	107	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1349894

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	10000	10200	102	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	10000	10000	100	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	10000	10400	104	52-143	
1,2-Dichloroethane	ug/L	ND	10000	9490	95	49-144	
1,4-Dichlorobenzene	ug/L	2560	10000	12500	99	33-140	
2-Butanone (MEK)	ug/L	100000	50000	138000	75	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50000	48600	91	40-160	N2
Acetone	ug/L	190000	50000	222000	63	10-160	N2
Benzene	ug/L	ND	10000	9920	99	37-151	
Bromodichloromethane	ug/L	ND	10000	9620	96	35-142	
Bromoform	ug/L	ND	10000	9640	96	45-142	
Bromomethane	ug/L	ND	10000	7140	71	10-158	
Carbon tetrachloride	ug/L	ND	10000	10600	106	70-140	
Chloroethane	ug/L	ND	10000	8700	87	19-152	
Chloroform	ug/L	ND	10000	9640	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	10000	9870	99	34-147	N2
Ethylbenzene	ug/L	ND	10000	11000	105	40-142	
Methylene chloride	ug/L	ND	10000	9580	92	31-144	
Tetrachloroethene	ug/L	ND	10000	10800	108	64-148	
Toluene	ug/L	ND	10000	9980	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	10000	9740	97	54-151	
Trichloroethene	ug/L	ND	10000	10600	106	71-149	
Vinyl chloride	ug/L	ND	10000	9060	91	22-146	
Xylene (Total)	ug/L	2050	30000	35000	110	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

MATRIX SPIKE SAMPLE: 1349894

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: OEXT/43291 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60165366001

METHOD BLANK: 1349080 Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/25/14 18:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/25/14 18:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/25/14 18:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/25/14 18:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/25/14 18:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/25/14 18:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/25/14 18:18	
Hexachloroethane	ug/L	ND	5.0	03/25/14 18:18	
Naphthalene	ug/L	ND	5.0	03/25/14 18:18	
Nitrobenzene	ug/L	ND	5.0	03/25/14 18:18	
Pentachlorophenol	ug/L	ND	5.0	03/25/14 18:18	
Phenol	ug/L	ND	5.0	03/25/14 18:18	
2,4,6-Tribromophenol (S)	%	91	39-120	03/25/14 18:18	
2-Fluorobiphenyl (S)	%	88	39-120	03/25/14 18:18	
2-Fluorophenol (S)	%	50	17-120	03/25/14 18:18	
Nitrobenzene-d5 (S)	%	88	33-120	03/25/14 18:18	
Phenol-d6 (S)	%	30	11-120	03/25/14 18:18	
Terphenyl-d14 (S)	%	94	45-120	03/25/14 18:18	

LABORATORY CONTROL SAMPLE: 1349081

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.2	88	46-120	
2,4,6-Trichlorophenol	ug/L	50	47.9	96	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.8	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.7	65	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	54.2	108	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.8	86	44-116	
Hexachlorocyclopentadiene	ug/L	100	85.6	86	24-120	
Hexachloroethane	ug/L	50	40.3	81	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	45.7	91	48-120	
Pentachlorophenol	ug/L	50	47.7	95	47-120	
Phenol	ug/L	50	16.9	34	16-112	
2,4,6-Tribromophenol (S)	%			99	39-120	
2-Fluorobiphenyl (S)	%			97	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			94	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			105	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

MATRIX SPIKE SAMPLE: 1349083

Parameter	Units	60165249001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3950	79	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4450	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3650	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6810	5000	11000	83	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4180J	84	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8060	81	11-120	
Hexachloroethane	ug/L	ND	5000	3850	77	40-113	
Naphthalene	ug/L	ND	5000	4200	84	45-120	
Nitrobenzene	ug/L	ND	5000	6490	130	38-120	M1
Pentachlorophenol	ug/L	ND	5000	4700	94	43-135	
Phenol	ug/L	9190	5000	12200	61	13-112	
2,4,6-Tribromophenol (S)	%				90	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				143	33-120	S0
Phenol-d6 (S)	%				44	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: WET/46962
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165366001

METHOD BLANK: 1351411
Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/28/14 07:56	

LABORATORY CONTROL SAMPLE: 1351412

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.5	101	78-114	

MATRIX SPIKE SAMPLE: 1351413

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	4090	160	4160	46	78-114	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: WET/46963 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165366001

METHOD BLANK: 1351414 | Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/28/14 07:57	

LABORATORY CONTROL SAMPLE: 1351415

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.5	108	64-132	

MATRIX SPIKE SAMPLE: 1351416

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	102	80	178	94	64-132	

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: WET/46897 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165366001

METHOD BLANK: 1349938 | Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/26/14 08:41	

SAMPLE DUPLICATE: 1349939

Parameter	Units	60165382001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	99.0	96.0	3	10	

SAMPLE DUPLICATE: 1349940

Parameter	Units	60165349001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	39.0	39.0	0	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: WET/46839
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165366001

SAMPLE DUPLICATE: 1349138

Parameter	Units	60165250001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.1	5.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: WET/46814 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165366001

METHOD BLANK: 1348239 | Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/26/14 17:13	

LABORATORY CONTROL SAMPLE: 1348240

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	191	96	85-115	

SAMPLE DUPLICATE: 1348241

Parameter	Units	5095431001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	284	287	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: WETA/28744 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165366001

METHOD BLANK: 1349644 | Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/25/14 14:21	

LABORATORY CONTROL SAMPLE: 1349645

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

MATRIX SPIKE SAMPLE: 1349646

Parameter	Units	60165050005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	13.0	10	21.0	81	90-110	M1

MATRIX SPIKE SAMPLE: 1349647

Parameter	Units	60165088003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	96	90-110	

SAMPLE DUPLICATE: 1349648

Parameter	Units	60165110002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	29.3	28.6	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

QC Batch: WETA/28722 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165366001

METHOD BLANK: 1348699 | Matrix: Water
Associated Lab Samples: 60165366001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/24/14 11:26	

LABORATORY CONTROL SAMPLE: 1348700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.6	99	90-110	

MATRIX SPIKE SAMPLE: 1348701

Parameter	Units	60165354001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	5.4J	50	62.2	114	90-110	M1

MATRIX SPIKE SAMPLE: 1348703

Parameter	Units	60164854002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	415	500	967	110	90-110	

SAMPLE DUPLICATE: 1348702

Parameter	Units	60165357003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	93.8	94.8	1	25	

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QUALIFIERS

Project: BRIDGETON LF 316-248R2
Pace Project No.: 60165366

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/60278

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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 316-248R2
Pace Project No.: 60165366

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165366001	**316-248R2**	EPA 200.7	MPRP/26580	EPA 200.7	ICP/20230
60165366001	**316-248R2**	EPA 200.7	MPRP/26585	EPA 200.7	ICP/20225
60165366001	**316-248R2**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165366001	**316-248R2**	EPA 245.1	MERP/8253	EPA 245.1	MERC/8206
60165366001	**316-248R2**	EPA 625	OEXT/43291	EPA 625	MSSV/13805
60165366001	**316-248R2**	EPA 624 Low	MSV/60314		
60165366002	**TRIP BLANK**	EPA 624 Low	MSV/60278		
60165366001	**316-248R2**	EPA 1664A	WET/46962		
60165366001	**316-248R2**	EPA 1664A	WET/46963		
60165366001	**316-248R2**	SM 2540D	WET/46897		
60165366001	**316-248R2**	SM 4500-H+B	WET/46839		
60165366001	**316-248R2**	SM 5210B	WET/46814	SM 5210B	WET/46977
60165366001	**316-248R2**	EPA 350.1	WETA/28744		
60165366001	**316-248R2**	EPA 410.4	WETA/28722		

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Sample Condition Upon Receipt

WO#: 60165366

60165366

Optional
Proj Due Date:
Proj Name:

Client Name: BOW

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/c

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: _____

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. One DGAU broke during shipping.
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	
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: Pace Trip Blank lot # (if purchased): Cover	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	4 of 4 DGAU 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: 8/21/14

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:

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.	PO 3727110
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 #:	6787 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 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)	60165366
1	316-248R2 2AG4U 1BP3U	OT	G	3/20/14	1100		1BP3N		4-0 14	10	4	1	0	3AG3S					X	X	X	X	X	X	X	X	X	X	X	1BP3S	3-0	2BP2U 4DG9U 4V
2	TRIP BLANK								2	2																X						2DG9U 4V
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] / Fel	03/20/14	3:00PM	[signature]	03/20/14	3:00PM				
SITE ADDRESS: BRIDGETON LF				[signature] PASE	3/21/14	0/20	1-8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sam Bircher

SIGNATURE of SAMPLER: [signature] DATE Signed: 3-20-14

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March 31, 2014

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

RE: Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 22, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

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 326-MSD
Pace Project No.: 60165454

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165454001	**326-MSD**	Water	03/21/14 12:30	03/22/14 01:00
60165454002	**TRIP BLANK**	Water	03/21/14 00:00	03/22/14 01:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165454001	**326-MSD**	EPA 200.7	TDS	15
		EPA 200.7	SMW, TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165454002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

Sample: 326-MSD **Lab ID: 60165454001** Collected: 03/21/14 12:30 Received: 03/22/14 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	**1150**	ug/L	75.0	1	03/27/14 11:24	03/28/14 16:03	7429-90-5	
Antimony	ND	ug/L	10.0	1	03/27/14 11:24	03/28/14 16:03	7440-36-0	
Arsenic	**58.9**	ug/L	10.0	1	03/27/14 11:24	03/28/14 16:03	7440-38-2	
Beryllium	ND	ug/L	1.0	1	03/27/14 11:24	03/28/14 16:03	7440-41-7	
Cadmium	ND	ug/L	5.0	1	03/27/14 11:24	03/28/14 16:03	7440-43-9	
Chromium	**18.3**	ug/L	5.0	1	03/27/14 11:24	03/28/14 16:03	7440-47-3	
Cobalt	**5.7**	ug/L	5.0	1	03/27/14 11:24	03/28/14 16:03	7440-48-4	
Copper	**36.7**	ug/L	10.0	1	03/27/14 11:24	03/28/14 16:03	7440-50-8	
Iron	**57900**	ug/L	50.0	1	03/27/14 11:24	03/28/14 16:03	7439-89-6	
Lead	**14.3**	ug/L	5.0	1	03/27/14 11:24	03/28/14 16:03	7439-92-1	
Nickel	**16.8**	ug/L	5.0	1	03/27/14 11:24	03/28/14 16:03	7440-02-0	
Selenium	ND	ug/L	15.0	1	03/27/14 11:24	03/28/14 16:03	7782-49-2	
Silver	ND	ug/L	7.0	1	03/27/14 11:24	03/28/14 16:03	7440-22-4	
Thallium	ND	ug/L	20.0	1	03/27/14 11:24	03/28/14 16:03	7440-28-0	
Zinc	**641**	ug/L	50.0	1	03/27/14 11:24	03/28/14 16:03	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	ND	ug/L	75.0	1	03/27/14 11:24	03/27/14 16:41	7429-90-5	
Antimony, Dissolved	ND	ug/L	10.0	1	03/27/14 11:24	03/27/14 16:41	7440-36-0	
Arsenic, Dissolved	**56.6**	ug/L	10.0	1	03/27/14 11:24	03/27/14 16:41	7440-38-2	
Beryllium, Dissolved	ND	ug/L	1.0	1	03/27/14 11:24	03/28/14 14:44	7440-41-7	
Cadmium, Dissolved	ND	ug/L	5.0	1	03/27/14 11:24	03/27/14 16:41	7440-43-9	
Chromium, Dissolved	**15.1**	ug/L	5.0	1	03/27/14 11:24	03/27/14 16:41	7440-47-3	
Cobalt, Dissolved	ND	ug/L	5.0	1	03/27/14 11:24	03/27/14 16:41	7440-48-4	
Copper, Dissolved	**37.9**	ug/L	10.0	1	03/27/14 11:24	03/27/14 16:41	7440-50-8	
Iron, Dissolved	**24800**	ug/L	50.0	1	03/27/14 11:24	03/27/14 16:41	7439-89-6	
Lead, Dissolved	**6.4**	ug/L	5.0	1	03/27/14 11:24	03/27/14 16:41	7439-92-1	
Nickel, Dissolved	**16.0**	ug/L	5.0	1	03/27/14 11:24	03/27/14 16:41	7440-02-0	
Selenium, Dissolved	ND	ug/L	15.0	1	03/27/14 11:24	03/28/14 14:44	7782-49-2	
Silver, Dissolved	ND	ug/L	7.0	1	03/27/14 11:24	03/27/14 16:41	7440-22-4	
Thallium, Dissolved	ND	ug/L	20.0	1	03/27/14 11:24	03/28/14 14:44	7440-28-0	
Zinc, Dissolved	**559**	ug/L	50.0	1	03/27/14 11:24	03/28/14 14:44	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.43**	ug/L	0.20	1	03/31/14 10:00	03/31/14 13:37	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	03/31/14 10:00	03/31/14 13:03	7439-97-6	M1,R1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/26/14 00:00	03/29/14 01:50	534-52-1	L3
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/26/14 00:00	03/29/14 01:50	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	4000	2	03/26/14 00:00	03/29/14 01:50		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

Sample: 326-MSD **Lab ID: 60165454001** Collected: 03/21/14 12:30 Received: 03/22/14 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	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	87-86-5	
Phenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 01:50	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	95	%	33-120	2	03/26/14 00:00	03/29/14 01:50	4165-60-0	
2-Fluorobiphenyl (S)	90	%	39-120	2	03/26/14 00:00	03/29/14 01:50	321-60-8	
Terphenyl-d14 (S)	115	%	45-120	2	03/26/14 00:00	03/29/14 01:50	1718-51-0	
Phenol-d6 (S)	35	%	11-120	2	03/26/14 00:00	03/29/14 01:50	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	03/26/14 00:00	03/29/14 01:50	367-12-4	
2,4,6-Tribromophenol (S)	111	%	39-120	2	03/26/14 00:00	03/29/14 01:50	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**9870**	ug/L	250	25		03/25/14 16:33	67-64-1	L1,N2
Benzene	ND	ug/L	25.0	25		03/25/14 16:33	71-43-2	
Bromodichloromethane	ND	ug/L	25.0	25		03/25/14 16:33	75-27-4	
Bromoform	ND	ug/L	25.0	25		03/25/14 16:33	75-25-2	
Bromomethane	ND	ug/L	125	25		03/25/14 16:33	74-83-9	
2-Butanone (MEK)	**4780**	ug/L	250	25		03/25/14 16:33	78-93-3	N2
Carbon tetrachloride	ND	ug/L	25.0	25		03/25/14 16:33	56-23-5	
Chloroethane	ND	ug/L	25.0	25		03/25/14 16:33	75-00-3	
Chloroform	ND	ug/L	25.0	25		03/25/14 16:33	67-66-3	
1,4-Dichlorobenzene	**32.5**	ug/L	25.0	25		03/25/14 16:33	106-46-7	
1,2-Dichloroethane	ND	ug/L	25.0	25		03/25/14 16:33	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	25.0	25		03/25/14 16:33	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	25.0	25		03/25/14 16:33	156-60-5	
Ethylbenzene	ND	ug/L	25.0	25		03/25/14 16:33	100-41-4	
Methylene chloride	**28.6**	ug/L	25.0	25		03/25/14 16:33	75-09-2	B
4-Methyl-2-pentanone (MIBK)	ND	ug/L	250	25		03/25/14 16:33	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	25.0	25		03/25/14 16:33	79-34-5	N2
Tetrachloroethene	ND	ug/L	25.0	25		03/25/14 16:33	127-18-4	
Toluene	ND	ug/L	25.0	25		03/25/14 16:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	25.0	25		03/25/14 16:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	25.0	25		03/25/14 16:33	79-00-5	
Trichloroethene	ND	ug/L	25.0	25		03/25/14 16:33	79-01-6	
Vinyl chloride	ND	ug/L	25.0	25		03/25/14 16:33	75-01-4	
Xylene (Total)	ND	ug/L	75.0	25		03/25/14 16:33	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	25		03/25/14 16:33	460-00-4	
Toluene-d8 (S)	99	%	80-120	25		03/25/14 16:33	2037-26-5	
1,2-Dichloroethane-d4 (S)	114	%	80-120	25		03/25/14 16:33	17060-07-0	
Preservation pH	**6.0**		1.0	25		03/25/14 16:33		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**24.8**	mg/L	5.0	1		03/31/14 09:15		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

Sample: 326-MSD **Lab ID: 60165454001** Collected: 03/21/14 12:30 Received: 03/22/14 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	ND	mg/L	5.0	1		03/31/14 09:01		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**150**	mg/L	5.0	1		03/26/14 16:04		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.0**	Std. Units	0.10	1		03/29/14 07:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**1680**	mg/L	2.0	1	03/22/14 12:49	03/27/14 12:19		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**39.6**	mg/L	2.0	20		03/27/14 11:09	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**2700**	mg/L	500	50		03/27/14 07:26		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

Sample: TRIP BLANK **Lab ID: 60165454002** Collected: 03/21/14 00:00 Received: 03/22/14 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		03/24/14 16:37	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/24/14 16:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/24/14 16:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/24/14 16:37	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/24/14 16:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/24/14 16:37	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/24/14 16:37	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/24/14 16:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/24/14 16:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/24/14 16:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/24/14 16:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/24/14 16:37	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/24/14 16:37	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/24/14 16:37	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/24/14 16:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/24/14 16:37	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/24/14 16:37	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/24/14 16:37	127-18-4	
Toluene	ND	ug/L	1.0	1		03/24/14 16:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/24/14 16:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/24/14 16:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/24/14 16:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/24/14 16:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/24/14 16:37	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		03/24/14 16:37	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		03/24/14 16:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		03/24/14 16:37	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/24/14 16:37		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: MERP/8266 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165454001

METHOD BLANK: 1352721 | Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/31/14 13:27	

LABORATORY CONTROL SAMPLE: 1352722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352723 1352724

Parameter	Units	60165524005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.48	5	5	3.9	4.3	69	76	70-130	8	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: MERP/8264
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165454001

METHOD BLANK: 1352711
Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/31/14 12:55	

LABORATORY CONTROL SAMPLE: 1352712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.4	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352713 1352714

Parameter	Units	60165454001 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	5	5	3.2	4.0	64	78	70-130	21	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: MPRP/26630
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165454001

METHOD BLANK: 1350804
Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/28/14 15:58	
Antimony	ug/L	ND	10.0	03/28/14 15:58	
Arsenic	ug/L	ND	10.0	03/28/14 15:58	
Beryllium	ug/L	ND	1.0	03/28/14 15:58	
Cadmium	ug/L	ND	5.0	03/28/14 15:58	
Chromium	ug/L	ND	5.0	03/28/14 15:58	
Cobalt	ug/L	ND	5.0	03/28/14 15:58	
Copper	ug/L	ND	10.0	03/28/14 15:58	
Iron	ug/L	ND	50.0	03/28/14 15:58	
Lead	ug/L	ND	5.0	03/28/14 15:58	
Nickel	ug/L	ND	5.0	03/28/14 15:58	
Selenium	ug/L	ND	15.0	03/28/14 15:58	
Silver	ug/L	ND	7.0	03/28/14 15:58	
Thallium	ug/L	ND	20.0	03/28/14 15:58	
Zinc	ug/L	ND	50.0	03/28/14 15:58	

LABORATORY CONTROL SAMPLE: 1350805

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	999	100	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1000	100	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	526	105	85-115	
Thallium	ug/L	1000	1050	105	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350806 1350807

Parameter	Units	60165454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	1150	10000	10000	12300	12100	112	109	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350806 1350807

Parameter	Units	60165454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1020	103	102	70-130	2	7	
Arsenic	ug/L	58.9	1000	1000	1080	1070	102	101	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	988	978	99	98	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium	ug/L	18.3	1000	1000	967	960	95	94	70-130	1	10	
Cobalt	ug/L	5.7	1000	1000	994	983	99	98	70-130	1	6	
Copper	ug/L	36.7	1000	1000	1060	1050	103	102	70-130	1	11	
Iron	ug/L	57900	10000	10000	66500	65400	86	76	70-130	2	10	
Lead	ug/L	14.3	1000	1000	974	959	96	94	70-130	2	10	
Nickel	ug/L	16.8	1000	1000	1000	992	98	98	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1040	105	104	70-130	1	10	
Silver	ug/L	ND	500	500	520	515	104	103	70-130	1	10	
Thallium	ug/L	ND	1000	1000	944	932	94	93	70-130	1	6	
Zinc	ug/L	641	1000	1000	1570	1560	93	92	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: MPRP/26629
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165454001

METHOD BLANK: 1350799
Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/27/14 16:34	
Antimony, Dissolved	ug/L	ND	10.0	03/27/14 16:34	
Arsenic, Dissolved	ug/L	ND	10.0	03/27/14 16:34	
Beryllium, Dissolved	ug/L	ND	1.0	03/28/14 14:40	
Cadmium, Dissolved	ug/L	ND	5.0	03/27/14 16:34	
Chromium, Dissolved	ug/L	ND	5.0	03/27/14 16:34	
Cobalt, Dissolved	ug/L	ND	5.0	03/27/14 16:34	
Copper, Dissolved	ug/L	ND	10.0	03/27/14 16:34	
Iron, Dissolved	ug/L	ND	50.0	03/27/14 16:34	
Lead, Dissolved	ug/L	ND	5.0	03/27/14 16:34	
Nickel, Dissolved	ug/L	ND	5.0	03/27/14 16:34	
Selenium, Dissolved	ug/L	ND	15.0	03/28/14 14:40	
Silver, Dissolved	ug/L	ND	7.0	03/27/14 16:34	
Thallium, Dissolved	ug/L	ND	20.0	03/28/14 14:40	
Zinc, Dissolved	ug/L	ND	50.0	03/28/14 14:40	

LABORATORY CONTROL SAMPLE: 1350800

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1100	110	85-115	
Arsenic, Dissolved	ug/L	1000	1060	106	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	1080	108	85-115	
Chromium, Dissolved	ug/L	1000	1060	106	85-115	
Cobalt, Dissolved	ug/L	1000	1110	111	85-115	
Copper, Dissolved	ug/L	1000	1050	105	85-115	
Iron, Dissolved	ug/L	10000	10500	105	85-115	
Lead, Dissolved	ug/L	1000	1110	111	85-115	
Nickel, Dissolved	ug/L	1000	1110	111	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	524	105	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350801 1350802

Parameter	Units	60165454001 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	ND	10000	10000	10800	10700	107	107	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350801 1350802

Parameter	Units	60165454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1100	1100	109	109	70-130	0	7	
Arsenic, Dissolved	ug/L	56.6	1000	1000	1130	1130	107	108	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1080	1080	108	108	70-130	0	10	
Chromium, Dissolved	ug/L	15.1	1000	1000	1070	1070	105	105	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1080	1080	107	107	70-130	0	6	
Copper, Dissolved	ug/L	37.9	1000	1000	1120	1120	108	108	70-130	0	11	
Iron, Dissolved	ug/L	24800	10000	10000	35000	35300	102	104	70-130	1	10	
Lead, Dissolved	ug/L	6.4	1000	1000	1060	1050	105	104	70-130	0	10	
Nickel, Dissolved	ug/L	16.0	1000	1000	1070	1070	106	106	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1050	1050	105	105	70-130	0	10	
Silver, Dissolved	ug/L	ND	500	500	531	530	106	106	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	948	943	95	94	70-130	1	6	
Zinc, Dissolved	ug/L	559	1000	1000	1510	1520	95	96	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: MSV/60278 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165454002

METHOD BLANK: 1349295 | Matrix: Water
Associated Lab Samples: 60165454002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/24/14 12:37	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,2-Dichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/24/14 12:37	
2-Butanone (MEK)	ug/L	ND	10.0	03/24/14 12:37	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/24/14 12:37	N2
Acetone	ug/L	ND	10.0	03/24/14 12:37	N2
Benzene	ug/L	ND	1.0	03/24/14 12:37	
Bromodichloromethane	ug/L	ND	1.0	03/24/14 12:37	
Bromoform	ug/L	ND	1.0	03/24/14 12:37	
Bromomethane	ug/L	ND	5.0	03/24/14 12:37	
Carbon tetrachloride	ug/L	ND	1.0	03/24/14 12:37	
Chloroethane	ug/L	ND	1.0	03/24/14 12:37	
Chloroform	ug/L	ND	1.0	03/24/14 12:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/24/14 12:37	N2
Ethylbenzene	ug/L	ND	1.0	03/24/14 12:37	
Methylene chloride	ug/L	ND	1.0	03/24/14 12:37	
Tetrachloroethene	ug/L	ND	1.0	03/24/14 12:37	
Toluene	ug/L	ND	1.0	03/24/14 12:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/24/14 12:37	
Trichloroethene	ug/L	ND	1.0	03/24/14 12:37	
Vinyl chloride	ug/L	ND	1.0	03/24/14 12:37	
Xylene (Total)	ug/L	ND	3.0	03/24/14 12:37	N2
1,2-Dichloroethane-d4 (S)	%	103	80-120	03/24/14 12:37	
4-Bromofluorobenzene (S)	%	105	80-120	03/24/14 12:37	
Toluene-d8 (S)	%	101	80-120	03/24/14 12:37	

LABORATORY CONTROL SAMPLE: 1349296

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	19.4	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.4	97	67-124	
1,2-Dichloroethane	ug/L	20	20.5	103	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	95	74-120	
2-Butanone (MEK)	ug/L	100	107	107	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	59-131	N2
Acetone	ug/L	100	144	144	38-134	L0,N2
Benzene	ug/L	20	20.7	103	75-120	
Bromodichloromethane	ug/L	20	20.1	101	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

LABORATORY CONTROL SAMPLE: 1349296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.1	96	65-127	
Bromomethane	ug/L	20	16.3	82	13-157	
Carbon tetrachloride	ug/L	20	20.7	103	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	20.3	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	68-127	N2
Ethylbenzene	ug/L	20	19.7	99	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	20.5	103	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	99	66-129	
Trichloroethene	ug/L	20	20.6	103	71-123	
Vinyl chloride	ug/L	20	18.2	91	43-129	
Xylene (Total)	ug/L	60	60.8	101	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: MSV/60314 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165454001

METHOD BLANK: 1349892 | Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/25/14 14:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,2-Dichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/25/14 14:03	
2-Butanone (MEK)	ug/L	ND	10.0	03/25/14 14:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/25/14 14:03	N2
Acetone	ug/L	ND	10.0	03/25/14 14:03	N2
Benzene	ug/L	ND	1.0	03/25/14 14:03	
Bromodichloromethane	ug/L	ND	1.0	03/25/14 14:03	
Bromoform	ug/L	ND	1.0	03/25/14 14:03	
Bromomethane	ug/L	ND	5.0	03/25/14 14:03	
Carbon tetrachloride	ug/L	ND	1.0	03/25/14 14:03	
Chloroethane	ug/L	ND	1.0	03/25/14 14:03	
Chloroform	ug/L	ND	1.0	03/25/14 14:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/25/14 14:03	N2
Ethylbenzene	ug/L	ND	1.0	03/25/14 14:03	
Methylene chloride	ug/L	2.2	1.0	03/25/14 14:03	
Tetrachloroethene	ug/L	ND	1.0	03/25/14 14:03	
Toluene	ug/L	ND	1.0	03/25/14 14:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/25/14 14:03	
Trichloroethene	ug/L	ND	1.0	03/25/14 14:03	
Vinyl chloride	ug/L	ND	1.0	03/25/14 14:03	
Xylene (Total)	ug/L	ND	3.0	03/25/14 14:03	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	03/25/14 14:03	
4-Bromofluorobenzene (S)	%	105	80-120	03/25/14 14:03	
Toluene-d8 (S)	%	104	80-120	03/25/14 14:03	

LABORATORY CONTROL SAMPLE: 1349893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.6	103	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.2	111	67-124	
1,2-Dichloroethane	ug/L	20	20.3	101	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	141	141	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	59-131	N2
Acetone	ug/L	100	191	191	38-134	L0,N2
Benzene	ug/L	20	20.3	102	75-120	
Bromodichloromethane	ug/L	20	20.3	102	68-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

LABORATORY CONTROL SAMPLE: 1349893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.4	102	65-127	
Bromomethane	ug/L	20	15.2	76	13-157	
Carbon tetrachloride	ug/L	20	19.8	99	70-131	
Chloroethane	ug/L	20	17.8	89	47-133	
Chloroform	ug/L	20	19.9	100	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	68-127	N2
Ethylbenzene	ug/L	20	21.1	105	74-122	
Methylene chloride	ug/L	20	22.5	113	64-129	
Tetrachloroethene	ug/L	20	20.5	103	73-125	
Toluene	ug/L	20	20.5	102	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.1	101	66-129	
Trichloroethene	ug/L	20	20.5	103	71-123	
Vinyl chloride	ug/L	20	17.7	88	43-129	
Xylene (Total)	ug/L	60	64.5	107	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1349894

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	10000	10200	102	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	10000	10000	100	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	10000	10400	104	52-143	
1,2-Dichloroethane	ug/L	ND	10000	9490	95	49-144	
1,4-Dichlorobenzene	ug/L	2560	10000	12500	99	33-140	
2-Butanone (MEK)	ug/L	100000	50000	138000	75	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50000	48600	91	40-160	N2
Acetone	ug/L	190000	50000	222000	63	10-160	N2
Benzene	ug/L	ND	10000	9920	99	37-151	
Bromodichloromethane	ug/L	ND	10000	9620	96	35-142	
Bromoform	ug/L	ND	10000	9640	96	45-142	
Bromomethane	ug/L	ND	10000	7140	71	10-158	
Carbon tetrachloride	ug/L	ND	10000	10600	106	70-140	
Chloroethane	ug/L	ND	10000	8700	87	19-152	
Chloroform	ug/L	ND	10000	9640	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	10000	9870	99	34-147	N2
Ethylbenzene	ug/L	ND	10000	11000	105	40-142	
Methylene chloride	ug/L	ND	10000	9580	92	31-144	
Tetrachloroethene	ug/L	ND	10000	10800	108	64-148	
Toluene	ug/L	ND	10000	9980	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	10000	9740	97	54-151	
Trichloroethene	ug/L	ND	10000	10600	106	71-149	
Vinyl chloride	ug/L	ND	10000	9060	91	22-146	
Xylene (Total)	ug/L	2050	30000	35000	110	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

MATRIX SPIKE SAMPLE: 1349894

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: OEXT/43339 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165454001

METHOD BLANK: 1350070 | Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/28/14 08:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/28/14 08:57	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/28/14 08:57	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/28/14 08:57	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/28/14 08:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/28/14 08:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/28/14 08:57	
Hexachloroethane	ug/L	ND	5.0	03/28/14 08:57	
Naphthalene	ug/L	ND	5.0	03/28/14 08:57	
Nitrobenzene	ug/L	ND	5.0	03/28/14 08:57	
Pentachlorophenol	ug/L	ND	5.0	03/28/14 08:57	
Phenol	ug/L	ND	5.0	03/28/14 08:57	
2,4,6-Tribromophenol (S)	%	116	39-120	03/28/14 08:57	
2-Fluorobiphenyl (S)	%	111	39-120	03/28/14 08:57	
2-Fluorophenol (S)	%	57	17-120	03/28/14 08:57	
Nitrobenzene-d5 (S)	%	116	33-120	03/28/14 08:57	
Phenol-d6 (S)	%	37	11-120	03/28/14 08:57	
Terphenyl-d14 (S)	%	123	45-120	03/28/14 08:57	S3

LABORATORY CONTROL SAMPLE: 1350071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.1	82	46-120	
2,4,6-Trichlorophenol	ug/L	50	50.7	101	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.0	68	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.4	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	75.5	151	40-133	L0
Hexachloro-1,3-butadiene	ug/L	50	39.1	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	55.0	55	24-120	
Hexachloroethane	ug/L	50	36.1	72	43-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	45.7	91	48-120	
Pentachlorophenol	ug/L	50	58.7	117	47-120	
Phenol	ug/L	50	15.7	31	16-112	
2,4,6-Tribromophenol (S)	%			108	39-120	
2-Fluorobiphenyl (S)	%			94	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			96	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			109	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

MATRIX SPIKE SAMPLE: 1350073

Parameter	Units	60165524005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	44.1	88	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	54.7	109	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	34.2	68	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	30.8	62	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	106	212	10-160	M0
Hexachloro-1,3-butadiene	ug/L	ND	50	41.8	84	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	68.6	69	11-120	
Hexachloroethane	ug/L	ND	50	39.6	79	40-113	
Naphthalene	ug/L	ND	50	45.6	91	45-120	
Nitrobenzene	ug/L	ND	50	49.2	98	38-120	
Pentachlorophenol	ug/L	ND	50	70.7	141	43-135	M1
Phenol	ug/L	ND	50	14.9	30	13-112	
2,4,6-Tribromophenol (S)	%				115	39-120	
2-Fluorobiphenyl (S)	%				98	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				102	33-120	
Phenol-d6 (S)	%				27	11-120	
Terphenyl-d14 (S)	%				108	45-120	

SAMPLE DUPLICATE: 1350072

Parameter	Units	60165524005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	ND			
2,4,6-Trichlorophenol	ug/L	ND	ND			
2-Methylphenol(o-Cresol)	ug/L	ND	ND			N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	ND			N2
4,6-Dinitro-2-methylphenol	ug/L	ND	ND			
Hexachloro-1,3-butadiene	ug/L	ND	ND			
Hexachlorocyclopentadiene	ug/L	ND	ND			
Hexachloroethane	ug/L	ND	ND			
Naphthalene	ug/L	ND	ND			
Nitrobenzene	ug/L	ND	ND			
Pentachlorophenol	ug/L	ND	ND			
Phenol	ug/L	ND	ND			
2,4,6-Tribromophenol (S)	%	106	106	1		
2-Fluorobiphenyl (S)	%	90	89	1		
2-Fluorophenol (S)	%	40	40	1		
Nitrobenzene-d5 (S)	%	90	94	4		
Phenol-d6 (S)	%	27	27	0		
Terphenyl-d14 (S)	%	99	99	0		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: WET/46997
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165454001

METHOD BLANK: 1352635
Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/31/14 09:13	

LABORATORY CONTROL SAMPLE: 1352636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.9	95	78-114	

MATRIX SPIKE SAMPLE: 1352637

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1460	160	1610	98	78-114	

SAMPLE DUPLICATE: 1352638

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1740	1750	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: WET/46999
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165454001

METHOD BLANK: 1352643
Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/31/14 09:00	

LABORATORY CONTROL SAMPLE: 1352644

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.1	90	64-132	

MATRIX SPIKE SAMPLE: 1352645

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.6	80	84.8	94	64-132	

SAMPLE DUPLICATE: 1352646

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.2	18.0	31	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: WET/46926 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165454001

METHOD BLANK: 1350538 | Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/26/14 16:02	

SAMPLE DUPLICATE: 1350539

Parameter	Units	60165360002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	178	190	7	10	

SAMPLE DUPLICATE: 1350540

Parameter	Units	60165454001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	150	145	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: WET/46976
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165454001

SAMPLE DUPLICATE: 1351763

Parameter	Units	60165772001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.1	9.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: WET/46827 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165454001

METHOD BLANK: 1348740 | Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/27/14 11:20	

LABORATORY CONTROL SAMPLE: 1348741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	194	98	85-115	

SAMPLE DUPLICATE: 1348742

Parameter	Units	5095430001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	60.0	63.0	5	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: WETA/28781
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165454001

METHOD BLANK: 1350604
Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/27/14 09:53	

LABORATORY CONTROL SAMPLE: 1350605

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

MATRIX SPIKE SAMPLE: 1350606

Parameter	Units	60165137001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	115	90-110	M1

MATRIX SPIKE SAMPLE: 1350607

Parameter	Units	60165148001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.22	2	2.2	101	90-110	

SAMPLE DUPLICATE: 1350608

Parameter	Units	60165246001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

QC Batch: WETA/28762 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165454001

METHOD BLANK: 1350031 | Matrix: Water
Associated Lab Samples: 60165454001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/27/14 07:15	

LABORATORY CONTROL SAMPLE: 1350032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.3	97	90-110	

MATRIX SPIKE SAMPLE: 1350033

Parameter	Units	60165137002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	17.6	50	66.6	98	90-110	

MATRIX SPIKE SAMPLE: 1350036

Parameter	Units	60165497001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	140	50	178	76	90-110	M1

SAMPLE DUPLICATE: 1350034

Parameter	Units	60165237001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	7020	6720	4	25	

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QUALIFIERS

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

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/60278

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

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 326-MSD
Pace Project No.: 60165454

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165454001	**326-MSD**	EPA 200.7	MPRP/26630	EPA 200.7	ICP/20250
60165454001	**326-MSD**	EPA 200.7	MPRP/26629	EPA 200.7	ICP/20251
60165454001	**326-MSD**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165454001	**326-MSD**	EPA 245.1	MERP/8266	EPA 245.1	MERC/8220
60165454001	**326-MSD**	EPA 245.1	MERP/8253	EPA 245.1	MERC/8206
60165454001	**326-MSD**	EPA 245.1	MERP/8264	EPA 245.1	MERC/8219
60165454001	**326-MSD**	EPA 625	OEXT/43339	EPA 625	MSSV/13823
60165454001	**326-MSD**	EPA 624 Low	MSV/60314		
60165454002	**TRIP BLANK**	EPA 624 Low	MSV/60278		
60165454001	**326-MSD**	EPA 1664A	WET/46997		
60165454001	**326-MSD**	EPA 1664A	WET/46999		
60165454001	**326-MSD**	SM 2540D	WET/46926		
60165454001	**326-MSD**	SM 4500-H+B	WET/46976		
60165454001	**326-MSD**	SM 5210B	WET/46827	SM 5210B	WET/46944
60165454001	**326-MSD**	EPA 350.1	WETA/28781		
60165454001	**326-MSD**	EPA 410.4	WETA/28762		

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Sample Condition Upon Receipt

WO#: 60165454

60165454

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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 5.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/22/14 (b)

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		
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: Pace Trip Blank lot # (if purchased): 012014-3BE2	☑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:	

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: 3/24/14

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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.	PO 3727110	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 #:	6787 LINE 2

Regulatory Agency

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	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)	60165454
1	326-MSD 2BP24, BP34, 3AG35	OT	G	03/21/14	230	—	—		14	10	4	1	0	BP3N	20	BP3S	20		X	X	X	X	X	X	X	X	X	X	X	2AG4U, 5DG9U		001
2	TRIP BLANK								2	2																X					2DG9U (TB)	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	Paul Linscott Fel	03/21/14	2:50pm	Margaret Heath	03/21/14	2:50pm				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	3/22/14	0100	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: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 03-21-14

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(913)599-5665

March 31, 2014

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

RE: Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 22, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

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 325-MSD
Pace Project No.: 60165458

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165458001	**325-MSD**	Water	03/21/14 07:00	03/22/14 01:00
60165458002	**TRIP BLANK**	Water	03/21/14 00:00	03/22/14 01:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165458001	**325-MSD**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165458002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

Sample: 325-MSD **Lab ID: 60165458001** Collected: 03/21/14 07:00 Received: 03/22/14 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	**4640**	ug/L	375	1	03/24/14 12:15	03/25/14 14:59	7429-90-5	
Antimony	**78.2**	ug/L	50.0	1	03/24/14 12:15	03/25/14 14:59	7440-36-0	
Arsenic	**1080**	ug/L	50.0	1	03/24/14 12:15	03/25/14 14:59	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/24/14 12:15	03/25/14 14:59	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:59	7440-43-9	
Chromium	**162**	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:59	7440-47-3	
Cobalt	**29.7**	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:59	7440-48-4	
Copper	**84.2**	ug/L	50.0	1	03/24/14 12:15	03/25/14 14:59	7440-50-8	
Iron	**492000**	ug/L	250	1	03/24/14 12:15	03/25/14 14:59	7439-89-6	
Lead	**57.2**	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:59	7439-92-1	
Nickel	**83.4**	ug/L	25.0	1	03/24/14 12:15	03/25/14 14:59	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/24/14 12:15	03/25/14 14:59	7782-49-2	
Silver	ND	ug/L	35.0	1	03/24/14 12:15	03/25/14 14:59	7440-22-4	
Thallium	ND	ug/L	100	1	03/24/14 12:15	03/25/14 14:59	7440-28-0	
Zinc	**5410**	ug/L	250	1	03/24/14 12:15	03/25/14 14:59	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1830**	ug/L	375	1	03/24/14 17:00	03/26/14 10:31	7429-90-5	
Antimony, Dissolved	**55.0**	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:31	7440-36-0	
Arsenic, Dissolved	**1000**	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:31	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/24/14 17:00	03/26/14 10:31	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:31	7440-43-9	
Chromium, Dissolved	**143**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:31	7440-47-3	
Cobalt, Dissolved	**28.6**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:31	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:31	7440-50-8	
Iron, Dissolved	**393000**	ug/L	250	1	03/24/14 17:00	03/26/14 10:31	7439-89-6	
Lead, Dissolved	**33.9**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:31	7439-92-1	
Nickel, Dissolved	**72.6**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:31	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/24/14 17:00	03/26/14 10:31	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/24/14 17:00	03/26/14 10:31	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/24/14 17:00	03/26/14 10:31	7440-28-0	
Zinc, Dissolved	**5290**	ug/L	250	1	03/24/14 17:00	03/26/14 10:31	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/26/14 11:30	03/26/14 15:57	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	03/26/14 11:30	03/27/14 13:45	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/26/14 00:00	03/29/14 02:10	534-52-1	L3
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/26/14 00:00	03/29/14 02:10	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7350**	ug/L	4000	2	03/26/14 00:00	03/29/14 02:10		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

Sample: 325-MSD **Lab ID: 60165458001** Collected: 03/21/14 07:00 Received: 03/22/14 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	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	87-86-5	
Phenol	**10800**	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:10	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	201	%	33-120	2	03/26/14 00:00	03/29/14 02:10	4165-60-0	S0
2-Fluorobiphenyl (S)	95	%	39-120	2	03/26/14 00:00	03/29/14 02:10	321-60-8	
Terphenyl-d14 (S)	111	%	45-120	2	03/26/14 00:00	03/29/14 02:10	1718-51-0	
Phenol-d6 (S)	35	%	11-120	2	03/26/14 00:00	03/29/14 02:10	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	03/26/14 00:00	03/29/14 02:10	367-12-4	
2,4,6-Tribromophenol (S)	108	%	39-120	2	03/26/14 00:00	03/29/14 02:10	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**578000**	ug/L	10000	1000		03/28/14 15:06	67-64-1	N2
Benzene	ND	ug/L	200	200		03/24/14 18:34	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/24/14 18:34	75-27-4	
Bromoform	ND	ug/L	200	200		03/24/14 18:34	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/24/14 18:34	74-83-9	
2-Butanone (MEK)	**361000**	ug/L	5000	500		03/25/14 16:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/24/14 18:34	56-23-5	
Chloroethane	ND	ug/L	200	200		03/24/14 18:34	75-00-3	
Chloroform	ND	ug/L	200	200		03/24/14 18:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		03/24/14 18:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/24/14 18:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/24/14 18:34	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/24/14 18:34	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/24/14 18:34	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/24/14 18:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	**9790**	ug/L	2000	200		03/24/14 18:34	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/24/14 18:34	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/24/14 18:34	127-18-4	
Toluene	ND	ug/L	200	200		03/24/14 18:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/24/14 18:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/24/14 18:34	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/24/14 18:34	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/24/14 18:34	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/24/14 18:34	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	107	%	80-120	200		03/24/14 18:34	460-00-4	
Toluene-d8 (S)	99	%	80-120	200		03/24/14 18:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		03/24/14 18:34	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/24/14 18:34		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1280**	mg/L	5.0	1		03/31/14 09:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

Sample: 325-MSD **Lab ID: 60165458001** Collected: 03/21/14 07:00 Received: 03/22/14 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	**15.6**	mg/L	5.0	1		03/31/14 09:01		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1620**	mg/L	5.0	1		03/26/14 16:05		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		03/29/14 07:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**25700**	mg/L	2.0	1	03/22/14 11:50	03/27/14 11:41		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**602**	mg/L	20.0	200		03/27/14 10:20	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**65000**	mg/L	5000	500		03/27/14 07:27		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

Sample: TRIP BLANK **Lab ID: 60165458002** Collected: 03/21/14 00:00 Received: 03/22/14 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		03/24/14 16:54	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/24/14 16:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/24/14 16:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/24/14 16:54	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/24/14 16:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/24/14 16:54	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/24/14 16:54	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/24/14 16:54	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/24/14 16:54	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/24/14 16:54	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/24/14 16:54	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/24/14 16:54	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/24/14 16:54	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/24/14 16:54	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/24/14 16:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/24/14 16:54	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/24/14 16:54	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/24/14 16:54	127-18-4	
Toluene	ND	ug/L	1.0	1		03/24/14 16:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/24/14 16:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/24/14 16:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/24/14 16:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/24/14 16:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/24/14 16:54	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		03/24/14 16:54	460-00-4	
Toluene-d8 (S)	95	%	80-120	1		03/24/14 16:54	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		03/24/14 16:54	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/24/14 16:54		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: MERP/8249 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165458001

METHOD BLANK: 1350218 | Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/26/14 15:30	

LABORATORY CONTROL SAMPLE: 1350219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350220 1350221

Parameter	Units	60165109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	62.7	150	150	196	177	89	76	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: MERP/8253
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165458001

METHOD BLANK: 1350234
Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/27/14 13:27	

LABORATORY CONTROL SAMPLE: 1350235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350236 1350237

Parameter	Units	60165249001 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	160	146	107	97	70-130	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: MPRP/26580
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165458001

METHOD BLANK: 1349215
Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/25/14 14:20	
Antimony	ug/L	ND	10.0	03/25/14 14:20	
Arsenic	ug/L	ND	10.0	03/25/14 14:20	
Beryllium	ug/L	ND	1.0	03/25/14 14:20	
Cadmium	ug/L	ND	5.0	03/25/14 14:20	
Chromium	ug/L	ND	5.0	03/25/14 14:20	
Cobalt	ug/L	ND	5.0	03/25/14 14:20	
Copper	ug/L	ND	10.0	03/25/14 14:20	
Iron	ug/L	ND	50.0	03/25/14 14:20	
Lead	ug/L	ND	5.0	03/25/14 14:20	
Nickel	ug/L	ND	5.0	03/25/14 14:20	
Selenium	ug/L	ND	15.0	03/25/14 14:20	
Silver	ug/L	ND	7.0	03/25/14 14:20	
Thallium	ug/L	ND	20.0	03/25/14 14:20	
Zinc	ug/L	69.2	50.0	03/25/14 14:20	

LABORATORY CONTROL SAMPLE: 1349216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9720	97	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	972	97	85-115	
Beryllium	ug/L	1000	979	98	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	970	97	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	9870	99	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	990	99	85-115	
Silver	ug/L	500	493	99	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349217 1349218

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	497	10000	10000	10600	10500	101	100	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349217 1349218

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	0	7	
Arsenic	ug/L	ND	1000	1000	1000	989	100	99	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1000	993	100	99	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium	ug/L	ND	1000	1000	984	972	98	97	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	6	
Copper	ug/L	ND	1000	1000	1030	1010	102	101	70-130	1	11	
Iron	ug/L	367	10000	10000	10400	10300	100	99	70-130	1	10	
Lead	ug/L	ND	1000	1000	1020	1000	101	100	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Silver	ug/L	ND	500	500	502	499	100	100	70-130	1	10	
Thallium	ug/L	ND	1000	1000	1020	1010	102	101	70-130	0	6	
Zinc	ug/L	ND	1000	1000	1020	1020	101	101	70-130	1	11	

MATRIX SPIKE SAMPLE: 1349219

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	31100	50000	111000	161	70-130	M1
Antimony	ug/L	ND	5000	5420	108	70-130	
Arsenic	ug/L	1410	5000	6940	111	70-130	M1
Beryllium	ug/L	ND	5000	4940	99	70-130	
Cadmium	ug/L	ND	5000	5370	107	70-130	
Chromium	ug/L	321	5000	5040	94	70-130	
Cobalt	ug/L	63.0	5000	4940	98	70-130	
Copper	ug/L	111	5000	5600	110	70-130	
Iron	ug/L	1040000	50000	942000	-197	70-130	M1
Lead	ug/L	317	5000	4850	91	70-130	
Nickel	ug/L	195	5000	5020	97	70-130	
Selenium	ug/L	ND	5000	6320	126	70-130	
Silver	ug/L	ND	2500	2710	108	70-130	
Thallium	ug/L	ND	5000	4340	87	70-130	
Zinc	ug/L	6260	5000	10400	83	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: MPRP/26585
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165458001

METHOD BLANK: 1349390
Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/26/14 10:04	
Antimony, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Arsenic, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Beryllium, Dissolved	ug/L	ND	1.0	03/26/14 10:04	
Cadmium, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Chromium, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Cobalt, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Copper, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Iron, Dissolved	ug/L	ND	50.0	03/26/14 10:04	
Lead, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Nickel, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Selenium, Dissolved	ug/L	ND	15.0	03/26/14 10:04	
Silver, Dissolved	ug/L	ND	7.0	03/26/14 10:04	
Thallium, Dissolved	ug/L	ND	20.0	03/26/14 10:04	
Zinc, Dissolved	ug/L	ND	50.0	03/26/14 10:04	

LABORATORY CONTROL SAMPLE: 1349391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9730	97	85-115	
Antimony, Dissolved	ug/L	1000	1000	100	85-115	
Arsenic, Dissolved	ug/L	1000	968	97	85-115	
Beryllium, Dissolved	ug/L	1000	986	99	85-115	
Cadmium, Dissolved	ug/L	1000	998	100	85-115	
Chromium, Dissolved	ug/L	1000	972	97	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	9970	100	85-115	
Lead, Dissolved	ug/L	1000	1000	100	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	991	99	85-115	
Silver, Dissolved	ug/L	500	509	102	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	992	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349392 1349393

Parameter	Units	60165337001 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	ND	10000	10000	9840	9800	98	98	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349392 1349393

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1010	999	101	100	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	972	971	97	97	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	995	988	99	99	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	995	991	99	99	70-130	0	10	
Chromium, Dissolved	ug/L	ND	1000	1000	967	969	97	97	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1000	996	100	100	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	1000	100	100	70-130	0	11	
Iron, Dissolved	ug/L	79.2	10000	10000	10000	9940	100	99	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	997	991	100	99	70-130	1	10	
Nickel, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	988	984	99	98	70-130	0	10	
Silver, Dissolved	ug/L	ND	500	500	508	508	102	102	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	997	994	100	99	70-130	0	6	
Zinc, Dissolved	ug/L	ND	1000	1000	986	986	97	97	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: MSV/60278 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165458001, 60165458002

METHOD BLANK: 1349295 | Matrix: Water
Associated Lab Samples: 60165458001, 60165458002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/24/14 12:37	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,2-Dichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/24/14 12:37	
2-Butanone (MEK)	ug/L	ND	10.0	03/24/14 12:37	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/24/14 12:37	N2
Acetone	ug/L	ND	10.0	03/24/14 12:37	N2
Benzene	ug/L	ND	1.0	03/24/14 12:37	
Bromodichloromethane	ug/L	ND	1.0	03/24/14 12:37	
Bromoform	ug/L	ND	1.0	03/24/14 12:37	
Bromomethane	ug/L	ND	5.0	03/24/14 12:37	
Carbon tetrachloride	ug/L	ND	1.0	03/24/14 12:37	
Chloroethane	ug/L	ND	1.0	03/24/14 12:37	
Chloroform	ug/L	ND	1.0	03/24/14 12:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/24/14 12:37	N2
Ethylbenzene	ug/L	ND	1.0	03/24/14 12:37	
Methylene chloride	ug/L	ND	1.0	03/24/14 12:37	
Tetrachloroethene	ug/L	ND	1.0	03/24/14 12:37	
Toluene	ug/L	ND	1.0	03/24/14 12:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/24/14 12:37	
Trichloroethene	ug/L	ND	1.0	03/24/14 12:37	
Vinyl chloride	ug/L	ND	1.0	03/24/14 12:37	
Xylene (Total)	ug/L	ND	3.0	03/24/14 12:37	N2
1,2-Dichloroethane-d4 (S)	%	103	80-120	03/24/14 12:37	
4-Bromofluorobenzene (S)	%	105	80-120	03/24/14 12:37	
Toluene-d8 (S)	%	101	80-120	03/24/14 12:37	

LABORATORY CONTROL SAMPLE: 1349296

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	19.4	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.4	97	67-124	
1,2-Dichloroethane	ug/L	20	20.5	103	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	95	74-120	
2-Butanone (MEK)	ug/L	100	107	107	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	59-131	N2
Acetone	ug/L	100	144	144	38-134	L0,N2
Benzene	ug/L	20	20.7	103	75-120	
Bromodichloromethane	ug/L	20	20.1	101	68-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

LABORATORY CONTROL SAMPLE: 1349296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.1	96	65-127	
Bromomethane	ug/L	20	16.3	82	13-157	
Carbon tetrachloride	ug/L	20	20.7	103	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	20.3	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	68-127	N2
Ethylbenzene	ug/L	20	19.7	99	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	20.5	103	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	99	66-129	
Trichloroethene	ug/L	20	20.6	103	71-123	
Vinyl chloride	ug/L	20	18.2	91	43-129	
Xylene (Total)	ug/L	60	60.8	101	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: MSV/60314
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60165458001

METHOD BLANK: 1349892
Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Butanone (MEK)	ug/L	ND	10.0	03/25/14 14:03	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	03/25/14 14:03	
4-Bromofluorobenzene (S)	%	105	80-120	03/25/14 14:03	
Toluene-d8 (S)	%	104	80-120	03/25/14 14:03	

LABORATORY CONTROL SAMPLE: 1349893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Butanone (MEK)	ug/L	100	141	141	42-153	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1349894

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
2-Butanone (MEK)	ug/L	100000	50000	138000	75	40-160	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				98	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: MSV/60388
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60165458001

METHOD BLANK: 1351614
Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acetone	ug/L	ND	10.0	03/28/14 14:19	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	03/28/14 14:19	
4-Bromofluorobenzene (S)	%	101	80-120	03/28/14 14:19	
Toluene-d8 (S)	%	100	80-120	03/28/14 14:19	

LABORATORY CONTROL SAMPLE: 1351615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	111	111	38-134	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1351616

Parameter	Units	60165612001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	177000	20000	194000	86	10-160	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: OEXT/43339 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165458001

METHOD BLANK: 1350070 | Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/28/14 08:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/28/14 08:57	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/28/14 08:57	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/28/14 08:57	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/28/14 08:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/28/14 08:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/28/14 08:57	
Hexachloroethane	ug/L	ND	5.0	03/28/14 08:57	
Naphthalene	ug/L	ND	5.0	03/28/14 08:57	
Nitrobenzene	ug/L	ND	5.0	03/28/14 08:57	
Pentachlorophenol	ug/L	ND	5.0	03/28/14 08:57	
Phenol	ug/L	ND	5.0	03/28/14 08:57	
2,4,6-Tribromophenol (S)	%	116	39-120	03/28/14 08:57	
2-Fluorobiphenyl (S)	%	111	39-120	03/28/14 08:57	
2-Fluorophenol (S)	%	57	17-120	03/28/14 08:57	
Nitrobenzene-d5 (S)	%	116	33-120	03/28/14 08:57	
Phenol-d6 (S)	%	37	11-120	03/28/14 08:57	
Terphenyl-d14 (S)	%	123	45-120	03/28/14 08:57	S3

LABORATORY CONTROL SAMPLE: 1350071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.1	82	46-120	
2,4,6-Trichlorophenol	ug/L	50	50.7	101	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.0	68	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.4	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	75.5	151	40-133	L0
Hexachloro-1,3-butadiene	ug/L	50	39.1	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	55.0	55	24-120	
Hexachloroethane	ug/L	50	36.1	72	43-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	45.7	91	48-120	
Pentachlorophenol	ug/L	50	58.7	117	47-120	
Phenol	ug/L	50	15.7	31	16-112	
2,4,6-Tribromophenol (S)	%			108	39-120	
2-Fluorobiphenyl (S)	%			94	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			96	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			109	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

MATRIX SPIKE SAMPLE: 1350073

Parameter	Units	60165524005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	44.1	88	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	54.7	109	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	34.2	68	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	30.8	62	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	106	212	10-160	M0
Hexachloro-1,3-butadiene	ug/L	ND	50	41.8	84	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	68.6	69	11-120	
Hexachloroethane	ug/L	ND	50	39.6	79	40-113	
Naphthalene	ug/L	ND	50	45.6	91	45-120	
Nitrobenzene	ug/L	ND	50	49.2	98	38-120	
Pentachlorophenol	ug/L	ND	50	70.7	141	43-135	M1
Phenol	ug/L	ND	50	14.9	30	13-112	
2,4,6-Tribromophenol (S)	%				115	39-120	
2-Fluorobiphenyl (S)	%				98	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				102	33-120	
Phenol-d6 (S)	%				27	11-120	
Terphenyl-d14 (S)	%				108	45-120	

SAMPLE DUPLICATE: 1350072

Parameter	Units	60165524005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	ND			
2,4,6-Trichlorophenol	ug/L	ND	ND			
2-Methylphenol(o-Cresol)	ug/L	ND	ND			N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	ND			N2
4,6-Dinitro-2-methylphenol	ug/L	ND	ND			
Hexachloro-1,3-butadiene	ug/L	ND	ND			
Hexachlorocyclopentadiene	ug/L	ND	ND			
Hexachloroethane	ug/L	ND	ND			
Naphthalene	ug/L	ND	ND			
Nitrobenzene	ug/L	ND	ND			
Pentachlorophenol	ug/L	ND	ND			
Phenol	ug/L	ND	ND			
2,4,6-Tribromophenol (S)	%	106	106	1		
2-Fluorobiphenyl (S)	%	90	89	1		
2-Fluorophenol (S)	%	40	40	1		
Nitrobenzene-d5 (S)	%	90	94	4		
Phenol-d6 (S)	%	27	27	0		
Terphenyl-d14 (S)	%	99	99	0		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: WET/46997
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165458001

METHOD BLANK: 1352635
Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/31/14 09:13	

LABORATORY CONTROL SAMPLE: 1352636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.9	95	78-114	

MATRIX SPIKE SAMPLE: 1352637

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1460	160	1610	98	78-114	

SAMPLE DUPLICATE: 1352638

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1740	1750	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: WET/46999
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165458001

METHOD BLANK: 1352643
Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/31/14 09:00	

LABORATORY CONTROL SAMPLE: 1352644

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.1	90	64-132	

MATRIX SPIKE SAMPLE: 1352645

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.6	80	84.8	94	64-132	

SAMPLE DUPLICATE: 1352646

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.2	18.0	31	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: WET/46926 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165458001

METHOD BLANK: 1350538 | Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/26/14 16:02	

SAMPLE DUPLICATE: 1350539

Parameter	Units	60165360002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	178	190	7	10	

SAMPLE DUPLICATE: 1350540

Parameter	Units	60165454001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	150	145	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: WET/46976
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165458001

SAMPLE DUPLICATE: 1351763

Parameter	Units	60165772001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.1	9.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: WET/46827 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165458001

METHOD BLANK: 1348740 | Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/27/14 11:20	

LABORATORY CONTROL SAMPLE: 1348741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	194	98	85-115	

SAMPLE DUPLICATE: 1348742

Parameter	Units	5095430001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	60.0	63.0	5	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: WETA/28781 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165458001

METHOD BLANK: 1350604 | Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/27/14 09:53	

LABORATORY CONTROL SAMPLE: 1350605

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

MATRIX SPIKE SAMPLE: 1350606

Parameter	Units	60165137001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	115	90-110	M1

MATRIX SPIKE SAMPLE: 1350607

Parameter	Units	60165148001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.22	2	2.2	101	90-110	

SAMPLE DUPLICATE: 1350608

Parameter	Units	60165246001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

QC Batch: WETA/28762 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165458001

METHOD BLANK: 1350031 | Matrix: Water
Associated Lab Samples: 60165458001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/27/14 07:15	

LABORATORY CONTROL SAMPLE: 1350032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.3	97	90-110	

MATRIX SPIKE SAMPLE: 1350033

Parameter	Units	60165137002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	17.6	50	66.6	98	90-110	

MATRIX SPIKE SAMPLE: 1350036

Parameter	Units	60165497001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	140	50	178	76	90-110	M1

SAMPLE DUPLICATE: 1350034

Parameter	Units	60165237001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	7020	6720	4	25	

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QUALIFIERS

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

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/60278

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 325-MSD
Pace Project No.: 60165458

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165458001	**325-MSD**	EPA 200.7	MPRP/26580	EPA 200.7	ICP/20230
60165458001	**325-MSD**	EPA 200.7	MPRP/26585	EPA 200.7	ICP/20225
60165458001	**325-MSD**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165458001	**325-MSD**	EPA 245.1	MERP/8253	EPA 245.1	MERC/8206
60165458001	**325-MSD**	EPA 625	OEXT/43339	EPA 625	MSSV/13823
60165458001	**325-MSD**	EPA 624 Low	MSV/60278		
60165458001	**325-MSD**	EPA 624 Low	MSV/60314		
60165458001	**325-MSD**	EPA 624 Low	MSV/60388		
60165458002	**TRIP BLANK**	EPA 624 Low	MSV/60278		
60165458001	**325-MSD**	EPA 1664A	WET/46997		
60165458001	**325-MSD**	EPA 1664A	WET/46999		
60165458001	**325-MSD**	SM 2540D	WET/46926		
60165458001	**325-MSD**	SM 4500-H+B	WET/46976		
60165458001	**325-MSD**	SM 5210B	WET/46827	SM 5210B	WET/46944
60165458001	**325-MSD**	EPA 350.1	WETA/28781		
60165458001	**325-MSD**	EPA 410.4	WETA/28762		

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Sample Condition Upon Receipt

WO# : 60165458

60165458

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ T-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: 4.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/22/14

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: Includes date/time/ID/analyses Matrix: WT	☑Yes	☐No	☐N/A	13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	BP3N initial pH 5.0, added 2.5 mL HNO3, final 4.5 BP3S initial pH 5.0, added 2.5 mL H2SO4, final 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 HNO3- 12513-10-9 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	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 AKP Date: 3/24/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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.	PO 3727110	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 #:	6787 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

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)	60165458
1	325-MSD 2BP2U, BP3U, 3AG3S, 2AG4U	OT	G	3/21/14	700				14	10	4	1	0	5	Dh9U				X	X	X	X	X	X	X	X	X	X	X	BP3N		, BP3S W1
2	TRIP BLANK								2	2			2	Dh9U (TB)												X						W2
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	Paul Linscott / Fel	03/21/14	2:50 pm	Kenyette Worth	03/21/14	2:50 pm				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	3/22	0100	4-8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sam Bircher

SIGNATURE of SAMPLER: [signature] DATE Signed: 3-21-14

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March 31, 2014

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

RE: Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 22, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

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 316-249R
Pace Project No.: 60165459

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165459001	**316-249R**	Water	03/21/14 11:00	03/22/14 01:00
60165459002	**TRIP BLANK**	Water	03/21/14 00:00	03/22/14 01:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165459001	**316-249R**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165459002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

Sample: 316-249R **Lab ID: 60165459001** Collected: 03/21/14 11:00 Received: 03/22/14 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	**20100**	ug/L	1880	5	03/24/14 12:15	03/25/14 16:29	7429-90-5	
Antimony	ND	ug/L	50.0	1	03/24/14 12:15	03/25/14 15:03	7440-36-0	
Arsenic	**1350**	ug/L	50.0	1	03/24/14 12:15	03/25/14 15:03	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/24/14 12:15	03/25/14 15:03	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/24/14 12:15	03/25/14 15:03	7440-43-9	
Chromium	**287**	ug/L	25.0	1	03/24/14 12:15	03/25/14 15:03	7440-47-3	
Cobalt	**52.0**	ug/L	25.0	1	03/24/14 12:15	03/25/14 15:03	7440-48-4	
Copper	ND	ug/L	50.0	1	03/24/14 12:15	03/25/14 15:03	7440-50-8	
Iron	**990000**	ug/L	250	1	03/24/14 12:15	03/25/14 15:03	7439-89-6	
Lead	**263**	ug/L	25.0	1	03/24/14 12:15	03/25/14 15:03	7439-92-1	
Nickel	**148**	ug/L	25.0	1	03/24/14 12:15	03/25/14 15:03	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/24/14 12:15	03/25/14 15:03	7782-49-2	
Silver	ND	ug/L	35.0	1	03/24/14 12:15	03/25/14 15:03	7440-22-4	
Thallium	ND	ug/L	100	1	03/24/14 12:15	03/25/14 15:03	7440-28-0	
Zinc	**6210**	ug/L	1250	5	03/24/14 12:15	03/25/14 16:29	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3060**	ug/L	750	2	03/24/14 17:00	03/26/14 10:38	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:36	7440-36-0	
Arsenic, Dissolved	**1150**	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:36	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/24/14 17:00	03/26/14 10:36	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:36	7440-43-9	
Chromium, Dissolved	**211**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:36	7440-47-3	
Cobalt, Dissolved	**29.8**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:36	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/24/14 17:00	03/26/14 10:36	7440-50-8	
Iron, Dissolved	**718000**	ug/L	250	1	03/24/14 17:00	03/26/14 10:36	7439-89-6	
Lead, Dissolved	**122**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:36	7439-92-1	
Nickel, Dissolved	**104**	ug/L	25.0	1	03/24/14 17:00	03/26/14 10:36	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/24/14 17:00	03/26/14 10:36	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/24/14 17:00	03/26/14 10:36	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/24/14 17:00	03/26/14 10:36	7440-28-0	
Zinc, Dissolved	**5000**	ug/L	500	2	03/24/14 17:00	03/26/14 10:38	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**54.6**	ug/L	6.0	1	03/26/14 11:30	03/26/14 15:59	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	03/26/14 11:30	03/27/14 13:47	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/26/14 00:00	03/29/14 02:31	534-52-1	L3
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/26/14 00:00	03/29/14 02:31	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**11700**	ug/L	4000	2	03/26/14 00:00	03/29/14 02:31		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

Sample: 316-249R **Lab ID: 60165459001** Collected: 03/21/14 11:00 Received: 03/22/14 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	**6520**	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	87-86-5	
Phenol	**16700**	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:31	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	181	%	33-120	2	03/26/14 00:00	03/29/14 02:31	4165-60-0	S0
2-Fluorobiphenyl (S)	91	%	39-120	2	03/26/14 00:00	03/29/14 02:31	321-60-8	
Terphenyl-d14 (S)	103	%	45-120	2	03/26/14 00:00	03/29/14 02:31	1718-51-0	
Phenol-d6 (S)	35	%	11-120	2	03/26/14 00:00	03/29/14 02:31	13127-88-3	
2-Fluorophenol (S)	50	%	17-120	2	03/26/14 00:00	03/29/14 02:31	367-12-4	
2,4,6-Tribromophenol (S)	102	%	39-120	2	03/26/14 00:00	03/29/14 02:31	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**268000**	ug/L	5000	500		03/28/14 15:22	67-64-1	N2
Benzene	ND	ug/L	200	200		03/24/14 18:51	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/24/14 18:51	75-27-4	
Bromoform	ND	ug/L	200	200		03/24/14 18:51	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/24/14 18:51	74-83-9	
2-Butanone (MEK)	**105000**	ug/L	2000	200		03/24/14 18:51	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/24/14 18:51	56-23-5	
Chloroethane	ND	ug/L	200	200		03/24/14 18:51	75-00-3	
Chloroform	ND	ug/L	200	200		03/24/14 18:51	67-66-3	
1,4-Dichlorobenzene	**1680**	ug/L	200	200		03/24/14 18:51	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/24/14 18:51	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/24/14 18:51	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/24/14 18:51	156-60-5	
Ethylbenzene	**229**	ug/L	200	200		03/24/14 18:51	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/24/14 18:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3320**	ug/L	2000	200		03/24/14 18:51	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/24/14 18:51	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/24/14 18:51	127-18-4	
Toluene	ND	ug/L	200	200		03/24/14 18:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/24/14 18:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/24/14 18:51	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/24/14 18:51	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/24/14 18:51	75-01-4	
Xylene (Total)	**999**	ug/L	600	200		03/24/14 18:51	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	200		03/24/14 18:51	460-00-4	
Toluene-d8 (S)	98	%	80-120	200		03/24/14 18:51	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		03/24/14 18:51	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/24/14 18:51		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**2170**	mg/L	5.0	1		03/31/14 09:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

Sample: 316-249R **Lab ID: 60165459001** Collected: 03/21/14 11:00 Received: 03/22/14 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	**13.6**	mg/L	5.0	1		03/31/14 09:01		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**6200**	mg/L	5.0	1		03/26/14 16:05		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		03/29/14 07:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30100**	mg/L	2.0	1	03/22/14 12:15	03/27/14 12:02		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**678**	mg/L	20.0	200		03/27/14 10:21	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**69100**	mg/L	5000	500		03/27/14 07:28		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

Sample: TRIP BLANK **Lab ID: 60165459002** Collected: 03/21/14 00:00 Received: 03/22/14 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		03/24/14 17:11	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/24/14 17:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/24/14 17:11	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/24/14 17:11	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/24/14 17:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/24/14 17:11	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/24/14 17:11	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/24/14 17:11	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/24/14 17:11	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/24/14 17:11	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/24/14 17:11	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/24/14 17:11	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/24/14 17:11	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/24/14 17:11	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/24/14 17:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/24/14 17:11	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/24/14 17:11	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/24/14 17:11	127-18-4	
Toluene	ND	ug/L	1.0	1		03/24/14 17:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/24/14 17:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/24/14 17:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/24/14 17:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/24/14 17:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/24/14 17:11	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	1		03/24/14 17:11	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/24/14 17:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		03/24/14 17:11	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/24/14 17:11		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: MERP/8249 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165459001

METHOD BLANK: 1350218 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/26/14 15:30	

LABORATORY CONTROL SAMPLE: 1350219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350220 1350221

Parameter	Units	60165109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	62.7	150	150	196	177	89	76	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: MERP/8253 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165459001

METHOD BLANK: 1350234 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/27/14 13:27	

LABORATORY CONTROL SAMPLE: 1350235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	111	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350236 1350237

Parameter	Units	60165249001 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	160	146	107	97	70-130	9	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: MPRP/26580 | Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 | Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165459001

METHOD BLANK: 1349215 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/25/14 14:20	
Antimony	ug/L	ND	10.0	03/25/14 14:20	
Arsenic	ug/L	ND	10.0	03/25/14 14:20	
Beryllium	ug/L	ND	1.0	03/25/14 14:20	
Cadmium	ug/L	ND	5.0	03/25/14 14:20	
Chromium	ug/L	ND	5.0	03/25/14 14:20	
Cobalt	ug/L	ND	5.0	03/25/14 14:20	
Copper	ug/L	ND	10.0	03/25/14 14:20	
Iron	ug/L	ND	50.0	03/25/14 14:20	
Lead	ug/L	ND	5.0	03/25/14 14:20	
Nickel	ug/L	ND	5.0	03/25/14 14:20	
Selenium	ug/L	ND	15.0	03/25/14 14:20	
Silver	ug/L	ND	7.0	03/25/14 14:20	
Thallium	ug/L	ND	20.0	03/25/14 14:20	
Zinc	ug/L	69.2	50.0	03/25/14 14:20	

LABORATORY CONTROL SAMPLE: 1349216

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9720	97	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	972	97	85-115	
Beryllium	ug/L	1000	979	98	85-115	
Cadmium	ug/L	1000	1000	100	85-115	
Chromium	ug/L	1000	970	97	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	9870	99	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	990	99	85-115	
Silver	ug/L	500	493	99	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1000	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349217 1349218

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	497	10000	10000	10600	10500	101	100	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349217 1349218

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	0	7	
Arsenic	ug/L	ND	1000	1000	1000	989	100	99	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	1000	993	100	99	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium	ug/L	ND	1000	1000	984	972	98	97	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	6	
Copper	ug/L	ND	1000	1000	1030	1010	102	101	70-130	1	11	
Iron	ug/L	367	10000	10000	10400	10300	100	99	70-130	1	10	
Lead	ug/L	ND	1000	1000	1020	1000	101	100	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Silver	ug/L	ND	500	500	502	499	100	100	70-130	1	10	
Thallium	ug/L	ND	1000	1000	1020	1010	102	101	70-130	0	6	
Zinc	ug/L	ND	1000	1000	1020	1020	101	101	70-130	1	11	

MATRIX SPIKE SAMPLE: 1349219

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	31100	50000	111000	161	70-130	M1
Antimony	ug/L	ND	5000	5420	108	70-130	
Arsenic	ug/L	1410	5000	6940	111	70-130	M1
Beryllium	ug/L	ND	5000	4940	99	70-130	
Cadmium	ug/L	ND	5000	5370	107	70-130	
Chromium	ug/L	321	5000	5040	94	70-130	
Cobalt	ug/L	63.0	5000	4940	98	70-130	
Copper	ug/L	111	5000	5600	110	70-130	
Iron	ug/L	1040000	50000	942000	-197	70-130	M1
Lead	ug/L	317	5000	4850	91	70-130	
Nickel	ug/L	195	5000	5020	97	70-130	
Selenium	ug/L	ND	5000	6320	126	70-130	
Silver	ug/L	ND	2500	2710	108	70-130	
Thallium	ug/L	ND	5000	4340	87	70-130	
Zinc	ug/L	6260	5000	10400	83	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: MPRP/26585
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165459001

METHOD BLANK: 1349390
Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/26/14 10:04	
Antimony, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Arsenic, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Beryllium, Dissolved	ug/L	ND	1.0	03/26/14 10:04	
Cadmium, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Chromium, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Cobalt, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Copper, Dissolved	ug/L	ND	10.0	03/26/14 10:04	
Iron, Dissolved	ug/L	ND	50.0	03/26/14 10:04	
Lead, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Nickel, Dissolved	ug/L	ND	5.0	03/26/14 10:04	
Selenium, Dissolved	ug/L	ND	15.0	03/26/14 10:04	
Silver, Dissolved	ug/L	ND	7.0	03/26/14 10:04	
Thallium, Dissolved	ug/L	ND	20.0	03/26/14 10:04	
Zinc, Dissolved	ug/L	ND	50.0	03/26/14 10:04	

LABORATORY CONTROL SAMPLE: 1349391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9730	97	85-115	
Antimony, Dissolved	ug/L	1000	1000	100	85-115	
Arsenic, Dissolved	ug/L	1000	968	97	85-115	
Beryllium, Dissolved	ug/L	1000	986	99	85-115	
Cadmium, Dissolved	ug/L	1000	998	100	85-115	
Chromium, Dissolved	ug/L	1000	972	97	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	9970	100	85-115	
Lead, Dissolved	ug/L	1000	1000	100	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	991	99	85-115	
Silver, Dissolved	ug/L	500	509	102	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	992	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349392 1349393

Parameter	Units	60165337001 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	ND	10000	10000	9840	9800	98	98	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349392 1349393

Parameter	Units	60165337001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1010	999	101	100	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	972	971	97	97	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	995	988	99	99	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	995	991	99	99	70-130	0	10	
Chromium, Dissolved	ug/L	ND	1000	1000	967	969	97	97	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1000	996	100	100	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	1000	100	100	70-130	0	11	
Iron, Dissolved	ug/L	79.2	10000	10000	10000	9940	100	99	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	997	991	100	99	70-130	1	10	
Nickel, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	988	984	99	98	70-130	0	10	
Silver, Dissolved	ug/L	ND	500	500	508	508	102	102	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	997	994	100	99	70-130	0	6	
Zinc, Dissolved	ug/L	ND	1000	1000	986	986	97	97	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: MSV/60278 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165459001, 60165459002

METHOD BLANK: 1349295 | Matrix: Water
Associated Lab Samples: 60165459001, 60165459002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/24/14 12:37	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,2-Dichloroethane	ug/L	ND	1.0	03/24/14 12:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/24/14 12:37	
2-Butanone (MEK)	ug/L	ND	10.0	03/24/14 12:37	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/24/14 12:37	N2
Acetone	ug/L	ND	10.0	03/24/14 12:37	N2
Benzene	ug/L	ND	1.0	03/24/14 12:37	
Bromodichloromethane	ug/L	ND	1.0	03/24/14 12:37	
Bromoform	ug/L	ND	1.0	03/24/14 12:37	
Bromomethane	ug/L	ND	5.0	03/24/14 12:37	
Carbon tetrachloride	ug/L	ND	1.0	03/24/14 12:37	
Chloroethane	ug/L	ND	1.0	03/24/14 12:37	
Chloroform	ug/L	ND	1.0	03/24/14 12:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/24/14 12:37	N2
Ethylbenzene	ug/L	ND	1.0	03/24/14 12:37	
Methylene chloride	ug/L	ND	1.0	03/24/14 12:37	
Tetrachloroethene	ug/L	ND	1.0	03/24/14 12:37	
Toluene	ug/L	ND	1.0	03/24/14 12:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/24/14 12:37	
Trichloroethene	ug/L	ND	1.0	03/24/14 12:37	
Vinyl chloride	ug/L	ND	1.0	03/24/14 12:37	
Xylene (Total)	ug/L	ND	3.0	03/24/14 12:37	N2
1,2-Dichloroethane-d4 (S)	%	103	80-120	03/24/14 12:37	
4-Bromofluorobenzene (S)	%	105	80-120	03/24/14 12:37	
Toluene-d8 (S)	%	101	80-120	03/24/14 12:37	

LABORATORY CONTROL SAMPLE: 1349296

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	19.4	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.4	97	67-124	
1,2-Dichloroethane	ug/L	20	20.5	103	70-126	
1,4-Dichlorobenzene	ug/L	20	18.9	95	74-120	
2-Butanone (MEK)	ug/L	100	107	107	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	59-131	N2
Acetone	ug/L	100	144	144	38-134	L0,N2
Benzene	ug/L	20	20.7	103	75-120	
Bromodichloromethane	ug/L	20	20.1	101	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

LABORATORY CONTROL SAMPLE: 1349296

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.1	96	65-127	
Bromomethane	ug/L	20	16.3	82	13-157	
Carbon tetrachloride	ug/L	20	20.7	103	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	20.3	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	68-127	N2
Ethylbenzene	ug/L	20	19.7	99	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	20.5	103	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	99	66-129	
Trichloroethene	ug/L	20	20.6	103	71-123	
Vinyl chloride	ug/L	20	18.2	91	43-129	
Xylene (Total)	ug/L	60	60.8	101	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: MSV/60388 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165459001

METHOD BLANK: 1351614 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acetone	ug/L	ND	10.0	03/28/14 14:19	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	03/28/14 14:19	
4-Bromofluorobenzene (S)	%	101	80-120	03/28/14 14:19	
Toluene-d8 (S)	%	100	80-120	03/28/14 14:19	

LABORATORY CONTROL SAMPLE: 1351615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	111	111	38-134	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1351616

Parameter	Units	60165612001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	177000	20000	194000	86	10-160	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: OEXT/43339 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165459001

METHOD BLANK: 1350070 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/28/14 08:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/28/14 08:57	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/28/14 08:57	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/28/14 08:57	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/28/14 08:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/28/14 08:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/28/14 08:57	
Hexachloroethane	ug/L	ND	5.0	03/28/14 08:57	
Naphthalene	ug/L	ND	5.0	03/28/14 08:57	
Nitrobenzene	ug/L	ND	5.0	03/28/14 08:57	
Pentachlorophenol	ug/L	ND	5.0	03/28/14 08:57	
Phenol	ug/L	ND	5.0	03/28/14 08:57	
2,4,6-Tribromophenol (S)	%	116	39-120	03/28/14 08:57	
2-Fluorobiphenyl (S)	%	111	39-120	03/28/14 08:57	
2-Fluorophenol (S)	%	57	17-120	03/28/14 08:57	
Nitrobenzene-d5 (S)	%	116	33-120	03/28/14 08:57	
Phenol-d6 (S)	%	37	11-120	03/28/14 08:57	
Terphenyl-d14 (S)	%	123	45-120	03/28/14 08:57	S3

LABORATORY CONTROL SAMPLE: 1350071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.1	82	46-120	
2,4,6-Trichlorophenol	ug/L	50	50.7	101	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.0	68	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.4	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	75.5	151	40-133	L0
Hexachloro-1,3-butadiene	ug/L	50	39.1	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	55.0	55	24-120	
Hexachloroethane	ug/L	50	36.1	72	43-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	45.7	91	48-120	
Pentachlorophenol	ug/L	50	58.7	117	47-120	
Phenol	ug/L	50	15.7	31	16-112	
2,4,6-Tribromophenol (S)	%			108	39-120	
2-Fluorobiphenyl (S)	%			94	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			96	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			109	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

MATRIX SPIKE SAMPLE: 1350073

Parameter	Units	60165524005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	44.1	88	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	54.7	109	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	34.2	68	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	30.8	62	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	106	212	10-160	M0
Hexachloro-1,3-butadiene	ug/L	ND	50	41.8	84	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	68.6	69	11-120	
Hexachloroethane	ug/L	ND	50	39.6	79	40-113	
Naphthalene	ug/L	ND	50	45.6	91	45-120	
Nitrobenzene	ug/L	ND	50	49.2	98	38-120	
Pentachlorophenol	ug/L	ND	50	70.7	141	43-135	M1
Phenol	ug/L	ND	50	14.9	30	13-112	
2,4,6-Tribromophenol (S)	%				115	39-120	
2-Fluorobiphenyl (S)	%				98	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				102	33-120	
Phenol-d6 (S)	%				27	11-120	
Terphenyl-d14 (S)	%				108	45-120	

SAMPLE DUPLICATE: 1350072

Parameter	Units	60165524005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	ND			
2,4,6-Trichlorophenol	ug/L	ND	ND			
2-Methylphenol(o-Cresol)	ug/L	ND	ND			N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	ND			N2
4,6-Dinitro-2-methylphenol	ug/L	ND	ND			
Hexachloro-1,3-butadiene	ug/L	ND	ND			
Hexachlorocyclopentadiene	ug/L	ND	ND			
Hexachloroethane	ug/L	ND	ND			
Naphthalene	ug/L	ND	ND			
Nitrobenzene	ug/L	ND	ND			
Pentachlorophenol	ug/L	ND	ND			
Phenol	ug/L	ND	ND			
2,4,6-Tribromophenol (S)	%	106	106	1		
2-Fluorobiphenyl (S)	%	90	89	1		
2-Fluorophenol (S)	%	40	40	1		
Nitrobenzene-d5 (S)	%	90	94	4		
Phenol-d6 (S)	%	27	27	0		
Terphenyl-d14 (S)	%	99	99	0		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: WET/46997
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165459001

METHOD BLANK: 1352635
Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/31/14 09:13	

LABORATORY CONTROL SAMPLE: 1352636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.9	95	78-114	

MATRIX SPIKE SAMPLE: 1352637

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1460	160	1610	98	78-114	

SAMPLE DUPLICATE: 1352638

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1740	1750	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: WET/46999 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165459001

METHOD BLANK: 1352643 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/31/14 09:00	

LABORATORY CONTROL SAMPLE: 1352644

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.1	90	64-132	

MATRIX SPIKE SAMPLE: 1352645

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.6	80	84.8	94	64-132	

SAMPLE DUPLICATE: 1352646

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.2	18.0	31	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: WET/46926 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165459001

METHOD BLANK: 1350538 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/26/14 16:02	

SAMPLE DUPLICATE: 1350539

Parameter	Units	60165360002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	178	190	7	10	

SAMPLE DUPLICATE: 1350540

Parameter	Units	60165454001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	150	145	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: WET/46976
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165459001

SAMPLE DUPLICATE: 1351763

Parameter	Units	60165772001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.1	9.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: WET/46827 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165459001

METHOD BLANK: 1348740 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/27/14 11:20	

LABORATORY CONTROL SAMPLE: 1348741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	194	98	85-115	

SAMPLE DUPLICATE: 1348742

Parameter	Units	5095430001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	60.0	63.0	5	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: WETA/28781 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165459001

METHOD BLANK: 1350604 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/27/14 09:53	

LABORATORY CONTROL SAMPLE: 1350605

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

MATRIX SPIKE SAMPLE: 1350606

Parameter	Units	60165137001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	115	90-110	M1

MATRIX SPIKE SAMPLE: 1350607

Parameter	Units	60165148001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.22	2	2.2	101	90-110	

SAMPLE DUPLICATE: 1350608

Parameter	Units	60165246001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

QC Batch: WETA/28762 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165459001

METHOD BLANK: 1350031 | Matrix: Water
Associated Lab Samples: 60165459001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/27/14 07:15	

LABORATORY CONTROL SAMPLE: 1350032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.3	97	90-110	

MATRIX SPIKE SAMPLE: 1350033

Parameter	Units	60165137002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	17.6	50	66.6	98	90-110	

MATRIX SPIKE SAMPLE: 1350036

Parameter	Units	60165497001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	140	50	178	76	90-110	M1

SAMPLE DUPLICATE: 1350034

Parameter	Units	60165237001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	7020	6720	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

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/60278

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-249R
Pace Project No.: 60165459

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165459001	**316-249R**	EPA 200.7	MPRP/26580	EPA 200.7	ICP/20230
60165459001	**316-249R**	EPA 200.7	MPRP/26585	EPA 200.7	ICP/20225
60165459001	**316-249R**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165459001	**316-249R**	EPA 245.1	MERP/8253	EPA 245.1	MERC/8206
60165459001	**316-249R**	EPA 625	OEXT/43339	EPA 625	MSSV/13823
60165459001	**316-249R**	EPA 624 Low	MSV/60278		
60165459001	**316-249R**	EPA 624 Low	MSV/60314		
60165459001	**316-249R**	EPA 624 Low	MSV/60388		
60165459002	**TRIP BLANK**	EPA 624 Low	MSV/60278		
60165459001	**316-249R**	EPA 1664A	WET/46997		
60165459001	**316-249R**	EPA 1664A	WET/46999		
60165459001	**316-249R**	SM 2540D	WET/46926		
60165459001	**316-249R**	SM 4500-H+B	WET/46976		
60165459001	**316-249R**	SM 5210B	WET/46827	SM 5210B	WET/46944
60165459001	**316-249R**	EPA 350.1	WETA/28781		
60165459001	**316-249R**	EPA 410.4	WETA/28762		

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WO# : 60165459

60165459

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Sample Condition Upon Receipt

Client Name: Barr Engineering

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ A-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 (circle one) ☐ Samples received on ice, cooling process has begun.

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: 3/22/14

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: 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 5.0 - DP3N, added 2.5mL HNO3, final 4.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	initial pH 5.0, - DP3S, added 2.5mL H2SO4, final 4.0 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed ☑ Lot # of added preservative HNO3 - 12517-10-9 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	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: 3/24/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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.	PO 3727110	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 #:	6787 LINE 2

Regulatory Agency
State / Location
Missouri

MATRIX: 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	BCD SM 5210B		Residual Chlorine (Y/N)	60165459
1	316-249R 2BP3U, BP3U, 3AG3S	OT	G	3/21/14	1100				14	10	4	1	0	5	DG	9U			X	X	X	X	X	X	X	X	X	X	X	2AG	44	BP3N 4-5, BP3S 4-0 W1
2	TRIP BLANK								2	2			2	DG	9U	(TB)										X						W2
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	Paul Linscott / Fel	03/21/14	2:50pm	Kamyette Scott	03/21/14	2:50pm				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	3/22	0100	4.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Sam Bircher

SIGNATURE of SAMPLER: Sam Bir

DATE Signed: 3-21-14

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

March 31, 2014

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

RE: Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 22, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

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.: 60165499

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165499001	**TCLP 03-21**	Water	03/21/14 00:00	03/22/14 12:32
60165499002	**TRIP BLANK**	Water	03/21/14 00:00	03/22/14 12:32

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SAMPLE ANALYTE COUNT

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165499001	**TCLP 03-21**	EPA 8260	RAB	13
		EPA 5030B/8260	PRG	28
		EPA 1664A	DJR	1
		SM 2540B	JMC1	1
60165499002	**TRIP BLANK**	EPA 5030B/8260	PRG	28

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

Sample: TCLP 03-21 **Lab ID: 60165499001** Collected: 03/21/14 00:00 Received: 03/22/14 12:32 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 03/25/14 00:00								
Benzene	**750**	ug/L	500	500	10		03/25/14 12:42	71-43-2	
2-Butanone (MEK)	**98000**	ug/L	10000	200000	10		03/25/14 12:42	78-93-3	
Carbon tetrachloride	ND	ug/L	500	500	10		03/25/14 12:42	56-23-5	
Chlorobenzene	ND	ug/L	500	100000	10		03/25/14 12:42	108-90-7	
Chloroform	ND	ug/L	2000	6000	10		03/25/14 12:42	67-66-3	
1,2-Dichloroethane	ND	ug/L	500	500	10		03/25/14 12:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	500	700	10		03/25/14 12:42	75-35-4	
Tetrachloroethene	ND	ug/L	500	700	10		03/25/14 12:42	127-18-4	
Trichloroethene	ND	ug/L	500	500	10		03/25/14 12:42	79-01-6	
Vinyl chloride	ND	ug/L	200	200	10		03/25/14 12:42	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%	80-120		10		03/25/14 12:42	17060-07-0	
Toluene-d8 (S)	102	%	80-120		10		03/25/14 12:42	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120		10		03/25/14 12:42	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260								
Acetone	**224000**	ug/L	2500		250		03/28/14 11:49	67-64-1	L1
Benzene	**1420**	ug/L	250		250		03/28/14 11:49	71-43-2	
Bromodichloromethane	ND	ug/L	250		250		03/28/14 11:49	75-27-4	
Bromoform	ND	ug/L	250		250		03/28/14 11:49	75-25-2	
Bromomethane	ND	ug/L	1250		250		03/28/14 11:49	74-83-9	
2-Butanone (MEK)	**113000**	ug/L	2500		250		03/31/14 10:39	78-93-3	HS
Carbon tetrachloride	ND	ug/L	250		250		03/28/14 11:49	56-23-5	
Chloroethane	ND	ug/L	250		250		03/28/14 11:49	75-00-3	L3
Chloroform	ND	ug/L	250		250		03/28/14 11:49	67-66-3	
1,4-Dichlorobenzene	**1010**	ug/L	250		250		03/28/14 11:49	106-46-7	
1,2-Dichloroethane	ND	ug/L	250		250		03/28/14 11:49	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250		250		03/28/14 11:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	250		250		03/28/14 11:49	156-60-5	
Ethylbenzene	**350**	ug/L	250		250		03/28/14 11:49	100-41-4	
Methylene chloride	ND	ug/L	250		250		03/28/14 11:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	**3660**	ug/L	2500		250		03/28/14 11:49	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	250		250		03/28/14 11:49	79-34-5	
Tetrachloroethene	ND	ug/L	250		250		03/28/14 11:49	127-18-4	
Toluene	**383**	ug/L	250		250		03/28/14 11:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250		250		03/28/14 11:49	71-55-6	
1,1,2-Trichloroethane	**392**	ug/L	250		250		03/28/14 11:49	79-00-5	
Trichloroethene	ND	ug/L	250		250		03/28/14 11:49	79-01-6	
Vinyl chloride	ND	ug/L	250		250		03/28/14 11:49	75-01-4	
Xylene (Total)	**1220**	ug/L	750		250		03/28/14 11:49	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	105	%	80-120		250		03/28/14 11:49	460-00-4	HS
1,2-Dichloroethane-d4 (S)	107	%	80-120		250		03/28/14 11:49	17060-07-0	
Toluene-d8 (S)	100	%	80-120		250		03/28/14 11:49	2037-26-5	
Preservation pH	**5.0**		0.10		250		03/28/14 11:49		pH

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

Sample: TCLP 03-21 **Lab ID: 60165499001** Collected: 03/21/14 00:00 Received: 03/22/14 12:32 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
HEM, Oil and Grease	Analytical Method: EPA 1664A								
Oil and Grease	**1330**	mg/L	5.0		1		03/31/14 09:16		
2540B Total Solids	Analytical Method: SM 2540B								
Total Solids	**47200**	mg/L	5.0		1		03/28/14 08:10		

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

Sample: TRIP BLANK **Lab ID: 60165499002** Collected: 03/21/14 00:00 Received: 03/22/14 12:32 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		03/28/14 13:15	67-64-1	L1
Benzene	ND	ug/L	1.0		1		03/28/14 13:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0		1		03/28/14 13:15	75-27-4	
Bromoform	ND	ug/L	1.0		1		03/28/14 13:15	75-25-2	
Bromomethane	ND	ug/L	5.0		1		03/28/14 13:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0		1		03/28/14 13:15	78-93-3	L3
Carbon tetrachloride	ND	ug/L	1.0		1		03/28/14 13:15	56-23-5	
Chloroethane	ND	ug/L	1.0		1		03/28/14 13:15	75-00-3	L3
Chloroform	ND	ug/L	1.0		1		03/28/14 13:15	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0		1		03/28/14 13:15	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0		1		03/28/14 13:15	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0		1		03/28/14 13:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0		1		03/28/14 13:15	156-60-5	
Ethylbenzene	ND	ug/L	1.0		1		03/28/14 13:15	100-41-4	
Methylene chloride	ND	ug/L	1.0		1		03/28/14 13:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0		1		03/28/14 13:15	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1		03/28/14 13:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0		1		03/28/14 13:15	127-18-4	
Toluene	ND	ug/L	1.0		1		03/28/14 13:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0		1		03/28/14 13:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0		1		03/28/14 13:15	79-00-5	
Trichloroethene	ND	ug/L	1.0		1		03/28/14 13:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0		1		03/28/14 13:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0		1		03/28/14 13:15	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	99	%	80-120		1		03/28/14 13:15	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	80-120		1		03/28/14 13:15	17060-07-0	
Toluene-d8 (S)	104	%	80-120		1		03/28/14 13:15	2037-26-5	
Preservation pH	**1.0**		0.10		1		03/28/14 13:15		

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

QC Batch: MSV/60304 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60165499001

METHOD BLANK: 1349789 | Matrix: Water
Associated Lab Samples: 60165499001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	03/25/14 11:25	
1,2-Dichloroethane	ug/L	ND	50.0	03/25/14 11:25	
2-Butanone (MEK)	ug/L	ND	1000	03/25/14 11:25	
Benzene	ug/L	ND	50.0	03/25/14 11:25	
Carbon tetrachloride	ug/L	ND	50.0	03/25/14 11:25	
Chlorobenzene	ug/L	ND	50.0	03/25/14 11:25	
Chloroform	ug/L	ND	200	03/25/14 11:25	
Tetrachloroethene	ug/L	ND	50.0	03/25/14 11:25	
Trichloroethene	ug/L	ND	50.0	03/25/14 11:25	
Vinyl chloride	ug/L	ND	20.0	03/25/14 11:25	
1,2-Dichloroethane-d4 (S)	%	94	80-120	03/25/14 11:25	
4-Bromofluorobenzene (S)	%	96	80-120	03/25/14 11:25	
Toluene-d8 (S)	%	101	80-120	03/25/14 11:25	

LABORATORY CONTROL SAMPLE: 1349790

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	911	91	78-126	
1,2-Dichloroethane	ug/L	1000	968	97	77-123	
2-Butanone (MEK)	ug/L	5000	5450	109	52-145	
Benzene	ug/L	1000	1010	101	80-120	
Carbon tetrachloride	ug/L	1000	1040	104	78-128	
Chlorobenzene	ug/L	1000	1040	104	80-120	
Chloroform	ug/L	1000	1040	104	79-120	
Tetrachloroethene	ug/L	1000	941	94	80-121	
Trichloroethene	ug/L	1000	1010	101	80-120	
Vinyl chloride	ug/L	1000	714	71	59-120	
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1349791

Parameter	Units	60165334009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	928	93	60-144	
1,2-Dichloroethane	ug/L	ND	1000	1020	102	49-148	
2-Butanone (MEK)	ug/L	ND	5000	5030	100	36-145	
Benzene	ug/L	ND	1000	1080	108	37-157	
Carbon tetrachloride	ug/L	ND	1000	1140	114	68-142	
Chlorobenzene	ug/L	ND	1000	1140	114	66-133	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

MATRIX SPIKE SAMPLE: 1349791

Parameter	Units	60165334009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	1000	1050	105	66-127	
Tetrachloroethene	ug/L	ND	1000	1130	113	69-133	
Trichloroethene	ug/L	ND	1000	1120	112	61-135	
Vinyl chloride	ug/L	ND	1000	531	53	44-128	
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				100	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

QC Batch: MSV/60381 | Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 | Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60165499001, 60165499002

METHOD BLANK: 1351557 | Matrix: Water
Associated Lab Samples: 60165499001, 60165499002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/28/14 10:01	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/28/14 10:01	
1,1,2-Trichloroethane	ug/L	ND	1.0	03/28/14 10:01	
1,2-Dichloroethane	ug/L	ND	1.0	03/28/14 10:01	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/28/14 10:01	
2-Butanone (MEK)	ug/L	ND	10.0	03/28/14 10:01	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/28/14 10:01	
Acetone	ug/L	ND	10.0	03/28/14 10:01	
Benzene	ug/L	ND	1.0	03/28/14 10:01	
Bromodichloromethane	ug/L	ND	1.0	03/28/14 10:01	
Bromoform	ug/L	ND	1.0	03/28/14 10:01	
Bromomethane	ug/L	ND	5.0	03/28/14 10:01	
Carbon tetrachloride	ug/L	ND	1.0	03/28/14 10:01	
Chloroethane	ug/L	ND	1.0	03/28/14 10:01	
Chloroform	ug/L	ND	1.0	03/28/14 10:01	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/28/14 10:01	
Ethylbenzene	ug/L	ND	1.0	03/28/14 10:01	
Methylene chloride	ug/L	ND	1.0	03/28/14 10:01	
Tetrachloroethene	ug/L	ND	1.0	03/28/14 10:01	
Toluene	ug/L	ND	1.0	03/28/14 10:01	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/28/14 10:01	
Trichloroethene	ug/L	ND	1.0	03/28/14 10:01	
Vinyl chloride	ug/L	ND	1.0	03/28/14 10:01	
Xylene (Total)	ug/L	ND	3.0	03/28/14 10:01	
1,2-Dichloroethane-d4 (S)	%	107	80-120	03/28/14 10:01	
4-Bromofluorobenzene (S)	%	102	80-120	03/28/14 10:01	
Toluene-d8 (S)	%	98	80-120	03/28/14 10:01	

LABORATORY CONTROL SAMPLE: 1351558

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	80-121	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	73-124	
1,1,2-Trichloroethane	ug/L	20	19.9	100	80-120	
1,2-Dichloroethane	ug/L	20	21.4	107	77-123	
1,4-Dichlorobenzene	ug/L	20	19.8	99	80-120	
2-Butanone (MEK)	ug/L	100	146	146	52-145	L0
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	71-131	
Acetone	ug/L	100	202	202	32-155	L0
Benzene	ug/L	20	19.1	96	80-120	
Bromodichloromethane	ug/L	20	20.5	102	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

LABORATORY CONTROL SAMPLE: 1351558

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.8	104	73-124	
Bromomethane	ug/L	20	18.2	91	31-144	
Carbon tetrachloride	ug/L	20	20.4	102	78-128	
Chloroethane	ug/L	20	30.5	153	55-137	L0
Chloroform	ug/L	20	19.3	97	79-120	
cis-1,2-Dichloroethene	ug/L	20	19.4	97	80-120	
Ethylbenzene	ug/L	20	18.9	94	80-121	
Methylene chloride	ug/L	20	19.8	99	73-126	
Tetrachloroethene	ug/L	20	18.5	92	80-121	
Toluene	ug/L	20	20.3	102	80-122	
trans-1,2-Dichloroethene	ug/L	20	18.9	94	79-121	
Trichloroethene	ug/L	20	20.0	100	80-120	
Vinyl chloride	ug/L	20	20.2	101	59-120	
Xylene (Total)	ug/L	60	59.2	99	80-121	
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

QC Batch: MSV/60437
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60165499001

METHOD BLANK: 1352760
Matrix: Water
Associated Lab Samples: 60165499001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2-Butanone (MEK)	ug/L	ND	10.0	03/31/14 10:25	
1,2-Dichloroethane-d4 (S)	%	108	80-120	03/31/14 10:25	
4-Bromofluorobenzene (S)	%	104	80-120	03/31/14 10:25	
Toluene-d8 (S)	%	99	80-120	03/31/14 10:25	

LABORATORY CONTROL SAMPLE: 1352761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Butanone (MEK)	ug/L	100	105	105	52-145	
1,2-Dichloroethane-d4 (S)	%			109	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.: 60165499

QC Batch: WET/46997 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165499001

METHOD BLANK: 1352635 | Matrix: Water
Associated Lab Samples: 60165499001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/31/14 09:13	

LABORATORY CONTROL SAMPLE: 1352636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.9	95	78-114	

MATRIX SPIKE SAMPLE: 1352637

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1460	160	1610	98	78-114	

SAMPLE DUPLICATE: 1352638

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1740	1750	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

QC Batch: WET/46961 | Analysis Method: SM 2540B
QC Batch Method: SM 2540B | Analysis Description: 2540B Total Solids
Associated Lab Samples: 60165499001

METHOD BLANK: 1351373 | Matrix: Water
Associated Lab Samples: 60165499001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	03/28/14 08:09	

LABORATORY CONTROL SAMPLE: 1351374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 1351375

Parameter	Units	60165588001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	20700	20500	1	10	

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QUALIFIERS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

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/60381

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

Batch: MSV/60437

[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).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60165499

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165499001	**TCLP 03-21**	EPA 8260	MSV/60304		
60165499001	**TCLP 03-21**	EPA 5030B/8260	MSV/60381		
60165499001	**TCLP 03-21**	EPA 5030B/8260	MSV/60437		
60165499002	**TRIP BLANK**	EPA 5030B/8260	MSV/60381		
60165499001	**TCLP 03-21**	EPA 1664A	WET/46997		
60165499001	**TCLP 03-21**	SM 2540B	WET/46961		

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WO#: 60165499

60165499

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Sample Condition Upon Receipt

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ X-loads

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: 5.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/22/14 [initials]

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): 020314-3BPD		15.
Headspace in VOA vials (>6mm):	☑Yes ☑No ☐N/A 4/3/22	3 of 3 - DN9H 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: 3/25 - Trip scheduled

Project Manager Review: MW for AKB Date: 3/24/14

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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: 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)

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	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. 60165499
1	~~3/6 0144 PB~~ 03-21-14			~~3/7/14~~	~~0144~~	~~3/6~~	~~1015~~																								** total VOCs Bridgeton List(1)
2	TCLP 03-21		G	03/21/14	1145									3	DI	H9	H		X	X	X	X	2	A6	1L	2	A6	3S	BP	3U	* footnote %dry solids TCLP(2)
3													2	DI	H9	H	C	TB													
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Paul Linscott	03-21-14	2:50PM	Bernette Sleeth	03-21-14	2:50PM				
				E Brockett / Pace	3/22/14	0100	5-0	Y	Y	Y

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:	~~Kyle Kramer~~	John Powell				
SIGNATURE of SAMPLER:		DATE Signed (MM/DD/YY): ~~3/14/14~~ 03-21-14				

*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.

F-ALL-Q-020rev.08, 12-Oct-2007

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TCLP/SPLP Determination of Percent Solids

(Only if sample is liquid or semi-liquid. Skip if sample is obviously 100% solid.)

Date: 3/25/14 Batch: 6225

Analyst: CEM Balance ID: 6000EX13 Reviewed by: (HB) 3/31/14

	A	B	C	D	E	F	G	H	I	J	K	L	M	
Sample Number	Weight of Beaker (g)	Weight of Sample & Beaker (g)	Weight of Filtrate Container (g)	Weight of 142-mm TCLP Filter (g)	Weight of Waste Beaker After Filtration (g)	Weight of Filtrate & Container (g)	Weight of Filter and Solid Phase After Filtration (g)	Weight of Filtrate (g) (F - C)	Weight of Waste Filtered (g) (E - B)	Percent WET Solids $\left(\frac{(I - H)}{I \times 0.01}\right)$	DRY Weight #1 of Solid Phase plus Filter (g)	DRY Weight #2 of Solid Phase plus Filter (g) (1)	Percent DRY Solids $\left(\frac{(L - D)}{I \times 0.01}\right)$	If Multiphase, Are Phases Compatible (2)
6016 5499001	124.4	247.3	281.9	1.3	125.0	399.6	2.7	117.7	122.3	3.8%	1.4	1.4	0.01%	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
														Yes / No / NA

CEM 3/25/14

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 = $\frac{\text{mL of leachate required}}{20 \times \text{Percent solids}} \times 100$

F-KS-128-rev.0
October 21, 2013

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March 31, 2014

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

RE: Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 24, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

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 316-250, 316-251
Pace Project No.: 60165527

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165527001	**316-250**	Water	03/23/14 10:00	03/24/14 13:00
60165527002	**316-251**	Water	03/23/14 10:30	03/24/14 13:00
60165527003	**TRIP BLANK**	Water	03/23/14 10:30	03/24/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165527001	**316-250**	EPA 200.7	JGP	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165527002	**316-251**	EPA 200.7	JGP	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	DJR	1
		EPA 1664A	DJR	1
		SM 2540D	JMC1	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165527003	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Sample: 316-250 **Lab ID: 60165527001** Collected: 03/23/14 10:00 Received: 03/24/14 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	**16900**	ug/L	750	2	03/25/14 15:20	03/26/14 11:12	7429-90-5	M1
Antimony	**108**	ug/L	100	2	03/25/14 15:20	03/26/14 11:12	7440-36-0	
Arsenic	**1040**	ug/L	50.0	1	03/25/14 15:20	03/26/14 11:09	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/25/14 15:20	03/26/14 11:09	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:09	7440-43-9	
Chromium	**280**	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:09	7440-47-3	
Cobalt	**53.0**	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:09	7440-48-4	
Copper	**67.8**	ug/L	50.0	1	03/25/14 15:20	03/26/14 11:09	7440-50-8	
Iron	**922000**	ug/L	250	1	03/25/14 15:20	03/26/14 11:09	7439-89-6	M1
Lead	**221**	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:09	7439-92-1	
Nickel	**147**	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:09	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/25/14 15:20	03/26/14 11:09	7782-49-2	
Silver	ND	ug/L	35.0	1	03/25/14 15:20	03/26/14 11:09	7440-22-4	
Thallium	ND	ug/L	100	1	03/25/14 15:20	03/26/14 11:09	7440-28-0	
Zinc	**5620**	ug/L	500	2	03/25/14 15:20	03/26/14 11:12	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2420**	ug/L	750	2	03/26/14 15:25	03/27/14 13:47	7429-90-5	
Antimony, Dissolved	**64.4**	ug/L	50.0	1	03/26/14 15:25	03/27/14 13:44	7440-36-0	
Arsenic, Dissolved	**841**	ug/L	50.0	1	03/26/14 15:25	03/27/14 13:44	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/26/14 15:25	03/27/14 13:44	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:44	7440-43-9	
Chromium, Dissolved	**182**	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:44	7440-47-3	
Cobalt, Dissolved	**26.4**	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:44	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/26/14 15:25	03/27/14 13:44	7440-50-8	
Iron, Dissolved	**546000**	ug/L	250	1	03/26/14 15:25	03/27/14 13:44	7439-89-6	M1,R1
Lead, Dissolved	**82.2**	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:44	7439-92-1	
Nickel, Dissolved	**78.8**	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:44	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/26/14 15:25	03/27/14 13:44	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/26/14 15:25	03/27/14 13:44	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/26/14 15:25	03/27/14 13:44	7440-28-0	
Zinc, Dissolved	**3670**	ug/L	500	2	03/26/14 15:25	03/27/14 13:47	7440-66-6	M1,R1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**60.6**	ug/L	6.0	1	03/26/14 11:30	03/26/14 16:01	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	03/31/14 10:00	03/31/14 13:10	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/26/14 00:00	03/29/14 02:52	534-52-1	L3
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/26/14 00:00	03/29/14 02:52	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**9490**	ug/L	4000	2	03/26/14 00:00	03/29/14 02:52		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Sample: 316-250 **Lab ID: 60165527001** Collected: 03/23/14 10:00 Received: 03/24/14 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	**3790**	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	87-86-5	
Phenol	**14000**	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 02:52	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	105	%	33-120	2	03/26/14 00:00	03/29/14 02:52	4165-60-0	
2-Fluorobiphenyl (S)	93	%	39-120	2	03/26/14 00:00	03/29/14 02:52	321-60-8	
Terphenyl-d14 (S)	108	%	45-120	2	03/26/14 00:00	03/29/14 02:52	1718-51-0	
Phenol-d6 (S)	39	%	11-120	2	03/26/14 00:00	03/29/14 02:52	13127-88-3	
2-Fluorophenol (S)	52	%	17-120	2	03/26/14 00:00	03/29/14 02:52	367-12-4	
2,4,6-Tribromophenol (S)	110	%	39-120	2	03/26/14 00:00	03/29/14 02:52	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**195000**	ug/L	5000	500		03/28/14 15:38	67-64-1	N2
Benzene	ND	ug/L	500	500		03/28/14 15:38	71-43-2	
Bromodichloromethane	ND	ug/L	500	500		03/28/14 15:38	75-27-4	
Bromoform	ND	ug/L	500	500		03/28/14 15:38	75-25-2	
Bromomethane	ND	ug/L	2500	500		03/28/14 15:38	74-83-9	
2-Butanone (MEK)	**96600**	ug/L	5000	500		03/28/14 15:38	78-93-3	N2
Carbon tetrachloride	ND	ug/L	500	500		03/28/14 15:38	56-23-5	
Chloroethane	ND	ug/L	500	500		03/28/14 15:38	75-00-3	
Chloroform	ND	ug/L	500	500		03/28/14 15:38	67-66-3	
1,4-Dichlorobenzene	**995**	ug/L	500	500		03/28/14 15:38	106-46-7	
1,2-Dichloroethane	ND	ug/L	500	500		03/28/14 15:38	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	500	500		03/28/14 15:38	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	500	500		03/28/14 15:38	156-60-5	
Ethylbenzene	ND	ug/L	500	500		03/28/14 15:38	100-41-4	
Methylene chloride	ND	ug/L	500	500		03/28/14 15:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5000	500		03/28/14 15:38	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	500	500		03/28/14 15:38	79-34-5	N2
Tetrachloroethene	ND	ug/L	500	500		03/28/14 15:38	127-18-4	
Toluene	ND	ug/L	500	500		03/28/14 15:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	500	500		03/28/14 15:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	500	500		03/28/14 15:38	79-00-5	
Trichloroethene	ND	ug/L	500	500		03/28/14 15:38	79-01-6	
Vinyl chloride	ND	ug/L	500	500		03/28/14 15:38	75-01-4	
Xylene (Total)	ND	ug/L	1500	500		03/28/14 15:38	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	500		03/28/14 15:38	460-00-4	
Toluene-d8 (S)	99	%	80-120	500		03/28/14 15:38	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	80-120	500		03/28/14 15:38	17060-07-0	
Preservation pH	**6.0**		1.0	500		03/28/14 15:38		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1460**	mg/L	5.0	1		03/31/14 09:17		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Sample: 316-250 **Lab ID: 60165527001** Collected: 03/23/14 10:00 Received: 03/24/14 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	**9.6**	mg/L	5.0	1		03/31/14 09:01		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4080**	mg/L	5.0	1		03/26/14 16:05		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		03/29/14 07:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34200**	mg/L	2.0	1	03/24/14 16:20	03/29/14 08:38		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**635**	mg/L	20.0	200		03/27/14 10:22	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**57500**	mg/L	5000	500		03/27/14 07:28		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Sample: 316-251 **Lab ID: 60165527002** Collected: 03/23/14 10:30 Received: 03/24/14 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	**17300**	ug/L	750	2	03/25/14 15:20	03/26/14 11:19	7429-90-5	
Antimony	**100**	ug/L	100	2	03/25/14 15:20	03/26/14 11:19	7440-36-0	
Arsenic	**978**	ug/L	50.0	1	03/25/14 15:20	03/26/14 11:15	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/25/14 15:20	03/26/14 11:15	7440-41-7	
Cadmium	ND	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:15	7440-43-9	
Chromium	**267**	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:15	7440-47-3	
Cobalt	**48.9**	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:15	7440-48-4	
Copper	ND	ug/L	50.0	1	03/25/14 15:20	03/26/14 11:15	7440-50-8	
Iron	**916000**	ug/L	250	1	03/25/14 15:20	03/26/14 11:15	7439-89-6	
Lead	**185**	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:15	7439-92-1	
Nickel	**134**	ug/L	25.0	1	03/25/14 15:20	03/26/14 11:15	7440-02-0	
Selenium	ND	ug/L	75.0	1	03/25/14 15:20	03/26/14 11:15	7782-49-2	
Silver	ND	ug/L	35.0	1	03/25/14 15:20	03/26/14 11:15	7440-22-4	
Thallium	ND	ug/L	100	1	03/25/14 15:20	03/26/14 11:15	7440-28-0	
Zinc	**4670**	ug/L	500	2	03/25/14 15:20	03/26/14 11:19	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2440**	ug/L	750	2	03/26/14 15:25	03/27/14 14:01	7429-90-5	
Antimony, Dissolved	**67.0**	ug/L	50.0	1	03/26/14 15:25	03/27/14 13:58	7440-36-0	
Arsenic, Dissolved	**1040**	ug/L	50.0	1	03/26/14 15:25	03/27/14 13:58	7440-38-2	D9
Beryllium, Dissolved	ND	ug/L	5.0	1	03/26/14 15:25	03/27/14 13:58	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:58	7440-43-9	
Chromium, Dissolved	**230**	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:58	7440-47-3	
Cobalt, Dissolved	**28.9**	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:58	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/26/14 15:25	03/27/14 13:58	7440-50-8	
Iron, Dissolved	**709000**	ug/L	250	1	03/26/14 15:25	03/27/14 13:58	7439-89-6	
Lead, Dissolved	**78.0**	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:58	7439-92-1	
Nickel, Dissolved	**91.0**	ug/L	25.0	1	03/26/14 15:25	03/27/14 13:58	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/26/14 15:25	03/27/14 13:58	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/26/14 15:25	03/27/14 13:58	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/26/14 15:25	03/27/14 13:58	7440-28-0	
Zinc, Dissolved	**3930**	ug/L	500	2	03/26/14 15:25	03/27/14 14:01	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**22.2**	ug/L	6.0	1	03/26/14 11:30	03/26/14 16:04	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	03/31/14 10:00	03/31/14 13:12	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/26/14 00:00	03/29/14 03:13	534-52-1	L3
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/26/14 00:00	03/29/14 03:13	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**9570**	ug/L	4000	2	03/26/14 00:00	03/29/14 03:13		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Sample: 316-251 **Lab ID: 60165527002** Collected: 03/23/14 10:30 Received: 03/24/14 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	**4710**	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	87-86-5	
Phenol	**13800**	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/26/14 00:00	03/29/14 03:13	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	168	%	33-120	2	03/26/14 00:00	03/29/14 03:13	4165-60-0	S0
2-Fluorobiphenyl (S)	93	%	39-120	2	03/26/14 00:00	03/29/14 03:13	321-60-8	
Terphenyl-d14 (S)	110	%	45-120	2	03/26/14 00:00	03/29/14 03:13	1718-51-0	
Phenol-d6 (S)	37	%	11-120	2	03/26/14 00:00	03/29/14 03:13	13127-88-3	
2-Fluorophenol (S)	49	%	17-120	2	03/26/14 00:00	03/29/14 03:13	367-12-4	
2,4,6-Tribromophenol (S)	110	%	39-120	2	03/26/14 00:00	03/29/14 03:13	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**229000**	ug/L	10000	1000		03/28/14 15:53	67-64-1	N2
Benzene	ND	ug/L	1000	1000		03/28/14 15:53	71-43-2	
Bromodichloromethane	ND	ug/L	1000	1000		03/28/14 15:53	75-27-4	
Bromoform	ND	ug/L	1000	1000		03/28/14 15:53	75-25-2	
Bromomethane	ND	ug/L	5000	1000		03/28/14 15:53	74-83-9	
2-Butanone (MEK)	**103000**	ug/L	10000	1000		03/28/14 15:53	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1000	1000		03/28/14 15:53	56-23-5	
Chloroethane	ND	ug/L	1000	1000		03/28/14 15:53	75-00-3	
Chloroform	ND	ug/L	1000	1000		03/28/14 15:53	67-66-3	
1,4-Dichlorobenzene	**1290**	ug/L	1000	1000		03/28/14 15:53	106-46-7	
1,2-Dichloroethane	ND	ug/L	1000	1000		03/28/14 15:53	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1000	1000		03/28/14 15:53	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1000	1000		03/28/14 15:53	156-60-5	
Ethylbenzene	ND	ug/L	1000	1000		03/28/14 15:53	100-41-4	
Methylene chloride	ND	ug/L	1000	1000		03/28/14 15:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10000	1000		03/28/14 15:53	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1000	1000		03/28/14 15:53	79-34-5	N2
Tetrachloroethene	ND	ug/L	1000	1000		03/28/14 15:53	127-18-4	
Toluene	ND	ug/L	1000	1000		03/28/14 15:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1000	1000		03/28/14 15:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1000	1000		03/28/14 15:53	79-00-5	
Trichloroethene	ND	ug/L	1000	1000		03/28/14 15:53	79-01-6	
Vinyl chloride	ND	ug/L	1000	1000		03/28/14 15:53	75-01-4	
Xylene (Total)	ND	ug/L	3000	1000		03/28/14 15:53	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1000		03/28/14 15:53	460-00-4	
Toluene-d8 (S)	100	%	80-120	1000		03/28/14 15:53	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1000		03/28/14 15:53	17060-07-0	
Preservation pH	**6.0**		1.0	1000		03/28/14 15:53		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1740**	mg/L	5.0	1		03/31/14 09:17		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Sample: 316-251 **Lab ID: 60165527002** Collected: 03/23/14 10:30 Received: 03/24/14 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	**13.2**	mg/L	5.0	1		03/31/14 09:01		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5780**	mg/L	5.0	1		03/26/14 16:05		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		03/29/14 07:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**38300**	mg/L	2.0	1	03/24/14 16:23	03/29/14 08:42		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**633**	mg/L	20.0	200		03/27/14 10:24	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**64500**	mg/L	5000	500		03/27/14 07:29		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Sample: TRIP BLANK **Lab ID: 60165527003** Collected: 03/23/14 10:30 Received: 03/24/14 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		03/25/14 15:27	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/25/14 15:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/25/14 15:27	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/25/14 15:27	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/25/14 15:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/25/14 15:27	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/25/14 15:27	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/25/14 15:27	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/25/14 15:27	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/25/14 15:27	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/25/14 15:27	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/25/14 15:27	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/25/14 15:27	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/25/14 15:27	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/25/14 15:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/25/14 15:27	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/25/14 15:27	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/25/14 15:27	127-18-4	
Toluene	ND	ug/L	1.0	1		03/25/14 15:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/25/14 15:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/25/14 15:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/25/14 15:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/25/14 15:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/25/14 15:27	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	107	%	80-120	1		03/25/14 15:27	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		03/25/14 15:27	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		03/25/14 15:27	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/25/14 15:27		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: MERP/8249 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1350218 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/26/14 15:30	

LABORATORY CONTROL SAMPLE: 1350219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350220 1350221

Parameter	Units	60165109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	62.7	150	150	196	177	89	76	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: MERP/8264 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1352711 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/31/14 12:55	

LABORATORY CONTROL SAMPLE: 1352712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.4	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352713 1352714

Parameter	Units	60165454001 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	5	5	3.2	4.0	64	78	70-130	21	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: MPRP/26605 | Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 | Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1349943 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/26/14 10:50	
Antimony	ug/L	ND	10.0	03/26/14 10:50	
Arsenic	ug/L	ND	10.0	03/26/14 10:50	
Beryllium	ug/L	ND	1.0	03/26/14 10:50	
Cadmium	ug/L	ND	5.0	03/26/14 10:50	
Chromium	ug/L	ND	5.0	03/26/14 10:50	
Cobalt	ug/L	ND	5.0	03/26/14 10:50	
Copper	ug/L	ND	10.0	03/26/14 10:50	
Iron	ug/L	ND	50.0	03/26/14 10:50	
Lead	ug/L	ND	5.0	03/26/14 10:50	
Nickel	ug/L	ND	5.0	03/26/14 10:50	
Selenium	ug/L	ND	15.0	03/26/14 10:50	
Silver	ug/L	ND	7.0	03/26/14 10:50	
Thallium	ug/L	ND	20.0	03/26/14 10:50	
Zinc	ug/L	ND	50.0	03/26/14 10:50	

LABORATORY CONTROL SAMPLE: 1349944

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	955	95	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	980	98	85-115	
Chromium	ug/L	1000	986	99	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	996	100	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	486	97	85-115	
Thallium	ug/L	1000	970	97	85-115	
Zinc	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349945 1349946

Parameter	Units	60165575001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	41.1J	10000	10000	10900	11000	108	109	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1349945 1349946

Parameter	Units	60165575001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	4.7J	1000	1000	1100	1110	110	110	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	1060	1060	106	106	70-130	0	10	
Beryllium	ug/L	0.39J	1000	1000	1080	1080	107	108	70-130	1	7	
Cadmium	ug/L	0.92J	1000	1000	1060	1070	106	107	70-130	1	10	
Chromium	ug/L	3.9J	1000	1000	1070	1070	106	107	70-130	0	10	
Cobalt	ug/L	8.0	1000	1000	1080	1080	107	108	70-130	1	6	
Copper	ug/L	6.0J	1000	1000	1080	1090	108	108	70-130	1	11	
Iron	ug/L	115	10000	10000	10900	11000	108	109	70-130	1	10	
Lead	ug/L	50.0	1000	1000	1110	1120	106	107	70-130	1	10	
Nickel	ug/L	39.5	1000	1000	1100	1110	107	107	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1080	1080	108	108	70-130	0	10	
Silver	ug/L	ND	500	500	530	533	106	107	70-130	1	10	
Thallium	ug/L	ND	1000	1000	1020	1030	102	103	70-130	0	6	
Zinc	ug/L	272	1000	1000	1330	1360	105	109	70-130	3	11	

MATRIX SPIKE SAMPLE: 1349947

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	16900	50000	90400	147	70-130	M1
Antimony	ug/L	108	5000	5630	110	70-130	
Arsenic	ug/L	1040	5000	6920	117	70-130	
Beryllium	ug/L	ND	5000	5260	105	70-130	
Cadmium	ug/L	ND	5000	5520	110	70-130	
Chromium	ug/L	280	5000	5550	105	70-130	
Cobalt	ug/L	53.0	5000	5360	106	70-130	
Copper	ug/L	67.8	5000	5840	115	70-130	
Iron	ug/L	922000	50000	1060000	278	70-130	M1
Lead	ug/L	221	5000	5190	99	70-130	
Nickel	ug/L	147	5000	5300	103	70-130	
Selenium	ug/L	ND	5000	6410	127	70-130	
Silver	ug/L	ND	2500	2880	115	70-130	
Thallium	ug/L	ND	5000	4540	91	70-130	
Zinc	ug/L	5620	5000	11200	111	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: MPRP/26616 | Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 | Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1350512 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/27/14 13:29	
Antimony, Dissolved	ug/L	ND	10.0	03/27/14 13:29	
Arsenic, Dissolved	ug/L	ND	10.0	03/27/14 13:29	
Beryllium, Dissolved	ug/L	ND	1.0	03/27/14 13:29	
Cadmium, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Chromium, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Cobalt, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Copper, Dissolved	ug/L	ND	10.0	03/27/14 13:29	
Iron, Dissolved	ug/L	ND	50.0	03/27/14 13:29	
Lead, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Nickel, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Selenium, Dissolved	ug/L	ND	15.0	03/27/14 13:29	
Silver, Dissolved	ug/L	ND	7.0	03/27/14 13:29	
Thallium, Dissolved	ug/L	ND	20.0	03/27/14 13:29	
Zinc, Dissolved	ug/L	ND	50.0	03/27/14 13:29	

LABORATORY CONTROL SAMPLE: 1350513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	8750	87	85-115	
Antimony, Dissolved	ug/L	1000	889	89	85-115	
Arsenic, Dissolved	ug/L	1000	880	88	85-115	
Beryllium, Dissolved	ug/L	1000	884	88	85-115	
Cadmium, Dissolved	ug/L	1000	879	88	85-115	
Chromium, Dissolved	ug/L	1000	860	86	85-115	
Cobalt, Dissolved	ug/L	1000	892	89	85-115	
Copper, Dissolved	ug/L	1000	886	89	85-115	
Iron, Dissolved	ug/L	10000	8760	88	85-115	
Lead, Dissolved	ug/L	1000	898	90	85-115	
Nickel, Dissolved	ug/L	1000	906	91	85-115	
Selenium, Dissolved	ug/L	1000	876	88	85-115	
Silver, Dissolved	ug/L	500	446	89	85-115	
Thallium, Dissolved	ug/L	1000	902	90	85-115	
Zinc, Dissolved	ug/L	1000	872	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350514 1350515

Parameter	Units	60165527001 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	2420	15000	15000	17100	17800	98	103	70-130	4	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350514 1350515

Parameter	Units	60165527001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	64.4	1500	1500	1650	1640	106	105	70-130	1	7	
Arsenic, Dissolved	ug/L	841	1500	1500	2440	2630	107	119	70-130	8	10	
Beryllium, Dissolved	ug/L	ND	1500	1500	1440	1430	96	95	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1500	1500	1570	1580	104	104	70-130	1	10	
Chromium, Dissolved	ug/L	182	1500	1500	1550	1580	91	93	70-130	2	10	
Cobalt, Dissolved	ug/L	26.4	1500	1500	1450	1440	95	94	70-130	0	6	
Copper, Dissolved	ug/L	ND	1500	1500	1660	1660	108	108	70-130	0	11	
Iron, Dissolved	ug/L	546000	15000	15000	564000	657000	123	743	70-130	15	10	M1,R1
Lead, Dissolved	ug/L	82.2	1500	1500	1440	1440	90	90	70-130	0	10	
Nickel, Dissolved	ug/L	78.8	1500	1500	1500	1500	95	95	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1500	1500	1800	1860	117	121	70-130	3	10	
Silver, Dissolved	ug/L	ND	750	750	826	845	107	109	70-130	2	10	
Thallium, Dissolved	ug/L	ND	1500	1500	1230	1220	82	81	70-130	1	6	
Zinc, Dissolved	ug/L	3670	1500	1500	5120	5790	97	141	70-130	12	11	M1,R1

MATRIX SPIKE SAMPLE: 1350516

Parameter	Units	60165555002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	9150	91	70-130	
Antimony, Dissolved	ug/L	ND	1000	934	93	70-130	
Arsenic, Dissolved	ug/L	3.9J	1000	908	90	70-130	
Beryllium, Dissolved	ug/L	ND	1000	922	92	70-130	
Cadmium, Dissolved	ug/L	ND	1000	927	93	70-130	
Chromium, Dissolved	ug/L	ND	1000	887	89	70-130	
Cobalt, Dissolved	ug/L	ND	1000	918	92	70-130	
Copper, Dissolved	ug/L	2.0J	1000	947	95	70-130	
Iron, Dissolved	ug/L	ND	10000	9010	90	70-130	
Lead, Dissolved	ug/L	ND	1000	922	92	70-130	
Nickel, Dissolved	ug/L	ND	1000	933	93	70-130	
Selenium, Dissolved	ug/L	ND	1000	920	92	70-130	
Silver, Dissolved	ug/L	ND	500	478	95	70-130	
Thallium, Dissolved	ug/L	ND	1000	936	94	70-130	
Zinc, Dissolved	ug/L	ND	1000	909	90	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: MSV/60314 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165527003

METHOD BLANK: 1349892 | Matrix: Water
Associated Lab Samples: 60165527003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/25/14 14:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,2-Dichloroethane	ug/L	ND	1.0	03/25/14 14:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/25/14 14:03	
2-Butanone (MEK)	ug/L	ND	10.0	03/25/14 14:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/25/14 14:03	N2
Acetone	ug/L	ND	10.0	03/25/14 14:03	N2
Benzene	ug/L	ND	1.0	03/25/14 14:03	
Bromodichloromethane	ug/L	ND	1.0	03/25/14 14:03	
Bromoform	ug/L	ND	1.0	03/25/14 14:03	
Bromomethane	ug/L	ND	5.0	03/25/14 14:03	
Carbon tetrachloride	ug/L	ND	1.0	03/25/14 14:03	
Chloroethane	ug/L	ND	1.0	03/25/14 14:03	
Chloroform	ug/L	ND	1.0	03/25/14 14:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/25/14 14:03	N2
Ethylbenzene	ug/L	ND	1.0	03/25/14 14:03	
Methylene chloride	ug/L	2.2	1.0	03/25/14 14:03	
Tetrachloroethene	ug/L	ND	1.0	03/25/14 14:03	
Toluene	ug/L	ND	1.0	03/25/14 14:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/25/14 14:03	
Trichloroethene	ug/L	ND	1.0	03/25/14 14:03	
Vinyl chloride	ug/L	ND	1.0	03/25/14 14:03	
Xylene (Total)	ug/L	ND	3.0	03/25/14 14:03	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	03/25/14 14:03	
4-Bromofluorobenzene (S)	%	105	80-120	03/25/14 14:03	
Toluene-d8 (S)	%	104	80-120	03/25/14 14:03	

LABORATORY CONTROL SAMPLE: 1349893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.6	103	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.2	111	67-124	
1,2-Dichloroethane	ug/L	20	20.3	101	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	141	141	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	59-131	N2
Acetone	ug/L	100	191	191	38-134	L0,N2
Benzene	ug/L	20	20.3	102	75-120	
Bromodichloromethane	ug/L	20	20.3	102	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

LABORATORY CONTROL SAMPLE: 1349893

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.4	102	65-127	
Bromomethane	ug/L	20	15.2	76	13-157	
Carbon tetrachloride	ug/L	20	19.8	99	70-131	
Chloroethane	ug/L	20	17.8	89	47-133	
Chloroform	ug/L	20	19.9	100	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.2	101	68-127	N2
Ethylbenzene	ug/L	20	21.1	105	74-122	
Methylene chloride	ug/L	20	22.5	113	64-129	
Tetrachloroethene	ug/L	20	20.5	103	73-125	
Toluene	ug/L	20	20.5	102	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.1	101	66-129	
Trichloroethene	ug/L	20	20.5	103	71-123	
Vinyl chloride	ug/L	20	17.7	88	43-129	
Xylene (Total)	ug/L	60	64.5	107	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1349894

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	10000	10200	102	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	10000	10000	100	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	10000	10400	104	52-143	
1,2-Dichloroethane	ug/L	ND	10000	9490	95	49-144	
1,4-Dichlorobenzene	ug/L	2560	10000	12500	99	33-140	
2-Butanone (MEK)	ug/L	100000	50000	138000	75	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50000	48600	91	40-160	N2
Acetone	ug/L	190000	50000	222000	63	10-160	N2
Benzene	ug/L	ND	10000	9920	99	37-151	
Bromodichloromethane	ug/L	ND	10000	9620	96	35-142	
Bromoform	ug/L	ND	10000	9640	96	45-142	
Bromomethane	ug/L	ND	10000	7140	71	10-158	
Carbon tetrachloride	ug/L	ND	10000	10600	106	70-140	
Chloroethane	ug/L	ND	10000	8700	87	19-152	
Chloroform	ug/L	ND	10000	9640	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	10000	9870	99	34-147	N2
Ethylbenzene	ug/L	ND	10000	11000	105	40-142	
Methylene chloride	ug/L	ND	10000	9580	92	31-144	
Tetrachloroethene	ug/L	ND	10000	10800	108	64-148	
Toluene	ug/L	ND	10000	9980	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	10000	9740	97	54-151	
Trichloroethene	ug/L	ND	10000	10600	106	71-149	
Vinyl chloride	ug/L	ND	10000	9060	91	22-146	
Xylene (Total)	ug/L	2050	30000	35000	110	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

MATRIX SPIKE SAMPLE: 1349894

Parameter	Units	60165366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: MSV/60388 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1351614 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/28/14 14:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/28/14 14:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/28/14 14:19	
1,2-Dichloroethane	ug/L	ND	1.0	03/28/14 14:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/28/14 14:19	
2-Butanone (MEK)	ug/L	ND	10.0	03/28/14 14:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/28/14 14:19	N2
Acetone	ug/L	ND	10.0	03/28/14 14:19	N2
Benzene	ug/L	ND	1.0	03/28/14 14:19	
Bromodichloromethane	ug/L	ND	1.0	03/28/14 14:19	
Bromoform	ug/L	ND	1.0	03/28/14 14:19	
Bromomethane	ug/L	ND	5.0	03/28/14 14:19	
Carbon tetrachloride	ug/L	ND	1.0	03/28/14 14:19	
Chloroethane	ug/L	ND	1.0	03/28/14 14:19	
Chloroform	ug/L	ND	1.0	03/28/14 14:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/28/14 14:19	N2
Ethylbenzene	ug/L	ND	1.0	03/28/14 14:19	
Methylene chloride	ug/L	ND	1.0	03/28/14 14:19	
Tetrachloroethene	ug/L	ND	1.0	03/28/14 14:19	
Toluene	ug/L	ND	1.0	03/28/14 14:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/28/14 14:19	
Trichloroethene	ug/L	ND	1.0	03/28/14 14:19	
Vinyl chloride	ug/L	ND	1.0	03/28/14 14:19	
Xylene (Total)	ug/L	ND	3.0	03/28/14 14:19	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	03/28/14 14:19	
4-Bromofluorobenzene (S)	%	101	80-120	03/28/14 14:19	
Toluene-d8 (S)	%	100	80-120	03/28/14 14:19	

LABORATORY CONTROL SAMPLE: 1351615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.9	94	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.5	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.4	97	67-124	
1,2-Dichloroethane	ug/L	20	19.2	96	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	96	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.2	96	59-131	N2
Acetone	ug/L	100	111	111	38-134	N2
Benzene	ug/L	20	18.6	93	75-120	
Bromodichloromethane	ug/L	20	19.4	97	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

LABORATORY CONTROL SAMPLE: 1351615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.5	97	65-127	
Bromomethane	ug/L	20	20.8	104	13-157	
Carbon tetrachloride	ug/L	20	19.2	96	70-131	
Chloroethane	ug/L	20	20.4	102	47-133	
Chloroform	ug/L	20	18.3	91	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.3	97	68-127	N2
Ethylbenzene	ug/L	20	20.3	101	74-122	
Methylene chloride	ug/L	20	18.5	93	64-129	
Tetrachloroethene	ug/L	20	18.6	93	73-125	
Toluene	ug/L	20	19.0	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	21.8	109	43-129	
Xylene (Total)	ug/L	60	60.7	101	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1351616

Parameter	Units	60165612001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4140	103	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4030	101	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3990	100	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3870	97	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3950	96	33-140	
2-Butanone (MEK)	ug/L	89700	20000	119000	148	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	2330	20000	22100	99	40-160	N2
Acetone	ug/L	177000	20000	194000	86	10-160	N2
Benzene	ug/L	ND	4000	3730	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3850	96	35-142	
Bromoform	ug/L	ND	4000	4080	102	45-142	
Bromomethane	ug/L	ND	4000	4130	103	10-158	
Carbon tetrachloride	ug/L	ND	4000	4410	110	70-140	
Chloroethane	ug/L	ND	4000	4030	101	19-152	
Chloroform	ug/L	ND	4000	3800	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3860	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	4210	105	40-142	
Methylene chloride	ug/L	ND	4000	3610	88	31-144	
Tetrachloroethene	ug/L	ND	4000	4060	102	64-148	
Toluene	ug/L	ND	4000	3890	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3780	94	54-151	
Trichloroethene	ug/L	ND	4000	4070	102	71-149	
Vinyl chloride	ug/L	ND	4000	4400	110	22-146	
Xylene (Total)	ug/L	ND	12000	12700	106	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

MATRIX SPIKE SAMPLE: 1351616

Parameter	Units	60165612001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: OEXT/43339 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1350070 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/28/14 08:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/28/14 08:57	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/28/14 08:57	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/28/14 08:57	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/28/14 08:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/28/14 08:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/28/14 08:57	
Hexachloroethane	ug/L	ND	5.0	03/28/14 08:57	
Naphthalene	ug/L	ND	5.0	03/28/14 08:57	
Nitrobenzene	ug/L	ND	5.0	03/28/14 08:57	
Pentachlorophenol	ug/L	ND	5.0	03/28/14 08:57	
Phenol	ug/L	ND	5.0	03/28/14 08:57	
2,4,6-Tribromophenol (S)	%	116	39-120	03/28/14 08:57	
2-Fluorobiphenyl (S)	%	111	39-120	03/28/14 08:57	
2-Fluorophenol (S)	%	57	17-120	03/28/14 08:57	
Nitrobenzene-d5 (S)	%	116	33-120	03/28/14 08:57	
Phenol-d6 (S)	%	37	11-120	03/28/14 08:57	
Terphenyl-d14 (S)	%	123	45-120	03/28/14 08:57	S3

LABORATORY CONTROL SAMPLE: 1350071

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.1	82	46-120	
2,4,6-Trichlorophenol	ug/L	50	50.7	101	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.0	68	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.4	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	75.5	151	40-133	L0
Hexachloro-1,3-butadiene	ug/L	50	39.1	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	55.0	55	24-120	
Hexachloroethane	ug/L	50	36.1	72	43-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	45.7	91	48-120	
Pentachlorophenol	ug/L	50	58.7	117	47-120	
Phenol	ug/L	50	15.7	31	16-112	
2,4,6-Tribromophenol (S)	%			108	39-120	
2-Fluorobiphenyl (S)	%			94	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			96	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			109	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

MATRIX SPIKE SAMPLE: 1350073

Parameter	Units	60165524005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	44.1	88	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	54.7	109	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	34.2	68	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	30.8	62	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	106	212	10-160	M0
Hexachloro-1,3-butadiene	ug/L	ND	50	41.8	84	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	68.6	69	11-120	
Hexachloroethane	ug/L	ND	50	39.6	79	40-113	
Naphthalene	ug/L	ND	50	45.6	91	45-120	
Nitrobenzene	ug/L	ND	50	49.2	98	38-120	
Pentachlorophenol	ug/L	ND	50	70.7	141	43-135	M1
Phenol	ug/L	ND	50	14.9	30	13-112	
2,4,6-Tribromophenol (S)	%				115	39-120	
2-Fluorobiphenyl (S)	%				98	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				102	33-120	
Phenol-d6 (S)	%				27	11-120	
Terphenyl-d14 (S)	%				108	45-120	

SAMPLE DUPLICATE: 1350072

Parameter	Units	60165524005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	ND			
2,4,6-Trichlorophenol	ug/L	ND	ND			
2-Methylphenol(o-Cresol)	ug/L	ND	ND			N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	ND			N2
4,6-Dinitro-2-methylphenol	ug/L	ND	ND			
Hexachloro-1,3-butadiene	ug/L	ND	ND			
Hexachlorocyclopentadiene	ug/L	ND	ND			
Hexachloroethane	ug/L	ND	ND			
Naphthalene	ug/L	ND	ND			
Nitrobenzene	ug/L	ND	ND			
Pentachlorophenol	ug/L	ND	ND			
Phenol	ug/L	ND	ND			
2,4,6-Tribromophenol (S)	%	106	106	1		
2-Fluorobiphenyl (S)	%	90	89	1		
2-Fluorophenol (S)	%	40	40	1		
Nitrobenzene-d5 (S)	%	90	94	4		
Phenol-d6 (S)	%	27	27	0		
Terphenyl-d14 (S)	%	99	99	0		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: WET/46997 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1352635 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	03/31/14 09:13	

LABORATORY CONTROL SAMPLE: 1352636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.9	95	78-114	

MATRIX SPIKE SAMPLE: 1352637

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1460	160	1610	98	78-114	

SAMPLE DUPLICATE: 1352638

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1740	1750	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: WET/46999 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1352643 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	03/31/14 09:00	

LABORATORY CONTROL SAMPLE: 1352644

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.1	90	64-132	

MATRIX SPIKE SAMPLE: 1352645

Parameter	Units	60165527001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.6	80	84.8	94	64-132	

SAMPLE DUPLICATE: 1352646

Parameter	Units	60165527002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.2	18.0	31	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: WET/46926 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1350538 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/26/14 16:02	

SAMPLE DUPLICATE: 1350539

Parameter	Units	60165360002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	178	190	7	10	

SAMPLE DUPLICATE: 1350540

Parameter	Units	60165454001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	150	145	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: WET/46976 | Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B | Analysis Description: 4500H+B pH
Associated Lab Samples: 60165527001, 60165527002

SAMPLE DUPLICATE: 1351763

Parameter	Units	60165772001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.1	9.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: WET/46856 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1349361 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/29/14 08:19	

LABORATORY CONTROL SAMPLE: 1349362

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	186	94	85-115	

SAMPLE DUPLICATE: 1349363

Parameter	Units	60165518003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	997	1100	10	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: WETA/28781 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1350604 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/27/14 09:53	

LABORATORY CONTROL SAMPLE: 1350605

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

MATRIX SPIKE SAMPLE: 1350606

Parameter	Units	60165137001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	115	90-110	M1

MATRIX SPIKE SAMPLE: 1350607

Parameter	Units	60165148001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.22	2	2.2	101	90-110	

SAMPLE DUPLICATE: 1350608

Parameter	Units	60165246001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

QC Batch: WETA/28762 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165527001, 60165527002

METHOD BLANK: 1350031 | Matrix: Water
Associated Lab Samples: 60165527001, 60165527002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	03/27/14 07:15	

LABORATORY CONTROL SAMPLE: 1350032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.3	97	90-110	

MATRIX SPIKE SAMPLE: 1350033

Parameter	Units	60165137002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	17.6	50	66.6	98	90-110	

MATRIX SPIKE SAMPLE: 1350036

Parameter	Units	60165497001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	140	50	178	76	90-110	M1

SAMPLE DUPLICATE: 1350034

Parameter	Units	60165237001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	7020	6720	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

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

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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
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.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-250, 316-251
Pace Project No.: 60165527

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165527001	**316-250**	EPA 200.7	MPRP/26605	EPA 200.7	ICP/20234
60165527002	**316-251**	EPA 200.7	MPRP/26605	EPA 200.7	ICP/20234
60165527001	**316-250**	EPA 200.7	MPRP/26616	EPA 200.7	ICP/20247
60165527002	**316-251**	EPA 200.7	MPRP/26616	EPA 200.7	ICP/20247
60165527001	**316-250**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165527002	**316-251**	EPA 245.1	MERP/8249	EPA 245.1	MERC/8205
60165527001	**316-250**	EPA 245.1	MERP/8264	EPA 245.1	MERC/8219
60165527002	**316-251**	EPA 245.1	MERP/8264	EPA 245.1	MERC/8219
60165527001	**316-250**	EPA 625	OEXT/43339	EPA 625	MSSV/13823
60165527002	**316-251**	EPA 625	OEXT/43339	EPA 625	MSSV/13823
60165527001	**316-250**	EPA 624 Low	MSV/60388		
60165527002	**316-251**	EPA 624 Low	MSV/60388		
60165527003	**TRIP BLANK**	EPA 624 Low	MSV/60314		
60165527001	**316-250**	EPA 1664A	WET/46997		
60165527002	**316-251**	EPA 1664A	WET/46997		
60165527001	**316-250**	EPA 1664A	WET/46999		
60165527002	**316-251**	EPA 1664A	WET/46999		
60165527001	**316-250**	SM 2540D	WET/46926		
60165527002	**316-251**	SM 2540D	WET/46926		
60165527001	**316-250**	SM 4500-H+B	WET/46976		
60165527002	**316-251**	SM 4500-H+B	WET/46976		
60165527001	**316-250**	SM 5210B	WET/46856	SM 5210B	WET/46989
60165527002	**316-251**	SM 5210B	WET/46856	SM 5210B	WET/46989
60165527001	**316-250**	EPA 350.1	WETA/28781		
60165527002	**316-251**	EPA 350.1	WETA/28781		
60165527001	**316-250**	EPA 410.4	WETA/28762		
60165527002	**316-251**	EPA 410.4	WETA/28762		

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Sample Condition Upon Receipt

WO#: 60165527

60165527

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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

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 ☒ YR

Thermometer Used: T-230 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/24/13

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: Includes date/time/ID/analyses Matrix: W +	☐Yes	☐No	☐N/A	13.
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A	Added HNO3 to 316-250 & 316-251 BP3N 5.0/20 BP3N 5.0/20
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☒No	☐N/A	14. Added H2SO4 to 316-250 BP3S 5.0/20 and 316-251 BP3N 5.0/20
Exceptions: VOA coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes	☐No		Initial when completed: S — Lot # of added preservative: 12522 / 12513
Trip Blank present: Pace Trip Blank lot # (if purchased): March 13	☒Yes	☐No	☐N/A	15.
Headspace in VOA vials (>6mm):	☒Yes	☒No	☐N/A	2 of 5 316-251 vials have 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: 8/25/13

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:

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.	PO 3727110
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 #:	6787 LINE 2

Regulatory Agency
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)	60115527
1	316-250 BP3N, BP3S, 5(DG9W)	OT	G	03/23/14	1000	—			14	10	4	1	0					X	X	X	X	X	X	X	X	X	X			2(BP2U) BP3U, 3(AG3S) 2(AG4U)
2	TRIP BLANK								2	2														X		2(DG9U)			TB	↓ ↓ ↓ 03 ↓
3	316-251 ↓ ↓ ↓	OT	G	03/23/14	1030	—												X	X	X	X	X	X	X	X	X	X			↓ ↓ ↓ 02 ↓
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] / LBG	3/24/14	840	[signature] 412	3-24-14	8:40				
SITE ADDRESS: BRIDGETON LF				[signature] MK/PASE	3/24	1300	3.4	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:	John Powell					
SIGNATURE of SAMPLER:	[signature]	DATE Signed: 03-23-14				

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

April 02, 2014

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

RE: Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

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 327-MSD
Pace Project No.: 60165612

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165612001	**327-MSD**	Water	03/25/14 07:45	03/26/14 01:50
60165612002	**TRIP BLANK**	Water	03/25/14 07:45	03/26/14 01:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165612001	**327-MSD**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	JMC1	1
		SM 4500-H+B	JML	1
		SM 5210B	RAH	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165612002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

Sample: 327-MSD **Lab ID: 60165612001** Collected: 03/25/14 07:45 Received: 03/26/14 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	**5730**	ug/L	750	2	03/27/14 11:24	03/28/14 16:12	7429-90-5	
Antimony	**107**	ug/L	50.0	1	03/27/14 11:24	03/28/14 16:09	7440-36-0	
Arsenic	**1240**	ug/L	50.0	1	03/27/14 11:24	03/28/14 16:09	7440-38-2	
Beryllium	ND	ug/L	5.0	1	03/27/14 11:24	03/28/14 16:09	7440-41-7	
Cadmium	**26.7**	ug/L	25.0	1	03/27/14 11:24	03/28/14 16:09	7440-43-9	
Chromium	**258**	ug/L	25.0	1	03/27/14 11:24	03/28/14 16:09	7440-47-3	
Cobalt	**66.9**	ug/L	25.0	1	03/27/14 11:24	03/28/14 16:09	7440-48-4	
Copper	ND	ug/L	50.0	1	03/27/14 11:24	03/28/14 16:09	7440-50-8	
Iron	**1070000**	ug/L	250	1	03/27/14 11:24	03/28/14 16:09	7439-89-6	
Lead	**176**	ug/L	25.0	1	03/27/14 11:24	03/28/14 16:09	7439-92-1	
Nickel	**172**	ug/L	25.0	1	03/27/14 11:24	03/28/14 16:09	7440-02-0	
Selenium	**84.1**	ug/L	75.0	1	03/27/14 11:24	03/28/14 16:09	7782-49-2	
Silver	ND	ug/L	35.0	1	03/27/14 11:24	03/28/14 16:09	7440-22-4	
Thallium	ND	ug/L	200	2	03/27/14 11:24	03/28/14 16:12	7440-28-0	
Zinc	**9910**	ug/L	500	2	03/27/14 11:24	03/28/14 16:12	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	03/26/14 15:25	03/27/14 14:51	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	03/26/14 15:25	03/27/14 14:48	7440-36-0	
Arsenic, Dissolved	**182**	ug/L	50.0	1	03/26/14 15:25	03/27/14 14:48	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	03/26/14 15:25	03/27/14 14:48	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	03/26/14 15:25	03/27/14 14:48	7440-43-9	
Chromium, Dissolved	**38.4**	ug/L	25.0	1	03/26/14 15:25	03/27/14 14:48	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	03/26/14 15:25	03/27/14 14:48	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	03/26/14 15:25	03/27/14 14:48	7440-50-8	
Iron, Dissolved	**150000**	ug/L	250	1	03/26/14 15:25	03/27/14 14:48	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	03/26/14 15:25	03/27/14 14:48	7439-92-1	
Nickel, Dissolved	ND	ug/L	25.0	1	03/26/14 15:25	03/27/14 14:48	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	03/26/14 15:25	03/27/14 14:48	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	03/26/14 15:25	03/27/14 14:48	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	03/26/14 15:25	03/27/14 14:48	7440-28-0	
Zinc, Dissolved	**1580**	ug/L	500	2	03/26/14 15:25	03/27/14 14:51	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/31/14 10:00	03/31/14 13:48	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	03/31/14 10:00	03/31/14 13:14	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/27/14 00:00	03/28/14 20:36	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/27/14 00:00	03/28/14 20:36	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7060**	ug/L	4000	2	03/27/14 00:00	03/28/14 20:36		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

Sample: 327-MSD **Lab ID: 60165612001** Collected: 03/25/14 07:45 Received: 03/26/14 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	ND	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	87-86-5	
Phenol	**12100**	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/27/14 00:00	03/28/14 20:36	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	108	%	33-120	2	03/27/14 00:00	03/28/14 20:36	4165-60-0	
2-Fluorobiphenyl (S)	89	%	39-120	2	03/27/14 00:00	03/28/14 20:36	321-60-8	
Terphenyl-d14 (S)	94	%	45-120	2	03/27/14 00:00	03/28/14 20:36	1718-51-0	
Phenol-d6 (S)	35	%	11-120	2	03/27/14 00:00	03/28/14 20:36	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	03/27/14 00:00	03/28/14 20:36	367-12-4	
2,4,6-Tribromophenol (S)	100	%	39-120	2	03/27/14 00:00	03/28/14 20:36	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**177000**	ug/L	2000	200		03/28/14 17:44	67-64-1	N2
Benzene	ND	ug/L	200	200		03/28/14 17:44	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/28/14 17:44	75-27-4	
Bromoform	ND	ug/L	200	200		03/28/14 17:44	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/28/14 17:44	74-83-9	
2-Butanone (MEK)	**89700**	ug/L	2000	200		03/28/14 17:44	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/28/14 17:44	56-23-5	
Chloroethane	ND	ug/L	200	200		03/28/14 17:44	75-00-3	
Chloroform	ND	ug/L	200	200		03/28/14 17:44	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		03/28/14 17:44	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/28/14 17:44	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/28/14 17:44	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/28/14 17:44	156-60-5	
Ethylbenzene	ND	ug/L	200	200		03/28/14 17:44	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/28/14 17:44	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2330**	ug/L	2000	200		03/28/14 17:44	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/28/14 17:44	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/28/14 17:44	127-18-4	
Toluene	ND	ug/L	200	200		03/28/14 17:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/28/14 17:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/28/14 17:44	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/28/14 17:44	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/28/14 17:44	75-01-4	
Xylene (Total)	ND	ug/L	600	200		03/28/14 17:44	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		03/28/14 17:44	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		03/28/14 17:44	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	200		03/28/14 17:44	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/28/14 17:44		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**635**	mg/L	5.0	1		04/02/14 07:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

Sample: 327-MSD **Lab ID: 60165612001** Collected: 03/25/14 07:45 Received: 03/26/14 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	**6.9**	mg/L	5.0	1		04/02/14 11:44		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2560**	mg/L	5.0	1		03/28/14 12:32		D6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		03/29/14 09:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**19400**	mg/L	2.0	1	03/26/14 11:22	03/31/14 14:47		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**602**	mg/L	20.0	200		03/27/14 10:25	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**51500**	mg/L	5000	500		04/01/14 07:33		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

Sample: TRIP BLANK **Lab ID: 60165612002** Collected: 03/25/14 07:45 Received: 03/26/14 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		03/31/14 13:41	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/31/14 13:41	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/31/14 13:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/31/14 13:41	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/31/14 13:41	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/31/14 13:41	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/31/14 13:41	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/31/14 13:41	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/31/14 13:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/31/14 13:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/31/14 13:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/31/14 13:41	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/31/14 13:41	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/31/14 13:41	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/31/14 13:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/31/14 13:41	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/31/14 13:41	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/31/14 13:41	127-18-4	
Toluene	ND	ug/L	1.0	1		03/31/14 13:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/31/14 13:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/31/14 13:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/31/14 13:41	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/31/14 13:41	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/31/14 13:41	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		03/31/14 13:41	460-00-4	IS,P2
Toluene-d8 (S)	94	%	80-120	1		03/31/14 13:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		03/31/14 13:41	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/31/14 13:41		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: MERP/8266 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165612001

METHOD BLANK: 1352721 | Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/31/14 13:27	

LABORATORY CONTROL SAMPLE: 1352722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352723 1352724

Parameter	Units	60165524005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.48	5	5	3.9	4.3	69	76	70-130	8	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: MERP/8264
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165612001

METHOD BLANK: 1352711
Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	03/31/14 12:55	

LABORATORY CONTROL SAMPLE: 1352712

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.4	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352713 1352714

Parameter	Units	60165454001 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	5	5	3.2	4.0	64	78	70-130	21	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: MPRP/26630
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165612001

METHOD BLANK: 1350804
Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	03/28/14 15:58	
Antimony	ug/L	ND	10.0	03/28/14 15:58	
Arsenic	ug/L	ND	10.0	03/28/14 15:58	
Beryllium	ug/L	ND	1.0	03/28/14 15:58	
Cadmium	ug/L	ND	5.0	03/28/14 15:58	
Chromium	ug/L	ND	5.0	03/28/14 15:58	
Cobalt	ug/L	ND	5.0	03/28/14 15:58	
Copper	ug/L	ND	10.0	03/28/14 15:58	
Iron	ug/L	ND	50.0	03/28/14 15:58	
Lead	ug/L	ND	5.0	03/28/14 15:58	
Nickel	ug/L	ND	5.0	03/28/14 15:58	
Selenium	ug/L	ND	15.0	03/28/14 15:58	
Silver	ug/L	ND	7.0	03/28/14 15:58	
Thallium	ug/L	ND	20.0	03/28/14 15:58	
Zinc	ug/L	ND	50.0	03/28/14 15:58	

LABORATORY CONTROL SAMPLE: 1350805

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	999	100	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1000	100	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	526	105	85-115	
Thallium	ug/L	1000	1050	105	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350806 1350807

Parameter	Units	60165454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	1150	10000	10000	12300	12100	112	109	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350806 1350807

Parameter	Units	60165454001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1020	103	102	70-130	2	7	
Arsenic	ug/L	58.9	1000	1000	1080	1070	102	101	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	988	978	99	98	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium	ug/L	18.3	1000	1000	967	960	95	94	70-130	1	10	
Cobalt	ug/L	5.7	1000	1000	994	983	99	98	70-130	1	6	
Copper	ug/L	36.7	1000	1000	1060	1050	103	102	70-130	1	11	
Iron	ug/L	57900	10000	10000	66500	65400	86	76	70-130	2	10	
Lead	ug/L	14.3	1000	1000	974	959	96	94	70-130	2	10	
Nickel	ug/L	16.8	1000	1000	1000	992	98	98	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1040	105	104	70-130	1	10	
Silver	ug/L	ND	500	500	520	515	104	103	70-130	1	10	
Thallium	ug/L	ND	1000	1000	944	932	94	93	70-130	1	6	
Zinc	ug/L	641	1000	1000	1570	1560	93	92	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: MPRP/26616
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165612001

METHOD BLANK: 1350512
Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	03/27/14 13:29	
Antimony, Dissolved	ug/L	ND	10.0	03/27/14 13:29	
Arsenic, Dissolved	ug/L	ND	10.0	03/27/14 13:29	
Beryllium, Dissolved	ug/L	ND	1.0	03/27/14 13:29	
Cadmium, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Chromium, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Cobalt, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Copper, Dissolved	ug/L	ND	10.0	03/27/14 13:29	
Iron, Dissolved	ug/L	ND	50.0	03/27/14 13:29	
Lead, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Nickel, Dissolved	ug/L	ND	5.0	03/27/14 13:29	
Selenium, Dissolved	ug/L	ND	15.0	03/27/14 13:29	
Silver, Dissolved	ug/L	ND	7.0	03/27/14 13:29	
Thallium, Dissolved	ug/L	ND	20.0	03/27/14 13:29	
Zinc, Dissolved	ug/L	ND	50.0	03/27/14 13:29	

LABORATORY CONTROL SAMPLE: 1350513

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	8750	87	85-115	
Antimony, Dissolved	ug/L	1000	889	89	85-115	
Arsenic, Dissolved	ug/L	1000	880	88	85-115	
Beryllium, Dissolved	ug/L	1000	884	88	85-115	
Cadmium, Dissolved	ug/L	1000	879	88	85-115	
Chromium, Dissolved	ug/L	1000	860	86	85-115	
Cobalt, Dissolved	ug/L	1000	892	89	85-115	
Copper, Dissolved	ug/L	1000	886	89	85-115	
Iron, Dissolved	ug/L	10000	8760	88	85-115	
Lead, Dissolved	ug/L	1000	898	90	85-115	
Nickel, Dissolved	ug/L	1000	906	91	85-115	
Selenium, Dissolved	ug/L	1000	876	88	85-115	
Silver, Dissolved	ug/L	500	446	89	85-115	
Thallium, Dissolved	ug/L	1000	902	90	85-115	
Zinc, Dissolved	ug/L	1000	872	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350514 1350515

Parameter	Units	60165527001 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	2420	15000	15000	17100	17800	98	103	70-130	4	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1350514 1350515

Parameter	Units	60165527001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	64.4	1500	1500	1650	1640	106	105	70-130	1	7	
Arsenic, Dissolved	ug/L	841	1500	1500	2440	2630	107	119	70-130	8	10	
Beryllium, Dissolved	ug/L	ND	1500	1500	1440	1430	96	95	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1500	1500	1570	1580	104	104	70-130	1	10	
Chromium, Dissolved	ug/L	182	1500	1500	1550	1580	91	93	70-130	2	10	
Cobalt, Dissolved	ug/L	26.4	1500	1500	1450	1440	95	94	70-130	0	6	
Copper, Dissolved	ug/L	ND	1500	1500	1660	1660	108	108	70-130	0	11	
Iron, Dissolved	ug/L	546000	15000	15000	564000	657000	123	743	70-130	15	10	M1,R1
Lead, Dissolved	ug/L	82.2	1500	1500	1440	1440	90	90	70-130	0	10	
Nickel, Dissolved	ug/L	78.8	1500	1500	1500	1500	95	95	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1500	1500	1800	1860	117	121	70-130	3	10	
Silver, Dissolved	ug/L	ND	750	750	826	845	107	109	70-130	2	10	
Thallium, Dissolved	ug/L	ND	1500	1500	1230	1220	82	81	70-130	1	6	
Zinc, Dissolved	ug/L	3670	1500	1500	5120	5790	97	141	70-130	12	11	M1,R1

MATRIX SPIKE SAMPLE: 1350516

Parameter	Units	60165555002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	9150	91	70-130	
Antimony, Dissolved	ug/L	ND	1000	934	93	70-130	
Arsenic, Dissolved	ug/L	3.9J	1000	908	90	70-130	
Beryllium, Dissolved	ug/L	ND	1000	922	92	70-130	
Cadmium, Dissolved	ug/L	ND	1000	927	93	70-130	
Chromium, Dissolved	ug/L	ND	1000	887	89	70-130	
Cobalt, Dissolved	ug/L	ND	1000	918	92	70-130	
Copper, Dissolved	ug/L	2.0J	1000	947	95	70-130	
Iron, Dissolved	ug/L	ND	10000	9010	90	70-130	
Lead, Dissolved	ug/L	ND	1000	922	92	70-130	
Nickel, Dissolved	ug/L	ND	1000	933	93	70-130	
Selenium, Dissolved	ug/L	ND	1000	920	92	70-130	
Silver, Dissolved	ug/L	ND	500	478	95	70-130	
Thallium, Dissolved	ug/L	ND	1000	936	94	70-130	
Zinc, Dissolved	ug/L	ND	1000	909	90	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: MSV/60388 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165612001

METHOD BLANK: 1351614 | Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/28/14 14:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/28/14 14:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/28/14 14:19	
1,2-Dichloroethane	ug/L	ND	1.0	03/28/14 14:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/28/14 14:19	
2-Butanone (MEK)	ug/L	ND	10.0	03/28/14 14:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/28/14 14:19	N2
Acetone	ug/L	ND	10.0	03/28/14 14:19	N2
Benzene	ug/L	ND	1.0	03/28/14 14:19	
Bromodichloromethane	ug/L	ND	1.0	03/28/14 14:19	
Bromoform	ug/L	ND	1.0	03/28/14 14:19	
Bromomethane	ug/L	ND	5.0	03/28/14 14:19	
Carbon tetrachloride	ug/L	ND	1.0	03/28/14 14:19	
Chloroethane	ug/L	ND	1.0	03/28/14 14:19	
Chloroform	ug/L	ND	1.0	03/28/14 14:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/28/14 14:19	N2
Ethylbenzene	ug/L	ND	1.0	03/28/14 14:19	
Methylene chloride	ug/L	ND	1.0	03/28/14 14:19	
Tetrachloroethene	ug/L	ND	1.0	03/28/14 14:19	
Toluene	ug/L	ND	1.0	03/28/14 14:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/28/14 14:19	
Trichloroethene	ug/L	ND	1.0	03/28/14 14:19	
Vinyl chloride	ug/L	ND	1.0	03/28/14 14:19	
Xylene (Total)	ug/L	ND	3.0	03/28/14 14:19	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	03/28/14 14:19	
4-Bromofluorobenzene (S)	%	101	80-120	03/28/14 14:19	
Toluene-d8 (S)	%	100	80-120	03/28/14 14:19	

LABORATORY CONTROL SAMPLE: 1351615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.9	94	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.5	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.4	97	67-124	
1,2-Dichloroethane	ug/L	20	19.2	96	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	96	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.2	96	59-131	N2
Acetone	ug/L	100	111	111	38-134	N2
Benzene	ug/L	20	18.6	93	75-120	
Bromodichloromethane	ug/L	20	19.4	97	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

LABORATORY CONTROL SAMPLE: 1351615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.5	97	65-127	
Bromomethane	ug/L	20	20.8	104	13-157	
Carbon tetrachloride	ug/L	20	19.2	96	70-131	
Chloroethane	ug/L	20	20.4	102	47-133	
Chloroform	ug/L	20	18.3	91	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.3	97	68-127	N2
Ethylbenzene	ug/L	20	20.3	101	74-122	
Methylene chloride	ug/L	20	18.5	93	64-129	
Tetrachloroethene	ug/L	20	18.6	93	73-125	
Toluene	ug/L	20	19.0	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	21.8	109	43-129	
Xylene (Total)	ug/L	60	60.7	101	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1351616

Parameter	Units	60165612001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4140	103	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4030	101	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3990	100	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3870	97	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3950	96	33-140	
2-Butanone (MEK)	ug/L	89700	20000	119000	148	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	2330	20000	22100	99	40-160	N2
Acetone	ug/L	177000	20000	194000	86	10-160	N2
Benzene	ug/L	ND	4000	3730	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3850	96	35-142	
Bromoform	ug/L	ND	4000	4080	102	45-142	
Bromomethane	ug/L	ND	4000	4130	103	10-158	
Carbon tetrachloride	ug/L	ND	4000	4410	110	70-140	
Chloroethane	ug/L	ND	4000	4030	101	19-152	
Chloroform	ug/L	ND	4000	3800	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3860	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	4210	105	40-142	
Methylene chloride	ug/L	ND	4000	3610	88	31-144	
Tetrachloroethene	ug/L	ND	4000	4060	102	64-148	
Toluene	ug/L	ND	4000	3890	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3780	94	54-151	
Trichloroethene	ug/L	ND	4000	4070	102	71-149	
Vinyl chloride	ug/L	ND	4000	4400	110	22-146	
Xylene (Total)	ug/L	ND	12000	12700	106	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

MATRIX SPIKE SAMPLE: 1351616

Parameter	Units	60165612001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: MSV/60447
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60165612002

METHOD BLANK: 1352967
Matrix: Water
Associated Lab Samples: 60165612002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/31/14 13:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,2-Dichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/31/14 13:09	
2-Butanone (MEK)	ug/L	ND	10.0	03/31/14 13:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/31/14 13:09	N2
Acetone	ug/L	ND	10.0	03/31/14 13:09	N2
Benzene	ug/L	ND	1.0	03/31/14 13:09	
Bromodichloromethane	ug/L	ND	1.0	03/31/14 13:09	
Bromoform	ug/L	ND	1.0	03/31/14 13:09	
Bromomethane	ug/L	ND	5.0	03/31/14 13:09	
Carbon tetrachloride	ug/L	ND	1.0	03/31/14 13:09	
Chloroethane	ug/L	ND	1.0	03/31/14 13:09	
Chloroform	ug/L	ND	1.0	03/31/14 13:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/31/14 13:09	N2
Ethylbenzene	ug/L	ND	1.0	03/31/14 13:09	
Methylene chloride	ug/L	ND	1.0	03/31/14 13:09	
Tetrachloroethene	ug/L	ND	1.0	03/31/14 13:09	
Toluene	ug/L	ND	1.0	03/31/14 13:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/31/14 13:09	
Trichloroethene	ug/L	ND	1.0	03/31/14 13:09	
Vinyl chloride	ug/L	ND	1.0	03/31/14 13:09	
Xylene (Total)	ug/L	ND	3.0	03/31/14 13:09	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/31/14 13:09	
4-Bromofluorobenzene (S)	%	105	80-120	03/31/14 13:09	
Toluene-d8 (S)	%	98	80-120	03/31/14 13:09	

LABORATORY CONTROL SAMPLE: 1352968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.9	89	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.5	113	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.9	100	67-124	
1,2-Dichloroethane	ug/L	20	18.4	92	70-126	
1,4-Dichlorobenzene	ug/L	20	20.7	103	74-120	
2-Butanone (MEK)	ug/L	100	136	136	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	59-131	N2
Acetone	ug/L	100	172	172	38-134	L0,N2
Benzene	ug/L	20	17.5	87	75-120	
Bromodichloromethane	ug/L	20	17.5	87	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

LABORATORY CONTROL SAMPLE: 1352968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.9	100	65-127	
Bromomethane	ug/L	20	9.1	46	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	18.0	90	47-133	
Chloroform	ug/L	20	17.2	86	65-127	
cis-1,2-Dichloroethene	ug/L	20	17.8	89	68-127	N2
Ethylbenzene	ug/L	20	20.3	102	74-122	
Methylene chloride	ug/L	20	16.9	84	64-129	
Tetrachloroethene	ug/L	20	19.1	95	73-125	
Toluene	ug/L	20	18.0	90	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.1	85	66-129	
Trichloroethene	ug/L	20	17.9	90	71-123	
Vinyl chloride	ug/L	20	17.2	86	43-129	
Xylene (Total)	ug/L	60	61.5	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1352969

Parameter	Units	60165927001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	5060	127	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	5650	141	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4750	119	52-143	
1,2-Dichloroethane	ug/L	ND	4000	4800	120	49-144	
1,4-Dichlorobenzene	ug/L	2680	4000	7190	113	33-140	
2-Butanone (MEK)	ug/L	117000	20000	138000	105	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	2270	20000	27600	127	40-160	N2
Acetone	ug/L	215000	20000	251000	58	10-160	N2
Benzene	ug/L	ND	4000	4700	117	37-151	
Bromodichloromethane	ug/L	ND	4000	4510	113	35-142	
Bromoform	ug/L	ND	4000	4670	117	45-142	
Bromomethane	ug/L	ND	4000	2430	61	10-158	
Carbon tetrachloride	ug/L	ND	4000	5350	134	70-140	
Chloroethane	ug/L	ND	4000	5040	126	19-152	
Chloroform	ug/L	ND	4000	4580	114	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4890	122	34-147	N2
Ethylbenzene	ug/L	205	4000	5230	126	40-142	
Methylene chloride	ug/L	ND	4000	4580	114	31-144	
Tetrachloroethene	ug/L	ND	4000	4830	121	64-148	
Toluene	ug/L	ND	4000	4840	120	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4870	122	54-151	
Trichloroethene	ug/L	ND	4000	4850	121	71-149	
Vinyl chloride	ug/L	ND	4000	5200	130	22-146	
Xylene (Total)	ug/L	986	12000	15800	123	37-144	N2
1,2-Dichloroethane-d4 (S)	%				118	80-120	
4-Bromofluorobenzene (S)	%				105	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

MATRIX SPIKE SAMPLE: 1352969

Parameter	Units	60165927001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: OEXT/43367 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165612001

METHOD BLANK: 1350895 | Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/28/14 19:33	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/28/14 19:33	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/28/14 19:33	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/28/14 19:33	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/28/14 19:33	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/28/14 19:33	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/28/14 19:33	
Hexachloroethane	ug/L	ND	5.0	03/28/14 19:33	
Naphthalene	ug/L	ND	5.0	03/28/14 19:33	
Nitrobenzene	ug/L	ND	5.0	03/28/14 19:33	
Pentachlorophenol	ug/L	ND	5.0	03/28/14 19:33	
Phenol	ug/L	ND	5.0	03/28/14 19:33	
2,4,6-Tribromophenol (S)	%	89	39-120	03/28/14 19:33	
2-Fluorobiphenyl (S)	%	90	39-120	03/28/14 19:33	
2-Fluorophenol (S)	%	46	17-120	03/28/14 19:33	
Nitrobenzene-d5 (S)	%	89	33-120	03/28/14 19:33	
Phenol-d6 (S)	%	29	11-120	03/28/14 19:33	
Terphenyl-d14 (S)	%	95	45-120	03/28/14 19:33	

LABORATORY CONTROL SAMPLE: 1350896

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.3	89	46-120	
2,4,6-Trichlorophenol	ug/L	50	45.4	91	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.4	71	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.9	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	54.4	109	40-133	
Hexachloro-1,3-butadiene	ug/L	50	43.2	86	44-116	
Hexachlorocyclopentadiene	ug/L	100	75.3	75	24-120	
Hexachloroethane	ug/L	50	40.9	82	43-113	
Naphthalene	ug/L	50	44.4	89	48-120	
Nitrobenzene	ug/L	50	45.2	90	48-120	
Pentachlorophenol	ug/L	50	48.4	97	47-120	
Phenol	ug/L	50	16.3	33	16-112	
2,4,6-Tribromophenol (S)	%			99	39-120	
2-Fluorobiphenyl (S)	%			91	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			92	33-120	
Phenol-d6 (S)	%			31	11-120	
Terphenyl-d14 (S)	%			99	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

MATRIX SPIKE SAMPLE: 1350898

Parameter	Units	60165612001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4330	87	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	5460	109	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4880	98	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7060	5000	10600	70	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	6750	135	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	4330	87	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8890	89	11-120	
Hexachloroethane	ug/L	ND	5000	4340	87	40-113	
Naphthalene	ug/L	ND	5000	4720	89	45-120	
Nitrobenzene	ug/L	ND	5000	4650	93	38-120	
Pentachlorophenol	ug/L	ND	5000	6030	121	43-135	
Phenol	ug/L	12100	5000	14100	40	13-112	
2,4,6-Tribromophenol (S)	%				118	39-120	
2-Fluorobiphenyl (S)	%				98	39-120	
2-Fluorophenol (S)	%				51	17-120	
Nitrobenzene-d5 (S)	%				118	33-120	
Phenol-d6 (S)	%				37	11-120	
Terphenyl-d14 (S)	%				107	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: WET/47048 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165612001

METHOD BLANK: 1353766 | Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	04/02/14 07:49	

LABORATORY CONTROL SAMPLE: 1353767

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.7	104	78-114	

MATRIX SPIKE SAMPLE: 1353769

Parameter	Units	60165151003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	20.2	41.7	54.7	83	78-114	

SAMPLE DUPLICATE: 1353768

Parameter	Units	60165151002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	51.0	62.5	20	18	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: WET/47062 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165612001

METHOD BLANK: 1354118 | Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	04/02/14 11:43	

LABORATORY CONTROL SAMPLE: 1354119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.5	112	64-132	

MATRIX SPIKE SAMPLE: 1354121

Parameter	Units	60165929001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	21.7	104	64-132	

SAMPLE DUPLICATE: 1354120

Parameter	Units	60165151002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.2J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: WET/46959 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165612001

METHOD BLANK: 1351366 | Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	03/28/14 12:32	

SAMPLE DUPLICATE: 1351367

Parameter	Units	60165612001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2560	1940	28	10	D6

SAMPLE DUPLICATE: 1351368

Parameter	Units	60165622003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	410	380	8	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: WET/46978
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165612001

SAMPLE DUPLICATE: 1351768

Parameter	Units	60165641001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	4.4	4.4	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: WET/46914 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165612001

METHOD BLANK: 1350328 | Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	03/31/14 14:25	

LABORATORY CONTROL SAMPLE: 1350329

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	187	94	85-115	

SAMPLE DUPLICATE: 1350330

Parameter	Units	60165625002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L		ND			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: WETA/28781
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165612001

METHOD BLANK: 1350604
Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	03/27/14 09:53	

LABORATORY CONTROL SAMPLE: 1350605

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

MATRIX SPIKE SAMPLE: 1350606

Parameter	Units	60165137001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	115	90-110	M1

MATRIX SPIKE SAMPLE: 1350607

Parameter	Units	60165148001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.22	2	2.2	101	90-110	

SAMPLE DUPLICATE: 1350608

Parameter	Units	60165246001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

QC Batch: WETA/28821 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165612001

METHOD BLANK: 1352625 | Matrix: Water
Associated Lab Samples: 60165612001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	04/01/14 07:17	

LABORATORY CONTROL SAMPLE: 1352626

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: 1352627

Parameter	Units	60165922001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	31.7	50	75.5	87	90-110	M1

MATRIX SPIKE SAMPLE: 1352629

Parameter	Units	60165262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	929	500	1400	94	90-110	

SAMPLE DUPLICATE: 1352628

Parameter	Units	60165194001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		25	

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QUALIFIERS

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

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.
IS	The internal standard response is below criteria. Results may be biased high.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 327-MSD
Pace Project No.: 60165612

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165612001	**327-MSD**	EPA 200.7	MPRP/26630	EPA 200.7	ICP/20250
60165612001	**327-MSD**	EPA 200.7	MPRP/26616	EPA 200.7	ICP/20247
60165612001	**327-MSD**	EPA 245.1	MERP/8266	EPA 245.1	MERC/8220
60165612001	**327-MSD**	EPA 245.1	MERP/8264	EPA 245.1	MERC/8219
60165612001	**327-MSD**	EPA 625	OEXT/43367	EPA 625	MSSV/13833
60165612001	**327-MSD**	EPA 624 Low	MSV/60388		
60165612002	**TRIP BLANK**	EPA 624 Low	MSV/60447		
60165612001	**327-MSD**	EPA 1664A	WET/47048		
60165612001	**327-MSD**	EPA 1664A	WET/47062		
60165612001	**327-MSD**	SM 2540D	WET/46959		
60165612001	**327-MSD**	SM 4500-H+B	WET/46978		
60165612001	**327-MSD**	SM 5210B	WET/46914	SM 5210B	WET/47024
60165612001	**327-MSD**	EPA 350.1	WETA/28781		
60165612001	**327-MSD**	EPA 410.4	WETA/28821		

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Sample Condition Upon Receipt

WO#: 60165612

60165612

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 ☑ zpl

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: pv 3/26/14

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: 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 RP3S. pH 6.0/3.0
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: 12522/12513
Trip Blank present: Pace Trip Blank lot # (if purchased): 6/27/14-3	☑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: 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: 3/26/14

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.	PO 3727110	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 #:	6787 LINE 2

Regulatory Agency	
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	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)	6016562
1	327-MSD 2A6YU 1BP3U	OT	G	3/25/14	745	3/26/14			14	10	4	1	0	1BP3N 4.0		1BP3S 5.0			X	X	X	X	X	X	X	X	X	X	X		2BP2U 5D6YU
2	TRIP BLANK								2	2																X					2D6YU
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																															

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299		3/25/14	2:40		3/25/14	2:40				
SITE ADDRESS: BRIDGETON LF				HASI	3/26/14	0650	5.8	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: CRAIG HEGNA					
SIGNATURE of SAMPLER:	DATE Signed: 3.25.14				

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April 04, 2014

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

RE: Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

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 316-252R8
Pace Project No.: 60165830

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165830001	**316-252R8**	Water	03/27/14 11:22	03/28/14 01:15
60165830002	**TRIP BLANK**	Water	03/27/14 10:22	03/28/14 01:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165830001	**316-252R8**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	NDJ	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	RAH	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60165830002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

Sample: 316-252R8 **Lab ID: 60165830001** Collected: 03/27/14 11:22 Received: 03/28/14 01:15 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	**17200**	ug/L	750	2	04/01/14 16:30	04/03/14 13:24	7429-90-5	
Antimony	**73.4**	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:21	7440-36-0	
Arsenic	**1150**	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:21	7440-38-2	
Beryllium	ND	ug/L	5.0	1	04/01/14 16:30	04/03/14 13:21	7440-41-7	
Cadmium	ND	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:21	7440-43-9	
Chromium	**277**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:21	7440-47-3	
Cobalt	**47.1**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:21	7440-48-4	
Copper	**109**	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:21	7440-50-8	
Iron	**988000**	ug/L	250	1	04/01/14 16:30	04/03/14 13:21	7439-89-6	
Lead	**273**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:21	7439-92-1	
Nickel	**132**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:21	7440-02-0	
Selenium	ND	ug/L	75.0	1	04/01/14 16:30	04/03/14 13:21	7782-49-2	
Silver	ND	ug/L	35.0	1	04/01/14 16:30	04/03/14 13:21	7440-22-4	
Thallium	ND	ug/L	100	1	04/01/14 16:30	04/03/14 13:21	7440-28-0	
Zinc	**5250**	ug/L	500	2	04/01/14 16:30	04/03/14 13:24	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1310**	ug/L	750	2	04/03/14 12:10	04/03/14 18:49	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	04/03/14 12:10	04/03/14 18:49	7440-36-0	
Arsenic, Dissolved	**758**	ug/L	50.0	1	04/03/14 12:10	04/03/14 18:45	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	04/03/14 12:10	04/03/14 18:45	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:45	7440-43-9	
Chromium, Dissolved	**158**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:45	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:45	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	04/03/14 12:10	04/03/14 18:45	7440-50-8	
Iron, Dissolved	**467000**	ug/L	250	1	04/03/14 12:10	04/03/14 18:45	7439-89-6	
Lead, Dissolved	**98.7**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:45	7439-92-1	
Nickel, Dissolved	**78.2**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:45	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	04/03/14 12:10	04/03/14 18:45	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	04/03/14 12:10	04/03/14 18:45	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	04/03/14 12:10	04/03/14 18:45	7440-28-0	
Zinc, Dissolved	**3280**	ug/L	500	2	04/03/14 12:10	04/03/14 18:49	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**387**	ug/L	12.0	2	03/31/14 10:00	03/31/14 15:03	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/03/14 12:50	04/04/14 10:04	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	12500	5	03/28/14 00:00	03/31/14 14:43	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	77-47-4	
Hexachloroethane	ND	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	5000	5	03/28/14 00:00	03/31/14 14:43	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**11700**	ug/L	10000	5	03/28/14 00:00	03/31/14 14:43		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

Sample: 316-252R8 **Lab ID: 60165830001** Collected: 03/27/14 11:22 Received: 03/28/14 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**14700**	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	91-20-3	
Nitrobenzene	ND	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	98-95-3	
Pentachlorophenol	ND	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	87-86-5	
Phenol	**15300**	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	2500	5	03/28/14 00:00	03/31/14 14:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	106	%	33-120	5	03/28/14 00:00	03/31/14 14:43	4165-60-0	
2-Fluorobiphenyl (S)	82	%	39-120	5	03/28/14 00:00	03/31/14 14:43	321-60-8	
Terphenyl-d14 (S)	92	%	45-120	5	03/28/14 00:00	03/31/14 14:43	1718-51-0	
Phenol-d6 (S)	40	%	11-120	5	03/28/14 00:00	03/31/14 14:43	13127-88-3	
2-Fluorophenol (S)	55	%	17-120	5	03/28/14 00:00	03/31/14 14:43	367-12-4	
2,4,6-Tribromophenol (S)	96	%	39-120	5	03/28/14 00:00	03/31/14 14:43	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**234000**	ug/L	2500	250		03/31/14 15:46	67-64-1	L1,N2
Benzene	ND	ug/L	250	250		03/31/14 15:46	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		03/31/14 15:46	75-27-4	
Bromoform	ND	ug/L	250	250		03/31/14 15:46	75-25-2	
Bromomethane	ND	ug/L	1250	250		03/31/14 15:46	74-83-9	
2-Butanone (MEK)	**113000**	ug/L	2500	250		03/31/14 15:46	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		03/31/14 15:46	56-23-5	
Chloroethane	ND	ug/L	250	250		03/31/14 15:46	75-00-3	
Chloroform	ND	ug/L	250	250		03/31/14 15:46	67-66-3	
1,4-Dichlorobenzene	**16200**	ug/L	250	250		03/31/14 15:46	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		03/31/14 15:46	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		03/31/14 15:46	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		03/31/14 15:46	156-60-5	
Ethylbenzene	**3750**	ug/L	250	250		03/31/14 15:46	100-41-4	
Methylene chloride	ND	ug/L	250	250		03/31/14 15:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	**4510**	ug/L	2500	250		03/31/14 15:46	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		03/31/14 15:46	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		03/31/14 15:46	127-18-4	
Toluene	**627**	ug/L	250	250		03/31/14 15:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		03/31/14 15:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		03/31/14 15:46	79-00-5	
Trichloroethene	ND	ug/L	250	250		03/31/14 15:46	79-01-6	
Vinyl chloride	ND	ug/L	250	250		03/31/14 15:46	75-01-4	
Xylene (Total)	**14000**	ug/L	750	250		03/31/14 15:46	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	116	%	80-120	250		03/31/14 15:46	460-00-4	
Toluene-d8 (S)	100	%	80-120	250		03/31/14 15:46	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	80-120	250		03/31/14 15:46	17060-07-0	
Preservation pH	**6.0**		1.0	250		03/31/14 15:46		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**10200**	mg/L	5.0	1		04/03/14 06:55		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

Sample: 316-252R8 **Lab ID: 60165830001** Collected: 03/27/14 11:22 Received: 03/28/14 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**11.5**	mg/L	5.0	1		04/04/14 11:14		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**6740**	mg/L	5.0	1		04/02/14 09:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		03/31/14 12:22		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34400**	mg/L	2.0	1	03/28/14 16:39	04/02/14 18:59		B3
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**588**	mg/L	20.0	200		04/01/14 18:01	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**85800**	mg/L	10000	1000		04/03/14 14:55		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

Sample: TRIP BLANK **Lab ID: 60165830002** Collected: 03/27/14 10:22 Received: 03/28/14 01:15 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		03/31/14 14:59	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		03/31/14 14:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		03/31/14 14:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		03/31/14 14:59	75-25-2	
Bromomethane	ND	ug/L	5.0	1		03/31/14 14:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		03/31/14 14:59	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		03/31/14 14:59	56-23-5	
Chloroethane	ND	ug/L	1.0	1		03/31/14 14:59	75-00-3	
Chloroform	ND	ug/L	1.0	1		03/31/14 14:59	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		03/31/14 14:59	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		03/31/14 14:59	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		03/31/14 14:59	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		03/31/14 14:59	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		03/31/14 14:59	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		03/31/14 14:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		03/31/14 14:59	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		03/31/14 14:59	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		03/31/14 14:59	127-18-4	
Toluene	ND	ug/L	1.0	1		03/31/14 14:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		03/31/14 14:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		03/31/14 14:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		03/31/14 14:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		03/31/14 14:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		03/31/14 14:59	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		03/31/14 14:59	460-00-4	IS,P2
Toluene-d8 (S)	94	%	80-120	1		03/31/14 14:59	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		03/31/14 14:59	17060-07-0	
Preservation pH	**6.0**		1.0	1		03/31/14 14:59		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: MERP/8266 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165830001

METHOD BLANK: 1352721 | Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/31/14 13:27	

LABORATORY CONTROL SAMPLE: 1352722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352723 1352724

Parameter	Units	60165524005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.00048 mg/L	5	5	3.9	4.3	69	76	70-130	8	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: MERP/8279
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165830001

METHOD BLANK: 1354745
Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	04/04/14 09:55	

LABORATORY CONTROL SAMPLE: 1354746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354747 1354748

Parameter	Units	60165978001 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	5	5	3.8	4.2	77	85	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: MPRP/26694
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165830001

METHOD BLANK: 1353995
Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	04/03/14 13:13	
Antimony	ug/L	ND	10.0	04/03/14 13:13	
Arsenic	ug/L	ND	10.0	04/03/14 13:13	
Beryllium	ug/L	ND	1.0	04/03/14 13:13	
Cadmium	ug/L	ND	5.0	04/03/14 13:13	
Chromium	ug/L	ND	5.0	04/03/14 13:13	
Cobalt	ug/L	ND	5.0	04/03/14 13:13	
Copper	ug/L	ND	10.0	04/03/14 13:13	
Iron	ug/L	ND	50.0	04/03/14 13:13	
Lead	ug/L	ND	5.0	04/03/14 13:13	
Nickel	ug/L	ND	5.0	04/03/14 13:13	
Selenium	ug/L	ND	15.0	04/03/14 13:13	
Silver	ug/L	ND	7.0	04/03/14 13:13	
Thallium	ug/L	ND	20.0	04/03/14 13:13	
Zinc	ug/L	ND	50.0	04/03/14 13:13	

LABORATORY CONTROL SAMPLE: 1353996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	50000	49000	98	85-115	
Antimony	ug/L	5000	5060	101	85-115	
Arsenic	ug/L	5000	4890	98	85-115	
Beryllium	ug/L	5000	4960	99	85-115	
Cadmium	ug/L	5000	4980	100	85-115	
Chromium	ug/L	5000	4810	96	85-115	
Cobalt	ug/L	5000	5060	101	85-115	
Copper	ug/L	5000	5080	102	85-115	
Iron	ug/L	50000	49500	99	85-115	
Lead	ug/L	5000	5100	102	85-115	
Nickel	ug/L	5000	5080	102	85-115	
Selenium	ug/L	5000	5070	101	85-115	
Silver	ug/L	2500	2460	98	85-115	
Thallium	ug/L	5000	4980	100	85-115	
Zinc	ug/L	5000	4950	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1353997 1353998

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5210	50000	50000	ND	58000	-10	106	70-130		8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1353997 1353998

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5480	5450	109	108	70-130	1	7	
Arsenic	ug/L	1090	5000	5000	6730	6740	113	113	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4790	4780	96	96	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5280	106	105	70-130	1	10	
Chromium	ug/L	233	5000	5000	4790	4690	91	89	70-130	2	10	
Cobalt	ug/L	30.7	5000	5000	4790	4730	95	94	70-130	1	6	
Copper	ug/L	ND	5000	5000	5380	5280	107	105	70-130	2	11	
Iron	ug/L	798000	50000	50000	826000	854000	56	113	70-130	3	10	M1
Lead	ug/L	118	5000	5000	4650	4590	91	89	70-130	1	10	
Nickel	ug/L	98.2	5000	5000	4800	4740	94	93	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6240	6180	125	124	70-130	1	10	
Silver	ug/L	ND	2500	2500	2630	2570	105	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4340	4310	87	86	70-130	1	6	
Zinc	ug/L	5090	5000	5000	ND	9680	-102	92	70-130		11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: MPRP/26706
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165830001

METHOD BLANK: 1354584
Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	04/03/14 18:39	
Antimony, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Arsenic, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Beryllium, Dissolved	ug/L	ND	1.0	04/03/14 18:39	
Cadmium, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Chromium, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Cobalt, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Copper, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Iron, Dissolved	ug/L	ND	50.0	04/03/14 18:39	
Lead, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Nickel, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Selenium, Dissolved	ug/L	ND	15.0	04/03/14 18:39	
Silver, Dissolved	ug/L	ND	7.0	04/03/14 18:39	
Thallium, Dissolved	ug/L	ND	20.0	04/03/14 18:39	
Zinc, Dissolved	ug/L	ND	50.0	04/03/14 18:39	

LABORATORY CONTROL SAMPLE: 1354585

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	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	990	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	1030	103	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	500	100	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354586 1354587

Parameter	Units	60165978001 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	1450	50000	50000	51200	50100	100	97	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354586 1354587

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5050	5020	99	98	70-130	1	7	
Arsenic, Dissolved	ug/L	888	5000	5000	6200	5910	106	100	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4740	4670	95	93	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5110	4990	102	100	70-130	2	10	
Chromium, Dissolved	ug/L	205	5000	5000	5040	4910	97	94	70-130	3	10	
Cobalt, Dissolved	ug/L	26.5	5000	5000	4760	4660	95	93	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5180	5100	104	102	70-130	2	11	
Iron, Dissolved	ug/L	555000	50000	50000	605000	532000	100	-46	70-130	13	10	M1,R1
Lead, Dissolved	ug/L	80.0	5000	5000	4620	4550	91	89	70-130	1	10	
Nickel, Dissolved	ug/L	87.4	5000	5000	4820	4780	95	94	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5980	5820	119	116	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2580	105	103	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4180	4120	84	82	70-130	1	6	
Zinc, Dissolved	ug/L	4640	5000	5000	9380	8870	95	84	70-130	6	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: MSV/60447 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165830001, 60165830002

METHOD BLANK: 1352967 | Matrix: Water
Associated Lab Samples: 60165830001, 60165830002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/31/14 13:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,2-Dichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/31/14 13:09	
2-Butanone (MEK)	ug/L	ND	10.0	03/31/14 13:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/31/14 13:09	N2
Acetone	ug/L	ND	10.0	03/31/14 13:09	N2
Benzene	ug/L	ND	1.0	03/31/14 13:09	
Bromodichloromethane	ug/L	ND	1.0	03/31/14 13:09	
Bromoform	ug/L	ND	1.0	03/31/14 13:09	
Bromomethane	ug/L	ND	5.0	03/31/14 13:09	
Carbon tetrachloride	ug/L	ND	1.0	03/31/14 13:09	
Chloroethane	ug/L	ND	1.0	03/31/14 13:09	
Chloroform	ug/L	ND	1.0	03/31/14 13:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/31/14 13:09	N2
Ethylbenzene	ug/L	ND	1.0	03/31/14 13:09	
Methylene chloride	ug/L	ND	1.0	03/31/14 13:09	
Tetrachloroethene	ug/L	ND	1.0	03/31/14 13:09	
Toluene	ug/L	ND	1.0	03/31/14 13:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/31/14 13:09	
Trichloroethene	ug/L	ND	1.0	03/31/14 13:09	
Vinyl chloride	ug/L	ND	1.0	03/31/14 13:09	
Xylene (Total)	ug/L	ND	3.0	03/31/14 13:09	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/31/14 13:09	
4-Bromofluorobenzene (S)	%	105	80-120	03/31/14 13:09	
Toluene-d8 (S)	%	98	80-120	03/31/14 13:09	

LABORATORY CONTROL SAMPLE: 1352968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.9	89	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.5	113	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.9	100	67-124	
1,2-Dichloroethane	ug/L	20	18.4	92	70-126	
1,4-Dichlorobenzene	ug/L	20	20.7	103	74-120	
2-Butanone (MEK)	ug/L	100	136	136	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	59-131	N2
Acetone	ug/L	100	172	172	38-134	L0,N2
Benzene	ug/L	20	17.5	87	75-120	
Bromodichloromethane	ug/L	20	17.5	87	68-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

LABORATORY CONTROL SAMPLE: 1352968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.9	100	65-127	
Bromomethane	ug/L	20	9.1	46	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	18.0	90	47-133	
Chloroform	ug/L	20	17.2	86	65-127	
cis-1,2-Dichloroethene	ug/L	20	17.8	89	68-127	N2
Ethylbenzene	ug/L	20	20.3	102	74-122	
Methylene chloride	ug/L	20	16.9	84	64-129	
Tetrachloroethene	ug/L	20	19.1	95	73-125	
Toluene	ug/L	20	18.0	90	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.1	85	66-129	
Trichloroethene	ug/L	20	17.9	90	71-123	
Vinyl chloride	ug/L	20	17.2	86	43-129	
Xylene (Total)	ug/L	60	61.5	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1352969

Parameter	Units	60165927001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	5060	127	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	5650	141	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4750	119	52-143	
1,2-Dichloroethane	ug/L	ND	4000	4800	120	49-144	
1,4-Dichlorobenzene	ug/L	2680	4000	7190	113	33-140	
2-Butanone (MEK)	ug/L	117000	20000	138000	105	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	2270	20000	27600	127	40-160	N2
Acetone	ug/L	215000	20000	251000	58	10-160	N2
Benzene	ug/L	ND	4000	4700	117	37-151	
Bromodichloromethane	ug/L	ND	4000	4510	113	35-142	
Bromoform	ug/L	ND	4000	4670	117	45-142	
Bromomethane	ug/L	ND	4000	2430	61	10-158	
Carbon tetrachloride	ug/L	ND	4000	5350	134	70-140	
Chloroethane	ug/L	ND	4000	5040	126	19-152	
Chloroform	ug/L	ND	4000	4580	114	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4890	122	34-147	N2
Ethylbenzene	ug/L	205	4000	5230	126	40-142	
Methylene chloride	ug/L	ND	4000	4580	114	31-144	
Tetrachloroethene	ug/L	ND	4000	4830	121	64-148	
Toluene	ug/L	ND	4000	4840	120	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4870	122	54-151	
Trichloroethene	ug/L	ND	4000	4850	121	71-149	
Vinyl chloride	ug/L	ND	4000	5200	130	22-146	
Xylene (Total)	ug/L	986	12000	15800	123	37-144	N2
1,2-Dichloroethane-d4 (S)	%				118	80-120	
4-Bromofluorobenzene (S)	%				105	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

MATRIX SPIKE SAMPLE: 1352969

Parameter	Units	60165927001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: OEXT/43393 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165830001

METHOD BLANK: 1351779 | Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	03/29/14 11:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	03/29/14 11:51	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	03/29/14 11:51	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	03/29/14 11:51	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	03/29/14 11:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	03/29/14 11:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	03/29/14 11:51	
Hexachloroethane	ug/L	ND	5.0	03/29/14 11:51	
Naphthalene	ug/L	ND	5.0	03/29/14 11:51	
Nitrobenzene	ug/L	ND	5.0	03/29/14 11:51	
Pentachlorophenol	ug/L	ND	5.0	03/29/14 11:51	
Phenol	ug/L	ND	5.0	03/29/14 11:51	
2,4,6-Tribromophenol (S)	%	110	39-120	03/29/14 11:51	
2-Fluorobiphenyl (S)	%	102	39-120	03/29/14 11:51	
2-Fluorophenol (S)	%	53	17-120	03/29/14 11:51	
Nitrobenzene-d5 (S)	%	98	33-120	03/29/14 11:51	
Phenol-d6 (S)	%	33	11-120	03/29/14 11:51	
Terphenyl-d14 (S)	%	113	45-120	03/29/14 11:51	

LABORATORY CONTROL SAMPLE: 1351780

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.0	88	46-120	
2,4,6-Trichlorophenol	ug/L	50	48.2	96	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.2	74	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.6	67	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	53.1	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	43.0	86	44-116	
Hexachlorocyclopentadiene	ug/L	100	80.1	80	24-120	
Hexachloroethane	ug/L	50	39.9	80	43-113	
Naphthalene	ug/L	50	44.6	89	48-120	
Nitrobenzene	ug/L	50	44.4	89	48-120	
Pentachlorophenol	ug/L	50	48.9	98	47-120	
Phenol	ug/L	50	16.6	33	16-112	
2,4,6-Tribromophenol (S)	%			106	39-120	
2-Fluorobiphenyl (S)	%			93	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			91	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			96	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

MATRIX SPIKE SAMPLE: 1351781

Parameter	Units	60165750001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	19.1	38	44-120	M1
2,4,6-Trichlorophenol	ug/L	ND	50	23.8	48	50-120	M1
2-Methylphenol(o-Cresol)	ug/L	ND	50	23.5	47	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	53.3	50	70.2	34	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	15.1J	30	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	20.0	40	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	26.0	26	11-120	
Hexachloroethane	ug/L	ND	50	17.7	35	40-113	M1
Naphthalene	ug/L	ND	50	18.5	37	45-120	M1
Nitrobenzene	ug/L	ND	50	22.8	46	38-120	
Pentachlorophenol	ug/L	ND	50	23.3	47	43-135	
Phenol	ug/L	6.4	50	17.7	23	13-112	
2,4,6-Tribromophenol (S)	%				49	39-120	
2-Fluorobiphenyl (S)	%				41	39-120	
2-Fluorophenol (S)	%				29	17-120	
Nitrobenzene-d5 (S)	%				41	33-120	
Phenol-d6 (S)	%				17	11-120	
Terphenyl-d14 (S)	%				45	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: WET/47075 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165830001

METHOD BLANK: 1354439 | Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	04/03/14 06:53	

LABORATORY CONTROL SAMPLE: 1354440

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	43.1	108	78-114	

MATRIX SPIKE SAMPLE: 1354441

Parameter	Units	60165406002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	12.3	43.5	48.8	84	78-114	

SAMPLE DUPLICATE: 1354442

Parameter	Units	60165416001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	6.0	1.5J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: WET/47118 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165830001

METHOD BLANK: 1355346 | Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	04/04/14 11:14	

LABORATORY CONTROL SAMPLE: 1355347

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.6	108	64-132	

MATRIX SPIKE SAMPLE: 1355349

Parameter	Units	60165534002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.7	26.9	112	64-132	

SAMPLE DUPLICATE: 1355348

Parameter	Units	60165534001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.7J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: WET/47056 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165830001

METHOD BLANK: 1353849 | Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	04/02/14 09:13	

SAMPLE DUPLICATE: 1353850

Parameter	Units	60165819002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	10	18	10	D6

SAMPLE DUPLICATE: 1353851

Parameter	Units	60165719002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	241	253	5	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: WET/47004
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165830001

SAMPLE DUPLICATE: 1352684

Parameter	Units	60165733001 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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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: WET/46981 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165830001

METHOD BLANK: 1352085 | Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	04/02/14 18:45	

LABORATORY CONTROL SAMPLE: 1352086

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	179	91	85-115	

SAMPLE DUPLICATE: 1352087

Parameter	Units	60165876002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	2910	2910	0	17	B3

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: WETA/28841 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165830001

METHOD BLANK: 1353273 | Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	04/01/14 17:32	

LABORATORY CONTROL SAMPLE: 1353274

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

MATRIX SPIKE SAMPLE: 1353275

Parameter	Units	60165538001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.51	2	1.6	55	90-110	M1

MATRIX SPIKE SAMPLE: 1353276

Parameter	Units	60165539002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.7	2	3.3	77	90-110	M1

SAMPLE DUPLICATE: 1353277

Parameter	Units	60165593001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

QC Batch: WETA/28862 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165830001

METHOD BLANK: 1354414 | Matrix: Water
Associated Lab Samples: 60165830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	04/03/14 14:47	

LABORATORY CONTROL SAMPLE: 1354415

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.1	90	90-110	

MATRIX SPIKE SAMPLE: 1354416

Parameter	Units	60165624002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	296	100	385	89	90-110	M1

SAMPLE DUPLICATE: 1354417

Parameter	Units	60165827002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	95.8	92.4	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

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.

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ANALYTE QUALIFIERS

B3	The dissolved oxygen depletion of the dilution water blank exceeded 0.2 mg/L.
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.
IS	The internal standard response is below criteria. Results may be biased high.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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.
P2	Re-extraction or re-analysis could not be performed due to insufficient sample amount.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-252R8
Pace Project No.: 60165830

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165830001	**316-252R8**	EPA 200.7	MPRP/26694	EPA 200.7	ICP/20296
60165830001	**316-252R8**	EPA 200.7	MPRP/26706	EPA 200.7	ICP/20306
60165830001	**316-252R8**	EPA 245.1	MERP/8266	EPA 245.1	MERC/8220
60165830001	**316-252R8**	EPA 245.1	MERP/8279	EPA 245.1	MERC/8233
60165830001	**316-252R8**	EPA 625	OEXT/43393	EPA 625	MSSV/13837
60165830001	**316-252R8**	EPA 624 Low	MSV/60447		
60165830002	**TRIP BLANK**	EPA 624 Low	MSV/60447		
60165830001	**316-252R8**	EPA 1664A	WET/47075		
60165830001	**316-252R8**	EPA 1664A	WET/47118		
60165830001	**316-252R8**	SM 2540D	WET/47056		
60165830001	**316-252R8**	SM 4500-H+B	WET/47004		
60165830001	**316-252R8**	SM 5210B	WET/46981	SM 5210B	WET/47070
60165830001	**316-252R8**	EPA 350.1	WETA/28841		
60165830001	**316-252R8**	EPA 410.4	WETA/28862		

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Sample Condition Upon Receipt

WO#: 60165830

60165830

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 ☑ 2 PIL

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: PU 3/28/14

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):	☑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 + 0.8P3N. pH 6.0/4.0 Added 2.0 ml of H2SO4 + 0.8P3S. 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 PU — Lot # of added preservative 12513 12522
Trip Blank present: Pace Trip Blank lot # (if purchased): ~~0127/14-3~~ 012714-7	☑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: 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: 3/28/14

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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.	PO 3727110	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 #:	6787 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

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)	60165830
1	316-252R8 2AG44 1BP34	OT	G	3/27/14	11:22		5DG94		14	10	4	1	0	3AG35		1BP35		2--	X	X	X	X	X	X	X	X	X	X	X	1BP3M	4-0	1BP2U 1BP1U 001
2	TRIP BLANK								2	2																X						2DG94 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: 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] CSA	3-27-14	11:50	Paul Linszott	3-27-14	11:50AM				
SITE ADDRESS: BRIDGETON LF	Paul Linszott	3-27-14	~~2:52~~ pm	Benjamin Heath	3-27-14	2:52pm				
13570 ST. CHARLES ROCK RD			2:52pm	[signature] PASI	3/28/14	0115	3-8	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: CRAIG HEGNA

SIGNATURE of SAMPLER: [signature]

DATE Signed: 3-27-14

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

April 07, 2014

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

RE: Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

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 316-253
Pace Project No.: 60165927

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165927001	**316-253**	Water	03/28/14 10:20	03/29/14 00:40
60165927002	**TRIP BLANK**	Water	03/28/14 08:00	03/29/14 00:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165927001	**316-253**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	NDJ	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	NDL	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JML	1
60165927002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

Sample: 316-253 **Lab ID: 60165927001** Collected: 03/28/14 10:20 Received: 03/29/14 00:40 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	**11000**	ug/L	750	2	04/01/14 16:30	04/03/14 13:29	7429-90-5	
Antimony	**60.0**	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:26	7440-36-0	
Arsenic	**1200**	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:26	7440-38-2	
Beryllium	ND	ug/L	5.0	1	04/01/14 16:30	04/03/14 13:26	7440-41-7	
Cadmium	ND	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:26	7440-43-9	
Chromium	**276**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:26	7440-47-3	
Cobalt	**44.2**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:26	7440-48-4	
Copper	ND	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:26	7440-50-8	
Iron	**992000**	ug/L	250	1	04/01/14 16:30	04/03/14 13:26	7439-89-6	
Lead	**189**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:26	7439-92-1	
Nickel	**125**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:26	7440-02-0	
Selenium	ND	ug/L	75.0	1	04/01/14 16:30	04/03/14 13:26	7782-49-2	
Silver	ND	ug/L	35.0	1	04/01/14 16:30	04/03/14 13:26	7440-22-4	
Thallium	ND	ug/L	100	1	04/01/14 16:30	04/03/14 13:26	7440-28-0	
Zinc	**6450**	ug/L	500	2	04/01/14 16:30	04/03/14 13:29	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	04/03/14 12:10	04/03/14 18:56	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	04/03/14 12:10	04/03/14 18:56	7440-36-0	
Arsenic, Dissolved	**757**	ug/L	50.0	1	04/03/14 12:10	04/03/14 18:52	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	04/03/14 12:10	04/03/14 18:52	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:52	7440-43-9	
Chromium, Dissolved	**183**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:52	7440-47-3	
Cobalt, Dissolved	**26.0**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:52	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	04/03/14 12:10	04/03/14 18:52	7440-50-8	
Iron, Dissolved	**510000**	ug/L	250	1	04/03/14 12:10	04/03/14 18:52	7439-89-6	
Lead, Dissolved	**70.9**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:52	7439-92-1	
Nickel, Dissolved	**79.8**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:52	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	04/03/14 12:10	04/03/14 18:52	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	04/03/14 12:10	04/03/14 18:52	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	04/03/14 12:10	04/03/14 18:52	7440-28-0	
Zinc, Dissolved	**4280**	ug/L	500	2	04/03/14 12:10	04/03/14 18:56	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	03/31/14 10:00	03/31/14 14:04	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/03/14 12:50	04/04/14 10:09	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	03/31/14 00:00	04/01/14 14:32	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	03/31/14 00:00	04/01/14 14:32	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**11500**	ug/L	4000	2	03/31/14 00:00	04/01/14 14:32		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

Sample: 316-253 **Lab ID: 60165927001** Collected: 03/28/14 10:20 Received: 03/29/14 00:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**8660**	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	87-86-5	
Phenol	**14900**	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	03/31/14 00:00	04/01/14 14:32	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	187	%	33-120	2	03/31/14 00:00	04/01/14 14:32	4165-60-0	S0
2-Fluorobiphenyl (S)	88	%	39-120	2	03/31/14 00:00	04/01/14 14:32	321-60-8	
Terphenyl-d14 (S)	94	%	45-120	2	03/31/14 00:00	04/01/14 14:32	1718-51-0	
Phenol-d6 (S)	37	%	11-120	2	03/31/14 00:00	04/01/14 14:32	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	03/31/14 00:00	04/01/14 14:32	367-12-4	
2,4,6-Tribromophenol (S)	96	%	39-120	2	03/31/14 00:00	04/01/14 14:32	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**215000**	ug/L	2500	250		04/01/14 12:50	67-64-1	L1,N2
Benzene	ND	ug/L	200	200		03/31/14 16:02	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		03/31/14 16:02	75-27-4	
Bromoform	ND	ug/L	200	200		03/31/14 16:02	75-25-2	
Bromomethane	ND	ug/L	1000	200		03/31/14 16:02	74-83-9	
2-Butanone (MEK)	**117000**	ug/L	2000	200		03/31/14 16:02	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		03/31/14 16:02	56-23-5	
Chloroethane	ND	ug/L	200	200		03/31/14 16:02	75-00-3	
Chloroform	ND	ug/L	200	200		03/31/14 16:02	67-66-3	
1,4-Dichlorobenzene	**2680**	ug/L	200	200		03/31/14 16:02	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		03/31/14 16:02	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		03/31/14 16:02	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		03/31/14 16:02	156-60-5	
Ethylbenzene	**205**	ug/L	200	200		03/31/14 16:02	100-41-4	
Methylene chloride	ND	ug/L	200	200		03/31/14 16:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	**2270**	ug/L	2000	200		03/31/14 16:02	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		03/31/14 16:02	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		03/31/14 16:02	127-18-4	
Toluene	ND	ug/L	200	200		03/31/14 16:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		03/31/14 16:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		03/31/14 16:02	79-00-5	
Trichloroethene	ND	ug/L	200	200		03/31/14 16:02	79-01-6	
Vinyl chloride	ND	ug/L	200	200		03/31/14 16:02	75-01-4	
Xylene (Total)	**986**	ug/L	600	200		03/31/14 16:02	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		03/31/14 16:02	460-00-4	
Toluene-d8 (S)	99	%	80-120	200		03/31/14 16:02	2037-26-5	
1,2-Dichloroethane-d4 (S)	118	%	80-120	200		03/31/14 16:02	17060-07-0	
Preservation pH	**6.0**		1.0	200		03/31/14 16:02		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**2350**	mg/L	5.0	1		04/04/14 06:57		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

Sample: 316-253 **Lab ID: 60165927001** Collected: 03/28/14 10:20 Received: 03/29/14 00:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**17.7**	mg/L	5.0	1		04/07/14 08:31		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3400**	mg/L	5.0	1		04/03/14 12:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		04/02/14 16:35		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**27700**	mg/L	2.0	1	03/29/14 12:29	04/03/14 10:43		B3
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**594**	mg/L	20.0	200		04/02/14 19:19	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**89500**	mg/L	7500	750		04/07/14 13:12		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

Sample: TRIP BLANK **Lab ID: 60165927002** Collected: 03/28/14 08:00 Received: 03/29/14 00:40 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		04/01/14 12:00	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		04/01/14 12:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		04/01/14 12:00	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/01/14 12:00	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/01/14 12:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		04/01/14 12:00	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		04/01/14 12:00	56-23-5	
Chloroethane	ND	ug/L	1.0	1		04/01/14 12:00	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/01/14 12:00	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/01/14 12:00	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/01/14 12:00	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/01/14 12:00	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/01/14 12:00	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		04/01/14 12:00	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		04/01/14 12:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		04/01/14 12:00	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/01/14 12:00	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		04/01/14 12:00	127-18-4	
Toluene	ND	ug/L	1.0	1		04/01/14 12:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/01/14 12:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/01/14 12:00	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/01/14 12:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		04/01/14 12:00	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		04/01/14 12:00	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		04/01/14 12:00	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		04/01/14 12:00	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		04/01/14 12:00	17060-07-0	
Preservation pH	**6.0**		1.0	1		04/01/14 12:00		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: MERP/8266
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165927001

METHOD BLANK: 1352721
Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	03/31/14 13:27	

LABORATORY CONTROL SAMPLE: 1352722

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1352723 1352724

Parameter	Units	60165524005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.00048 mg/L	5	5	3.9	4.3	69	76	70-130	8	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: MERP/8279
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165927001

METHOD BLANK: 1354745
Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	04/04/14 09:55	

LABORATORY CONTROL SAMPLE: 1354746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354747 1354748

Parameter	Units	60165978001 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	5	5	3.8	4.2	77	85	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: MPRP/26694
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165927001

METHOD BLANK: 1353995
Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	04/03/14 13:13	
Antimony	ug/L	ND	10.0	04/03/14 13:13	
Arsenic	ug/L	ND	10.0	04/03/14 13:13	
Beryllium	ug/L	ND	1.0	04/03/14 13:13	
Cadmium	ug/L	ND	5.0	04/03/14 13:13	
Chromium	ug/L	ND	5.0	04/03/14 13:13	
Cobalt	ug/L	ND	5.0	04/03/14 13:13	
Copper	ug/L	ND	10.0	04/03/14 13:13	
Iron	ug/L	ND	50.0	04/03/14 13:13	
Lead	ug/L	ND	5.0	04/03/14 13:13	
Nickel	ug/L	ND	5.0	04/03/14 13:13	
Selenium	ug/L	ND	15.0	04/03/14 13:13	
Silver	ug/L	ND	7.0	04/03/14 13:13	
Thallium	ug/L	ND	20.0	04/03/14 13:13	
Zinc	ug/L	ND	50.0	04/03/14 13:13	

LABORATORY CONTROL SAMPLE: 1353996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	50000	49000	98	85-115	
Antimony	ug/L	5000	5060	101	85-115	
Arsenic	ug/L	5000	4890	98	85-115	
Beryllium	ug/L	5000	4960	99	85-115	
Cadmium	ug/L	5000	4980	100	85-115	
Chromium	ug/L	5000	4810	96	85-115	
Cobalt	ug/L	5000	5060	101	85-115	
Copper	ug/L	5000	5080	102	85-115	
Iron	ug/L	50000	49500	99	85-115	
Lead	ug/L	5000	5100	102	85-115	
Nickel	ug/L	5000	5080	102	85-115	
Selenium	ug/L	5000	5070	101	85-115	
Silver	ug/L	2500	2460	98	85-115	
Thallium	ug/L	5000	4980	100	85-115	
Zinc	ug/L	5000	4950	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1353997 1353998

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5210	50000	50000	ND	58000	-10	106	70-130		8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1353997 1353998

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5480	5450	109	108	70-130	1	7	
Arsenic	ug/L	1090	5000	5000	6730	6740	113	113	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4790	4780	96	96	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5280	106	105	70-130	1	10	
Chromium	ug/L	233	5000	5000	4790	4690	91	89	70-130	2	10	
Cobalt	ug/L	30.7	5000	5000	4790	4730	95	94	70-130	1	6	
Copper	ug/L	ND	5000	5000	5380	5280	107	105	70-130	2	11	
Iron	ug/L	798000	50000	50000	826000	854000	56	113	70-130	3	10	M1
Lead	ug/L	118	5000	5000	4650	4590	91	89	70-130	1	10	
Nickel	ug/L	98.2	5000	5000	4800	4740	94	93	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6240	6180	125	124	70-130	1	10	
Silver	ug/L	ND	2500	2500	2630	2570	105	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4340	4310	87	86	70-130	1	6	
Zinc	ug/L	5090	5000	5000	ND	9680	-102	92	70-130		11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: MPRP/26706
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165927001

METHOD BLANK: 1354584
Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	04/03/14 18:39	
Antimony, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Arsenic, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Beryllium, Dissolved	ug/L	ND	1.0	04/03/14 18:39	
Cadmium, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Chromium, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Cobalt, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Copper, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Iron, Dissolved	ug/L	ND	50.0	04/03/14 18:39	
Lead, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Nickel, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Selenium, Dissolved	ug/L	ND	15.0	04/03/14 18:39	
Silver, Dissolved	ug/L	ND	7.0	04/03/14 18:39	
Thallium, Dissolved	ug/L	ND	20.0	04/03/14 18:39	
Zinc, Dissolved	ug/L	ND	50.0	04/03/14 18:39	

LABORATORY CONTROL SAMPLE: 1354585

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	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	990	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	1030	103	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	500	100	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354586 1354587

Parameter	Units	60165978001 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	1450	50000	50000	51200	50100	100	97	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354586 1354587

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5050	5020	99	98	70-130	1	7	
Arsenic, Dissolved	ug/L	888	5000	5000	6200	5910	106	100	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4740	4670	95	93	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5110	4990	102	100	70-130	2	10	
Chromium, Dissolved	ug/L	205	5000	5000	5040	4910	97	94	70-130	3	10	
Cobalt, Dissolved	ug/L	26.5	5000	5000	4760	4660	95	93	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5180	5100	104	102	70-130	2	11	
Iron, Dissolved	ug/L	555000	50000	50000	605000	532000	100	-46	70-130	13	10	M1,R1
Lead, Dissolved	ug/L	80.0	5000	5000	4620	4550	91	89	70-130	1	10	
Nickel, Dissolved	ug/L	87.4	5000	5000	4820	4780	95	94	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5980	5820	119	116	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2580	105	103	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4180	4120	84	82	70-130	1	6	
Zinc, Dissolved	ug/L	4640	5000	5000	9380	8870	95	84	70-130	6	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: MSV/60447 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165927001

METHOD BLANK: 1352967 | Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/31/14 13:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,2-Dichloroethane	ug/L	ND	1.0	03/31/14 13:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/31/14 13:09	
2-Butanone (MEK)	ug/L	ND	10.0	03/31/14 13:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	03/31/14 13:09	N2
Benzene	ug/L	ND	1.0	03/31/14 13:09	
Bromodichloromethane	ug/L	ND	1.0	03/31/14 13:09	
Bromoform	ug/L	ND	1.0	03/31/14 13:09	
Bromomethane	ug/L	ND	5.0	03/31/14 13:09	
Carbon tetrachloride	ug/L	ND	1.0	03/31/14 13:09	
Chloroethane	ug/L	ND	1.0	03/31/14 13:09	
Chloroform	ug/L	ND	1.0	03/31/14 13:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/31/14 13:09	N2
Ethylbenzene	ug/L	ND	1.0	03/31/14 13:09	
Methylene chloride	ug/L	ND	1.0	03/31/14 13:09	
Tetrachloroethene	ug/L	ND	1.0	03/31/14 13:09	
Toluene	ug/L	ND	1.0	03/31/14 13:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/31/14 13:09	
Trichloroethene	ug/L	ND	1.0	03/31/14 13:09	
Vinyl chloride	ug/L	ND	1.0	03/31/14 13:09	
Xylene (Total)	ug/L	ND	3.0	03/31/14 13:09	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	03/31/14 13:09	
4-Bromofluorobenzene (S)	%	105	80-120	03/31/14 13:09	
Toluene-d8 (S)	%	98	80-120	03/31/14 13:09	

LABORATORY CONTROL SAMPLE: 1352968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.9	89	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.5	113	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.9	100	67-124	
1,2-Dichloroethane	ug/L	20	18.4	92	70-126	
1,4-Dichlorobenzene	ug/L	20	20.7	103	74-120	
2-Butanone (MEK)	ug/L	100	136	136	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	104	104	59-131	N2
Benzene	ug/L	20	17.5	87	75-120	
Bromodichloromethane	ug/L	20	17.5	87	68-125	
Bromoform	ug/L	20	19.9	100	65-127	
Bromomethane	ug/L	20	9.1	46	13-157	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

LABORATORY CONTROL SAMPLE: 1352968

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	18.0	90	47-133	
Chloroform	ug/L	20	17.2	86	65-127	
cis-1,2-Dichloroethene	ug/L	20	17.8	89	68-127	N2
Ethylbenzene	ug/L	20	20.3	102	74-122	
Methylene chloride	ug/L	20	16.9	84	64-129	
Tetrachloroethene	ug/L	20	19.1	95	73-125	
Toluene	ug/L	20	18.0	90	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.1	85	66-129	
Trichloroethene	ug/L	20	17.9	90	71-123	
Vinyl chloride	ug/L	20	17.2	86	43-129	
Xylene (Total)	ug/L	60	61.5	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1352969

Parameter	Units	60165927001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	5060	127	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	5650	141	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4750	119	52-143	
1,2-Dichloroethane	ug/L	ND	4000	4800	120	49-144	
1,4-Dichlorobenzene	ug/L	2680	4000	7190	113	33-140	
2-Butanone (MEK)	ug/L	117000	20000	138000	105	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	2270	20000	27600	127	40-160	N2
Benzene	ug/L	ND	4000	4700	117	37-151	
Bromodichloromethane	ug/L	ND	4000	4510	113	35-142	
Bromoform	ug/L	ND	4000	4670	117	45-142	
Bromomethane	ug/L	ND	4000	2430	61	10-158	
Carbon tetrachloride	ug/L	ND	4000	5350	134	70-140	
Chloroethane	ug/L	ND	4000	5040	126	19-152	
Chloroform	ug/L	ND	4000	4580	114	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4890	122	34-147	N2
Ethylbenzene	ug/L	205	4000	5230	126	40-142	
Methylene chloride	ug/L	ND	4000	4580	114	31-144	
Tetrachloroethene	ug/L	ND	4000	4830	121	64-148	
Toluene	ug/L	ND	4000	4840	120	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4870	122	54-151	
Trichloroethene	ug/L	ND	4000	4850	121	71-149	
Vinyl chloride	ug/L	ND	4000	5200	130	22-146	
Xylene (Total)	ug/L	986	12000	15800	123	37-144	N2
1,2-Dichloroethane-d4 (S)	%				118	80-120	
4-Bromofluorobenzene (S)	%				105	80-120	
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: MSV/60470 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165927001, 60165927002

METHOD BLANK: 1353340 | Matrix: Water
Associated Lab Samples: 60165927001, 60165927002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/01/14 11:45	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,2-Dichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/01/14 11:45	
2-Butanone (MEK)	ug/L	ND	10.0	04/01/14 11:45	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/01/14 11:45	N2
Acetone	ug/L	ND	10.0	04/01/14 11:45	N2
Benzene	ug/L	ND	1.0	04/01/14 11:45	
Bromodichloromethane	ug/L	ND	1.0	04/01/14 11:45	
Bromoform	ug/L	ND	1.0	04/01/14 11:45	
Bromomethane	ug/L	ND	5.0	04/01/14 11:45	
Carbon tetrachloride	ug/L	ND	1.0	04/01/14 11:45	
Chloroethane	ug/L	ND	1.0	04/01/14 11:45	
Chloroform	ug/L	ND	1.0	04/01/14 11:45	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/01/14 11:45	N2
Ethylbenzene	ug/L	ND	1.0	04/01/14 11:45	
Methylene chloride	ug/L	ND	1.0	04/01/14 11:45	
Tetrachloroethene	ug/L	ND	1.0	04/01/14 11:45	
Toluene	ug/L	ND	1.0	04/01/14 11:45	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/01/14 11:45	
Trichloroethene	ug/L	ND	1.0	04/01/14 11:45	
Vinyl chloride	ug/L	ND	1.0	04/01/14 11:45	
Xylene (Total)	ug/L	ND	3.0	04/01/14 11:45	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	04/01/14 11:45	
4-Bromofluorobenzene (S)	%	106	80-120	04/01/14 11:45	
Toluene-d8 (S)	%	101	80-120	04/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1353341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.0	90	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.2	111	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.7	99	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	20.1	100	74-120	
2-Butanone (MEK)	ug/L	100	142	142	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	105	105	59-131	N2
Acetone	ug/L	100	179	179	38-134	L0,N2
Benzene	ug/L	20	17.9	90	75-120	
Bromodichloromethane	ug/L	20	18.7	93	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

LABORATORY CONTROL SAMPLE: 1353341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.4	97	65-127	
Bromomethane	ug/L	20	9.7	48	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	17.7	89	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.7	94	68-127	N2
Ethylbenzene	ug/L	20	21.1	106	74-122	
Methylene chloride	ug/L	20	17.9	89	64-129	
Tetrachloroethene	ug/L	20	19.0	95	73-125	
Toluene	ug/L	20	19.0	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.8	89	66-129	
Trichloroethene	ug/L	20	17.9	90	71-123	
Vinyl chloride	ug/L	20	16.9	84	43-129	
Xylene (Total)	ug/L	60	61.8	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: OEXT/43415 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165927001

METHOD BLANK: 1352745 | Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	04/01/14 13:09	
2,4,6-Trichlorophenol	ug/L	ND	5.0	04/01/14 13:09	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	04/01/14 13:09	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	04/01/14 13:09	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	04/01/14 13:09	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	04/01/14 13:09	
Hexachlorocyclopentadiene	ug/L	ND	5.0	04/01/14 13:09	
Hexachloroethane	ug/L	ND	5.0	04/01/14 13:09	
Naphthalene	ug/L	ND	5.0	04/01/14 13:09	
Nitrobenzene	ug/L	ND	5.0	04/01/14 13:09	
Pentachlorophenol	ug/L	ND	5.0	04/01/14 13:09	
Phenol	ug/L	ND	5.0	04/01/14 13:09	
2,4,6-Tribromophenol (S)	%	89	39-120	04/01/14 13:09	
2-Fluorobiphenyl (S)	%	93	39-120	04/01/14 13:09	
2-Fluorophenol (S)	%	46	17-120	04/01/14 13:09	
Nitrobenzene-d5 (S)	%	87	33-120	04/01/14 13:09	
Phenol-d6 (S)	%	29	11-120	04/01/14 13:09	
Terphenyl-d14 (S)	%	101	45-120	04/01/14 13:09	

LABORATORY CONTROL SAMPLE: 1352746

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	42.6	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.2	60	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.1	52	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	51.5	103	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.3	77	44-116	
Hexachlorocyclopentadiene	ug/L	100	70.1	70	24-120	
Hexachloroethane	ug/L	50	39.0	78	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	41.2	82	48-120	
Pentachlorophenol	ug/L	50	42.8	86	47-120	
Phenol	ug/L	50	13.0	26	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			38	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			23	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

MATRIX SPIKE SAMPLE: 1352748

Parameter	Units	60165911003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	44.9	90	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	47.1	94	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	35.6	71	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	31.8	64	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	58.3	117	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	43.3	87	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	78.4	78	11-120	
Hexachloroethane	ug/L	ND	50	42.5	85	40-113	
Naphthalene	ug/L	ND	50	43.3	87	45-120	
Nitrobenzene	ug/L	ND	50	43.9	88	38-120	
Pentachlorophenol	ug/L	ND	50	48.9	98	43-135	
Phenol	ug/L	ND	50	15.7	31	13-112	
2,4,6-Tribromophenol (S)	%				99	39-120	
2-Fluorobiphenyl (S)	%				94	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				90	33-120	
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				98	45-120	

SAMPLE DUPLICATE: 1352747

Parameter	Units	60165947002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	ND			
2,4,6-Trichlorophenol	ug/L	ND	ND			
2-Methylphenol(o-Cresol)	ug/L	ND	ND			N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	ND			N2
4,6-Dinitro-2-methylphenol	ug/L	ND	ND			
Hexachloro-1,3-butadiene	ug/L	ND	ND			
Hexachlorocyclopentadiene	ug/L	ND	ND			
Hexachloroethane	ug/L	ND	ND			
Naphthalene	ug/L	ND	ND			
Nitrobenzene	ug/L	ND	ND			
Pentachlorophenol	ug/L	ND	ND			
Phenol	ug/L	ND	ND			
2,4,6-Tribromophenol (S)	%	98	102	5		
2-Fluorobiphenyl (S)	%	90	88	0		
2-Fluorophenol (S)	%	48	39	21		
Nitrobenzene-d5 (S)	%	84	81	2		
Phenol-d6 (S)	%	32	27	18		
Terphenyl-d14 (S)	%	95	101	7		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: WET/47104 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165927001

METHOD BLANK: 1355139 | Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	04/04/14 06:53	

LABORATORY CONTROL SAMPLE: 1355140

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.2	103	78-114	

MATRIX SPIKE SAMPLE: 1355142

Parameter	Units	60165740001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.7	38.3	83	78-114	

SAMPLE DUPLICATE: 1355141

Parameter	Units	60166262001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	54800	1.2J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: WET/47153 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165927001

METHOD BLANK: 1356349 | Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	04/07/14 08:30	

LABORATORY CONTROL SAMPLE: 1356350

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.0	100	64-132	

MATRIX SPIKE SAMPLE: 1356352

Parameter	Units	60166035001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.5	18.3	77	64-132	

SAMPLE DUPLICATE: 1356351

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.5	11.6	31	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: WET/47080 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165927001

METHOD BLANK: 1354513 | Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	04/03/14 12:34	

SAMPLE DUPLICATE: 1354516

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4800	4900	2	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: WET/47005
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165927001

SAMPLE DUPLICATE: 1352685

Parameter	Units	60165918001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: WET/46986 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165927001

METHOD BLANK: 1352321 | Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	04/03/14 10:23	B3

LABORATORY CONTROL SAMPLE: 1352322

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	199	100	85-115	

SAMPLE DUPLICATE: 1352323

Parameter	Units	60165918001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	15.1	14.6	4	17	B3

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: WETA/28857 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165927001

METHOD BLANK: 1353922 | Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	04/02/14 19:12	

LABORATORY CONTROL SAMPLE: 1353923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1353924

Parameter	Units	60165925008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	0.50	25	90-110	M1

MATRIX SPIKE SAMPLE: 1353925

Parameter	Units	60165937001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	14500	10000	22500	80	90-110	M1

SAMPLE DUPLICATE: 1353926

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	588	646	9	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

QC Batch: WETA/28904 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165927001

METHOD BLANK: 1356312 | Matrix: Water
Associated Lab Samples: 60165927001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	04/07/14 13:05	

LABORATORY CONTROL SAMPLE: 1356313

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: 1356314

Parameter	Units	60165740001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	212	250	505	117	90-110	M1

SAMPLE DUPLICATE: 1356315

Parameter	Units	60165927001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	89500	90200	1	25	

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QUALIFIERS

Project: BRIDGETON LF 316-253
Pace Project No.: 60165927

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.

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BATCH QUALIFIERS

Batch: MSV/60470

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

ANALYTE QUALIFIERS

B3	The dissolved oxygen depletion of the dilution water blank exceeded 0.2 mg/L.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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 316-253
Pace Project No.: 60165927

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165927001	**316-253**	EPA 200.7	MPRP/26694	EPA 200.7	ICP/20296
60165927001	**316-253**	EPA 200.7	MPRP/26706	EPA 200.7	ICP/20306
60165927001	**316-253**	EPA 245.1	MERP/8266	EPA 245.1	MERC/8220
60165927001	**316-253**	EPA 245.1	MERP/8279	EPA 245.1	MERC/8233
60165927001	**316-253**	EPA 625	OEXT/43415	EPA 625	MSSV/13851
60165927001	**316-253**	EPA 624 Low	MSV/60447		
60165927001	**316-253**	EPA 624 Low	MSV/60470		
60165927002	**TRIP BLANK**	EPA 624 Low	MSV/60470		
60165927001	**316-253**	EPA 1664A	WET/47104		
60165927001	**316-253**	EPA 1664A	WET/47153		
60165927001	**316-253**	SM 2540D	WET/47080		
60165927001	**316-253**	SM 4500-H+B	WET/47005		
60165927001	**316-253**	SM 5210B	WET/46986	SM 5210B	WET/47127
60165927001	**316-253**	EPA 350.1	WETA/28857		
60165927001	**316-253**	EPA 410.4	WETA/28904		

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Sample Condition Upon Receipt

WO#: 60165927

60165927

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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: 3.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/29/14 BA

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	
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: Pace Trip Blank lot # (if purchased): _____	☑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: 3/31/14

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. PO 3727110	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 #: 6787 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)	60165927
1	316-253 1BP1U 1BP2U 1BP7U 1BP3N BS	OT	G	3/28/14	1020	1BP3S 2.0	2AG4U		14	10	4	1	0	3AG3S					X	X	X	X	X	X	X	X	X	X	X			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: 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] KSG	3/28/14	1140	Paul Linscott / FEI	3/28/14	11:40AM				
SITE ADDRESS: BRIDGETON LF	Paul Linscott / FEI	3/28/14	2:30PM	[signature]	3/28/14	2:30 PM				
13570 ST. CHARLES ROCK RD				[signature] / PASI KS	3/29/14	0040	3.4	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: CRAIG MEGNA

SIGNATURE of SAMPLER: [signature]

DATE Signed: 3-28-14

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

April 07, 2014

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

RE: Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 31, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

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 316-255
Pace Project No.: 60165978

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165978001	**316-255**	Water	03/30/14 08:40	03/31/14 13:40
60165978002	**TRIP BLANK**	Water	03/30/14 08:00	03/31/14 13:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165978001	**316-255**	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	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JML	1
60165978002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

Sample: 316-255 **Lab ID: 60165978001** Collected: 03/30/14 08:40 Received: 03/31/14 13:40 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	**5210**	ug/L	750	2	04/01/14 16:30	04/03/14 13:33	7429-90-5	M1
Antimony	ND	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:31	7440-36-0	
Arsenic	**1090**	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:31	7440-38-2	
Beryllium	ND	ug/L	5.0	1	04/01/14 16:30	04/03/14 13:31	7440-41-7	
Cadmium	ND	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:31	7440-43-9	
Chromium	**233**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:31	7440-47-3	
Cobalt	**30.7**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:31	7440-48-4	
Copper	ND	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:31	7440-50-8	
Iron	**798000**	ug/L	250	1	04/01/14 16:30	04/03/14 13:31	7439-89-6	M1
Lead	**118**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:31	7439-92-1	
Nickel	**98.2**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:31	7440-02-0	
Selenium	ND	ug/L	75.0	1	04/01/14 16:30	04/03/14 13:31	7782-49-2	
Silver	ND	ug/L	35.0	1	04/01/14 16:30	04/03/14 13:31	7440-22-4	
Thallium	ND	ug/L	100	1	04/01/14 16:30	04/03/14 13:31	7440-28-0	
Zinc	**5090**	ug/L	500	2	04/01/14 16:30	04/03/14 13:33	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1450**	ug/L	750	2	04/03/14 12:10	04/03/14 19:03	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	04/03/14 12:10	04/03/14 19:03	7440-36-0	
Arsenic, Dissolved	**888**	ug/L	50.0	1	04/03/14 12:10	04/03/14 18:59	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	04/03/14 12:10	04/03/14 18:59	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:59	7440-43-9	
Chromium, Dissolved	**205**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:59	7440-47-3	
Cobalt, Dissolved	**26.5**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:59	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	04/03/14 12:10	04/03/14 18:59	7440-50-8	
Iron, Dissolved	**555000**	ug/L	250	1	04/03/14 12:10	04/03/14 18:59	7439-89-6	M1,R1
Lead, Dissolved	**80.0**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:59	7439-92-1	
Nickel, Dissolved	**87.4**	ug/L	25.0	1	04/03/14 12:10	04/03/14 18:59	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	04/03/14 12:10	04/03/14 18:59	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	04/03/14 12:10	04/03/14 18:59	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	04/03/14 12:10	04/03/14 18:59	7440-28-0	
Zinc, Dissolved	**4640**	ug/L	500	2	04/03/14 12:10	04/03/14 19:03	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	04/03/14 12:50	04/03/14 16:26	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/03/14 12:50	04/04/14 10:11	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	04/02/14 00:00	04/03/14 17:00	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	04/02/14 00:00	04/03/14 17:00	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**9470**	ug/L	4000	2	04/02/14 00:00	04/03/14 17:00		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

Sample: 316-255 **Lab ID: 60165978001** Collected: 03/30/14 08:40 Received: 03/31/14 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**3080**	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	87-86-5	
Phenol	**14200**	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:00	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	166	%	33-120	2	04/02/14 00:00	04/03/14 17:00	4165-60-0	S0
2-Fluorobiphenyl (S)	84	%	39-120	2	04/02/14 00:00	04/03/14 17:00	321-60-8	
Terphenyl-d14 (S)	96	%	45-120	2	04/02/14 00:00	04/03/14 17:00	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	04/02/14 00:00	04/03/14 17:00	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	04/02/14 00:00	04/03/14 17:00	367-12-4	
2,4,6-Tribromophenol (S)	96	%	39-120	2	04/02/14 00:00	04/03/14 17:00	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**200000**	ug/L	2500	250		04/02/14 12:43	67-64-1	L1,N2
Benzene	ND	ug/L	250	250		04/02/14 12:43	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		04/02/14 12:43	75-27-4	
Bromoform	ND	ug/L	250	250		04/02/14 12:43	75-25-2	
Bromomethane	ND	ug/L	1250	250		04/02/14 12:43	74-83-9	
2-Butanone (MEK)	**94300**	ug/L	2500	250		04/02/14 12:43	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		04/02/14 12:43	56-23-5	
Chloroethane	ND	ug/L	250	250		04/02/14 12:43	75-00-3	
Chloroform	ND	ug/L	250	250		04/02/14 12:43	67-66-3	
1,4-Dichlorobenzene	**1390**	ug/L	250	250		04/02/14 12:43	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		04/02/14 12:43	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		04/02/14 12:43	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		04/02/14 12:43	156-60-5	
Ethylbenzene	ND	ug/L	250	250		04/02/14 12:43	100-41-4	
Methylene chloride	ND	ug/L	250	250		04/02/14 12:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		04/02/14 12:43	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		04/02/14 12:43	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		04/02/14 12:43	127-18-4	
Toluene	ND	ug/L	250	250		04/02/14 12:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		04/02/14 12:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		04/02/14 12:43	79-00-5	
Trichloroethene	ND	ug/L	250	250		04/02/14 12:43	79-01-6	
Vinyl chloride	ND	ug/L	250	250		04/02/14 12:43	75-01-4	
Xylene (Total)	ND	ug/L	750	250		04/02/14 12:43	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	250		04/02/14 12:43	460-00-4	
Toluene-d8 (S)	97	%	80-120	250		04/02/14 12:43	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	250		04/02/14 12:43	17060-07-0	
Preservation pH	**6.0**		1.0	250		04/02/14 12:43		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**2170**	mg/L	5.0	1		04/04/14 06:59		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

Sample: 316-255 **Lab ID: 60165978001** Collected: 03/30/14 08:40 Received: 03/31/14 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**8.5**	mg/L	5.0	1		04/07/14 08:31		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4800**	mg/L	5.0	1		04/03/14 12:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		04/03/14 11:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**65900**	mg/L	2.0	1	03/31/14 15:55	04/05/14 11:43		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**588**	mg/L	20.0	200		04/02/14 19:39	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**79200**	mg/L	7500	750		04/07/14 13:15		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

Sample: TRIP BLANK **Lab ID: 60165978002** Collected: 03/30/14 08:00 Received: 03/31/14 13:40 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		04/01/14 12:16	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		04/01/14 12:16	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		04/01/14 12:16	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/01/14 12:16	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/01/14 12:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		04/01/14 12:16	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		04/01/14 12:16	56-23-5	
Chloroethane	ND	ug/L	1.0	1		04/01/14 12:16	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/01/14 12:16	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/01/14 12:16	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/01/14 12:16	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/01/14 12:16	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/01/14 12:16	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		04/01/14 12:16	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		04/01/14 12:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		04/01/14 12:16	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/01/14 12:16	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		04/01/14 12:16	127-18-4	
Toluene	ND	ug/L	1.0	1		04/01/14 12:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/01/14 12:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/01/14 12:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/01/14 12:16	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		04/01/14 12:16	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		04/01/14 12:16	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	1		04/01/14 12:16	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		04/01/14 12:16	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		04/01/14 12:16	17060-07-0	
Preservation pH	**6.0**		1.0	1		04/01/14 12:16		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: MERP/8278 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165978001

METHOD BLANK: 1354732 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	04/03/14 16:15	

LABORATORY CONTROL SAMPLE: 1354733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354734 1354735

Parameter	Units	60165978001 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	127	123	82	79	70-130	3	20	

MATRIX SPIKE SAMPLE: 1354736

Parameter	Units	60165979001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	8.2	150	124	77	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: MERP/8279
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165978001

METHOD BLANK: 1354745
Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	04/04/14 09:55	

LABORATORY CONTROL SAMPLE: 1354746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354747 1354748

Parameter	Units	60165978001 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	5	5	3.8	4.2	77	85	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: MPRP/26694
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165978001

METHOD BLANK: 1353995
Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	04/03/14 13:13	
Antimony	ug/L	ND	10.0	04/03/14 13:13	
Arsenic	ug/L	ND	10.0	04/03/14 13:13	
Beryllium	ug/L	ND	1.0	04/03/14 13:13	
Cadmium	ug/L	ND	5.0	04/03/14 13:13	
Chromium	ug/L	ND	5.0	04/03/14 13:13	
Cobalt	ug/L	ND	5.0	04/03/14 13:13	
Copper	ug/L	ND	10.0	04/03/14 13:13	
Iron	ug/L	ND	50.0	04/03/14 13:13	
Lead	ug/L	ND	5.0	04/03/14 13:13	
Nickel	ug/L	ND	5.0	04/03/14 13:13	
Selenium	ug/L	ND	15.0	04/03/14 13:13	
Silver	ug/L	ND	7.0	04/03/14 13:13	
Thallium	ug/L	ND	20.0	04/03/14 13:13	
Zinc	ug/L	ND	50.0	04/03/14 13:13	

LABORATORY CONTROL SAMPLE: 1353996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	50000	49000	98	85-115	
Antimony	ug/L	5000	5060	101	85-115	
Arsenic	ug/L	5000	4890	98	85-115	
Beryllium	ug/L	5000	4960	99	85-115	
Cadmium	ug/L	5000	4980	100	85-115	
Chromium	ug/L	5000	4810	96	85-115	
Cobalt	ug/L	5000	5060	101	85-115	
Copper	ug/L	5000	5080	102	85-115	
Iron	ug/L	50000	49500	99	85-115	
Lead	ug/L	5000	5100	102	85-115	
Nickel	ug/L	5000	5080	102	85-115	
Selenium	ug/L	5000	5070	101	85-115	
Silver	ug/L	2500	2460	98	85-115	
Thallium	ug/L	5000	4980	100	85-115	
Zinc	ug/L	5000	4950	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1353997 1353998

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5210	50000	50000	ND	58000	-10	106	70-130		8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1353997 1353998

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5480	5450	109	108	70-130	1	7	
Arsenic	ug/L	1090	5000	5000	6730	6740	113	113	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4790	4780	96	96	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5280	106	105	70-130	1	10	
Chromium	ug/L	233	5000	5000	4790	4690	91	89	70-130	2	10	
Cobalt	ug/L	30.7	5000	5000	4790	4730	95	94	70-130	1	6	
Copper	ug/L	ND	5000	5000	5380	5280	107	105	70-130	2	11	
Iron	ug/L	798000	50000	50000	826000	854000	56	113	70-130	3	10	M1
Lead	ug/L	118	5000	5000	4650	4590	91	89	70-130	1	10	
Nickel	ug/L	98.2	5000	5000	4800	4740	94	93	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6240	6180	125	124	70-130	1	10	
Silver	ug/L	ND	2500	2500	2630	2570	105	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4340	4310	87	86	70-130	1	6	
Zinc	ug/L	5090	5000	5000	ND	9680	-102	92	70-130		11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: MPRP/26706
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165978001

METHOD BLANK: 1354584
Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	04/03/14 18:39	
Antimony, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Arsenic, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Beryllium, Dissolved	ug/L	ND	1.0	04/03/14 18:39	
Cadmium, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Chromium, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Cobalt, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Copper, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Iron, Dissolved	ug/L	ND	50.0	04/03/14 18:39	
Lead, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Nickel, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Selenium, Dissolved	ug/L	ND	15.0	04/03/14 18:39	
Silver, Dissolved	ug/L	ND	7.0	04/03/14 18:39	
Thallium, Dissolved	ug/L	ND	20.0	04/03/14 18:39	
Zinc, Dissolved	ug/L	ND	50.0	04/03/14 18:39	

LABORATORY CONTROL SAMPLE: 1354585

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	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	990	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	1030	103	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	500	100	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354586 1354587

Parameter	Units	60165978001 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	1450	50000	50000	51200	50100	100	97	70-130	2	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354586 1354587

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5050	5020	99	98	70-130	1	7	
Arsenic, Dissolved	ug/L	888	5000	5000	6200	5910	106	100	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4740	4670	95	93	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5110	4990	102	100	70-130	2	10	
Chromium, Dissolved	ug/L	205	5000	5000	5040	4910	97	94	70-130	3	10	
Cobalt, Dissolved	ug/L	26.5	5000	5000	4760	4660	95	93	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5180	5100	104	102	70-130	2	11	
Iron, Dissolved	ug/L	555000	50000	50000	605000	532000	100	-46	70-130	13	10	M1,R1
Lead, Dissolved	ug/L	80.0	5000	5000	4620	4550	91	89	70-130	1	10	
Nickel, Dissolved	ug/L	87.4	5000	5000	4820	4780	95	94	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5980	5820	119	116	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2580	105	103	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4180	4120	84	82	70-130	1	6	
Zinc, Dissolved	ug/L	4640	5000	5000	9380	8870	95	84	70-130	6	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: MSV/60470 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165978002

METHOD BLANK: 1353340 | Matrix: Water
Associated Lab Samples: 60165978002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/01/14 11:45	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,2-Dichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/01/14 11:45	
2-Butanone (MEK)	ug/L	ND	10.0	04/01/14 11:45	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/01/14 11:45	N2
Acetone	ug/L	ND	10.0	04/01/14 11:45	N2
Benzene	ug/L	ND	1.0	04/01/14 11:45	
Bromodichloromethane	ug/L	ND	1.0	04/01/14 11:45	
Bromoform	ug/L	ND	1.0	04/01/14 11:45	
Bromomethane	ug/L	ND	5.0	04/01/14 11:45	
Carbon tetrachloride	ug/L	ND	1.0	04/01/14 11:45	
Chloroethane	ug/L	ND	1.0	04/01/14 11:45	
Chloroform	ug/L	ND	1.0	04/01/14 11:45	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/01/14 11:45	N2
Ethylbenzene	ug/L	ND	1.0	04/01/14 11:45	
Methylene chloride	ug/L	ND	1.0	04/01/14 11:45	
Tetrachloroethene	ug/L	ND	1.0	04/01/14 11:45	
Toluene	ug/L	ND	1.0	04/01/14 11:45	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/01/14 11:45	
Trichloroethene	ug/L	ND	1.0	04/01/14 11:45	
Vinyl chloride	ug/L	ND	1.0	04/01/14 11:45	
Xylene (Total)	ug/L	ND	3.0	04/01/14 11:45	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	04/01/14 11:45	
4-Bromofluorobenzene (S)	%	106	80-120	04/01/14 11:45	
Toluene-d8 (S)	%	101	80-120	04/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1353341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.0	90	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.2	111	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.7	99	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	20.1	100	74-120	
2-Butanone (MEK)	ug/L	100	142	142	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	105	105	59-131	N2
Acetone	ug/L	100	179	179	38-134	L0,N2
Benzene	ug/L	20	17.9	90	75-120	
Bromodichloromethane	ug/L	20	18.7	93	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

LABORATORY CONTROL SAMPLE: 1353341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.4	97	65-127	
Bromomethane	ug/L	20	9.7	48	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	17.7	89	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.7	94	68-127	N2
Ethylbenzene	ug/L	20	21.1	106	74-122	
Methylene chloride	ug/L	20	17.9	89	64-129	
Tetrachloroethene	ug/L	20	19.0	95	73-125	
Toluene	ug/L	20	19.0	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.8	89	66-129	
Trichloroethene	ug/L	20	17.9	90	71-123	
Vinyl chloride	ug/L	20	16.9	84	43-129	
Xylene (Total)	ug/L	60	61.8	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: MSV/60515 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165978001

METHOD BLANK: 1353992 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/02/14 11:40	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,2-Dichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/02/14 11:40	
2-Butanone (MEK)	ug/L	ND	10.0	04/02/14 11:40	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/02/14 11:40	N2
Acetone	ug/L	ND	10.0	04/02/14 11:40	N2
Benzene	ug/L	ND	1.0	04/02/14 11:40	
Bromodichloromethane	ug/L	ND	1.0	04/02/14 11:40	
Bromoform	ug/L	ND	1.0	04/02/14 11:40	
Bromomethane	ug/L	ND	5.0	04/02/14 11:40	
Carbon tetrachloride	ug/L	ND	1.0	04/02/14 11:40	
Chloroethane	ug/L	ND	1.0	04/02/14 11:40	
Chloroform	ug/L	ND	1.0	04/02/14 11:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/02/14 11:40	N2
Ethylbenzene	ug/L	ND	1.0	04/02/14 11:40	
Methylene chloride	ug/L	ND	1.0	04/02/14 11:40	
Tetrachloroethene	ug/L	ND	1.0	04/02/14 11:40	
Toluene	ug/L	ND	1.0	04/02/14 11:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/02/14 11:40	
Trichloroethene	ug/L	ND	1.0	04/02/14 11:40	
Vinyl chloride	ug/L	ND	1.0	04/02/14 11:40	
Xylene (Total)	ug/L	ND	3.0	04/02/14 11:40	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	04/02/14 11:40	
4-Bromofluorobenzene (S)	%	107	80-120	04/02/14 11:40	
Toluene-d8 (S)	%	98	80-120	04/02/14 11:40	

LABORATORY CONTROL SAMPLE: 1353993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.1	81	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	23.3	116	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.2	96	67-124	
1,2-Dichloroethane	ug/L	20	17.3	87	70-126	
1,4-Dichlorobenzene	ug/L	20	20.1	100	74-120	
2-Butanone (MEK)	ug/L	100	127	127	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.9	96	59-131	N2
Acetone	ug/L	100	151	151	38-134	L0,N2
Benzene	ug/L	20	16.8	84	75-120	
Bromodichloromethane	ug/L	20	16.5	82	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

LABORATORY CONTROL SAMPLE: 1353993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	18.9	95	65-127	
Bromomethane	ug/L	20	6.5	33	13-157	
Carbon tetrachloride	ug/L	20	16.0	80	70-131	
Chloroethane	ug/L	20	17.4	87	47-133	
Chloroform	ug/L	20	16.2	81	65-127	
cis-1,2-Dichloroethene	ug/L	20	17.2	86	68-127	N2
Ethylbenzene	ug/L	20	20.6	103	74-122	
Methylene chloride	ug/L	20	16.2	81	64-129	
Tetrachloroethene	ug/L	20	17.9	89	73-125	
Toluene	ug/L	20	17.8	89	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.4	82	66-129	
Trichloroethene	ug/L	20	16.6	83	71-123	
Vinyl chloride	ug/L	20	14.4	72	43-129	
Xylene (Total)	ug/L	60	62.2	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			108	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1353994

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	5190	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	6780	136	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5450	109	52-143	
1,2-Dichloroethane	ug/L	ND	5000	5000	100	49-144	
1,4-Dichlorobenzene	ug/L	1390	5000	6910	110	33-140	
2-Butanone (MEK)	ug/L	94300	25000	124000	120	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	29100	111	40-160	N2
Acetone	ug/L	200000	25000	230000	120	10-160	N2
Benzene	ug/L	ND	5000	5030	100	37-151	
Bromodichloromethane	ug/L	ND	5000	5200	104	35-142	
Bromoform	ug/L	ND	5000	5170	103	45-142	
Bromomethane	ug/L	ND	5000	2090	42	10-158	
Carbon tetrachloride	ug/L	ND	5000	5390	108	70-140	
Chloroethane	ug/L	ND	5000	5310	106	19-152	
Chloroform	ug/L	ND	5000	4860	97	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	5110	102	34-147	N2
Ethylbenzene	ug/L	ND	5000	5940	118	40-142	
Methylene chloride	ug/L	ND	5000	4830	97	31-144	
Tetrachloroethene	ug/L	ND	5000	5480	110	64-148	
Toluene	ug/L	ND	5000	5320	106	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4930	99	54-151	
Trichloroethene	ug/L	ND	5000	5410	108	71-149	
Vinyl chloride	ug/L	ND	5000	4870	97	22-146	
Xylene (Total)	ug/L	ND	15000	17200	115	37-144	N2
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				109	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

MATRIX SPIKE SAMPLE: 1353994

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: OEXT/43445 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165978001

METHOD BLANK: 1353794 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	04/03/14 12:25	
2,4,6-Trichlorophenol	ug/L	ND	5.0	04/03/14 12:25	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	04/03/14 12:25	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	04/03/14 12:25	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	04/03/14 12:25	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	04/03/14 12:25	
Hexachlorocyclopentadiene	ug/L	ND	5.0	04/03/14 12:25	
Hexachloroethane	ug/L	ND	5.0	04/03/14 12:25	
Naphthalene	ug/L	ND	5.0	04/03/14 12:25	
Nitrobenzene	ug/L	ND	5.0	04/03/14 12:25	
Pentachlorophenol	ug/L	ND	5.0	04/03/14 12:25	
Phenol	ug/L	ND	5.0	04/03/14 12:25	
2,4,6-Tribromophenol (S)	%	86	39-120	04/03/14 12:25	
2-Fluorobiphenyl (S)	%	82	39-120	04/03/14 12:25	
2-Fluorophenol (S)	%	41	17-120	04/03/14 12:25	
Nitrobenzene-d5 (S)	%	80	33-120	04/03/14 12:25	
Phenol-d6 (S)	%	26	11-120	04/03/14 12:25	
Terphenyl-d14 (S)	%	86	45-120	04/03/14 12:25	

LABORATORY CONTROL SAMPLE: 1353795

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	39.8	80	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	28.1	56	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.8	90	40-133	
Hexachloro-1,3-butadiene	ug/L	50	40.0	80	44-116	
Hexachlorocyclopentadiene	ug/L	100	68.0	68	24-120	
Hexachloroethane	ug/L	50	35.6	71	43-113	
Naphthalene	ug/L	50	37.9	76	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	40.5	81	47-120	
Phenol	ug/L	50	13.7	27	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

MATRIX SPIKE SAMPLE: 1353796

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3270	65	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4070	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3770	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	9470	5000	10900	28	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	998J	20	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3370	67	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3360	34	11-120	
Hexachloroethane	ug/L	ND	5000	3530	71	40-113	
Naphthalene	ug/L	3080	5000	5690	52	45-120	
Nitrobenzene	ug/L	ND	5000	3630	73	38-120	
Pentachlorophenol	ug/L	ND	5000	4150	83	43-135	
Phenol	ug/L	14200	5000	13300	-17	13-112	M1
2,4,6-Tribromophenol (S)	%				86	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				42	17-120	
Nitrobenzene-d5 (S)	%				137	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: WET/47105 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165978001

METHOD BLANK: 1355143 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	04/04/14 06:59	

LABORATORY CONTROL SAMPLE: 1355144

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.7	99	78-114	

MATRIX SPIKE SAMPLE: 1355146

Parameter	Units	60165719001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	38.6	93	78-114	

SAMPLE DUPLICATE: 1355145

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	2170	2050	6	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: WET/47153 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165978001

METHOD BLANK: 1356349 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	04/07/14 08:30	

LABORATORY CONTROL SAMPLE: 1356350

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.0	100	64-132	

MATRIX SPIKE SAMPLE: 1356352

Parameter	Units	60166035001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.5	18.3	77	64-132	

SAMPLE DUPLICATE: 1356351

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.5	11.6	31	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: WET/47080 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165978001

METHOD BLANK: 1354513 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	04/03/14 12:34	

SAMPLE DUPLICATE: 1354516

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4800	4900	2	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: WET/47088
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165978001

SAMPLE DUPLICATE: 1354738

Parameter	Units	60165962001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	5.9	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: WET/47025 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165978001

METHOD BLANK: 1353033 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	04/05/14 11:33	

LABORATORY CONTROL SAMPLE: 1353034

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	215	109	85-115	

SAMPLE DUPLICATE: 1353036

Parameter	Units	60165973003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	302	297	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: WETA/28857 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165978001

METHOD BLANK: 1353922 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	04/02/14 19:12	

LABORATORY CONTROL SAMPLE: 1353923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1353924

Parameter	Units	60165925008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	0.50	25	90-110	M1

MATRIX SPIKE SAMPLE: 1353925

Parameter	Units	60165937001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	14500	10000	22500	80	90-110	M1

SAMPLE DUPLICATE: 1353926

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	588	646	9	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

QC Batch: WETA/28904 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165978001

METHOD BLANK: 1356312 | Matrix: Water
Associated Lab Samples: 60165978001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	04/07/14 13:05	

LABORATORY CONTROL SAMPLE: 1356313

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: 1356314

Parameter	Units	60165740001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	212	250	505	117	90-110	M1

SAMPLE DUPLICATE: 1356315

Parameter	Units	60165927001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	89500	90200	1	25	

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QUALIFIERS

Project: BRIDGETON LF 316-255
Pace Project No.: 60165978

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/60470

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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 316-255
Pace Project No.: 60165978

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165978001	**316-255**	EPA 200.7	MPRP/26694	EPA 200.7	ICP/20296
60165978001	**316-255**	EPA 200.7	MPRP/26706	EPA 200.7	ICP/20306
60165978001	**316-255**	EPA 245.1	MERP/8278	EPA 245.1	MERC/8234
60165978001	**316-255**	EPA 245.1	MERP/8279	EPA 245.1	MERC/8233
60165978001	**316-255**	EPA 625	OEXT/43445	EPA 625	MSSV/13865
60165978001	**316-255**	EPA 624 Low	MSV/60515		
60165978002	**TRIP BLANK**	EPA 624 Low	MSV/60470		
60165978001	**316-255**	EPA 1664A	WET/47105		
60165978001	**316-255**	EPA 1664A	WET/47153		
60165978001	**316-255**	SM 2540D	WET/47080		
60165978001	**316-255**	SM 4500-H+B	WET/47088		
60165978001	**316-255**	SM 5210B	WET/47025	SM 5210B	WET/47154
60165978001	**316-255**	EPA 350.1	WETA/28857		
60165978001	**316-255**	EPA 410.4	WETA/28904		

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Sample Condition Upon Receipt

WO#: 60165978

60165978

Client Name: 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: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JM 3/31/14 1855

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:				13.	
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A		BPSN+BPSS 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	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.	none detectable.
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: 3/31/14

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:

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.	PO 3727110
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 #:	6787 LINE 2

Regulatory Agency:

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	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)	60165578
1	316-255	OT	G	3/30/14	0840	—	—		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		(VOCs) (SVOCs) (Metals) (Metals) 5(DG9N) 001
2	TRIP BLANK	—	—	—	—	—	—		2	2																X					2(DG9N) 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 / FEI	3/31/14	0905	[illegible] 412	3/31/14	0905				
SITE ADDRESS: BRIDGETON LF				[illegible] / Pace	3/31/14	1340	2.4	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:	[signature]	DATE Signed: 3/30/14				

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(913)599-5665

April 07, 2014

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

RE: Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 31, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

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 316-254
Pace Project No.: 60165979

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60165979001	**316-254**	Water	03/30/14 07:02	03/31/14 13:40
60165979002	**TRIP BLANK**	Water	03/30/14 08:00	03/31/14 13:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60165979001	**316-254**	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	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JML	1
60165979002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

Sample: 316-254 **Lab ID: 60165979001** Collected: 03/30/14 07:02 Received: 03/31/14 13:40 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	**6230**	ug/L	750	2	04/01/14 16:30	04/03/14 13:52	7429-90-5	
Antimony	**61.3**	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:49	7440-36-0	
Arsenic	**1170**	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:49	7440-38-2	
Beryllium	ND	ug/L	5.0	1	04/01/14 16:30	04/03/14 13:49	7440-41-7	
Cadmium	ND	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:49	7440-43-9	
Chromium	**248**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:49	7440-47-3	
Cobalt	**37.0**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:49	7440-48-4	
Copper	ND	ug/L	50.0	1	04/01/14 16:30	04/03/14 13:49	7440-50-8	
Iron	**896000**	ug/L	250	1	04/01/14 16:30	04/03/14 13:49	7439-89-6	
Lead	**138**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:49	7439-92-1	
Nickel	**106**	ug/L	25.0	1	04/01/14 16:30	04/03/14 13:49	7440-02-0	
Selenium	ND	ug/L	75.0	1	04/01/14 16:30	04/03/14 13:49	7782-49-2	
Silver	ND	ug/L	35.0	1	04/01/14 16:30	04/03/14 13:49	7440-22-4	
Thallium	ND	ug/L	100	1	04/01/14 16:30	04/03/14 13:49	7440-28-0	
Zinc	**5990**	ug/L	500	2	04/01/14 16:30	04/03/14 13:52	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1550**	ug/L	750	2	04/03/14 12:10	04/03/14 19:30	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	04/03/14 12:10	04/03/14 19:30	7440-36-0	
Arsenic, Dissolved	**908**	ug/L	50.0	1	04/03/14 12:10	04/03/14 19:26	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	04/03/14 12:10	04/03/14 19:26	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	04/03/14 12:10	04/03/14 19:26	7440-43-9	
Chromium, Dissolved	**219**	ug/L	25.0	1	04/03/14 12:10	04/03/14 19:26	7440-47-3	
Cobalt, Dissolved	**31.2**	ug/L	25.0	1	04/03/14 12:10	04/03/14 19:26	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	04/03/14 12:10	04/03/14 19:26	7440-50-8	
Iron, Dissolved	**582000**	ug/L	250	1	04/03/14 12:10	04/03/14 19:26	7439-89-6	
Lead, Dissolved	**86.3**	ug/L	25.0	1	04/03/14 12:10	04/03/14 19:26	7439-92-1	
Nickel, Dissolved	**92.8**	ug/L	25.0	1	04/03/14 12:10	04/03/14 19:26	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	04/03/14 12:10	04/03/14 19:26	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	04/03/14 12:10	04/03/14 19:26	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	04/03/14 12:10	04/03/14 19:26	7440-28-0	
Zinc, Dissolved	**5410**	ug/L	500	2	04/03/14 12:10	04/03/14 19:30	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**8.2**	ug/L	6.0	1	04/03/14 12:50	04/04/14 09:35	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	04/03/14 12:50	04/04/14 10:18	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	04/02/14 00:00	04/03/14 17:21	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	04/02/14 00:00	04/03/14 17:21	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**9680**	ug/L	4000	2	04/02/14 00:00	04/03/14 17:21		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

Sample: 316-254 **Lab ID: 60165979001** Collected: 03/30/14 07:02 Received: 03/31/14 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**2890**	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	87-86-5	
Phenol	**14300**	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 17:21	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	158	%	33-120	2	04/02/14 00:00	04/03/14 17:21	4165-60-0	S0
2-Fluorobiphenyl (S)	78	%	39-120	2	04/02/14 00:00	04/03/14 17:21	321-60-8	
Terphenyl-d14 (S)	90	%	45-120	2	04/02/14 00:00	04/03/14 17:21	1718-51-0	
Phenol-d6 (S)	33	%	11-120	2	04/02/14 00:00	04/03/14 17:21	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	04/02/14 00:00	04/03/14 17:21	367-12-4	
2,4,6-Tribromophenol (S)	90	%	39-120	2	04/02/14 00:00	04/03/14 17:21	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**136000**	ug/L	2500	250		04/02/14 13:14	67-64-1	L1,N2
Benzene	ND	ug/L	250	250		04/02/14 13:14	71-43-2	
Bromodichloromethane	ND	ug/L	250	250		04/02/14 13:14	75-27-4	
Bromoform	ND	ug/L	250	250		04/02/14 13:14	75-25-2	
Bromomethane	ND	ug/L	1250	250		04/02/14 13:14	74-83-9	
2-Butanone (MEK)	**65300**	ug/L	2500	250		04/02/14 13:14	78-93-3	N2
Carbon tetrachloride	ND	ug/L	250	250		04/02/14 13:14	56-23-5	
Chloroethane	ND	ug/L	250	250		04/02/14 13:14	75-00-3	
Chloroform	ND	ug/L	250	250		04/02/14 13:14	67-66-3	
1,4-Dichlorobenzene	**1540**	ug/L	250	250		04/02/14 13:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	250	250		04/02/14 13:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250	250		04/02/14 13:14	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	250	250		04/02/14 13:14	156-60-5	
Ethylbenzene	ND	ug/L	250	250		04/02/14 13:14	100-41-4	
Methylene chloride	ND	ug/L	250	250		04/02/14 13:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500	250		04/02/14 13:14	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	250	250		04/02/14 13:14	79-34-5	N2
Tetrachloroethene	ND	ug/L	250	250		04/02/14 13:14	127-18-4	
Toluene	ND	ug/L	250	250		04/02/14 13:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250	250		04/02/14 13:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	250	250		04/02/14 13:14	79-00-5	
Trichloroethene	ND	ug/L	250	250		04/02/14 13:14	79-01-6	
Vinyl chloride	ND	ug/L	250	250		04/02/14 13:14	75-01-4	
Xylene (Total)	ND	ug/L	750	250		04/02/14 13:14	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	107	%	80-120	250		04/02/14 13:14	460-00-4	
Toluene-d8 (S)	95	%	80-120	250		04/02/14 13:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	250		04/02/14 13:14	17060-07-0	
Preservation pH	**6.0**		1.0	250		04/02/14 13:14		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**2410**	mg/L	5.0	1		04/04/14 07:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

Sample: 316-254 **Lab ID: 60165979001** Collected: 03/30/14 07:02 Received: 03/31/14 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**19.2**	mg/L	5.0	1		04/07/14 08:31		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4220**	mg/L	5.0	1		04/03/14 12:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		04/03/14 11:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**78200**	mg/L	2.0	1	03/31/14 15:48	04/05/14 11:41		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**652**	mg/L	20.0	200		04/02/14 19:41	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**88700**	mg/L	7500	750		04/07/14 13:16		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

Sample: TRIP BLANK **Lab ID: 60165979002** Collected: 03/30/14 08:00 Received: 03/31/14 13:40 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		04/01/14 12:32	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		04/01/14 12:32	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		04/01/14 12:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/01/14 12:32	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/01/14 12:32	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		04/01/14 12:32	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		04/01/14 12:32	56-23-5	
Chloroethane	ND	ug/L	1.0	1		04/01/14 12:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/01/14 12:32	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/01/14 12:32	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/01/14 12:32	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/01/14 12:32	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/01/14 12:32	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		04/01/14 12:32	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		04/01/14 12:32	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		04/01/14 12:32	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/01/14 12:32	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		04/01/14 12:32	127-18-4	
Toluene	ND	ug/L	1.0	1		04/01/14 12:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/01/14 12:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/01/14 12:32	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/01/14 12:32	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		04/01/14 12:32	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		04/01/14 12:32	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		04/01/14 12:32	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		04/01/14 12:32	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		04/01/14 12:32	17060-07-0	
Preservation pH	**6.0**		1.0	1		04/01/14 12:32		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: MERP/8278 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60165979001

METHOD BLANK: 1354732 | Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	04/03/14 16:15	

LABORATORY CONTROL SAMPLE: 1354733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354734 1354735

Parameter	Units	60165978001 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	127	123	82	79	70-130	3	20	

MATRIX SPIKE SAMPLE: 1354736

Parameter	Units	60165979001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	8.2	150	124	77	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: MERP/8279
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60165979001

METHOD BLANK: 1354745
Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	04/04/14 09:55	

LABORATORY CONTROL SAMPLE: 1354746

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354747 1354748

Parameter	Units	60165978001 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	5	5	3.8	4.2	77	85	70-130	10	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: MPRP/26694
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60165979001

METHOD BLANK: 1353995
Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	04/03/14 13:13	
Antimony	ug/L	ND	10.0	04/03/14 13:13	
Arsenic	ug/L	ND	10.0	04/03/14 13:13	
Beryllium	ug/L	ND	1.0	04/03/14 13:13	
Cadmium	ug/L	ND	5.0	04/03/14 13:13	
Chromium	ug/L	ND	5.0	04/03/14 13:13	
Cobalt	ug/L	ND	5.0	04/03/14 13:13	
Copper	ug/L	ND	10.0	04/03/14 13:13	
Iron	ug/L	ND	50.0	04/03/14 13:13	
Lead	ug/L	ND	5.0	04/03/14 13:13	
Nickel	ug/L	ND	5.0	04/03/14 13:13	
Selenium	ug/L	ND	15.0	04/03/14 13:13	
Silver	ug/L	ND	7.0	04/03/14 13:13	
Thallium	ug/L	ND	20.0	04/03/14 13:13	
Zinc	ug/L	ND	50.0	04/03/14 13:13	

LABORATORY CONTROL SAMPLE: 1353996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	50000	49000	98	85-115	
Antimony	ug/L	5000	5060	101	85-115	
Arsenic	ug/L	5000	4890	98	85-115	
Beryllium	ug/L	5000	4960	99	85-115	
Cadmium	ug/L	5000	4980	100	85-115	
Chromium	ug/L	5000	4810	96	85-115	
Cobalt	ug/L	5000	5060	101	85-115	
Copper	ug/L	5000	5080	102	85-115	
Iron	ug/L	50000	49500	99	85-115	
Lead	ug/L	5000	5100	102	85-115	
Nickel	ug/L	5000	5080	102	85-115	
Selenium	ug/L	5000	5070	101	85-115	
Silver	ug/L	2500	2460	98	85-115	
Thallium	ug/L	5000	4980	100	85-115	
Zinc	ug/L	5000	4950	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1353997 1353998

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5210	50000	50000	ND	58000	-10	106	70-130		8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1353997 1353998

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	5000	5000	5480	5450	109	108	70-130	1	7	
Arsenic	ug/L	1090	5000	5000	6730	6740	113	113	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4790	4780	96	96	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5320	5280	106	105	70-130	1	10	
Chromium	ug/L	233	5000	5000	4790	4690	91	89	70-130	2	10	
Cobalt	ug/L	30.7	5000	5000	4790	4730	95	94	70-130	1	6	
Copper	ug/L	ND	5000	5000	5380	5280	107	105	70-130	2	11	
Iron	ug/L	798000	50000	50000	826000	854000	56	113	70-130	3	10	M1
Lead	ug/L	118	5000	5000	4650	4590	91	89	70-130	1	10	
Nickel	ug/L	98.2	5000	5000	4800	4740	94	93	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6240	6180	125	124	70-130	1	10	
Silver	ug/L	ND	2500	2500	2630	2570	105	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4340	4310	87	86	70-130	1	6	
Zinc	ug/L	5090	5000	5000	ND	9680	-102	92	70-130		11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: MPRP/26706
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60165979001

METHOD BLANK: 1354584
Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	04/03/14 18:39	
Antimony, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Arsenic, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Beryllium, Dissolved	ug/L	ND	1.0	04/03/14 18:39	
Cadmium, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Chromium, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Cobalt, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Copper, Dissolved	ug/L	ND	10.0	04/03/14 18:39	
Iron, Dissolved	ug/L	ND	50.0	04/03/14 18:39	
Lead, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Nickel, Dissolved	ug/L	ND	5.0	04/03/14 18:39	
Selenium, Dissolved	ug/L	ND	15.0	04/03/14 18:39	
Silver, Dissolved	ug/L	ND	7.0	04/03/14 18:39	
Thallium, Dissolved	ug/L	ND	20.0	04/03/14 18:39	
Zinc, Dissolved	ug/L	ND	50.0	04/03/14 18:39	

LABORATORY CONTROL SAMPLE: 1354585

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	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	990	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	1030	103	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	500	100	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354586 1354587

Parameter	Units	60165978001 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	1450	50000	50000	51200	50100	100	97	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354586 1354587

Parameter	Units	60165978001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5050	5020	99	98	70-130	1	7	
Arsenic, Dissolved	ug/L	888	5000	5000	6200	5910	106	100	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4740	4670	95	93	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5110	4990	102	100	70-130	2	10	
Chromium, Dissolved	ug/L	205	5000	5000	5040	4910	97	94	70-130	3	10	
Cobalt, Dissolved	ug/L	26.5	5000	5000	4760	4660	95	93	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5180	5100	104	102	70-130	2	11	
Iron, Dissolved	ug/L	555000	50000	50000	605000	532000	100	-46	70-130	13	10	M1,R1
Lead, Dissolved	ug/L	80.0	5000	5000	4620	4550	91	89	70-130	1	10	
Nickel, Dissolved	ug/L	87.4	5000	5000	4820	4780	95	94	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5980	5820	119	116	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2580	105	103	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4180	4120	84	82	70-130	1	6	
Zinc, Dissolved	ug/L	4640	5000	5000	9380	8870	95	84	70-130	6	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: MSV/60470 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165979002

METHOD BLANK: 1353340 | Matrix: Water
Associated Lab Samples: 60165979002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/01/14 11:45	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,2-Dichloroethane	ug/L	ND	1.0	04/01/14 11:45	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/01/14 11:45	
2-Butanone (MEK)	ug/L	ND	10.0	04/01/14 11:45	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/01/14 11:45	N2
Acetone	ug/L	ND	10.0	04/01/14 11:45	N2
Benzene	ug/L	ND	1.0	04/01/14 11:45	
Bromodichloromethane	ug/L	ND	1.0	04/01/14 11:45	
Bromoform	ug/L	ND	1.0	04/01/14 11:45	
Bromomethane	ug/L	ND	5.0	04/01/14 11:45	
Carbon tetrachloride	ug/L	ND	1.0	04/01/14 11:45	
Chloroethane	ug/L	ND	1.0	04/01/14 11:45	
Chloroform	ug/L	ND	1.0	04/01/14 11:45	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/01/14 11:45	N2
Ethylbenzene	ug/L	ND	1.0	04/01/14 11:45	
Methylene chloride	ug/L	ND	1.0	04/01/14 11:45	
Tetrachloroethene	ug/L	ND	1.0	04/01/14 11:45	
Toluene	ug/L	ND	1.0	04/01/14 11:45	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/01/14 11:45	
Trichloroethene	ug/L	ND	1.0	04/01/14 11:45	
Vinyl chloride	ug/L	ND	1.0	04/01/14 11:45	
Xylene (Total)	ug/L	ND	3.0	04/01/14 11:45	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	04/01/14 11:45	
4-Bromofluorobenzene (S)	%	106	80-120	04/01/14 11:45	
Toluene-d8 (S)	%	101	80-120	04/01/14 11:45	

LABORATORY CONTROL SAMPLE: 1353341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.0	90	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	22.2	111	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.7	99	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	20.1	100	74-120	
2-Butanone (MEK)	ug/L	100	142	142	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	105	105	59-131	N2
Acetone	ug/L	100	179	179	38-134	L0,N2
Benzene	ug/L	20	17.9	90	75-120	
Bromodichloromethane	ug/L	20	18.7	93	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

LABORATORY CONTROL SAMPLE: 1353341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	19.4	97	65-127	
Bromomethane	ug/L	20	9.7	48	13-157	
Carbon tetrachloride	ug/L	20	18.1	91	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	17.7	89	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.7	94	68-127	N2
Ethylbenzene	ug/L	20	21.1	106	74-122	
Methylene chloride	ug/L	20	17.9	89	64-129	
Tetrachloroethene	ug/L	20	19.0	95	73-125	
Toluene	ug/L	20	19.0	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.8	89	66-129	
Trichloroethene	ug/L	20	17.9	90	71-123	
Vinyl chloride	ug/L	20	16.9	84	43-129	
Xylene (Total)	ug/L	60	61.8	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			107	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: MSV/60515 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60165979001

METHOD BLANK: 1353992 | Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/02/14 11:40	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,2-Dichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/02/14 11:40	
2-Butanone (MEK)	ug/L	ND	10.0	04/02/14 11:40	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/02/14 11:40	N2
Acetone	ug/L	ND	10.0	04/02/14 11:40	N2
Benzene	ug/L	ND	1.0	04/02/14 11:40	
Bromodichloromethane	ug/L	ND	1.0	04/02/14 11:40	
Bromoform	ug/L	ND	1.0	04/02/14 11:40	
Bromomethane	ug/L	ND	5.0	04/02/14 11:40	
Carbon tetrachloride	ug/L	ND	1.0	04/02/14 11:40	
Chloroethane	ug/L	ND	1.0	04/02/14 11:40	
Chloroform	ug/L	ND	1.0	04/02/14 11:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/02/14 11:40	N2
Ethylbenzene	ug/L	ND	1.0	04/02/14 11:40	
Methylene chloride	ug/L	ND	1.0	04/02/14 11:40	
Tetrachloroethene	ug/L	ND	1.0	04/02/14 11:40	
Toluene	ug/L	ND	1.0	04/02/14 11:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/02/14 11:40	
Trichloroethene	ug/L	ND	1.0	04/02/14 11:40	
Vinyl chloride	ug/L	ND	1.0	04/02/14 11:40	
Xylene (Total)	ug/L	ND	3.0	04/02/14 11:40	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	04/02/14 11:40	
4-Bromofluorobenzene (S)	%	107	80-120	04/02/14 11:40	
Toluene-d8 (S)	%	98	80-120	04/02/14 11:40	

LABORATORY CONTROL SAMPLE: 1353993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.1	81	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	23.3	116	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.2	96	67-124	
1,2-Dichloroethane	ug/L	20	17.3	87	70-126	
1,4-Dichlorobenzene	ug/L	20	20.1	100	74-120	
2-Butanone (MEK)	ug/L	100	127	127	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.9	96	59-131	N2
Acetone	ug/L	100	151	151	38-134	L0,N2
Benzene	ug/L	20	16.8	84	75-120	
Bromodichloromethane	ug/L	20	16.5	82	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

LABORATORY CONTROL SAMPLE: 1353993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	18.9	95	65-127	
Bromomethane	ug/L	20	6.5	33	13-157	
Carbon tetrachloride	ug/L	20	16.0	80	70-131	
Chloroethane	ug/L	20	17.4	87	47-133	
Chloroform	ug/L	20	16.2	81	65-127	
cis-1,2-Dichloroethene	ug/L	20	17.2	86	68-127	N2
Ethylbenzene	ug/L	20	20.6	103	74-122	
Methylene chloride	ug/L	20	16.2	81	64-129	
Tetrachloroethene	ug/L	20	17.9	89	73-125	
Toluene	ug/L	20	17.8	89	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.4	82	66-129	
Trichloroethene	ug/L	20	16.6	83	71-123	
Vinyl chloride	ug/L	20	14.4	72	43-129	
Xylene (Total)	ug/L	60	62.2	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			108	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1353994

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	5190	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	6780	136	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5450	109	52-143	
1,2-Dichloroethane	ug/L	ND	5000	5000	100	49-144	
1,4-Dichlorobenzene	ug/L	1390	5000	6910	110	33-140	
2-Butanone (MEK)	ug/L	94300	25000	124000	120	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	29100	111	40-160	N2
Acetone	ug/L	200000	25000	230000	120	10-160	N2
Benzene	ug/L	ND	5000	5030	100	37-151	
Bromodichloromethane	ug/L	ND	5000	5200	104	35-142	
Bromoform	ug/L	ND	5000	5170	103	45-142	
Bromomethane	ug/L	ND	5000	2090	42	10-158	
Carbon tetrachloride	ug/L	ND	5000	5390	108	70-140	
Chloroethane	ug/L	ND	5000	5310	106	19-152	
Chloroform	ug/L	ND	5000	4860	97	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	5110	102	34-147	N2
Ethylbenzene	ug/L	ND	5000	5940	118	40-142	
Methylene chloride	ug/L	ND	5000	4830	97	31-144	
Tetrachloroethene	ug/L	ND	5000	5480	110	64-148	
Toluene	ug/L	ND	5000	5320	106	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4930	99	54-151	
Trichloroethene	ug/L	ND	5000	5410	108	71-149	
Vinyl chloride	ug/L	ND	5000	4870	97	22-146	
Xylene (Total)	ug/L	ND	15000	17200	115	37-144	N2
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				109	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

MATRIX SPIKE SAMPLE: 1353994

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: OEXT/43445 | Analysis Method: EPA 625
QC Batch Method: EPA 625 | Analysis Description: 625 MSS
Associated Lab Samples: 60165979001

METHOD BLANK: 1353794 | Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	04/03/14 12:25	
2,4,6-Trichlorophenol	ug/L	ND	5.0	04/03/14 12:25	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	04/03/14 12:25	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	04/03/14 12:25	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	04/03/14 12:25	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	04/03/14 12:25	
Hexachlorocyclopentadiene	ug/L	ND	5.0	04/03/14 12:25	
Hexachloroethane	ug/L	ND	5.0	04/03/14 12:25	
Naphthalene	ug/L	ND	5.0	04/03/14 12:25	
Nitrobenzene	ug/L	ND	5.0	04/03/14 12:25	
Pentachlorophenol	ug/L	ND	5.0	04/03/14 12:25	
Phenol	ug/L	ND	5.0	04/03/14 12:25	
2,4,6-Tribromophenol (S)	%	86	39-120	04/03/14 12:25	
2-Fluorobiphenyl (S)	%	82	39-120	04/03/14 12:25	
2-Fluorophenol (S)	%	41	17-120	04/03/14 12:25	
Nitrobenzene-d5 (S)	%	80	33-120	04/03/14 12:25	
Phenol-d6 (S)	%	26	11-120	04/03/14 12:25	
Terphenyl-d14 (S)	%	86	45-120	04/03/14 12:25	

LABORATORY CONTROL SAMPLE: 1353795

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	39.8	80	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	28.1	56	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.8	90	40-133	
Hexachloro-1,3-butadiene	ug/L	50	40.0	80	44-116	
Hexachlorocyclopentadiene	ug/L	100	68.0	68	24-120	
Hexachloroethane	ug/L	50	35.6	71	43-113	
Naphthalene	ug/L	50	37.9	76	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	40.5	81	47-120	
Phenol	ug/L	50	13.7	27	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

MATRIX SPIKE SAMPLE: 1353796

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3270	65	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4070	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3770	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	9470	5000	10900	28	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	998J	20	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3370	67	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3360	34	11-120	
Hexachloroethane	ug/L	ND	5000	3530	71	40-113	
Naphthalene	ug/L	3080	5000	5690	52	45-120	
Nitrobenzene	ug/L	ND	5000	3630	73	38-120	
Pentachlorophenol	ug/L	ND	5000	4150	83	43-135	
Phenol	ug/L	14200	5000	13300	-17	13-112	M1
2,4,6-Tribromophenol (S)	%				86	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				42	17-120	
Nitrobenzene-d5 (S)	%				137	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: WET/47105
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60165979001

METHOD BLANK: 1355143
Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	04/04/14 06:59	

LABORATORY CONTROL SAMPLE: 1355144

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.7	99	78-114	

MATRIX SPIKE SAMPLE: 1355146

Parameter	Units	60165719001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	38.6	93	78-114	

SAMPLE DUPLICATE: 1355145

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	2170	2050	6	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: WET/47153 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60165979001

METHOD BLANK: 1356349 | Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	04/07/14 08:30	

LABORATORY CONTROL SAMPLE: 1356350

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.0	100	64-132	

MATRIX SPIKE SAMPLE: 1356352

Parameter	Units	60166035001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.5	18.3	77	64-132	

SAMPLE DUPLICATE: 1356351

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.5	11.6	31	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: WET/47080 | Analysis Method: SM 2540D
QC Batch Method: SM 2540D | Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60165979001

METHOD BLANK: 1354513 | Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	04/03/14 12:34	

SAMPLE DUPLICATE: 1354516

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4800	4900	2	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: WET/47088
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60165979001

SAMPLE DUPLICATE: 1354738

Parameter	Units	60165962001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	5.9	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: WET/47025 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60165979001

METHOD BLANK: 1353033 | Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	04/05/14 11:33	

LABORATORY CONTROL SAMPLE: 1353034

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	215	109	85-115	

SAMPLE DUPLICATE: 1353036

Parameter	Units	60165973003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	302	297	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: WETA/28857 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60165979001

METHOD BLANK: 1353922 | Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	04/02/14 19:12	

LABORATORY CONTROL SAMPLE: 1353923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1353924

Parameter	Units	60165925008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	0.50	25	90-110	M1

MATRIX SPIKE SAMPLE: 1353925

Parameter	Units	60165937001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	14500	10000	22500	80	90-110	M1

SAMPLE DUPLICATE: 1353926

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	588	646	9	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

QC Batch: WETA/28904 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60165979001

METHOD BLANK: 1356312 | Matrix: Water
Associated Lab Samples: 60165979001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	04/07/14 13:05	

LABORATORY CONTROL SAMPLE: 1356313

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: 1356314

Parameter	Units	60165740001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	212	250	505	117	90-110	M1

SAMPLE DUPLICATE: 1356315

Parameter	Units	60165927001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	89500	90200	1	25	

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QUALIFIERS

Project: BRIDGETON LF 316-254
Pace Project No.: 60165979

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/60470

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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 316-254
Pace Project No.: 60165979

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60165979001	**316-254**	EPA 200.7	MPRP/26694	EPA 200.7	ICP/20296
60165979001	**316-254**	EPA 200.7	MPRP/26706	EPA 200.7	ICP/20306
60165979001	**316-254**	EPA 245.1	MERP/8278	EPA 245.1	MERC/8234
60165979001	**316-254**	EPA 245.1	MERP/8279	EPA 245.1	MERC/8233
60165979001	**316-254**	EPA 625	OEXT/43445	EPA 625	MSSV/13865
60165979001	**316-254**	EPA 624 Low	MSV/60515		
60165979002	**TRIP BLANK**	EPA 624 Low	MSV/60470		
60165979001	**316-254**	EPA 1664A	WET/47105		
60165979001	**316-254**	EPA 1664A	WET/47153		
60165979001	**316-254**	SM 2540D	WET/47080		
60165979001	**316-254**	SM 4500-H+B	WET/47088		
60165979001	**316-254**	SM 5210B	WET/47025	SM 5210B	WET/47154
60165979001	**316-254**	EPA 350.1	WETA/28857		
60165979001	**316-254**	EPA 410.4	WETA/28904		

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Sample Condition Upon Receipt

WO#: 60165979
60165979

Client Name: 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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JM 3/31/14 1355

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:	☒Yes	☐No	☐N/A	13.	
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A	14.	BPSN+BPS3 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	Lot # of added preservative
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.	none detectable
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: 3/31/14

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.	PO 3727110	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 #:	6787 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

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)	60165979
																																1(BP1N)(BP2N)1(BP3N) 2(AE4N)
1	316-254	OT	G	3/30/14	0702	—	—		15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			3(AE3S) 1(BP3S)[4] 1(BP3N)[2] 5(DE9N) 201
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						2(DE9N) 202
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	Julie Crook / FEI	3/31/14	0905	Bill Stone 412	3/31/14	0905				
SITE ADDRESS: BRIDGETON LF				[signature] / Pace	3/31/14	1340	1.6	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: 3/30/14

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

April 08, 2014

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

RE: Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on March 31, 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

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.: 60166019

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60166019001	**TCLP MAR2014**	Water	03/29/14 11:39	03/31/14 13:40
60166019002	**TRIP BLANK**	Water	03/29/14 11:39	03/31/14 13:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60166019001	**TCLP MAR2014**	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	JMC1	1	PASI-K
		SM 2540B	RAH	1	PASI-K
60166019002	**TRIP BLANK**	EPA 5030B/8260	PRG	28	PASI-K

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

Sample: TCLP MAR2014 **Lab ID: 60166019001** Collected: 03/29/14 11:39 Received: 03/31/14 13:40 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								
gamma-BHC (Lindane)	ND	mg/L	0.00020	.4	1	04/07/14 08:45	04/07/14 21:55	58-89-9	
Chlordane (Technical)	ND	mg/L	0.0050	.03	1	04/07/14 08:45	04/07/14 21:55	57-74-9	
Endrin	ND	mg/L	0.00020	.02	1	04/07/14 08:45	04/07/14 21:55	72-20-8	
Heptachlor	ND	mg/L	0.00020	.008	1	04/07/14 08:45	04/07/14 21:55	76-44-8	
Heptachlor epoxide	ND	mg/L	0.00050	.008	1	04/07/14 08:45	04/07/14 21:55	1024-57-3	
Methoxychlor	ND	mg/L	0.00050	10	1	04/07/14 08:45	04/07/14 21:55	72-43-5	
Toxaphene	ND	mg/L	0.010	.5	1	04/07/14 08:45	04/07/14 21:55	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	21	%.	40-140		1	04/07/14 08:45	04/07/14 21:55	2051-24-3	S0
Tetrachloro-m-xylene (S)	71	%.	40-140		1	04/07/14 08:45	04/07/14 21:55	877-09-8	
8151 Chlorinate Herbicide TCLP	Analytical Method: EPA 8151 Preparation Method: EPA 8151								
2,4-D	ND	mg/L	0.0050	10	10	04/07/14 07:32	04/08/14 11:04	94-75-7	D3
2,4,5-TP (Silvex)	ND	mg/L	0.0050	1	10	04/07/14 07:32	04/08/14 11:04	93-72-1	
Surrogates									
2,4-DCAA (S)	271	%.	40-140		10	04/07/14 07:32	04/08/14 11:04	19719-28-9	S4
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010								
	Leachate Method/Date: EPA 1311; 04/03/14 00:00								
Arsenic	**0.53**	mg/L	0.50	5	1	04/03/14 12:20	04/04/14 11:19	7440-38-2	
Barium	**3.1**	mg/L	2.5	100	1	04/03/14 12:20	04/04/14 11:19	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	04/03/14 12:20	04/04/14 11:19	7440-43-9	
Chromium	**0.16**	mg/L	0.10	5	1	04/03/14 12:20	04/04/14 11:19	7440-47-3	
Lead	ND	mg/L	0.50	5	1	04/03/14 12:20	04/04/14 11:19	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	04/03/14 12:20	04/04/14 11:19	7782-49-2	
Silver	ND	mg/L	0.10	5	1	04/03/14 12:20	04/04/14 11:19	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470								
	Leachate Method/Date: EPA 1311; 04/03/14 00:00								
Mercury	ND	mg/L	0.0020	.2	1	04/07/14 10:00	04/07/14 16:13	7439-97-6	
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510								
	Leachate Method/Date: EPA 1311; 04/03/14 00:00								
1,4-Dichlorobenzene	ND	ug/L	5000	7500	5	04/03/14 00:00	04/03/14 16:18	106-46-7	
2,4-Dinitrotoluene	ND	ug/L	5000	130	5	04/03/14 00:00	04/03/14 16:18	121-14-2	
Hexachloro-1,3-butadiene	ND	ug/L	5000	500	5	04/03/14 00:00	04/03/14 16:18	87-68-3	
Hexachlorobenzene	ND	ug/L	5000	130	5	04/03/14 00:00	04/03/14 16:18	118-74-1	
Hexachloroethane	ND	ug/L	5000	3000	5	04/03/14 00:00	04/03/14 16:18	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	5000	200000	5	04/03/14 00:00	04/03/14 16:18	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10000	200000	5	04/03/14 00:00	04/03/14 16:18		
Nitrobenzene	ND	ug/L	5000	2000	5	04/03/14 00:00	04/03/14 16:18	98-95-3	
Pentachlorophenol	ND	ug/L	25000	100000	5	04/03/14 00:00	04/03/14 16:18	87-86-5	
Pyridine	ND	ug/L	5000	5000	5	04/03/14 00:00	04/03/14 16:18	110-86-1	
2,4,5-Trichlorophenol	ND	ug/L	25000	400000	5	04/03/14 00:00	04/03/14 16:18	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	5000	2000	5	04/03/14 00:00	04/03/14 16:18	88-06-2	

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

Sample: TCLP MAR2014 **Lab ID: 60166019001** Collected: 03/29/14 11:39 Received: 03/31/14 13:40 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; 04/03/14 00:00								
Surrogates									
Nitrobenzene-d5 (S)	78	%	44-120		5	04/03/14 00:00	04/03/14 16:18	4165-60-0	D3
2-Fluorobiphenyl (S)	70	%	49-120		5	04/03/14 00:00	04/03/14 16:18	321-60-8	
Terphenyl-d14 (S)	78	%	52-122		5	04/03/14 00:00	04/03/14 16:18	1718-51-0	
Phenol-d6 (S)	62	%	36-120		5	04/03/14 00:00	04/03/14 16:18	13127-88-3	
2-Fluorophenol (S)	56	%	37-120		5	04/03/14 00:00	04/03/14 16:18	367-12-4	
2,4,6-Tribromophenol (S)	78	%	36-128		5	04/03/14 00:00	04/03/14 16:18	118-79-6	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 04/03/14 00:00								
Benzene	**737**	ug/L	250	500	5		04/04/14 18:55	71-43-2	
2-Butanone (MEK)	**73100**	ug/L	5000	200000	5		04/04/14 18:55	78-93-3	
Carbon tetrachloride	ND	ug/L	250	500	5		04/04/14 18:55	56-23-5	
Chlorobenzene	ND	ug/L	250	100000	5		04/04/14 18:55	108-90-7	
Chloroform	ND	ug/L	1000	6000	5		04/04/14 18:55	67-66-3	
1,2-Dichloroethane	ND	ug/L	250	500	5		04/04/14 18:55	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	700	5		04/04/14 18:55	75-35-4	
Tetrachloroethene	ND	ug/L	250	700	5		04/04/14 18:55	127-18-4	
Trichloroethene	ND	ug/L	250	500	5		04/04/14 18:55	79-01-6	
Vinyl chloride	ND	ug/L	100	200	5		04/04/14 18:55	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	95	%	80-120		5		04/04/14 18:55	17060-07-0	
Toluene-d8 (S)	93	%	80-120		5		04/04/14 18:55	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120		5		04/04/14 18:55	460-00-4	
8260 MSV	Analytical Method: EPA 5030B/8260								
Acetone	**175000**	ug/L	2500		250		04/03/14 12:37	67-64-1	L1
Benzene	**1010**	ug/L	250		250		04/03/14 12:37	71-43-2	
Bromodichloromethane	ND	ug/L	250		250		04/03/14 12:37	75-27-4	
Bromoform	ND	ug/L	250		250		04/03/14 12:37	75-25-2	
Bromomethane	ND	ug/L	1250		250		04/03/14 12:37	74-83-9	
2-Butanone (MEK)	**82900**	ug/L	2500		250		04/03/14 12:37	78-93-3	L1
Carbon tetrachloride	ND	ug/L	250		250		04/03/14 12:37	56-23-5	
Chloroethane	ND	ug/L	250		250		04/03/14 12:37	75-00-3	
Chloroform	ND	ug/L	250		250		04/03/14 12:37	67-66-3	
1,4-Dichlorobenzene	**1500**	ug/L	250		250		04/03/14 12:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	250		250		04/03/14 12:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	250		250		04/03/14 12:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	250		250		04/03/14 12:37	156-60-5	
Ethylbenzene	**408**	ug/L	250		250		04/03/14 12:37	100-41-4	
Methylene chloride	ND	ug/L	250		250		04/03/14 12:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2500		250		04/03/14 12:37	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	250		250		04/03/14 12:37	79-34-5	
Tetrachloroethene	ND	ug/L	250		250		04/03/14 12:37	127-18-4	
Toluene	**337**	ug/L	250		250		04/03/14 12:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	250		250		04/03/14 12:37	71-55-6	

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

Sample: TCLP MAR2014 **Lab ID: 60166019001** Collected: 03/29/14 11:39 Received: 03/31/14 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
1,1,2-Trichloroethane	ND	ug/L	250		250		04/03/14 12:37	79-00-5	
Trichloroethene	ND	ug/L	250		250		04/03/14 12:37	79-01-6	
Vinyl chloride	ND	ug/L	250		250		04/03/14 12:37	75-01-4	
Xylene (Total)	**1320**	ug/L	750		250		04/03/14 12:37	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		250		04/03/14 12:37	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	80-120		250		04/03/14 12:37	17060-07-0	
Toluene-d8 (S)	94	%	80-120		250		04/03/14 12:37	2037-26-5	
Preservation pH	**5.0**		0.10		250		04/03/14 12:37		pH
HEM, Oil and Grease	Analytical Method: EPA 1664A								
Oil and Grease	**642**	mg/L	5.0		1		04/04/14 07:00		
2540B Total Solids	Analytical Method: SM 2540B								
Total Solids	**35100**	mg/L	5.0		1		04/04/14 16:47		

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

Sample: TRIP BLANK **Lab ID: 60166019002** Collected: 03/29/14 11:39 Received: 03/31/14 13:40 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		04/03/14 11:54	67-64-1	L1
Benzene	ND	ug/L	1.0		1		04/03/14 11:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0		1		04/03/14 11:54	75-27-4	
Bromoform	ND	ug/L	1.0		1		04/03/14 11:54	75-25-2	
Bromomethane	ND	ug/L	5.0		1		04/03/14 11:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0		1		04/03/14 11:54	78-93-3	L3
Carbon tetrachloride	ND	ug/L	1.0		1		04/03/14 11:54	56-23-5	
Chloroethane	ND	ug/L	1.0		1		04/03/14 11:54	75-00-3	
Chloroform	ND	ug/L	1.0		1		04/03/14 11:54	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0		1		04/03/14 11:54	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0		1		04/03/14 11:54	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0		1		04/03/14 11:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0		1		04/03/14 11:54	156-60-5	
Ethylbenzene	ND	ug/L	1.0		1		04/03/14 11:54	100-41-4	
Methylene chloride	ND	ug/L	1.0		1		04/03/14 11:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0		1		04/03/14 11:54	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1		04/03/14 11:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0		1		04/03/14 11:54	127-18-4	
Toluene	ND	ug/L	1.0		1		04/03/14 11:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0		1		04/03/14 11:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0		1		04/03/14 11:54	79-00-5	
Trichloroethene	ND	ug/L	1.0		1		04/03/14 11:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0		1		04/03/14 11:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0		1		04/03/14 11:54	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	97	%	80-120		1		04/03/14 11:54	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	80-120		1		04/03/14 11:54	17060-07-0	
Toluene-d8 (S)	100	%	80-120		1		04/03/14 11:54	2037-26-5	
Preservation pH	**1.0**		0.10		1		04/03/14 11:54		

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: MERP/8282
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 60166019001

METHOD BLANK: 1356330
Matrix: Water
Associated Lab Samples: 60166019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/L	ND	0.0020	04/07/14 15:43	

LABORATORY CONTROL SAMPLE: 1356331

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.005	0.0040	81	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1356332 1356333

Parameter	Units	60165712003 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	0.012	0.014	80	89	75-125	11	20	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: MPRP/26713 | Analysis Method: EPA 6010
QC Batch Method: EPA 3010 | Analysis Description: 6010 MET TCLP
Associated Lab Samples: 60166019001

METHOD BLANK: 1354876 | Matrix: Water
Associated Lab Samples: 60166019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	04/04/14 10:53	
Barium	mg/L	ND	2.5	04/04/14 10:53	
Cadmium	mg/L	ND	0.050	04/04/14 10:53	
Chromium	mg/L	ND	0.10	04/04/14 10:53	
Lead	mg/L	ND	0.50	04/04/14 10:53	
Selenium	mg/L	ND	0.50	04/04/14 10:53	
Silver	mg/L	ND	0.10	04/04/14 10:53	

LABORATORY CONTROL SAMPLE: 1354877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.96	96	80-120	
Barium	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	1	0.98	98	80-120	
Chromium	mg/L	1	0.95	95	80-120	
Lead	mg/L	1	1.0	100	80-120	
Selenium	mg/L	1	0.93	93	80-120	
Silver	mg/L	.5	0.46	91	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354878 1354879

Parameter	Units	60165712003 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	9.9	9.8	99	98	75-125	1	20	
Barium	mg/L	ND	10	10	9.8	9.8	97	97	75-125	0	20	
Cadmium	mg/L	ND	10	10	9.9	9.9	99	99	75-125	1	20	
Chromium	mg/L	ND	10	10	9.4	9.3	93	93	75-125	1	20	
Lead	mg/L	ND	10	10	9.6	9.5	95	95	75-125	1	20	
Selenium	mg/L	ND	10	10	9.7	9.6	97	96	75-125	1	20	
Silver	mg/L	ND	5	5	4.7	4.6	94	93	75-125	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: MSV/60585 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60166019001

METHOD BLANK: 1355367 | Matrix: Water
Associated Lab Samples: 60166019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	04/04/14 12:20	
1,2-Dichloroethane	ug/L	ND	50.0	04/04/14 12:20	
2-Butanone (MEK)	ug/L	ND	1000	04/04/14 12:20	
Benzene	ug/L	ND	50.0	04/04/14 12:20	
Carbon tetrachloride	ug/L	ND	50.0	04/04/14 12:20	
Chlorobenzene	ug/L	ND	50.0	04/04/14 12:20	
Chloroform	ug/L	ND	200	04/04/14 12:20	
Tetrachloroethene	ug/L	ND	50.0	04/04/14 12:20	
Trichloroethene	ug/L	ND	50.0	04/04/14 12:20	
Vinyl chloride	ug/L	ND	20.0	04/04/14 12:20	
1,2-Dichloroethane-d4 (S)	%	87	80-120	04/04/14 12:20	
4-Bromofluorobenzene (S)	%	94	80-120	04/04/14 12:20	
Toluene-d8 (S)	%	96	80-120	04/04/14 12:20	

LABORATORY CONTROL SAMPLE: 1355368

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	1030	103	78-126	
1,2-Dichloroethane	ug/L	1000	936	94	77-123	
2-Butanone (MEK)	ug/L	5000	7730	155	52-145	
Benzene	ug/L	1000	934	93	80-120	
Carbon tetrachloride	ug/L	1000	875	87	78-128	
Chlorobenzene	ug/L	1000	933	93	80-120	
Chloroform	ug/L	1000	853	85	79-120	
Tetrachloroethene	ug/L	1000	1010	101	80-121	
Trichloroethene	ug/L	1000	975	98	80-120	
Vinyl chloride	ug/L	1000	1010	101	59-120	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1355369

Parameter	Units	60165780001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	866	87	60-144	
1,2-Dichloroethane	ug/L	ND	1000	869	87	49-148	
2-Butanone (MEK)	ug/L	ND	5000	3470	69	36-145	
Benzene	ug/L	ND	1000	903	90	37-157	
Carbon tetrachloride	ug/L	ND	1000	792	79	68-142	
Chlorobenzene	ug/L	ND	1000	868	87	66-133	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

MATRIX SPIKE SAMPLE: 1355369

Parameter	Units	60165780001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	1000	836	84	66-127	
Tetrachloroethene	ug/L	ND	1000	896	90	69-133	
Trichloroethene	ug/L	ND	1000	893	89	61-135	
Vinyl chloride	ug/L	ND	1000	812	81	44-128	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	
Toluene-d8 (S)	%				101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: MSV/60549 | Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 | Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60166019001, 60166019002

METHOD BLANK: 1354640 | Matrix: Water
Associated Lab Samples: 60166019001, 60166019002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	04/03/14 09:46	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/03/14 09:46	
1,1,2-Trichloroethane	ug/L	ND	1.0	04/03/14 09:46	
1,2-Dichloroethane	ug/L	ND	1.0	04/03/14 09:46	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/03/14 09:46	
2-Butanone (MEK)	ug/L	ND	10.0	04/03/14 09:46	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/03/14 09:46	
Acetone	ug/L	ND	10.0	04/03/14 09:46	
Benzene	ug/L	ND	1.0	04/03/14 09:46	
Bromodichloromethane	ug/L	ND	1.0	04/03/14 09:46	
Bromoform	ug/L	ND	1.0	04/03/14 09:46	
Bromomethane	ug/L	ND	5.0	04/03/14 09:46	
Carbon tetrachloride	ug/L	ND	1.0	04/03/14 09:46	
Chloroethane	ug/L	ND	1.0	04/03/14 09:46	
Chloroform	ug/L	ND	1.0	04/03/14 09:46	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/03/14 09:46	
Ethylbenzene	ug/L	ND	1.0	04/03/14 09:46	
Methylene chloride	ug/L	ND	1.0	04/03/14 09:46	
Tetrachloroethene	ug/L	ND	1.0	04/03/14 09:46	
Toluene	ug/L	ND	1.0	04/03/14 09:46	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/03/14 09:46	
Trichloroethene	ug/L	ND	1.0	04/03/14 09:46	
Vinyl chloride	ug/L	ND	1.0	04/03/14 09:46	
Xylene (Total)	ug/L	ND	3.0	04/03/14 09:46	
1,2-Dichloroethane-d4 (S)	%	114	80-120	04/03/14 09:46	
4-Bromofluorobenzene (S)	%	104	80-120	04/03/14 09:46	
Toluene-d8 (S)	%	97	80-120	04/03/14 09:46	

LABORATORY CONTROL SAMPLE: 1354641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.0	95	80-121	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	73-124	
1,1,2-Trichloroethane	ug/L	20	19.0	95	80-120	
1,2-Dichloroethane	ug/L	20	22.2	111	77-123	
1,4-Dichlorobenzene	ug/L	20	17.8	89	80-120	
2-Butanone (MEK)	ug/L	100	161	161	52-145	L0
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	71-131	
Acetone	ug/L	100	231	231	32-155	L0,SS
Benzene	ug/L	20	19.0	95	80-120	
Bromodichloromethane	ug/L	20	20.1	101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

LABORATORY CONTROL SAMPLE: 1354641

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.1	100	73-124	
Bromomethane	ug/L	20	16.2	81	31-144	
Carbon tetrachloride	ug/L	20	19.4	97	78-128	
Chloroethane	ug/L	20	17.0	85	55-137	
Chloroform	ug/L	20	19.3	96	79-120	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	80-120	
Ethylbenzene	ug/L	20	18.2	91	80-121	
Methylene chloride	ug/L	20	18.6	93	73-126	
Tetrachloroethene	ug/L	20	18.1	91	80-121	
Toluene	ug/L	20	18.9	95	80-122	
trans-1,2-Dichloroethene	ug/L	20	19.0	95	79-121	
Trichloroethene	ug/L	20	19.6	98	80-120	
Vinyl chloride	ug/L	20	17.1	86	59-120	
Xylene (Total)	ug/L	60	54.4	91	80-121	
1,2-Dichloroethane-d4 (S)	%			113	80-120	
4-Bromofluorobenzene (S)	%			102	80-120	
Toluene-d8 (S)	%			96	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: OEXT/3672 | Analysis Method: EPA 8081
QC Batch Method: EPA 3510 | Analysis Description: 8081 GCS TCLP Pesticides
Associated Lab Samples: 60166019001

METHOD BLANK: 69846 | Matrix: Water
Associated Lab Samples: 60166019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.00050	04/07/14 17:38	
Endrin	mg/L	ND	0.000020	04/07/14 17:38	
gamma-BHC (Lindane)	mg/L	ND	0.000020	04/07/14 17:38	
Heptachlor	mg/L	ND	0.000020	04/07/14 17:38	
Heptachlor epoxide	mg/L	ND	0.000050	04/07/14 17:38	
Methoxychlor	mg/L	ND	0.000050	04/07/14 17:38	
Toxaphene	mg/L	ND	0.0010	04/07/14 17:38	
Decachlorobiphenyl (S)	%.	82	40-140	04/07/14 17:38	
Tetrachloro-m-xylene (S)	%.	74	40-140	04/07/14 17:38	

LABORATORY CONTROL SAMPLE: 69847

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlordane (Technical)	mg/L		ND			
Endrin	mg/L	.001	0.0011	112	40-140	
gamma-BHC (Lindane)	mg/L	.001	0.0011	106	40-140	
Heptachlor	mg/L	.001	0.0010	102	40-140	
Heptachlor epoxide	mg/L	.001	0.0011	112	40-140	
Methoxychlor	mg/L	.001	0.0012	123	40-140	
Toxaphene	mg/L		ND			
Decachlorobiphenyl (S)	%.			85	40-140	
Tetrachloro-m-xylene (S)	%.			77	40-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 69848 69849

Parameter	Units	7513685001 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	0.010	113	100	40-140	12	40	
gamma-BHC (Lindane)	mg/L	ND	.01	.01	0.011	0.010	110	104	40-140	5	40	
Heptachlor	mg/L	ND	.01	.01	0.011	0.010	106	101	40-140	4	40	
Heptachlor epoxide	mg/L	ND	.01	.01	0.011	0.010	111	103	40-140	7	40	
Methoxychlor	mg/L	ND	.01	.01	0.012	0.011	122	105	40-140	15	40	
Toxaphene	mg/L	ND			ND	ND					40	
Decachlorobiphenyl (S)	%.						108	89	40-140			
Tetrachloro-m-xylene (S)	%.						83	72	40-140			

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: OEXT/3669 | Analysis Method: EPA 8151
QC Batch Method: EPA 8151 | Analysis Description: 8151 GCS TCLP Herbicides
Associated Lab Samples: 60166019001

METHOD BLANK: 69789 | Matrix: Water
Associated Lab Samples: 60166019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.000050	04/07/14 19:01	
2,4-D	mg/L	ND	0.000050	04/07/14 19:01	
2,4-DCAA (S)	%.	104	40-140	04/07/14 19:01	

LABORATORY CONTROL SAMPLE: 69790

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	mg/L	.02	0.022	112	10-140	
2,4-D	mg/L	.02	0.024	119	40-140	
2,4-DCAA (S)	%.			123	40-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 69791 69792

Parameter	Units	7513614003 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	0.022	0.021	112	107	10-140	4	40	
2,4-D	mg/L	ND	.02	.02	0.029	0.028	145	141	40-140	2	40	M1
2,4-DCAA (S)	%.						114	90	40-140			

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: OEXT/43477 | Analysis Method: EPA 8270
QC Batch Method: EPA 3510 | Analysis Description: 8270 TCLP MSSV
Associated Lab Samples: 60166019001

METHOD BLANK: 1354851 | Matrix: Water
Associated Lab Samples: 60166019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	100	04/03/14 14:32	
2,4,5-Trichlorophenol	ug/L	ND	500	04/03/14 14:32	
2,4,6-Trichlorophenol	ug/L	ND	100	04/03/14 14:32	
2,4-Dinitrotoluene	ug/L	ND	100	04/03/14 14:32	
2-Methylphenol(o-Cresol)	ug/L	ND	100	04/03/14 14:32	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	200	04/03/14 14:32	
Hexachloro-1,3-butadiene	ug/L	ND	100	04/03/14 14:32	
Hexachlorobenzene	ug/L	ND	100	04/03/14 14:32	
Hexachloroethane	ug/L	ND	100	04/03/14 14:32	
Nitrobenzene	ug/L	ND	100	04/03/14 14:32	
Pentachlorophenol	ug/L	ND	500	04/03/14 14:32	
Pyridine	ug/L	ND	100	04/03/14 14:32	
2,4,6-Tribromophenol (S)	%	104	36-128	04/03/14 14:32	
2-Fluorobiphenyl (S)	%	104	49-120	04/03/14 14:32	
2-Fluorophenol (S)	%	78	37-120	04/03/14 14:32	
Nitrobenzene-d5 (S)	%	97	44-120	04/03/14 14:32	
Phenol-d6 (S)	%	81	36-120	04/03/14 14:32	
Terphenyl-d14 (S)	%	106	52-122	04/03/14 14:32	

LABORATORY CONTROL SAMPLE: 1354852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	500	328	66	47-120	
2,4,5-Trichlorophenol	ug/L	500	393J	79	51-124	
2,4,6-Trichlorophenol	ug/L	500	399	80	46-120	
2,4-Dinitrotoluene	ug/L	500	286	57	38-120	
2-Methylphenol(o-Cresol)	ug/L	500	325	65	46-120	
3&4-Methylphenol(m&p Cresol)	ug/L	1000	665	66	41-120	
Hexachloro-1,3-butadiene	ug/L	500	324	65	49-120	
Hexachlorobenzene	ug/L	500	386	77	50-120	
Hexachloroethane	ug/L	500	301	60	38-120	
Nitrobenzene	ug/L	500	362	72	49-120	
Pentachlorophenol	ug/L	500	390J	78	35-125	
Pyridine	ug/L	500	263	53	10-120	
2,4,6-Tribromophenol (S)	%			78	36-128	
2-Fluorobiphenyl (S)	%			76	49-120	
2-Fluorophenol (S)	%			60	37-120	
Nitrobenzene-d5 (S)	%			72	44-120	
Phenol-d6 (S)	%			62	36-120	
Terphenyl-d14 (S)	%			89	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

MATRIX SPIKE SAMPLE: 1354853

Parameter	Units	60166030001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	500	328	66	48-120	
2,4,5-Trichlorophenol	ug/L	ND	500	410J	82	57-120	
2,4,6-Trichlorophenol	ug/L	ND	500	406	81	48-120	
2,4-Dinitrotoluene	ug/L	ND	500	303	61	38-120	
2-Methylphenol(o-Cresol)	ug/L	ND	500	352	70	48-120	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	1000	754	73	47-120	
Hexachloro-1,3-butadiene	ug/L	ND	500	321	64	49-120	
Hexachlorobenzene	ug/L	ND	500	395	79	53-120	
Hexachloroethane	ug/L	ND	500	299	60	38-120	
Nitrobenzene	ug/L	ND	500	380	76	51-120	
Pentachlorophenol	ug/L	ND	500	450J	90	34-131	
Pyridine	ug/L	ND	500	304	61	10-120	
2,4,6-Tribromophenol (S)	%				81	36-128	
2-Fluorobiphenyl (S)	%				76	49-120	
2-Fluorophenol (S)	%				63	37-120	
Nitrobenzene-d5 (S)	%				78	44-120	
Phenol-d6 (S)	%				67	36-120	
Terphenyl-d14 (S)	%				86	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: WET/47105 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60166019001

METHOD BLANK: 1355143 | Matrix: Water
Associated Lab Samples: 60166019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	04/04/14 06:59	

LABORATORY CONTROL SAMPLE: 1355144

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.7	99	78-114	

MATRIX SPIKE SAMPLE: 1355146

Parameter	Units	60165719001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	38.6	93	78-114	

SAMPLE DUPLICATE: 1355145

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	2170	2050	6	18	

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

QC Batch: WET/47131 | Analysis Method: SM 2540B
QC Batch Method: SM 2540B | Analysis Description: 2540B Total Solids
Associated Lab Samples: 60166019001

METHOD BLANK: 1356031 | Matrix: Water
Associated Lab Samples: 60166019001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	04/04/14 16:46	

LABORATORY CONTROL SAMPLE: 1356032

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	980	98	80-120	

SAMPLE DUPLICATE: 1356033

Parameter	Units	60166019001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	35100	35800	2	10	

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QUALIFIERS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

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.

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TNI - The NELAC Institute.

LABORATORIES

PASI-D	Pace Analytical Services - Dallas
PASI-K	Pace Analytical Services - Kansas City

BATCH QUALIFIERS

Batch: MSV/60549

[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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S0	Surrogate recovery outside laboratory control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.
SS	This analyte did not meet the secondary source verification criteria for the initial calibration. The reported result should be considered an estimated value.
pH	Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60166019

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60166019001	**TCLP MAR2014**	EPA 3510	OEXT/3672	EPA 8081	GCSV/2426
60166019001	**TCLP MAR2014**	EPA 8151	OEXT/3669	EPA 8151	GCSV/2427
60166019001	**TCLP MAR2014**	EPA 3010	MPRP/26713	EPA 6010	ICP/20310
60166019001	**TCLP MAR2014**	EPA 7470	MERP/8282	EPA 7470	MERC/8237
60166019001	**TCLP MAR2014**	EPA 3510	OEXT/43477	EPA 8270	MSSV/13867
60166019001	**TCLP MAR2014**	EPA 8260	MSV/60585		
60166019001	**TCLP MAR2014**	EPA 5030B/8260	MSV/60549		
60166019002	**TRIP BLANK**	EPA 5030B/8260	MSV/60549		
60166019001	**TCLP MAR2014**	EPA 1664A	WET/47105		
60166019001	**TCLP MAR2014**	SM 2540B	WET/47131		

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Sample Condition Upon Receipt

WO#: 60166019

60166019

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 (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 2.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 3/31/14

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.
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): 113513-30PD				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: 4/2/14

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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: JANET ROLLEN
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR-BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference:
Phone: Fax:	Project Name: MONTHLY UNTREATED COMMINGLED	Pace Project Manager: Angie Brown 913-563-1402
Requested Due Date/TAT:	Project Number:	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)

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	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	O+G	Total Solids/H2O matrix	TCLP VOC EPA 8260	TCLP SVOC EPA 8270	TCLP RCRA 8 6010/7470	TCLP PEST EPA 8081	TCLP HERB EPA 8151	8260 VOC				Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60166019
1	TCLP MAR2014 2AG24, 3AGILL	OT	G	~~3/28/14~~ 3/29/14	1139	—	—		11	6	2		3	BP3U, 2AG3S					✓	✓	✓	✓	✓	✓	✓	✓	3DGFH, 3AGILL				01
2																															
3	TRIP BLANK	—	—	—	—	—	—		2				2													✓	2DGGH (TB)				02
4																															
5																															
6																															
7																															
8																															
9																															
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)
	Julie Crook / FEI	3/31/14	0905	[signature] 412	3/31/14	0905				
				E Brockett / Pace	3/31/14	1340	2.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/28/14

*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.

F-ALL-Q-020rev.08, 12-Oct-2007

Chain of Custody

Pace Analytical®
www.pacelabs.com

Workorder: 60166019 **Workorder Name:** MONTHLY UNTREATED COMMINGLED **Owner Received Date:** 3/31/2014 **Results Requested By:** 4/7/2014

Report To

Angie Brown
Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
Phone (913)599-5665
Fax (913)599-1759

Subcontract To

Pace Analytical Dallas
400 West Bethany Drive
Suite 190
Allen, TX 75013
Phone (972)727-1123

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Leachate						Requested Analysis: TCLP PEST EPA 8081	TCLP HERB EPA 8151										LAB USE ONLY
1	TCLP MAR2014	PS	3/29/2014 11:39	60166019001	Water	1						X	X										001
2																							
3																							
4																							
5																							

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature] / Pace	4/3/14 1:00	[signature] / Pace	4/4/14 1000AM
2				
3				

Comments

Sending Leachate

Cooler Temperature on Receipt 0.8 °C **Custody Seal** Y or **Received on Ice** Y or **Samples Intact** Y or N

WO#: 7513829

7513829

Pace Analytical

Sample Condition Upon Receipt
Dallas

Client Name: Pace-Kansas Project Work order: 7513829

Courier: FedEX ☑ UPS ☐ USPS ☐ Client ☐ Courier ☐ LSO ☐ PACE ☐ Other:_____

Tracking#: 5689 1282 4730

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: 0.8°C (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: MM Date: 4-4-14

Sample Container Count

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COC PAGE 1 of 1
COC ID#

Pace Project # 7513829

Sample Line Item	BP2N	AG1U	VG9U	VG9H	BP2S	BP1U	BP2U	BG1H	AG1S	BP20	SP5T	WGFU	WGKU	AG2U		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						

F-DAL-C-003 rev.00 11-5-2012

TCLP/SPLP Determination of Percent Solids

(Only if sample is liquid or semi-liquid. Skip if sample is obviously 100% solid.)

Pace Analytical®
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Date: 4/2/14 Batch: 6241

Analyst: JDZ Balance ID: 6000EXT5 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)
60160019-001	108.1	214.9	279.7	1.3	108.6	378.4	2.0	98.7	106.3	7.15	1.3	N/A	0%	Yes / No / NA
														Yes / No / NA
														Yes / No / NA
		JDZ												Yes / No / NA
		4/3/14												Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														Yes / No / NA
														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 = $\frac{\text{mL of leachate required}}{20 \times \text{Percent solids}} \times 100$

F-KS-128-rev.0
October 21, 2013

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

April 09, 2014

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

RE: Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on April 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: Dana Baker, Barr Engineering Co.
Margaret Treanor, Barr Engineering Company

REPORT OF LABORATORY ANALYSIS

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

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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Lenexa, KS 66219
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60166087001	**316-256**	Water	03/31/14 11:17	04/02/14 01:35
60166087002	**TRIP BLANK**	Water	03/31/14 11:17	04/02/14 01:35

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Lenexa, KS 66219
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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60166087001	**316-256**	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	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JML	1
60166087002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

Sample: 316-256 **Lab ID: 60166087001** Collected: 03/31/14 11:17 Received: 04/02/14 01:35 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	**4730**	ug/L	750	2	04/04/14 15:00	04/07/14 17:35	7429-90-5	
Antimony	**52.0**	ug/L	50.0	1	04/04/14 15:00	04/07/14 17:32	7440-36-0	
Arsenic	**1090**	ug/L	50.0	1	04/04/14 15:00	04/07/14 17:32	7440-38-2	
Beryllium	ND	ug/L	5.0	1	04/04/14 15:00	04/07/14 17:32	7440-41-7	
Cadmium	ND	ug/L	25.0	1	04/04/14 15:00	04/07/14 17:32	7440-43-9	
Chromium	**219**	ug/L	25.0	1	04/04/14 15:00	04/08/14 11:32	7440-47-3	
Cobalt	**37.1**	ug/L	25.0	1	04/04/14 15:00	04/07/14 17:32	7440-48-4	
Copper	ND	ug/L	50.0	1	04/04/14 15:00	04/07/14 17:32	7440-50-8	
Iron	**750000**	ug/L	250	1	04/04/14 15:00	04/07/14 17:32	7439-89-6	
Lead	**127**	ug/L	25.0	1	04/04/14 15:00	04/07/14 17:32	7439-92-1	
Nickel	**99.4**	ug/L	25.0	1	04/04/14 15:00	04/07/14 17:32	7440-02-0	
Selenium	ND	ug/L	75.0	1	04/04/14 15:00	04/07/14 17:32	7782-49-2	
Silver	ND	ug/L	35.0	1	04/04/14 15:00	04/07/14 17:32	7440-22-4	
Thallium	ND	ug/L	100	1	04/04/14 15:00	04/07/14 17:32	7440-28-0	
Zinc	**4770**	ug/L	500	2	04/04/14 15:00	04/07/14 17:35	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1230**	ug/L	750	2	04/09/14 09:30	04/09/14 15:36	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	04/09/14 09:30	04/09/14 15:34	7440-36-0	
Arsenic, Dissolved	**546**	ug/L	50.0	1	04/09/14 09:30	04/09/14 15:34	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	04/09/14 09:30	04/09/14 15:34	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	04/09/14 09:30	04/09/14 15:34	7440-43-9	
Chromium, Dissolved	**108**	ug/L	25.0	1	04/09/14 09:30	04/09/14 15:34	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	04/09/14 09:30	04/09/14 15:34	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	04/09/14 09:30	04/09/14 15:34	7440-50-8	
Iron, Dissolved	**315000**	ug/L	250	1	04/09/14 09:30	04/09/14 15:34	7439-89-6	
Lead, Dissolved	**46.4**	ug/L	25.0	1	04/09/14 09:30	04/09/14 15:34	7439-92-1	
Nickel, Dissolved	**49.5**	ug/L	25.0	1	04/09/14 09:30	04/09/14 15:34	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	04/09/14 09:30	04/09/14 15:34	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	04/09/14 09:30	04/09/14 15:34	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	04/09/14 09:30	04/09/14 15:34	7440-28-0	
Zinc, Dissolved	**2770**	ug/L	500	2	04/09/14 09:30	04/09/14 15:36	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	04/03/14 12:50	04/04/14 09:42	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	04/07/14 11:00	04/08/14 11:27	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	04/02/14 00:00	04/03/14 18:03	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	04/02/14 00:00	04/03/14 18:03	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**10300**	ug/L	4000	2	04/02/14 00:00	04/03/14 18:03		N2

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

Sample: 316-256 **Lab ID: 60166087001** Collected: 03/31/14 11:17 Received: 04/02/14 01:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	**3350**	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	87-86-5	
Phenol	**15000**	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	04/02/14 00:00	04/03/14 18:03	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	175	%	33-120	2	04/02/14 00:00	04/03/14 18:03	4165-60-0	S0
2-Fluorobiphenyl (S)	88	%	39-120	2	04/02/14 00:00	04/03/14 18:03	321-60-8	
Terphenyl-d14 (S)	95	%	45-120	2	04/02/14 00:00	04/03/14 18:03	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	04/02/14 00:00	04/03/14 18:03	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	04/02/14 00:00	04/03/14 18:03	367-12-4	
2,4,6-Tribromophenol (S)	100	%	39-120	2	04/02/14 00:00	04/03/14 18:03	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**208000**	ug/L	5000	500		04/07/14 11:03	67-64-1	L1,N2
Benzene	ND	ug/L	500	500		04/07/14 11:03	71-43-2	
Bromodichloromethane	ND	ug/L	500	500		04/07/14 11:03	75-27-4	
Bromoform	ND	ug/L	500	500		04/07/14 11:03	75-25-2	
Bromomethane	ND	ug/L	2500	500		04/07/14 11:03	74-83-9	
2-Butanone (MEK)	**81900**	ug/L	5000	500		04/07/14 11:03	78-93-3	N2
Carbon tetrachloride	ND	ug/L	500	500		04/07/14 11:03	56-23-5	
Chloroethane	ND	ug/L	500	500		04/07/14 11:03	75-00-3	
Chloroform	ND	ug/L	500	500		04/07/14 11:03	67-66-3	
1,4-Dichlorobenzene	**1150**	ug/L	500	500		04/07/14 11:03	106-46-7	
1,2-Dichloroethane	ND	ug/L	500	500		04/07/14 11:03	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	500	500		04/07/14 11:03	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	500	500		04/07/14 11:03	156-60-5	
Ethylbenzene	ND	ug/L	500	500		04/07/14 11:03	100-41-4	
Methylene chloride	**621**	ug/L	500	500		04/07/14 11:03	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5000	500		04/07/14 11:03	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	500	500		04/07/14 11:03	79-34-5	N2
Tetrachloroethene	ND	ug/L	500	500		04/07/14 11:03	127-18-4	
Toluene	ND	ug/L	500	500		04/07/14 11:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	500	500		04/07/14 11:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	500	500		04/07/14 11:03	79-00-5	
Trichloroethene	ND	ug/L	500	500		04/07/14 11:03	79-01-6	
Vinyl chloride	ND	ug/L	500	500		04/07/14 11:03	75-01-4	
Xylene (Total)	ND	ug/L	1500	500		04/07/14 11:03	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	500		04/07/14 11:03	460-00-4	
Toluene-d8 (S)	98	%	80-120	500		04/07/14 11:03	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	500		04/07/14 11:03	17060-07-0	
Preservation pH	**6.0**		1.0	500		04/07/14 11:03		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1070**	mg/L	5.0	1		04/08/14 07:20		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

Sample: 316-256 **Lab ID: 60166087001** Collected: 03/31/14 11:17 Received: 04/02/14 01:35 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		04/09/14 10:20		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2460**	mg/L	5.0	1		04/04/14 12:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		04/07/14 16:20		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**44200**	mg/L	2.0	1	04/02/14 10:27	04/07/14 11:59		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**605**	mg/L	20.0	200		04/02/14 19:46	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**57800**	mg/L	5000	500		04/09/14 13:00		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

Sample: TRIP BLANK **Lab ID: 60166087002** Collected: 03/31/14 11:17 Received: 04/02/14 01:35 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		04/02/14 12:27	67-64-1	L3,N2
Benzene	ND	ug/L	1.0	1		04/02/14 12:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		04/02/14 12:27	75-27-4	
Bromoform	ND	ug/L	1.0	1		04/02/14 12:27	75-25-2	
Bromomethane	ND	ug/L	5.0	1		04/02/14 12:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		04/02/14 12:27	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		04/02/14 12:27	56-23-5	
Chloroethane	ND	ug/L	1.0	1		04/02/14 12:27	75-00-3	
Chloroform	ND	ug/L	1.0	1		04/02/14 12:27	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		04/02/14 12:27	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		04/02/14 12:27	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		04/02/14 12:27	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		04/02/14 12:27	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		04/02/14 12:27	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		04/02/14 12:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		04/02/14 12:27	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		04/02/14 12:27	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		04/02/14 12:27	127-18-4	
Toluene	ND	ug/L	1.0	1		04/02/14 12:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		04/02/14 12:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		04/02/14 12:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		04/02/14 12:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		04/02/14 12:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		04/02/14 12:27	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	107	%	80-120	1		04/02/14 12:27	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		04/02/14 12:27	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		04/02/14 12:27	17060-07-0	
Preservation pH	**6.0**		1.0	1		04/02/14 12:27		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: MERP/8278 | Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 | Analysis Description: 245.1 Mercury
Associated Lab Samples: 60166087001

METHOD BLANK: 1354732 | Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	04/03/14 16:15	

LABORATORY CONTROL SAMPLE: 1354733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354734 1354735

Parameter	Units	60165978001 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	127	123	82	79	70-130	3	20	

MATRIX SPIKE SAMPLE: 1354736

Parameter	Units	60165979001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	8.2	150	124	77	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: MERP/8285
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60166087001

METHOD BLANK: 1356434
Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	04/08/14 11:22	

LABORATORY CONTROL SAMPLE: 1356435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1356436 1356437

Parameter	Units	60166218001 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	189	137	126	91	70-130	32	20	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: MPRP/26734 | Analysis Method: EPA 200.7
QC Batch Method: EPA 200.7 | Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60166087001

METHOD BLANK: 1355543 | Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	04/07/14 17:17	
Antimony	ug/L	ND	10.0	04/07/14 17:17	
Arsenic	ug/L	ND	10.0	04/07/14 17:17	
Beryllium	ug/L	ND	1.0	04/07/14 17:17	
Cadmium	ug/L	ND	5.0	04/07/14 17:17	
Chromium	ug/L	ND	5.0	04/08/14 11:19	
Cobalt	ug/L	ND	5.0	04/07/14 17:17	
Copper	ug/L	ND	10.0	04/07/14 17:17	
Iron	ug/L	ND	50.0	04/07/14 17:17	
Lead	ug/L	ND	5.0	04/07/14 17:17	
Nickel	ug/L	ND	5.0	04/07/14 17:17	
Selenium	ug/L	ND	15.0	04/07/14 17:17	
Silver	ug/L	ND	7.0	04/07/14 17:17	
Thallium	ug/L	ND	20.0	04/07/14 17:17	
Zinc	ug/L	ND	50.0	04/07/14 17:17	

LABORATORY CONTROL SAMPLE: 1355544

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1080	108	85-115	
Arsenic	ug/L	1000	1000	100	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	987	99	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1050	105	85-115	
Iron	ug/L	10000	9890	99	85-115	
Lead	ug/L	1000	1050	105	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1060	106	85-115	
Silver	ug/L	500	493	99	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	985	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1355545 1355546

Parameter	Units	60166031004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	201	10000	10000	10600	12000	104	118	70-130	12	8	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1355545 1355546

Parameter	Units	60166031004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1100	1240	110	124	70-130	12	7	R1
Arsenic	ug/L	ND	1000	1000	1030	1160	102	115	70-130	12	10	R1
Beryllium	ug/L	ND	1000	1000	1020	1150	102	115	70-130	12	7	R1
Cadmium	ug/L	ND	1000	1000	1030	1160	103	116	70-130	12	10	R1
Chromium	ug/L	ND	1000	1000	964	1100	96	110	70-130	13	10	R1
Cobalt	ug/L	ND	1000	1000	1020	1150	102	115	70-130	12	6	R1
Copper	ug/L	ND	1000	1000	1060	1180	105	118	70-130	11	11	
Iron	ug/L	396	10000	10000	10300	11500	99	111	70-130	12	10	R1
Lead	ug/L	ND	1000	1000	1030	1160	103	116	70-130	12	10	R1
Nickel	ug/L	ND	1000	1000	1040	1180	104	117	70-130	12	10	R1
Selenium	ug/L	ND	1000	1000	1080	1220	108	121	70-130	12	10	R1
Silver	ug/L	ND	500	500	495	558	99	112	70-130	12	10	R1
Thallium	ug/L	ND	1000	1000	1020	1160	102	116	70-130	12	6	R1
Zinc	ug/L	ND	1000	1000	966	1100	96	109	70-130	13	11	R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: MPRP/26766
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60166087001

METHOD BLANK: 1357379
Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	04/09/14 15:29	
Antimony, Dissolved	ug/L	ND	10.0	04/09/14 15:29	
Arsenic, Dissolved	ug/L	ND	10.0	04/09/14 15:29	
Beryllium, Dissolved	ug/L	ND	1.0	04/09/14 15:29	
Cadmium, Dissolved	ug/L	ND	5.0	04/09/14 15:29	
Chromium, Dissolved	ug/L	ND	5.0	04/09/14 15:29	
Cobalt, Dissolved	ug/L	ND	5.0	04/09/14 15:29	
Copper, Dissolved	ug/L	ND	10.0	04/09/14 15:29	
Iron, Dissolved	ug/L	ND	50.0	04/09/14 15:29	
Lead, Dissolved	ug/L	ND	5.0	04/09/14 15:29	
Nickel, Dissolved	ug/L	ND	5.0	04/09/14 15:29	
Selenium, Dissolved	ug/L	ND	15.0	04/09/14 15:29	
Silver, Dissolved	ug/L	ND	7.0	04/09/14 15:29	
Thallium, Dissolved	ug/L	ND	20.0	04/09/14 15:29	
Zinc, Dissolved	ug/L	ND	50.0	04/09/14 15:29	

LABORATORY CONTROL SAMPLE: 1357380

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9170	92	85-115	
Antimony, Dissolved	ug/L	1000	937	94	85-115	
Arsenic, Dissolved	ug/L	1000	926	93	85-115	
Beryllium, Dissolved	ug/L	1000	932	93	85-115	
Cadmium, Dissolved	ug/L	1000	934	93	85-115	
Chromium, Dissolved	ug/L	1000	913	91	85-115	
Cobalt, Dissolved	ug/L	1000	947	95	85-115	
Copper, Dissolved	ug/L	1000	934	93	85-115	
Iron, Dissolved	ug/L	10000	9310	93	85-115	
Lead, Dissolved	ug/L	1000	952	95	85-115	
Nickel, Dissolved	ug/L	1000	948	95	85-115	
Selenium, Dissolved	ug/L	1000	949	95	85-115	
Silver, Dissolved	ug/L	500	458	92	85-115	
Thallium, Dissolved	ug/L	1000	933	93	85-115	
Zinc, Dissolved	ug/L	1000	960	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1357381 1357382

Parameter	Units	60166218001 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	765	50000	50000	47700	47800	94	94	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1357381 1357382

Parameter	Units	60166218001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5200	5160	103	103	70-130	1	7	
Arsenic, Dissolved	ug/L	638	5000	5000	6240	6120	112	110	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4500	4520	90	90	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5140	5110	103	102	70-130	1	10	
Chromium, Dissolved	ug/L	111	5000	5000	4640	4590	91	90	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4700	4720	94	94	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5200	5220	104	104	70-130	0	11	
Iron, Dissolved	ug/L	303000	50000	50000	428000	388000	250	171	70-130	10	10	M1
Lead, Dissolved	ug/L	37.7	5000	5000	4460	4470	88	89	70-130	0	10	
Nickel, Dissolved	ug/L	57.2	5000	5000	4600	4600	91	91	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5850	5800	117	116	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2520	2500	101	100	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4080	4120	82	82	70-130	1	6	
Zinc, Dissolved	ug/L	2190	5000	5000	7410	7100	104	98	70-130	4	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: MSV/60515
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60166087002

METHOD BLANK: 1353992
Matrix: Water
Associated Lab Samples: 60166087002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/02/14 11:40	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,2-Dichloroethane	ug/L	ND	1.0	04/02/14 11:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/02/14 11:40	
2-Butanone (MEK)	ug/L	ND	10.0	04/02/14 11:40	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/02/14 11:40	N2
Acetone	ug/L	ND	10.0	04/02/14 11:40	N2
Benzene	ug/L	ND	1.0	04/02/14 11:40	
Bromodichloromethane	ug/L	ND	1.0	04/02/14 11:40	
Bromoform	ug/L	ND	1.0	04/02/14 11:40	
Bromomethane	ug/L	ND	5.0	04/02/14 11:40	
Carbon tetrachloride	ug/L	ND	1.0	04/02/14 11:40	
Chloroethane	ug/L	ND	1.0	04/02/14 11:40	
Chloroform	ug/L	ND	1.0	04/02/14 11:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/02/14 11:40	N2
Ethylbenzene	ug/L	ND	1.0	04/02/14 11:40	
Methylene chloride	ug/L	ND	1.0	04/02/14 11:40	
Tetrachloroethene	ug/L	ND	1.0	04/02/14 11:40	
Toluene	ug/L	ND	1.0	04/02/14 11:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/02/14 11:40	
Trichloroethene	ug/L	ND	1.0	04/02/14 11:40	
Vinyl chloride	ug/L	ND	1.0	04/02/14 11:40	
Xylene (Total)	ug/L	ND	3.0	04/02/14 11:40	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	04/02/14 11:40	
4-Bromofluorobenzene (S)	%	107	80-120	04/02/14 11:40	
Toluene-d8 (S)	%	98	80-120	04/02/14 11:40	

LABORATORY CONTROL SAMPLE: 1353993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.1	81	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	23.3	116	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.2	96	67-124	
1,2-Dichloroethane	ug/L	20	17.3	87	70-126	
1,4-Dichlorobenzene	ug/L	20	20.1	100	74-120	
2-Butanone (MEK)	ug/L	100	127	127	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.9	96	59-131	N2
Acetone	ug/L	100	151	151	38-134	L0,N2
Benzene	ug/L	20	16.8	84	75-120	
Bromodichloromethane	ug/L	20	16.5	82	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

LABORATORY CONTROL SAMPLE: 1353993

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	18.9	95	65-127	
Bromomethane	ug/L	20	6.5	33	13-157	
Carbon tetrachloride	ug/L	20	16.0	80	70-131	
Chloroethane	ug/L	20	17.4	87	47-133	
Chloroform	ug/L	20	16.2	81	65-127	
cis-1,2-Dichloroethene	ug/L	20	17.2	86	68-127	N2
Ethylbenzene	ug/L	20	20.6	103	74-122	
Methylene chloride	ug/L	20	16.2	81	64-129	
Tetrachloroethene	ug/L	20	17.9	89	73-125	
Toluene	ug/L	20	17.8	89	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.4	82	66-129	
Trichloroethene	ug/L	20	16.6	83	71-123	
Vinyl chloride	ug/L	20	14.4	72	43-129	
Xylene (Total)	ug/L	60	62.2	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			108	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1353994

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	5000	5190	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	5000	6780	136	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	5000	5450	109	52-143	
1,2-Dichloroethane	ug/L	ND	5000	5000	100	49-144	
1,4-Dichlorobenzene	ug/L	1390	5000	6910	110	33-140	
2-Butanone (MEK)	ug/L	94300	25000	124000	120	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	25000	29100	111	40-160	N2
Acetone	ug/L	200000	25000	230000	120	10-160	N2
Benzene	ug/L	ND	5000	5030	100	37-151	
Bromodichloromethane	ug/L	ND	5000	5200	104	35-142	
Bromoform	ug/L	ND	5000	5170	103	45-142	
Bromomethane	ug/L	ND	5000	2090	42	10-158	
Carbon tetrachloride	ug/L	ND	5000	5390	108	70-140	
Chloroethane	ug/L	ND	5000	5310	106	19-152	
Chloroform	ug/L	ND	5000	4860	97	51-138	
cis-1,2-Dichloroethene	ug/L	ND	5000	5110	102	34-147	N2
Ethylbenzene	ug/L	ND	5000	5940	118	40-142	
Methylene chloride	ug/L	ND	5000	4830	97	31-144	
Tetrachloroethene	ug/L	ND	5000	5480	110	64-148	
Toluene	ug/L	ND	5000	5320	106	47-150	
trans-1,2-Dichloroethene	ug/L	ND	5000	4930	99	54-151	
Trichloroethene	ug/L	ND	5000	5410	108	71-149	
Vinyl chloride	ug/L	ND	5000	4870	97	22-146	
Xylene (Total)	ug/L	ND	15000	17200	115	37-144	N2
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				109	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

MATRIX SPIKE SAMPLE: 1353994

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: MSV/60626 | Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low | Analysis Description: 624 MSV
Associated Lab Samples: 60166087001

METHOD BLANK: 1356447 | Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	04/07/14 10:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	04/07/14 10:47	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	04/07/14 10:47	
1,2-Dichloroethane	ug/L	ND	1.0	04/07/14 10:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	04/07/14 10:47	
2-Butanone (MEK)	ug/L	ND	10.0	04/07/14 10:47	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	04/07/14 10:47	N2
Acetone	ug/L	ND	10.0	04/07/14 10:47	N2
Benzene	ug/L	ND	1.0	04/07/14 10:47	
Bromodichloromethane	ug/L	ND	1.0	04/07/14 10:47	
Bromoform	ug/L	ND	1.0	04/07/14 10:47	
Bromomethane	ug/L	ND	5.0	04/07/14 10:47	
Carbon tetrachloride	ug/L	ND	1.0	04/07/14 10:47	
Chloroethane	ug/L	ND	1.0	04/07/14 10:47	
Chloroform	ug/L	ND	1.0	04/07/14 10:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	04/07/14 10:47	N2
Ethylbenzene	ug/L	ND	1.0	04/07/14 10:47	
Methylene chloride	ug/L	ND	1.0	04/07/14 10:47	
Tetrachloroethene	ug/L	ND	1.0	04/07/14 10:47	
Toluene	ug/L	ND	1.0	04/07/14 10:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	04/07/14 10:47	
Trichloroethene	ug/L	ND	1.0	04/07/14 10:47	
Vinyl chloride	ug/L	ND	1.0	04/07/14 10:47	
Xylene (Total)	ug/L	ND	3.0	04/07/14 10:47	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	04/07/14 10:47	
4-Bromofluorobenzene (S)	%	94	80-120	04/07/14 10:47	
Toluene-d8 (S)	%	104	80-120	04/07/14 10:47	

LABORATORY CONTROL SAMPLE: 1356448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.2	91	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.9	94	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.9	94	67-124	
1,2-Dichloroethane	ug/L	20	19.4	97	70-126	
1,4-Dichlorobenzene	ug/L	20	18.1	90	74-120	
2-Butanone (MEK)	ug/L	100	118	118	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	97.2	97	59-131	N2
Acetone	ug/L	100	156	156	38-134	L0,N2
Benzene	ug/L	20	18.3	91	75-120	
Bromodichloromethane	ug/L	20	19.5	97	68-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

LABORATORY CONTROL SAMPLE: 1356448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromoform	ug/L	20	20.5	102	65-127	
Bromomethane	ug/L	20	18.9	94	13-157	
Carbon tetrachloride	ug/L	20	19.7	99	70-131	
Chloroethane	ug/L	20	19.6	98	47-133	
Chloroform	ug/L	20	18.3	92	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.8	94	68-127	N2
Ethylbenzene	ug/L	20	19.3	97	74-122	
Methylene chloride	ug/L	20	16.2	81	64-129	
Tetrachloroethene	ug/L	20	18.9	95	73-125	
Toluene	ug/L	20	18.4	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	66-129	
Trichloroethene	ug/L	20	18.8	94	71-123	
Vinyl chloride	ug/L	20	20.6	103	43-129	
Xylene (Total)	ug/L	60	57.5	96	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			96	80-120	

MATRIX SPIKE SAMPLE: 1356449

Parameter	Units	60166218001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	10000	14800	148	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	10000	11100	111	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	10000	13000	130	52-143	
1,2-Dichloroethane	ug/L	ND	10000	13800	138	49-144	
1,4-Dichlorobenzene	ug/L	675	10000	10900	102	33-140	
2-Butanone (MEK)	ug/L	146000	50000	215000	138	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50000	76700	145	40-160	N2
Acetone	ug/L	334000	50000	411000	155	10-160	N2
Benzene	ug/L	ND	10000	13700	136	37-151	
Bromodichloromethane	ug/L	ND	10000	14400	144	35-142	M1
Bromoform	ug/L	ND	10000	13100	131	45-142	
Bromomethane	ug/L	ND	10000	13900	139	10-158	
Carbon tetrachloride	ug/L	ND	10000	16000	160	70-140	M1
Chloroethane	ug/L	ND	10000	14500	145	19-152	
Chloroform	ug/L	ND	10000	14000	140	51-138	M1
cis-1,2-Dichloroethene	ug/L	ND	10000	14200	142	34-147	N2
Ethylbenzene	ug/L	ND	10000	12500	124	40-142	
Methylene chloride	ug/L	760	10000	12900	121	31-144	
Tetrachloroethene	ug/L	ND	10000	13200	132	64-148	
Toluene	ug/L	ND	10000	13900	139	47-150	
trans-1,2-Dichloroethene	ug/L	ND	10000	14800	148	54-151	
Trichloroethene	ug/L	ND	10000	14400	144	71-149	
Vinyl chloride	ug/L	ND	10000	15700	157	22-146	M1
Xylene (Total)	ug/L	ND	30000	37700	126	37-144	N2
1,2-Dichloroethane-d4 (S)	%				133	80-120	S0
4-Bromofluorobenzene (S)	%				96	80-120	S2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

MATRIX SPIKE SAMPLE: 1356449

Parameter	Units	60166218001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: OEXT/43445 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60166087001

METHOD BLANK: 1353794 Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	04/03/14 12:25	
2,4,6-Trichlorophenol	ug/L	ND	5.0	04/03/14 12:25	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	04/03/14 12:25	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	04/03/14 12:25	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	04/03/14 12:25	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	04/03/14 12:25	
Hexachlorocyclopentadiene	ug/L	ND	5.0	04/03/14 12:25	
Hexachloroethane	ug/L	ND	5.0	04/03/14 12:25	
Naphthalene	ug/L	ND	5.0	04/03/14 12:25	
Nitrobenzene	ug/L	ND	5.0	04/03/14 12:25	
Pentachlorophenol	ug/L	ND	5.0	04/03/14 12:25	
Phenol	ug/L	ND	5.0	04/03/14 12:25	
2,4,6-Tribromophenol (S)	%	86	39-120	04/03/14 12:25	
2-Fluorobiphenyl (S)	%	82	39-120	04/03/14 12:25	
2-Fluorophenol (S)	%	41	17-120	04/03/14 12:25	
Nitrobenzene-d5 (S)	%	80	33-120	04/03/14 12:25	
Phenol-d6 (S)	%	26	11-120	04/03/14 12:25	
Terphenyl-d14 (S)	%	86	45-120	04/03/14 12:25	

LABORATORY CONTROL SAMPLE: 1353795

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	39.8	80	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	28.1	56	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.8	90	40-133	
Hexachloro-1,3-butadiene	ug/L	50	40.0	80	44-116	
Hexachlorocyclopentadiene	ug/L	100	68.0	68	24-120	
Hexachloroethane	ug/L	50	35.6	71	43-113	
Naphthalene	ug/L	50	37.9	76	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	40.5	81	47-120	
Phenol	ug/L	50	13.7	27	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

MATRIX SPIKE SAMPLE: 1353796

Parameter	Units	60165978001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3270	65	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4070	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3770	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	9470	5000	10900	28	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	998J	20	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3370	67	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3360	34	11-120	
Hexachloroethane	ug/L	ND	5000	3530	71	40-113	
Naphthalene	ug/L	3080	5000	5690	52	45-120	
Nitrobenzene	ug/L	ND	5000	3630	73	38-120	
Pentachlorophenol	ug/L	ND	5000	4150	83	43-135	
Phenol	ug/L	14200	5000	13300	-17	13-112	M1
2,4,6-Tribromophenol (S)	%				86	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				42	17-120	
Nitrobenzene-d5 (S)	%				137	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: WET/47175 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60166087001

METHOD BLANK: 1356610 | Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	04/08/14 07:19	

LABORATORY CONTROL SAMPLE: 1356611

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.0	92	78-114	

MATRIX SPIKE SAMPLE: 1356612

Parameter	Units	60165768001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.1	41.5	97	78-114	

SAMPLE DUPLICATE: 1356613

Parameter	Units	60165768002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.4J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: WET/47197 | Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A | Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60166087001

METHOD BLANK: 1357236 | Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	04/09/14 10:19	

LABORATORY CONTROL SAMPLE: 1357237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.1	106	64-132	

MATRIX SPIKE SAMPLE: 1357437

Parameter	Units	60165953001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.5	25.3	99	64-132	

SAMPLE DUPLICATE: 1357421

Parameter	Units	60165918001 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 316-256
Pace Project No.: 60166087

QC Batch: WET/47115
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60166087001

METHOD BLANK: 1355285
Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	04/04/14 12:24	

SAMPLE DUPLICATE: 1355286

Parameter	Units	60166002001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1355914

Parameter	Units	60165882001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	59.0	54.0	9	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: WET/47169
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60166087001

SAMPLE DUPLICATE: 1356543

Parameter	Units	60166218001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.6	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: WET/47052 | Analysis Method: SM 5210B
QC Batch Method: SM 5210B | Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60166087001

METHOD BLANK: 1353830 | Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	04/07/14 10:44	

LABORATORY CONTROL SAMPLE: 1353831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	223	113	85-115	

SAMPLE DUPLICATE: 1353832

Parameter	Units	60165998001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	3.2	2.5	24	17	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: WETA/28857 | Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 | Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60166087001

METHOD BLANK: 1353922 | Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	04/02/14 19:12	

LABORATORY CONTROL SAMPLE: 1353923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1353924

Parameter	Units	60165925008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	0.50	25	90-110	M1

MATRIX SPIKE SAMPLE: 1353925

Parameter	Units	60165937001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	14500	10000	22500	80	90-110	M1

SAMPLE DUPLICATE: 1353926

Parameter	Units	60165978001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	588	646	9	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

QC Batch: WETA/28929 | Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 | Analysis Description: 410.4 COD
Associated Lab Samples: 60166087001

METHOD BLANK: 1357175 | Matrix: Water
Associated Lab Samples: 60166087001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	04/09/14 12:53	

LABORATORY CONTROL SAMPLE: 1357176

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.4	103	90-110	

MATRIX SPIKE SAMPLE: 1357177

Parameter	Units	60165680001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	1340	1000	2180	84	90-110	M1

MATRIX SPIKE SAMPLE: 1357179

Parameter	Units	60165768002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	23.2	50	73.4	100	90-110	

SAMPLE DUPLICATE: 1357178

Parameter	Units	60165921001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	10200	9650	5	25	

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QUALIFIERS

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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.
S2	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-256
Pace Project No.: 60166087

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60166087001	**316-256**	EPA 200.7	MPRP/26734	EPA 200.7	ICP/20312
60166087001	**316-256**	EPA 200.7	MPRP/26743	EPA 200.7	ICP/20320
60166087001	**316-256**	EPA 200.7	MPRP/26766	EPA 200.7	ICP/20340
60166087001	**316-256**	EPA 245.1	MERP/8278	EPA 245.1	MERC/8234
60166087001	**316-256**	EPA 245.1	MERP/8285	EPA 245.1	MERC/8239
60166087001	**316-256**	EPA 625	OEXT/43445	EPA 625	MSSV/13865
60166087001	**316-256**	EPA 624 Low	MSV/60626		
60166087002	**TRIP BLANK**	EPA 624 Low	MSV/60515		
60166087001	**316-256**	EPA 1664A	WET/47175		
60166087001	**316-256**	EPA 1664A	WET/47197		
60166087001	**316-256**	SM 2540D	WET/47115		
60166087001	**316-256**	SM 4500-H+B	WET/47169		
60166087001	**316-256**	SM 5210B	WET/47052	SM 5210B	WET/47163
60166087001	**316-256**	EPA 350.1	WETA/28857		
60166087001	**316-256**	EPA 410.4	WETA/28929		

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Sample Condition Upon Receipt

WO#: 60166087

60166087

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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 ☑ 2 p/c

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: PV 4/2/14

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: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2-5mL of HNO3 to ~~BP~~ BP5N. pH 6.0/4.0 PV 4/2/14
All containers needing preservation are found to be in compliance with EPA recommendation.	~~☑Yes~~ ☑No ☐N/A PV 4/2/14	Added 2.0mL of H2SO4 to BP3S. pH 6.0/3.0 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: Pace Trip Blank lot # (if purchased): _____	☐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: 4/3/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical

Page : 1 Of 1

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.	PO 3727110
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 #:	6787 LINE 2

Regulatory Agency

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	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)	60166087
1	SDG4G 316-256 1BP3U 2AG4U 3AG3S	OT	G	3/31/14	1117	—	—		14	10	4	1	0	1BP3S	3.0				X	X	X	X	X	X	X	X	X	X	X	1BP3N	4.0 1BP2U 1BP1U Ni
2	TRIP BLANK	—	—	—	—	—	—		2	2																X					2AG4U 1U
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: 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] FEI	4-1-14	15:00	[signature] Garth	4-1-14	15:00				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	4/2/14	0135	3.8	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: 3/31/14